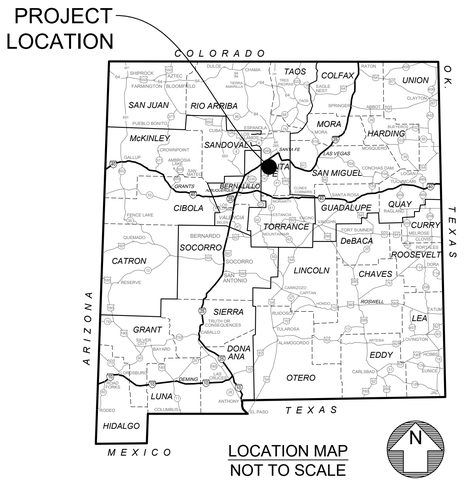
MADRID STORMWATER AND EROSION CONTROL PROJECT

NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

ABANDONED MINE LANDS PROGRAM



FOR-BID DESIGN
MARCH 2025

VICINITY MAP
1" = 5000'
N

SHEET INDEX

NUMBER	NAME	TITLE
1	G001	COVER
2	G002	GENERAL NOTES
3	G003	KEY MAP
4	G004	ICEHOUSE ROAD/MADRID ARROYO AREA SITE LAYOUT
5	G005	FIREHOUSE LANE AREA SITE LAYOUT
6	G006	MATERIAL SCHEDULES
7	G007	DESIGN/UTILITY CONFLICTS ICEHOUSE ROAD AREA (1 OF 2)
8	G008	DESIGN/UTILITY CONFLICTS ICEHOUSE ROAD AREA (2 OF 2)
9	G009	DESIGN/UTILITY CONFLICTS FIREHOUSE LANE AREA (1 OF 2)
10	G010	DESIGN/UTILITY CONFLICTS FIREHOUSE LANE AREA (2 OF 2)
11	G011	GEOTECHNICAL SOIL BORINGS LOCATION MAP
12	G012	STORM WATER CONTROLS DETAILS (1 OF 2)
13	G013	STORM WATER CONTROLS DETAILS (1 OF 2)
14	G014	FIREHOUSE LANE CULVERT CROSSING DETAILS
15	G015	NM-14 CULVERT CROSSING DETAILS
16	G016	ICEHOUSE CHANNEL DETAILS
17	G017	BETHLEHEM POND DETAILS
18	G018	BETHLEHEM ROAD DETAILS
19	C001	BETHLEHEM HILL ARROYO PLAN AND PROFILE
20	C002	BETHLEHEM HILL ROAD PLAN AND PROFILE
21	C003	ICEHOUSE CHANNEL PLAN AND PROFILE
22	C004	ICEHOUSE ROAD PLAN AND PROFILE
23	C005	ICEHOUSE ROAD EXTENSION PLAN AND PROFILE
24	C006	ICEHOUSE LOWER INTERCEPTOR PLAN AND PROFILE
25	C007	ICEHOUSE UPPER INTERCEPTOR PLAN AND PROFILE
26	C008	BRIDGE STREET PLAN AND PROFILE
27	C009	BRIDGE STREET STORM DRAIN PLAN AND PROFILE
28	C010	FIREHOUSE LANE PLAN AND PROFILE (1 OF 2)
29	C011	FIREHOUSE LANE PLAN AND PROFILE (2 OF 2)
30	C012	FIREHOUSE INTERCEPTOR PLAN AND PROFILE
31	C013	MISSING LINK CHANNEL PLAN AND PROFILE
32	C014	DOMINGUEZ ROAD CHANNEL PLAN AND PROFILE
33	C015	RED DOG ROAD INTERCEPTOR PLAN AND PROFILE (1 OF 2)
34	C016	RED DOG ROAD INTERCEPTOR PLAN AND PROFILE (2 OF 2)
35	C017	FIREHOUSE LANE DRIVEWAY CROSSING PLAN AND PROFILE
36	C101	BETHLEHEM HILL ARROYO CROSS SECTIONS
37	C102	BETHLEHEM HILL ROAD CROSS SECTIONS
38	C103	ICEHOUSE CHANNEL CROSS SECTIONS
39	C104	ICEHOUSE ROAD CROSS SECTIONS
40	C105	ICEHOUSE ROAD EXTENSION CROSS SECTIONS
41	C106	ICEHOUSE LOWER INTERCEPTOR CROSS SECTIONS
42	C107	ICEHOUSE UPPER INTERCEPTOR CROSS SECTIONS
43	C108	BRIDGE STREET CROSS SECTIONS
44	C109	FIREHOUSE LANE CROSS SECTIONS (1 OF 2)
45	C110	FIREHOUSE LANE CROSS SECTIONS (2 OF 2)
46	C111	FIREHOUSE INTERCEPTOR CROSS SECTIONS
47	C112	MISSING LINK CHANNEL CROSS SECTIONS
48	C113	DOMINGUEZ ROAD CHANNEL CROSS SECTIONS
49	C114	RED DOG ROAD INTERCEPTOR CROSS SECTIONS
50	C015	FIREHOUSE LANE DRIVEWAY CROSS SECTIONS

CAVE ROAD & MADRID ARROYO DRAINAGE IMPROVEMENTS

NUMBER	NAME	TITLE
51	C201	LOCATION MAP
52	C202	GENERAL SITE PLAN
53	C203	PROTECTIONS AND REMOVALS PLAN
54	C204	MADRID ARROYO GRADING PLAN
55	C205	UPDATED WATER UTILITIES
56	C206	TRAFFIC CONTROL PLAN
57	C207	ARROYO AND TRAIL PROFILES
58	C208	SITE PLAN AND GRADING PLAN, CAVE ROAD ARROYO CROSSING
59	C209	CONCRETE BOX CULVERT DETAILS
60	C210	CONCRETE BOX CULVERT DETAILS
61	C211	CONCRETE BOX CULVERT DETAILS
62	C212	CAVE ROAD CROSSING DETAILS
63	C213	ARROYO GRADE CONTROL STRUCTURE DETAILS
64	C214	ARROYO GRADE CONTROL STRUCTURE DETAILS
65	C215	DRAINAGE DITCH RUNDOWN: PLAN, PROFILE, SECTION
66	C216	PEDESTRIAN BRIDGE DETAILS
67	C217	TYPICAL SECTIONS: ROAD, TRAIL, ARROYO
68	C218	TYPICAL SECTIONS: DRAINAGE DITCHES AND CROSS-ROAD SWALES
69	C219	NE ARROYO IMPROVEMENTS, SITE PLAN
70	C220	NE ARROYO IMPROVEMENTS, CHANNEL DETAILS
71	C221	NE ARROYO IMPROVEMENTS, GRADE CONTROL STRUCTURE
72	C222	PHASE 1 SITE PLAN, SOIL GRADING AND CONTRACTOR STAGING AREA
73	C223	PHASE 2 SITE PLAN, SOIL GRADING AND CONTRACTOR STAGING AREA
74	C224	SOIL DISPOSAL AREA CONSTRUCTION DETAILS
75	C025	PLANTING PLAN
76	C026	IRRIGATION PLAN
77	C027	SEEDING PLAN
78	C028	IRRIGATION CONTROL SYSTEM, PLAN, & SCHEMATIC PROFILE
79	C029	IRRIGAITON DETAILS

STANDARD DRAWINGS

NUMBER	NAME	TITLE
80	C601	STANDARD DRAWINGS (1 OF 4)
81	C602	STANDARD DRAWINGS (2 OF 4)
82	C603	STANDARD DRAWINGS (3 OF 4)
83	C604	STANDARD DRAWINGS (4 OF 4)

PLANS PRODUCED AT 22"x34" (D-SIZE)

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RIVERBEND ENGINEERING, LLC

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDGAR — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

COVER

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G001	C
SCALE	W.O. NO.	SHT. 1 of 83	
	15740.001.003		

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GENERAL NOTES

1. THE TECHNICAL SPECIFICATIONS PROVIDED IN THE PROJECT MANUAL (APPENDIX B) AND PROVISIONS THERETO SHALL GOVERN CONSTRUCTION OF THIS PROJECT EXCEPT AS OTHERWISE SHOWN. THE NEW MEXICO DEPARTMENT OF TRANSPORTATION (NMDOT) STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 2019 EDITION, ARE REFERENCED IN THE DESIGN AND APPLY TO ALL WORK PERFORMED IN THE NM-14 RIGHT OF WAY. NMDOT "STANDARD DRAWINGS" MAY BE FOUND AT THE FOLLOWING INTERNET ADDRESS:
   https://www.dot.nm.gov/infrastructure/plans-specifications-estimates-pse-bureau/standards/
   NMDOT "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 2019 EDITION" MAY BE FOUND AT THE FOLLOWING INTERNET ADDRESS:
   https://www.dot.nm.gov/infrastructure/plans-specifications-estimates-pse-bureau/standards/
2. WHEN COORDINATES AND ELEVATIONS ARE SHOWN HEREIN, THEY REFER TO NAD83 NEW MEXICO STATE PLANES CENTRAL ZONE AND NAVD 88, U.S. FEET.
3. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE DRAWINGS (SEE SHEET G-010) WERE DETERMINED BY SUBSURFACE UTILITY EXPLORATION IN 2022 BY T2 UTILITY ENGINEERS. THESE UTILITIES ARE APPROXIMATE AND NOT INDEPENDENTLY VERIFIED BY WESTON. OTHER UTILITIES MAY BE PRESENT. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND EXERCISE DUE DILIGENCE AND CARE TO INVESTIGATE POTENTIAL UTILITIES. UTILITY LOCATION IS INCIDENTAL TO THE WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
4. THE CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE EARTHEN MATERIALS IN AN ENVIRONMENTALLY ACCEPTABLE MANNER AT A LOCATION APPROVED BY THE NEW MEXICO ENERGY, MINING, AND NATURAL RESOURCES DEPARTMENT. SOLID WASTE AND CONSTRUCTION DEMOLITION DEBRIS SHALL BE TRANSPORTED AND DISPOSED AT A NEW MEXICO PERMITTED LANDFILL FACILITY.
5. UNLESS OTHERWISE STATED IN THIS PLAN SET, ALL SIDE SLOPES SHALL BE 3H:1V MAXIMUM, KEEPING SLOPES FLATTER WHEREVER POSSIBLE. NEW SLOPES AND GRADES SHALL TRANSITION SMOOTHLY TO EXISTING GRADES AND EXISTING STRUCTURES IN ALL CASES. THE CONTRACTOR SHALL TRANSITION (WARP) SLOPES WHERE NECESSARY TO STAY WITHIN THE RIGHT OF WAY OR CONSTRUCTION LIMITS, OR TO AVOID EXISTING STRUCTURES.
6. ALL QUANTITIES PROVIDED ON THE PLANS ARE APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR.

SURVEYING NOTES

1. AERIAL IMAGERY AND TOPOGRAPHIC MAPPING COMPLETED BY TRI HYDRO CORPORATION WITH GROUND SURVEY DATA COLLECTED BY DENNIS ENGINEERING COMPANY IN FEBRUARY 2021. SUPPLEMENTAL SURVEYING IN SELECTED AREAS WAS PREPARED BY HIGH MESA CONSULTING GROUP IN FEBRUARY 2024.
2. SURVEY DATA ARE IN THE NEW MEXICO STATE PLANE COORDINATE SYSTEM (NAD83, CENTRAL ZONE) IN GROUND COORDINATES WITH A SCALE FACTOR OF 1.00029356794 AND NAVD88 VERTICAL DATUM.

TRAFFIC CONTROL

1. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLANS FOR NM-14 AND LOCAL ROADS. PREPARATION AND MAINTENANCE OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE TRAFFIC CONTROL BID ITEM.
2. DIVERT TRAFFIC AROUND CONSTRUCTION ZONES UTILIZING LANE CLOSURES. DO NOT DIVERT TRAFFIC ON LOCAL ROADS. FOLLOW THE NMDOT STANDARD DRAWING 701-11-1/1 FOR LANE TRANSITION REQUIREMENTS
3. CAVE ROAD IS MAINTAINED BY THE COUNTY OF SANTA FE. OBTAIN A TRAFFIC CONTROL PERMIT FROM THE SANTA FE COUNTY PUBLIC WORKS DEPARTMENT.
4. AN NMDOT TRAFFIC CONTROL/ROADWAY WORK PERMIT IS REQUIRED FOR ALL WORK PERFORMED WITHIN THE NMDOT RIGHT OF WAY. PREPARE TRAFFIC CONTROL PLAN (TCP) ACCORDING TO NMDOT STANDARD DRAWINGS FOR HIGHWAY AND BRIDGE CONSTRUCTION (2019)

MITIGATION MEASURES NOTES

SOIL AND WATER

THE CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND OBTAIN REQUIRED NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE FOR CONSTRUCTION ACTIVITY FROM THE USEPA AS REQUIRED UNDER THE CLEAN WATER ACT. BEST MANAGEMENT PRACTICES (BMPS) SHALL BE USED TO PREVENT EROSION AND TRANSPORT OF SEDIMENT (SEE NMDOT STANDARD DRAWINGS 603-01-1/7 THROUGH 7/7). THE SWPPP SHALL INCLUDE THE PROPOSED CONSTRUCTION STAGING AREA AND TEMPORARY SANITARY FACILITIES. SHOW LOCATION OF ALL BMPs INCLUDING CHECK DAMS, SILT FENCES, INLET PROTECTION, STRAW SOCK, OR OTHER BEST MANAGEMENT PRACTICES (BMP) THAT ARE REQUIRED IN THE APPROVED SWPPP PER THE NMDOT NPDES MANUAL AT THE FOLLOWING INTERNET LOCATION:
https://www.dot.nm.gov/wp-content/uploads/2024/01/NMDOT-NPDES-Manual-Rev-4-2023.pdf
STORMWATER MANAGEMENT AND STORMWATER DIVERSION DURING CONSTRUCTION SHALL BE PERFORMED BY THE CONTRACTOR. ALL WORK ASSOCIATED WITH STORMWATER MANAGEMENT AND STORMWATER DIVERSION DURING CONSTRUCTION SHALL BE INCLUDED IN SWPPP PLAN PREPARATION AND MAINTENANCE BID ITEM.

AT THE COMPLETION OF CONSTRUCTION, REVEGETATION AND RESTORATION OF DISTURBED AREAS WILL BE CONDUCTED. REVEGETATION SHALL INCLUDE MULCHING AND SEEDING OF EXPOSED AREAS WITH SPECIFIED SEED MIX PROVIDED IN THE TECHNICAL SPECIFICATIONS AND LANDSCAPING PLANS PROVIDED BY OTHERS.

UPON COMPLETION OF CONSTRUCTION, TEMPORARY EROSION AND SEDIMENT CONTROLS WILL BE REMOVED ONCE THE PROJECT AREA IS STABILIZED AS DETERMINED BY THE AML PROGRAM MANAGER.

IN THE EVENT OF AN UNEXPECTED RELEASE OF HAZARDOUS MATERIALS DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR REPORTING, CLEANUP, AND DISPOSAL OF ANY CONTAMINATED SOILS. CONTRACTOR SHALL BE REQUIRED TO REPORT SPILLS OF GASOLINE, SOLVENTS, AND OTHER CHEMICALS OF REPORTABLE QUANTITIES TO THE AML PROGRAM MANAGER.

AIR QUALITY

EXPOSED AND DISTURBED SOIL SURFACES SHALL BE WATERED AT A FREQUENCY SUFFICIENT TO AVOID FUGITIVE DUST. EARTHMOVING AND OTHER DUST-PRODUCING ACTIVITIES WILL BE SUSPENDED DURING PERIODS OF HIGH WINDS, WHEN DUST CONTROL EFFORTS ARE UNABLE TO PREVENT FUGITIVE DUST. STOCKPILES OF DEBRIS, SOIL, SAND, OR OTHER MATERIALS WILL BE WATERED OR COVERED. ANY MATERIALS TRANSPORTED ON-SITE BY TRUCK SHALL BE COVERED. SOIL DISTURBANCE WILL BE MINIMIZED AND NATIVE VEGETATION AND TOPSOIL WILL BE RETAINED WHERE POSSIBLE. CONSTRUCTION CONTRACTORS SHALL ENSURE THAT CONSTRUCTION EQUIPMENT AND VEHICLES USE APPROVED EMISSION CONTROL DEVICES AND LIMIT UNNECESSARY IDLING.

VEGETATION AND WILDLIFE

AS NEEDED, EXPOSED DISTURBED AREAS WITHIN THE PROJECT AREA SHALL BE REPLANTED WITH CERTIFIED WEED-FREE NATIVE VEGETATION AFTER CONSTRUCTION. TRENCHES SHALL BE BURIED CONCURRENTLY TO REDUCE TRAPPING SMALL MAMMALS AND REPTILES.

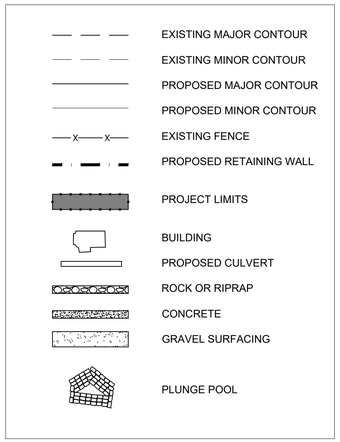
CULTURAL RESOURCES

IF CULTURAL MATERIALS OR HUMAN BURIALS ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK IN THE AREA SHALL STOP, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE NM EMNRD PROJECT MANAGER AT 505-629-9677.

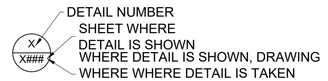
CONSTRUCTION ACTIVITIES

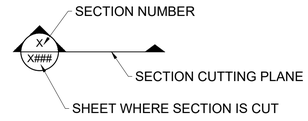
1. CONTRACTOR LAYDOWN AREA AND VEHICLE PARKING AREAS WILL BE IDENTIFIED DURING PRE-CONSTRUCTION MEETING. CONSTRUCTION CONTRACTORS WILL BE REQUIRED TO LIMIT CONSTRUCTION EQUIPMENT AND VEHICLE USE TO DAYTIME HOURS. CONSTRUCTION CONTRACTORS SHALL BE REQUIRED TO ENSURE THAT CONSTRUCTION EQUIPMENT AND OTHER EQUIPMENT HAVE WORKING MUFFLERS AND OTHER NOISE CONTROL DEVICES.
2. SOIL ACCUMULATED FROM EXCAVATION ACTIVITIES AND NOT USED IN THE WORK SHALL BE TRANSPORTED AND DISPOSED AT THE SOIL STOCKPILE LOCATED NORTH OF THE MADRID BALL PARK - A MAXIMUM DISTANCE OF ONE MILE. SEE DWG NO. C222

LEGEND



DETAIL AND SECTION REFERENCES





UTILITY CONTACT INFORMATION

OWNER	UTILITY	CONTACT	PHONE
LUMEN (CENTURYLINK)	TELEPHONE/FIBER OPTIC	GARY NELSON	(505) 886-4678
MADRID COOP	WATER	REBECCA NAFEY	(505) 438-1819
NMDOT	STORM DRAIN	ANTONIO GRIEGO	(505) 470-4967
PNM - DISTRIBUTION	ELECTRIC	ERIC WINKLER	(505) 473-3209

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. FOERSTER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

GENERAL NOTES

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G002	C
SCALE	W.O. NO.	SHT. 2 of 83	
	15740.001.003		

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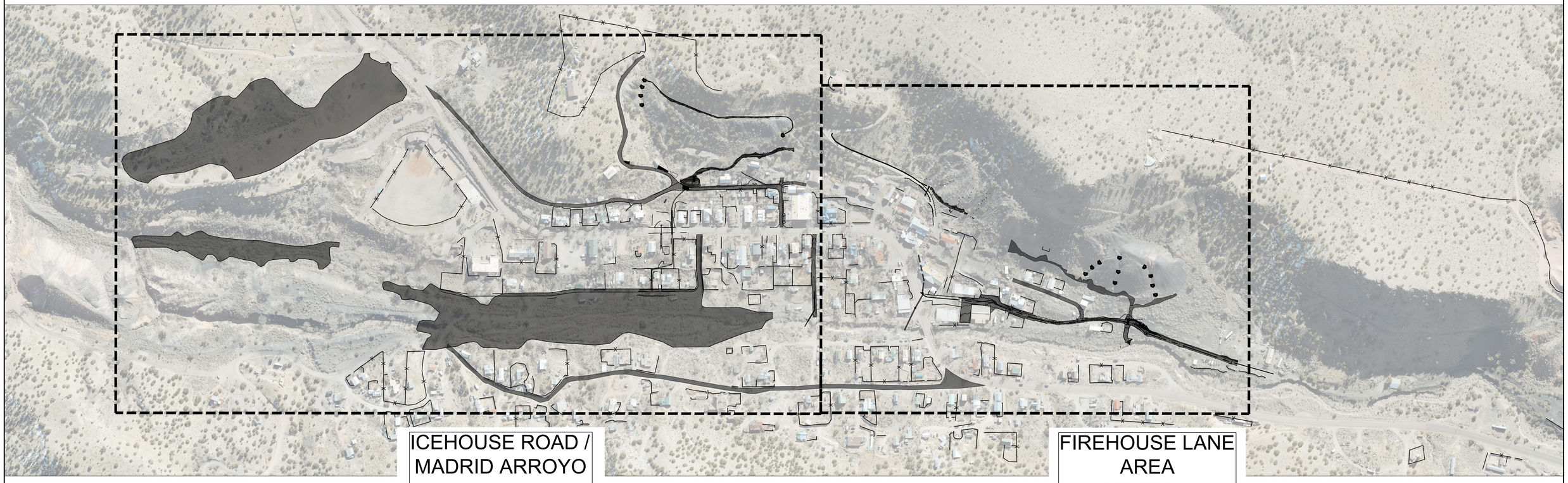

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APPROVED				
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ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

KEY MAP

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G003	C
SCALE	W.O. NO.	SHT. 3 of 83	
	15740.001.003		

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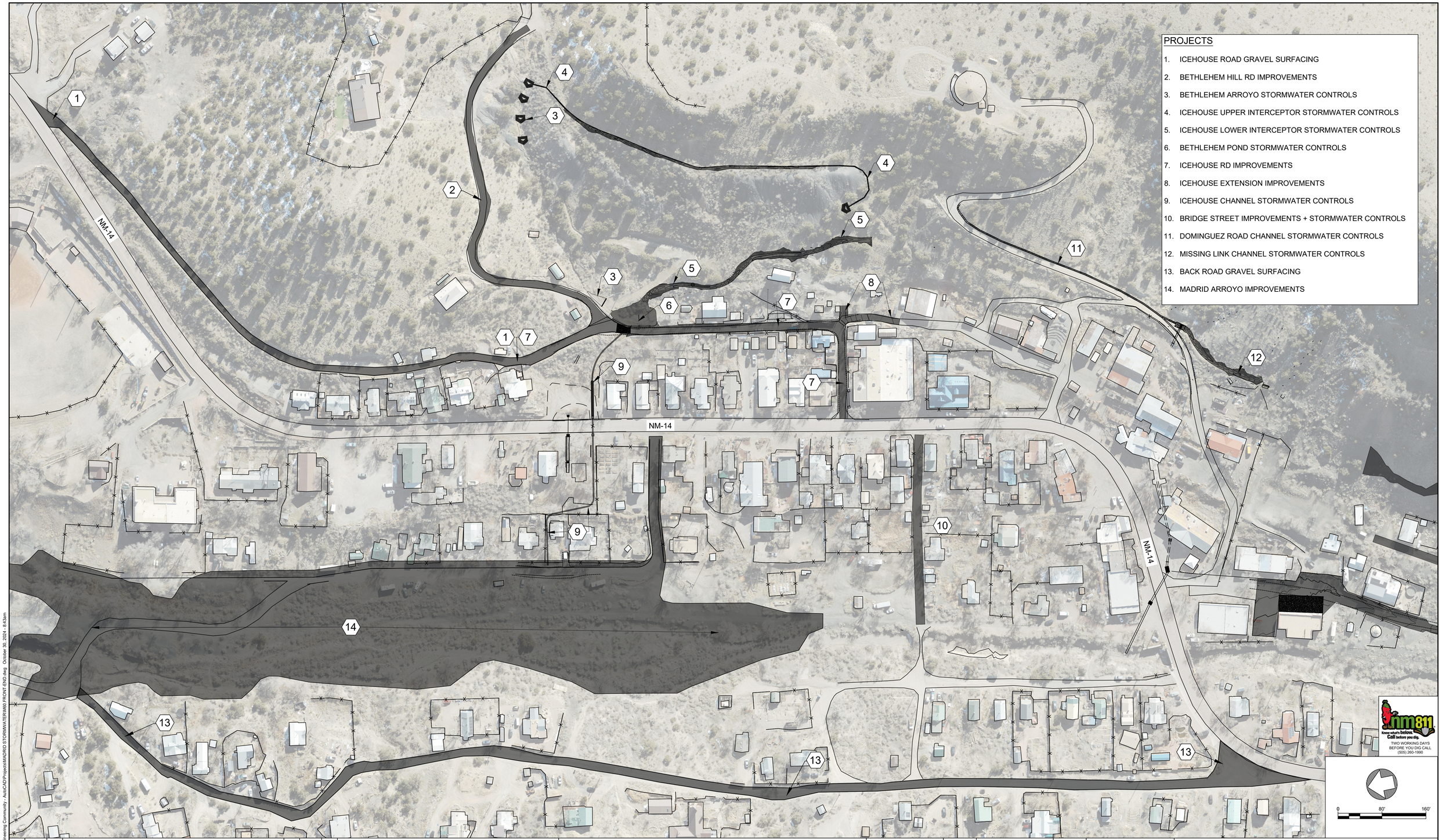

PROJECTS

1. ICEHOUSE ROAD GRAVEL SURFACING
2. BETHLEHEM HILL RD IMPROVEMENTS
3. BETHLEHEM ARROYO STORMWATER CONTROLS
4. ICEHOUSE UPPER INTERCEPTOR STORMWATER CONTROLS
5. ICEHOUSE LOWER INTERCEPTOR STORMWATER CONTROLS
6. BETHLEHEM POND STORMWATER CONTROLS
7. ICEHOUSE RD IMPROVEMENTS
8. ICEHOUSE EXTENSION IMPROVEMENTS
9. ICEHOUSE CHANNEL STORMWATER CONTROLS
10. BRIDGE STREET IMPROVEMENTS + STORMWATER CONTROLS
11. DOMINGUEZ ROAD CHANNEL STORMWATER CONTROLS
12. MISSING LINK CHANNEL STORMWATER CONTROLS
13. BACK ROAD GRAVEL SURFACING
14. MADRID ARROYO IMPROVEMENTS

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VILLAGE OF MADRID, NM
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PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDER NEW MEXICO 21703 REGISTERED PROFESSIONAL ENGINEER 10/30/24

ICEHOUSE ROAD/MADRID ARROYO AREA SITE LAYOUT

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G004	C
SCALE	W.O. NO.	SHT. 4 of 83	
	15740.001.003		

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PROJECTS

1. DOMINGUEZ ROAD STORMWATER CONTROLS
2. MISSING LINK STORMWATER CONTROLS
3. RED DOG ROAD STORMWATER CONTROLS
4. FIREHOUSE STORMWATER CONTROLS
5. RED DOG ROAD GRAVEL SURFACING
6. FIREHOUSE LANE IMPROVEMENTS
7. BACK ROAD GRAVEL SURFACING

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NOT TO SCALE

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NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

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CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
SITE LAYOUT

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G005	C
SCALE	W.O. NO.	SHT. 5 of 83	
	15740.001.003		

NOTE: CONTRACTOR SHALL VERIFY ALL QUANTITIES. ANY DISCREPENCY BETWEEN THESE PLANS, SPECIFICATIONS, AND PROJECT MANUAL SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE STARTING WORK.

ROADWAY SURFACING SCHEDULE (SY)

DESCRIPTION	BEGIN STATION	END STATION	LF	SUBGRADE PREPARATION	BASE COURSE	MINOR PAVING	CRUSHED ROCK GRAVEL
BETHLEHEM ROAD	10+00	17+77.47	777	0	0	0	908
ICE HOUSE ROAD	10+00	16+25.55	626	835	835	0	835
ICE HOUSE ROAD	16+25.55	17+69.36	144	192	192	0	192
ICE HOUSE ROAD EXTENSION	10+00	11+21.45	121	162	162	0	162
ICE HOUSE ROAD (NORTH)	--	--	--	0	0	0	1786
NM-14 CULVERT CROSSING	13+46	13+70	24	70	70	70	0
BRIDGE STREET	10+00	13+50	350	623	623	0	389
CAVE ROAD	10+00	21+25	1125	4,017	4,017	0	4,017
BACK ROAD	--	--	--	0	0	0	4,463
FIREHOUSE LANE	11+79.30	15+00	321	428	428	0	428
FIREHOUSE LANE	15+00	18+76	376	418	418	0	418
FIREHOUSE LANE	18+76	23+81.39	505	562	562	0	562
RED DOG ROAD	--	--	--	0	0	0	461
		TOTALS (SY)		**7307**	**7307**	**70**	**14621**

MINOR STRUCTURAL CONCRETE (CYD)

DESCRIPTION	BEGIN STATION	END STATION	LF	QUANTITY
ICE HOUSE ROAD DIP SECTION	12+01.37	12+26.37	25	35.7
ICE HOUSE CHANNEL HEADWALL	15+10.84	15+10.84	--	0.9
ICE HOUSE CHANNEL - REACH 1	10+51	11+22	71	14.3
ICE HOUSE CHANNEL - REACH 2	11+22	13+40	218	46.7
ICE HOUSE CHANNEL - REACH 3	13+40	14+40	100	18.2
ICE HOUSE CHANNEL - REACH 4	14+40	15+07	67	12.2
BETHLEHEM ARROYO HEADWALL	11+07.50	11+07.50	--	0.9
DOMINGUEZ RD CHANNEL	10+05	14+71.57	467	87.5
RED DOG ROAD INTERSECTION	16+77.29	17+21.39	44	6.7
FIRE HOUSE CULVERT EAST HEADWALL	11+22.4	11+22.4	--	3.7
FIREHOUSE CULVERT WEST HEADWALL	11+01	11+01	--	3.4

RIPRAP CHANNEL LINING (CYD)

DESCRIPTION	BEGIN STATION	END STATION	LF	QUANTITY	RIPRAP CLASS
UPPER ICEHOUSE INTERCEPTOR	10+00	17+30.79	731	162.3	TYPE E (GROUTED)
LOWER ICEHOUSE INTERCEPTOR (RUNDOWN)	0+00	0+25	25	97.7	TYPE F (GROUTED)
LOWER ICEHOUSE INTERCEPTOR	0+25	4+00	375	78.6	TYPE B
LOWER ICEHOUSE INTERCEPTOR	4+00	5+80	180	78.6	TYPE A (NON-WIRE)
BRIDGE ROAD ENERGY DISSIPATOR	9+63	9+75	12	8.5	TYPE B
FIRE HOUSE LANE V-DITCH	18+76.39	23+81.39	505	51.9	TYPE A (NON-WIRE)
FIRE HOUSE INTERCEPTOR (LOWER)	10+24	11+60	136	28.5	TYPE A (NON-WIRE)
FIRE HOUSE INTERCEPTOR (UPPER)	11+60	12+75	115	24.1	TYPE A (NON-WIRE)
FIRE HOUSE ARROYO RUNDOWN	10+00	10+37.78	62		TYPE F (GROUTED)
FIRE HOUSE ARROYO CHANNEL	10+37.78	11+00	62	13.7	TYPE A (NON-WIRE)
MISSING LINK CHANNEL	10+15	12+00	185	21.6	TYPE A (NON-WIRE)
RED DOG ROAD INTERCEPTOR	12+40	17+90	240	50.3	TYPE A (NON-WIRE)
RED DOG ROAD INTERCEPTOR (RUNDOWN)	17+90	18+31.5	42		TYPE F (GROUTED)

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDES — NEW MEXICO — 10/30/24 — REGISTERED PROFESSIONAL ENGINEER

MATERIAL SCHEDULES

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G006	C
SCALE	W.O. NO.	SHT. 6 of 83	
	15740.001.003		

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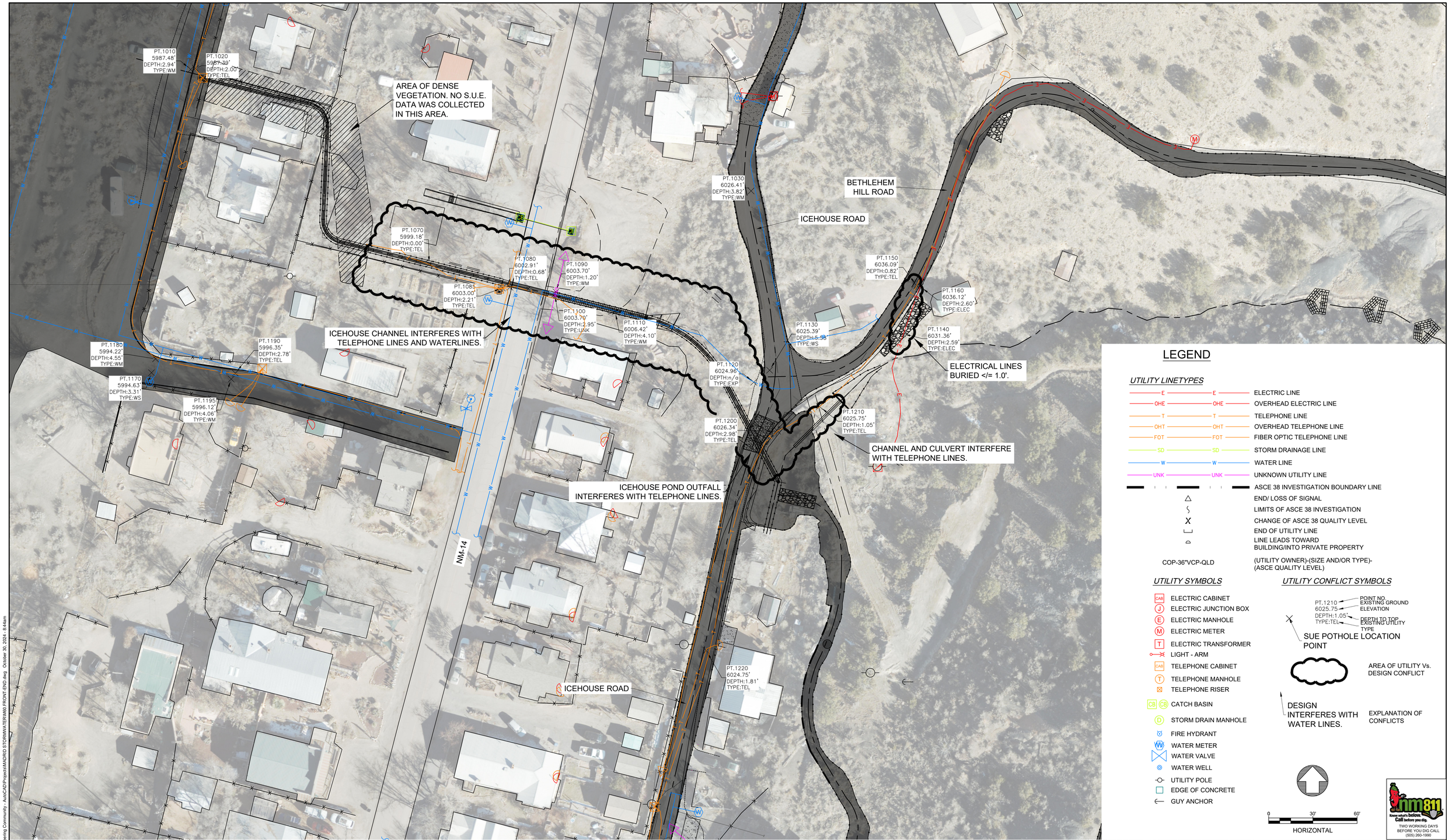

LEGEND

UTILITY LINETYPES

- E — ELECTRIC LINE
- OHE — OVERHEAD ELECTRIC LINE
- T — TELEPHONE LINE
- OHT — OVERHEAD TELEPHONE LINE
- FOT — FIBER OPTIC TELEPHONE LINE
- SD — STORM DRAINAGE LINE
- W — WATER LINE
- UNK — UNKNOWN UTILITY LINE
- ASCE 38 INVESTIGATION BOUNDARY LINE
- END/ LOSS OF SIGNAL
- LIMITS OF ASCE 38 INVESTIGATION
- CHANGE OF ASCE 38 QUALITY LEVEL
- END OF UTILITY LINE
- LINE LEADS TOWARD BUILDING/INTO PRIVATE PROPERTY
- COP-36"VCP-QLD — (UTILITY OWNER)-(SIZE AND/OR TYPE)-(ASCE QUALITY LEVEL)

UTILITY SYMBOLS

- CAB — ELECTRIC CABINET
- J — ELECTRIC JUNCTION BOX
- E — ELECTRIC MANHOLE
- M — ELECTRIC METER
- T — ELECTRIC TRANSFORMER
- LIGHT - ARM
- CAB — TELEPHONE CABINET
- T — TELEPHONE MANHOLE
- TELEPHONE RISER
- CB CB — CATCH BASIN
- D — STORM DRAIN MANHOLE
- FIRE HYDRANT
- WM — WATER METER
- WATER VALVE
- WATER WELL
- UTILITY POLE
- EDGE OF CONCRETE
- GUY ANCHOR

UTILITY CONFLICT SYMBOLS

PT.1210 — POINT NO
6025.75 — EXISTING GROUND ELEVATION
DEPTH:1.05' — DEPTH TO TOP EXISTING UTILITY
TYPE:TEL — TYPE

SUE POTHOLE LOCATION POINT

AREA OF UTILITY Vs. DESIGN CONFLICT

DESIGN INTERFERES WITH WATER LINES. — EXPLANATION OF CONFLICTS

0 30' 60'
HORIZONTAL

nm811 Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL (505) 260-1990

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	DATE 10/31/24	CLIENT APPROVALS / DATE
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

DESIGN/UTILITY CONFLICTS ICEHOUSE ROAD AREA (1 OF 2)

DRAWN: RW	DATE: ----	DWG. NO. G007	REV. NO. C
SCALE	W.O. NO. 15740.001.003	SHT. 7 of 83	

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LEGEND

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UTILITY CONFLICT SYMBOLS

PT.1210 / 6025.75 / DEPTH:1.05' / TYPE:TEL — POINT NO, EXISTING GROUND ELEVATION, DEPTH TO TOP EXISTING UTILITY, TYPE

SUE POTHOLE LOCATION POINT

AREA OF UTILITY Vs. DESIGN CONFLICT

DESIGN INTERFERES WITH WATER LINES. — EXPLANATION OF CONFLICTS

0 30' 60'

HORIZONTAL

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDES — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

DESIGN/UTILITY CONFLICTS ICEHOUSE ROAD AREA (2 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G008	C
SCALE	W.O. NO.	SHT. 8 of 83	
	15740.001.003		

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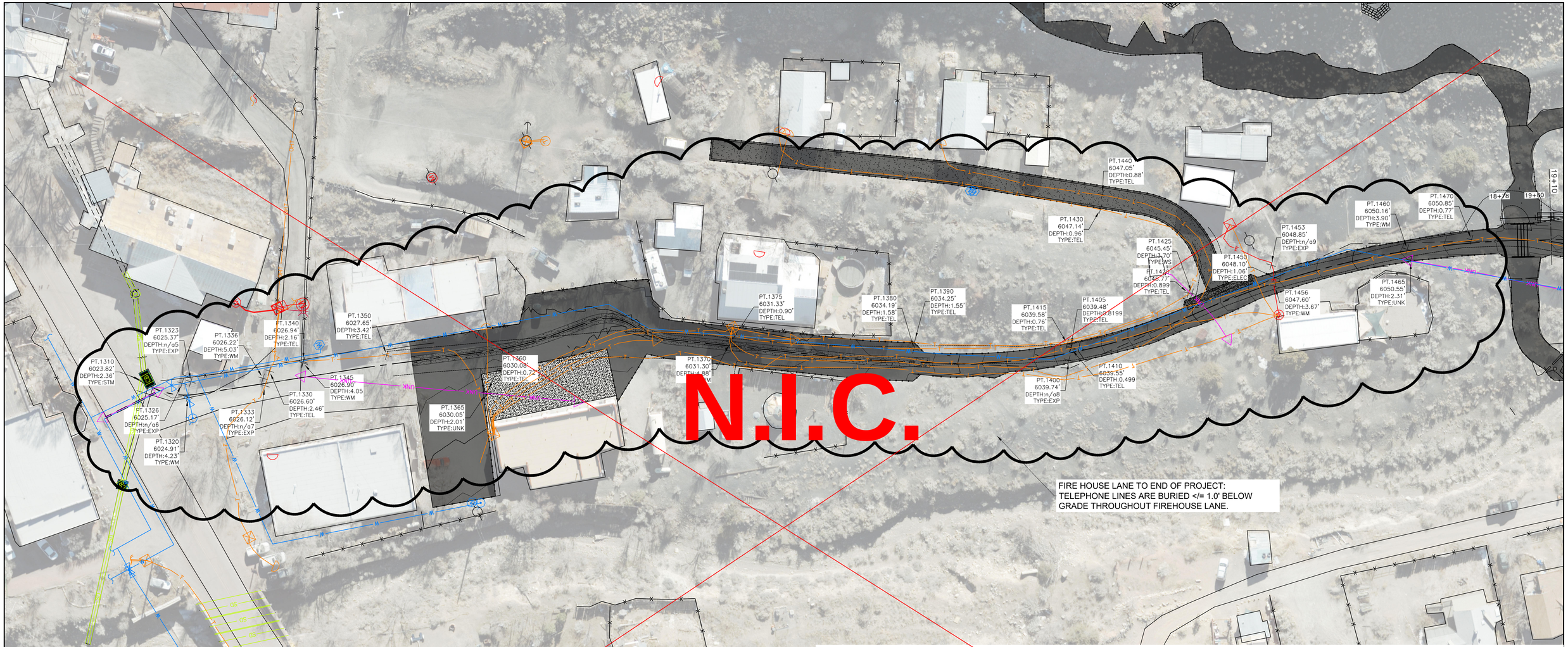

LEGEND

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OHE — OHE	OVERHEAD ELECTRIC LINE
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	ASCE 38 INVESTIGATION BOUNDARY LINE
△	END/ LOSS OF SIGNAL
⟆	LIMITS OF ASCE 38 INVESTIGATION
X	CHANGE OF ASCE 38 QUALITY LEVEL
⌴	END OF UTILITY LINE
⌓	LINE LEADS TOWARD BUILDING/INTO PRIVATE PROPERTY
COP-36"VCP-QLD	(UTILITY OWNER)-(SIZE AND/OR TYPE)-(ASCE QUALITY LEVEL)

UTILITY SYMBOLS

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UTILITY CONFLICT SYMBOLS

PT.1210 — POINT NO.
6025.75 — EXISTING GROUND ELEVATION
DEPTH:1.05' — DEPTH TO TOP
TYPE:TEL — EXISTING UTILITY TYPE

SUE POTHOLE LOCATION POINT

AREA OF UTILITY Vs. DESIGN CONFLICT

DESIGN INTERFERES WITH TELEPHONE LINES. — EXPLANATION OF CONFLICTS

0 30' 60'
HORIZONTAL

nm811 Know what's below. Call before you dig.
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A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDES — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

DESIGN/UTILITY CONFLICTS FIREHOUSE LANE AREA (1 OF 2)

DRAWN: RW	DATE: ----	DWG. NO.	REV. NO.
SCALE	W.O. NO. 15740.001.003	G009	B
		SHT. 9 of 83	

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PT.1453
6048.85'
DEPTH:n/a9
TYPE:EXP

PT.1450
6048.10'
DEPTH:1.06'
TYPE:ELEC

PT.1460
6050.16'
DEPTH:3.90'
TYPE:WM

PT.1470
6050.85'
DEPTH:0.77'
TYPE:TEL

PT.1456
6047.60'
DEPTH:3.67'
TYPE:WM

PT.1465
6050.55'
DEPTH:2.31'
TYPE:UNK

PT.1485
6060.84'
DEPTH:0.57'
TYPE:TEL

PT.1480
6060.73'
DEPTH:3.76'
TYPE:WM

F HOUS LANE TO E OF
PR CT TE PHONE LI S ARE
R </=3 BELOW ADE

N.I.C.

LEGEND

UTILITY LINETYPES

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- UTILITY POLE
- EDGE OF CONCRETE
- GUY ANCHOR

UTILITY CONFLICT SYMBOLS

PT.1210
6025.75'
DEPTH:1.05'
TYPE:TEL

POINT NO.
EXISTING GROUND ELEVATION
DEPTH TO TOP EXISTING UTILITY
TYPE

SUE POTHOLE LOCATION POINT

AREA OF UTILITY Vs. DESIGN CONFLICT

DESIGN INTERFERES WITH COMM LINES.

EXPLANATION OF CONFLICTS

0 30' 60'
HORIZONTAL

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDERS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

DESIGN/UTILITY CONFLICTS
FIREHOUSE LANE AREA
(2 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G010	B
SCALE	W.O. NO. 15740.001.003	SHT. 10 of 83	

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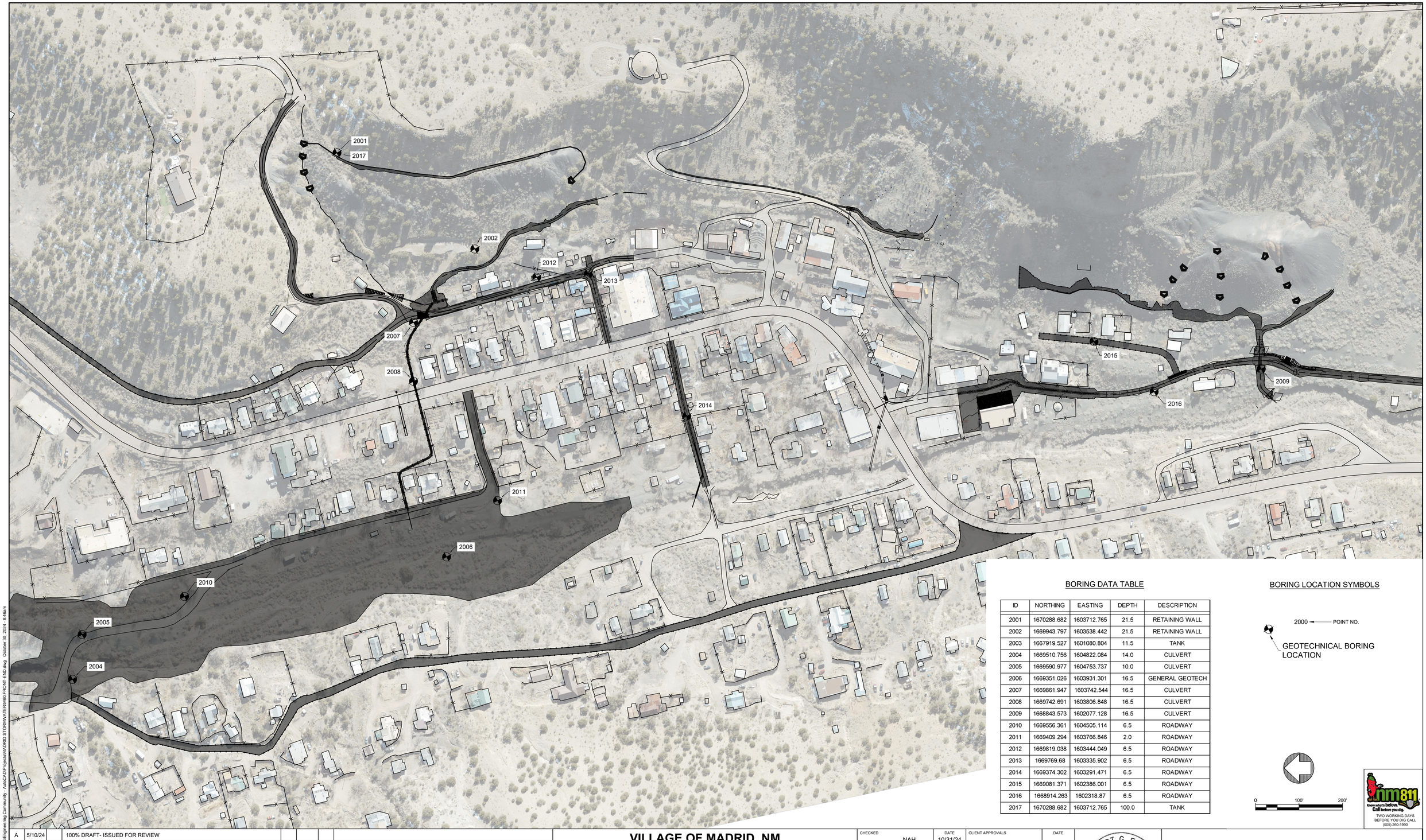

BORING DATA TABLE

ID	NORTHING	EASTING	DEPTH	DESCRIPTION
2001	1670288.682	1603712.765	21.5	RETAINING WALL
2002	1669943.797	1603538.442	21.5	RETAINING WALL
2003	1667919.527	1601080.804	11.5	TANK
2004	1669510.756	1604822.084	14.0	CULVERT
2005	1669590.977	1604753.737	10.0	CULVERT
2006	1669351.026	1603931.301	16.5	GENERAL GEOTECH
2007	1669861.947	1603742.544	16.5	CULVERT
2008	1669742.691	1603806.848	16.5	CULVERT
2009	1668843.573	1602077.128	16.5	CULVERT
2010	1669556.361	1604505.114	6.5	ROADWAY
2011	1669409.294	1603766.846	2.0	ROADWAY
2012	1669819.038	1603444.049	6.5	ROADWAY
2013	1669769.68	1603335.902	6.5	ROADWAY
2014	1669374.302	1603291.471	6.5	ROADWAY
2015	1669081.371	1602386.001	6.5	ROADWAY
2016	1668914.263	1602318.87	6.5	ROADWAY
2017	1670288.682	1603712.765	100.0	TANK

BORING LOCATION SYMBOLS

2000 ← POINT NO.

GEOTECHNICAL BORING LOCATION

0 100' 200'

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS DATE

ROBERT G. EDERS NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 10/30/24

GEOTECHNICAL SOIL BORINGS LOCATION MAP

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G011	C
SCALE	W.O. NO.	SHT. 11 of 83	
	15740.001.003		

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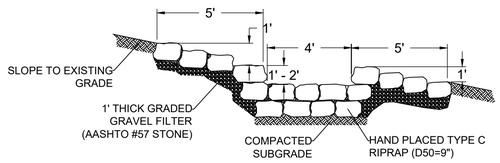
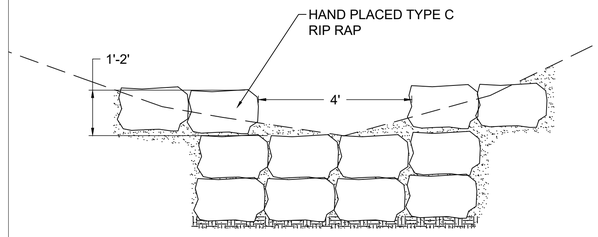


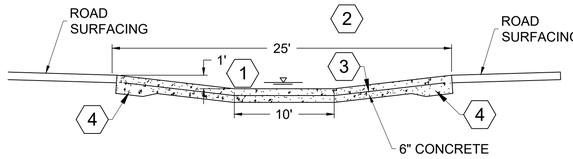
1 PLUNGE POOL PROFILE



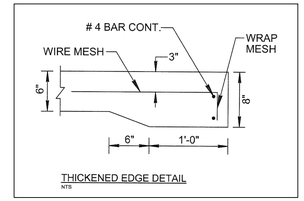
2 PLUNGE POOL SECTION

KEYED NOTES

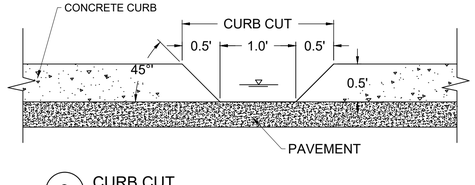
1. INVERT DEPTH
2. NO. 4 BARS 3'-0" CONTINUOUS AT 16" O.C.
3. 6" X 6" X NO. 6 GA. WIRE MESH.
4. THICKENED EDGE. SEE DETAIL A THIS SHEET.



5 CONCRETE DIP SECTION SECTION



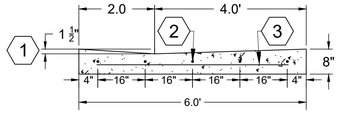
A THICKENED EDGE SECTION



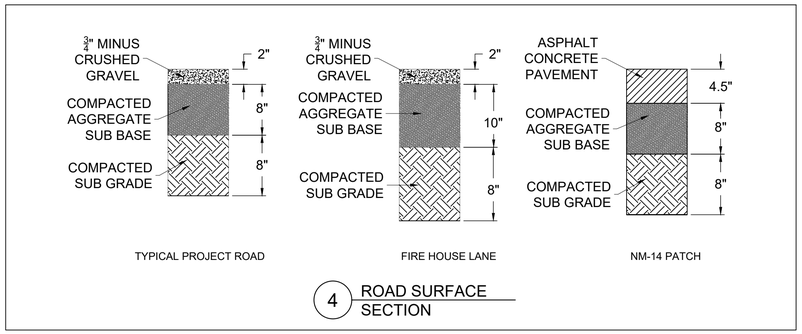
3 CURB CUT SECTION

KEYED NOTES

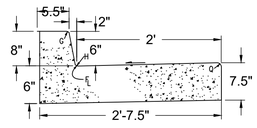
1. INVERT DEPTH
2. NO. 4 BARS 3'-0" LONG AT 16" O.C.
3. 6" X 6" X NO. 6 GA. WIRE MESH.



6 CONCRETE VALLEY GUTTER SECTION



4 ROAD SURFACE SECTION



7 TYPICAL CURB AND GUTTER SECTION

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MADRID NEW MEXICO

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ALBUQUERQUE NEW MEXICO

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PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

STORM WATER CONTROLS DETAILS (1 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G012	C
SCALE	W.O. NO.	SHT. 12 of 83	
	15740.001.003		

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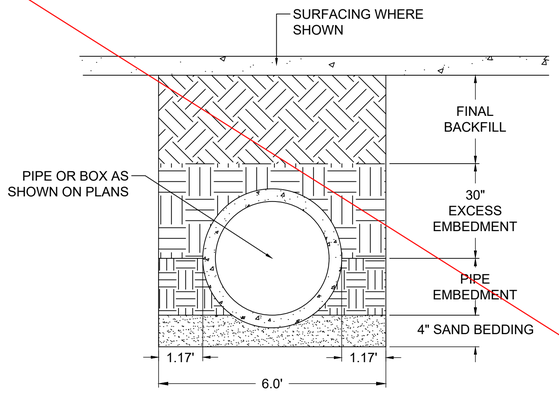


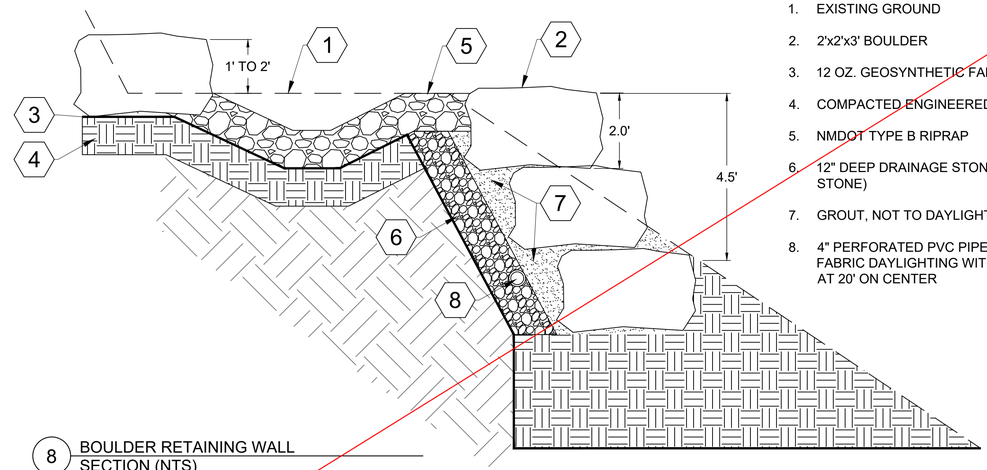
7 STORM DRAIN TRENCH DETAIL (NTS)

TRENCH NOTES

A. SAND BEDDING AND SELECT BACKFILL SHALL NOT CONTAIN ROCK GREATER THAN 2" INCHES IN ANY DIMENSION. MECHANICALLY TAMP TO COMPACT.

B. PLACE BACKFILL IN 12" LOOSE LIFTS AND COMPACT TO 95% OF MAXIMUM DENSITY PER ASTM D698.

C. FOR MULTIPLE UTILITIES, SPACE 6" BETWEEN PIPES. PROVIDE 6" FROM EDGE OF PIPE TO WALL OF TRENCH



1. EXISTING GROUND
2. 2'x2'x3' BOULDER
3. 12 OZ. GEOSYNTHETIC FABRIC
4. COMPACTED ENGINEERED FILL
5. NMDOT TYPE B RIPRAP
6. 12" DEEP DRAINAGE STONE (AASHTO #57 STONE)
7. GROUT, NOT TO DAYLIGHT PAST STONE
8. 4" PERFORATED PVC PIPE WRAPPED IN FILTER FABRIC DAYLIGHTING WITH SOLID PVS PIPES AT 20' ON CENTER

8 BOULDER RETAINING WALL SECTION (NTS)

N.I.C.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED NAH	10/31/24	CLIENT APPROVALS	DATE
DES. ENG. SLJ	10/31/24		
PROJ. ENG. RGE	10/31/24		
PROJ. MGR. TDB	10/31/24		
APPROVED			
APPROVED			

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

STORM WATER CONTROLS DETAILS (2 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G013	B
SCALE	W.O. NO. 15740.001.003	SHT. 13 of 83	

nm811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL (505) 260-1990

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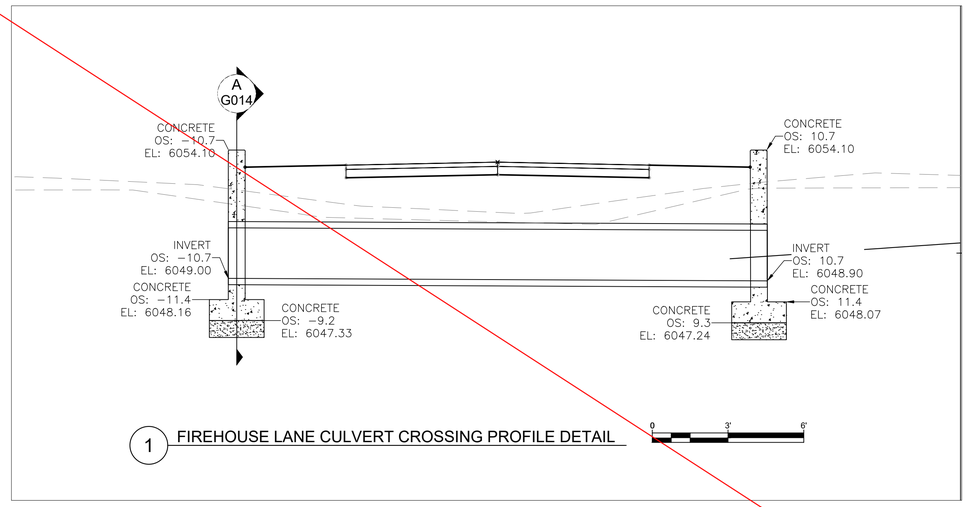
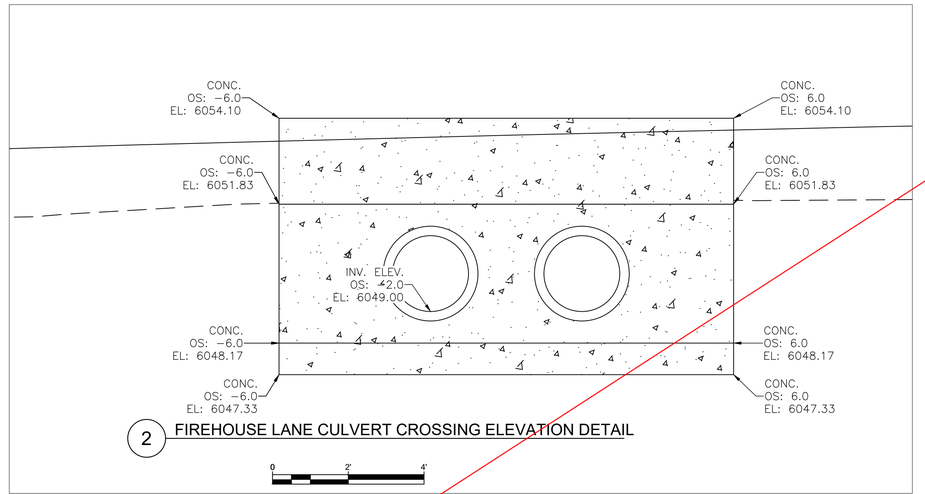


1 FIREHOUSE LANE CULVERT CROSSING PROFILE DETAIL



2 FIREHOUSE LANE CULVERT CROSSING ELEVATION DETAIL

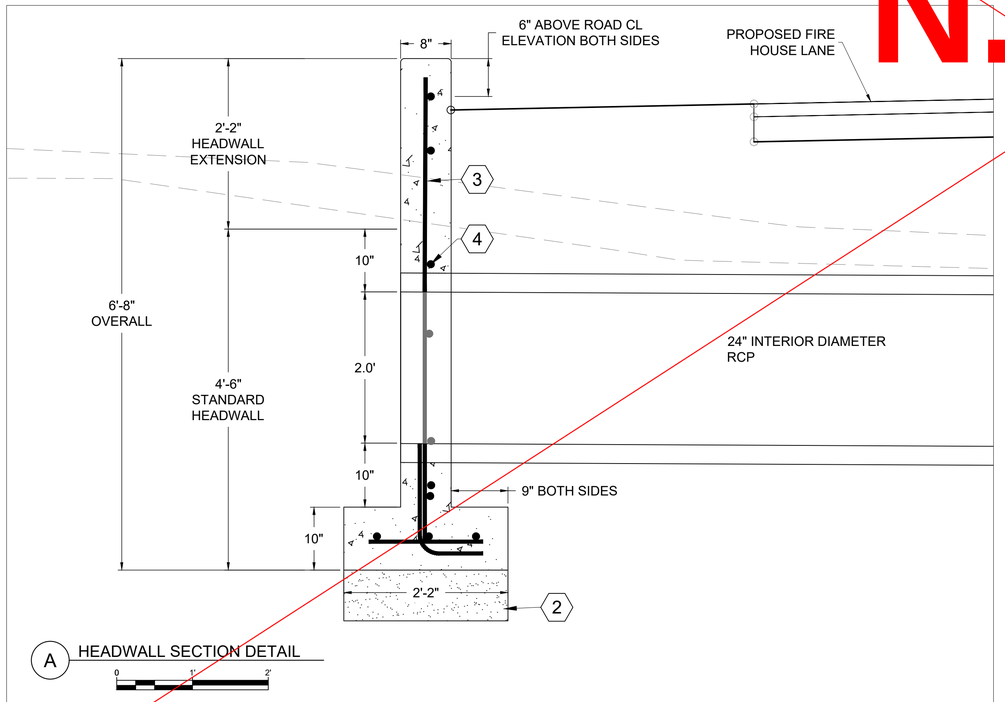
KEYED NOTES

1. REINFORCE PER NMDOT STANDARD DETAILS, PIPE CULVERT HEADWALLS - SHEET 511-03-1/1. SEE SHEET C-602.
2. PLACE ON 8" OF COARSE AGGREGATE.
3. #16 VERTICAL BARS @ 1'-2" O.C.
4. #8 HORIZONTAL BARS @ 1'-5" O.C.
5. #4 REBAR HOOP PLACED 2" OFFSET FROM PIPE OD.

CONSTRUCTION NOTES

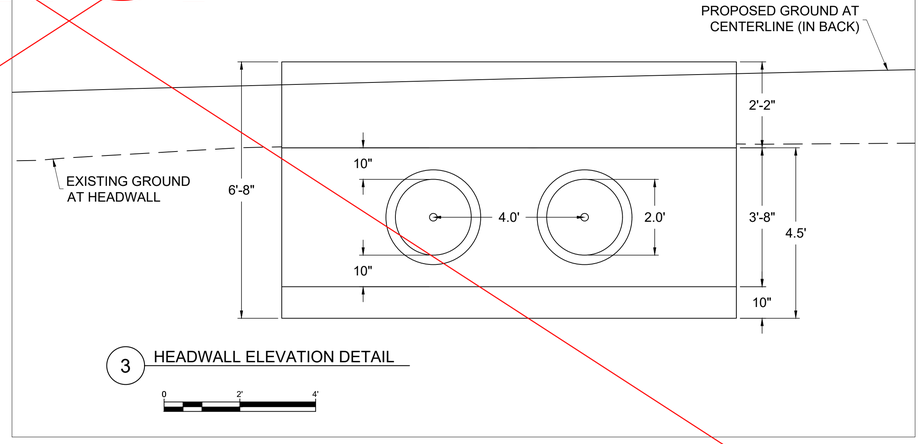
A. CONSTRUCT HEADWALLS PER NMDOT STANDARD DRAWING SERIAL 511-03-1/1. SEE DWG NO C602

N.I.C.



A HEADWALL SECTION DETAIL

0 1' 2'



3 HEADWALL ELEVATION DETAIL

0 2' 4'

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BEFORE YOU DIG CALL
(505) 260-1990

NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

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FIREHOUSE LANE CULVERT
CROSSING DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G014	B
SCALE	W.O. NO.	SHT. 14 of 83	
	15740.001.003		

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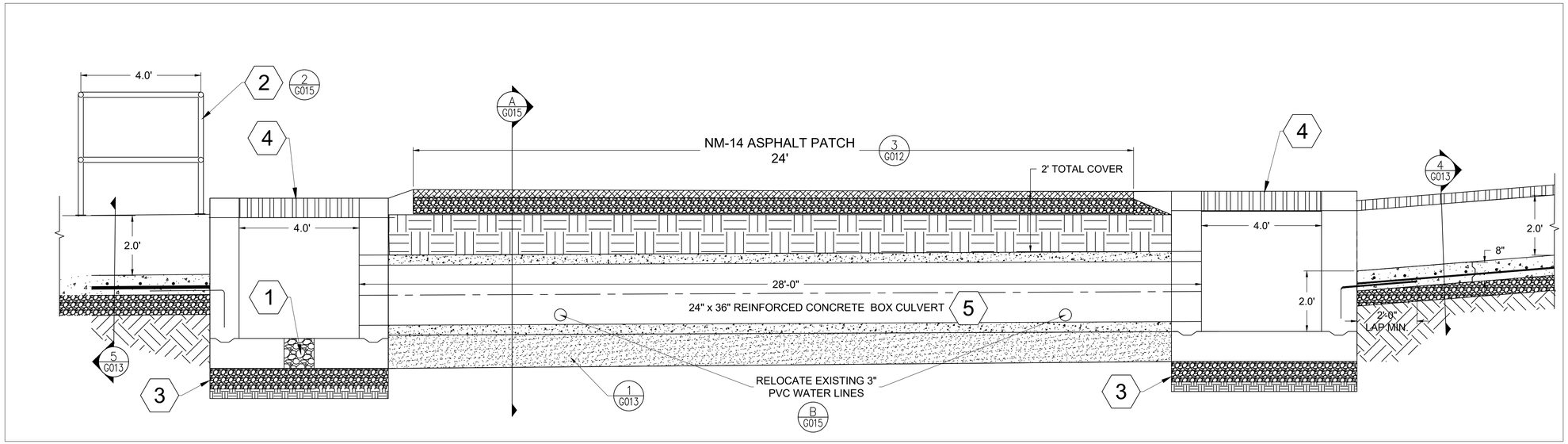
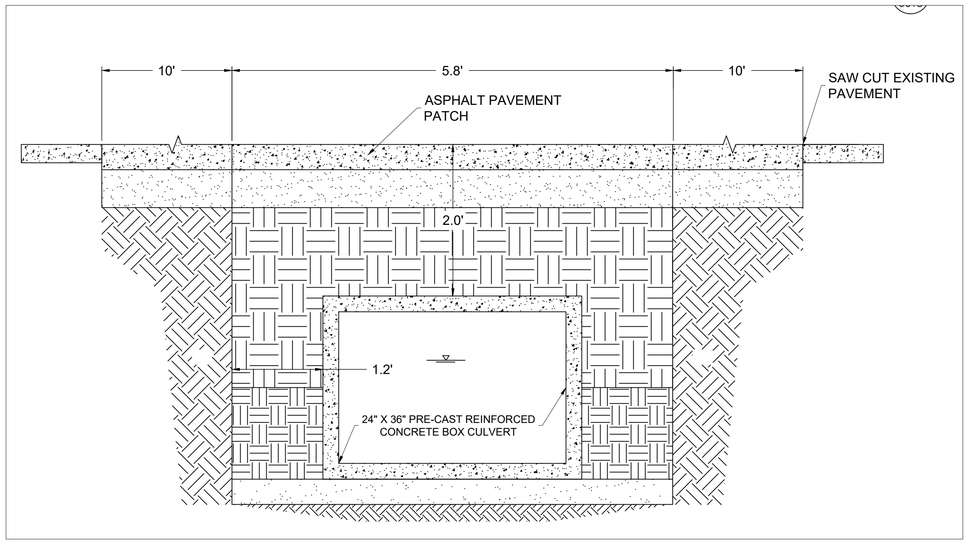


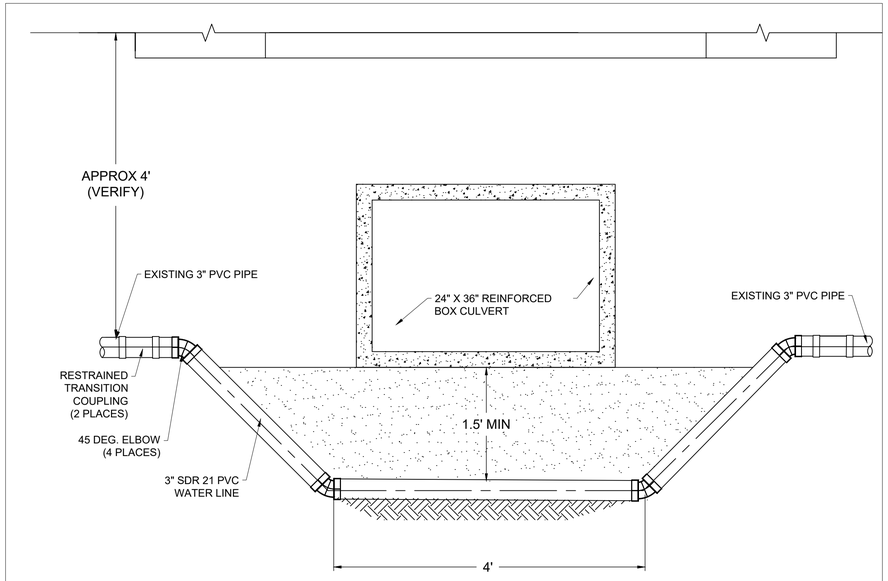
1 NM 14 CULVERT CROSSING PROFILE DETAIL

0 2' 4'



A NM 14 CULVERT CROSSING SECTION DETAIL

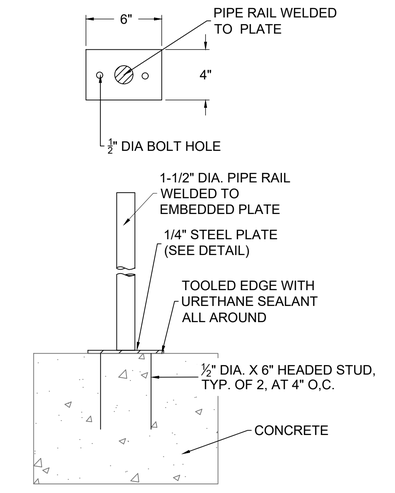
0 1' 2'



B WATERLINE UNDERCROSSING SECTION DETAIL
N.T.S.

KEYED NOTES

1. 12" DIAMETER WEEP HOLE FILLED WITH PEA GRAVEL.
2. 48" HIGH 1-1/2" DIA. WELDED PIPE RAILING ACROSS CONCRETE CHANNEL. CONSTRUCT PER NMDOT STANDARD DRAWING 607-20.
3. PLACE ON 6" COMPACTED BASE COURSE ON COMPACTED SUBGRADE.
4. CONSTRUCT DROP INLET AND GRATE PER NMDOT STANDARD DRAWING SERIAL C-31. SEE DWG NO. C-603.
5. INSTALL BOX CULVERT PER NMDOT STANDARD DRAWING 511-60. SEE SHEET C603. FORM, REBAR AND POUR IN TWO SECTIONS TO FACILITATE SINGLE LANE CLOSURE ON NM-14.



2 PIPE RAILING DETAIL
N.T.S.

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VILLAGE OF MADRID, NM
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MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

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PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

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NM-14 CULVERT CROSSING DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G015	C
SCALE	W.O. NO.	SHT. 15 of 83	
	15740.001.003		

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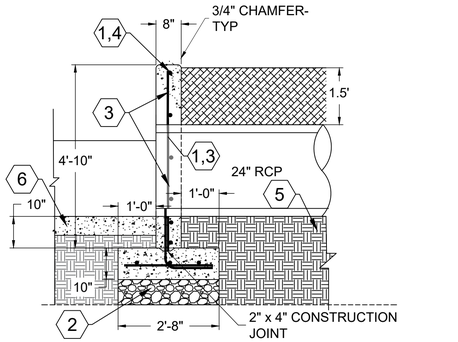
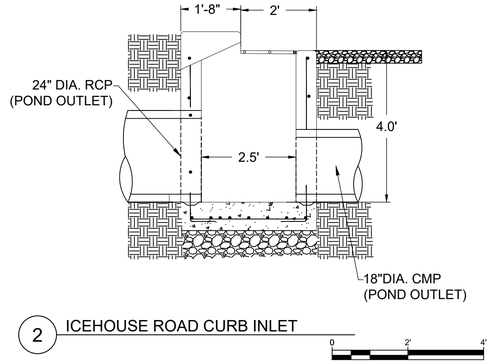


1 ICEHOUSE CHANNEL HEADWALL SECTION

HEADWALL KEY NOTES:

1. REINFORCE PER NMDOT STANDARD DETAILS, PIPE CULVERT HEADWALLS - SHEET 511-03-1/1. SEE SHEET C-602.
2. PLACE ON 8" OF COARSE AGGREGATE.
3. #16 VERTICAL BARS @ 1'-2" O.C.
4. #8 HORIZONTAL BARS @ 1'-5" O.C.
5. #4 REBAR HOOP PLACED 2" OFFSET FROM PIPE OD.
6. REINFORCED CONCRETE LINED CHANNEL



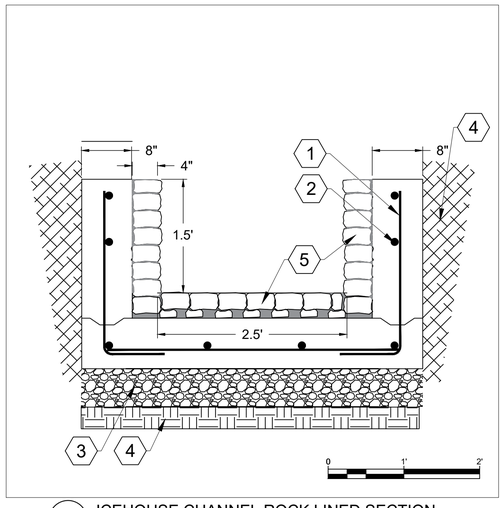
2 ICEHOUSE ROAD CURB INLET

DROP INLET CONSTRUCTION NOTES:

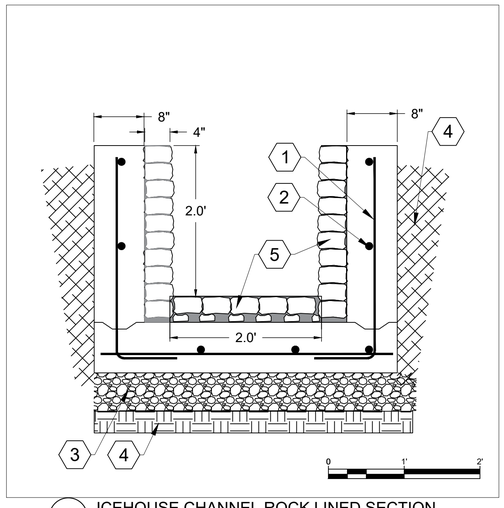
1. FURNISH AND INSTALL PER NM APWA DRAWING 2202 (STORM INLET TYPE "A". SEE SHEET C-601.
2. PLACE ON 8" OF COMPACTED COARSE AGGREGATE.

CHANNEL KEY NOTES:

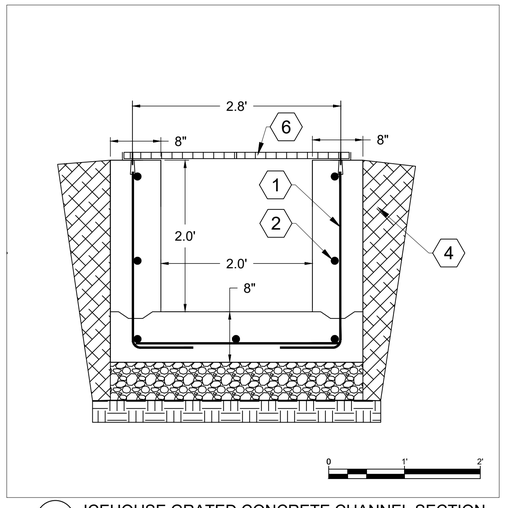
1. #5 BARS 15" O.C.
2. #7 BARS 15" O.C.
3. PLACE ON 6" COMPACTED BASE COURSE
4. COMPACTED BACKFILL
5. DECORATIVE ROCK FACING (4"x3" NOMINAL). MORTAR IN PLACE. SEE DETAIL 6.
6. INSTALL FRAMING AND GRATE PER NM APWA STANDARD DRAWINGS 2216 AND 2220. SEE DWG NO. C-601.
7. COLD KEY JOINT $\frac{1}{4}$" WIDE X 2" DEEP TOOLED OR SAWCUT JOINT. SEAL WITH NP-1 SEALANT



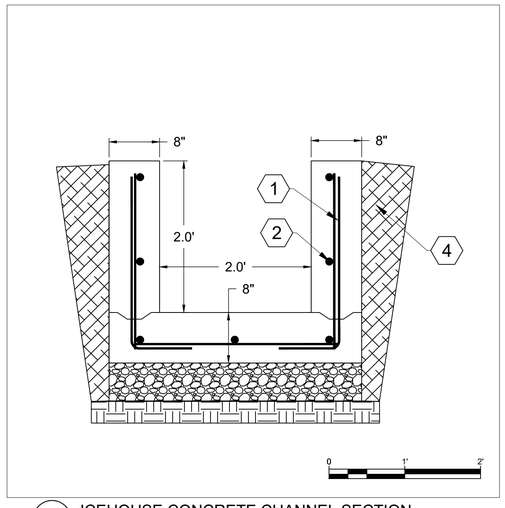
3 ICEHOUSE CHANNEL ROCK LINED SECTION
STATION 10+51 TO 11+22



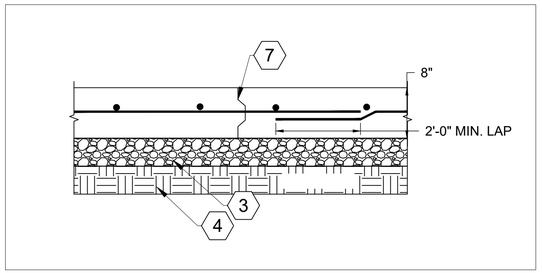
4 ICEHOUSE CHANNEL ROCK LINED SECTION
STATION 11+22 TO 13+40



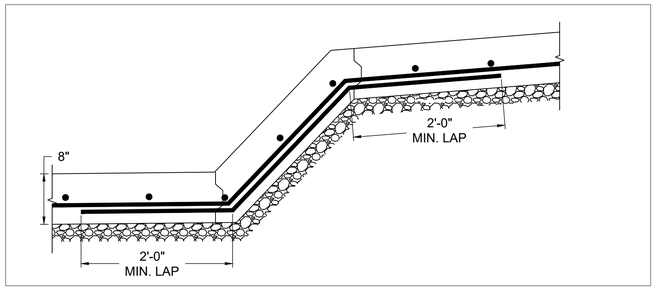
5 ICEHOUSE GRATED CONCRETE CHANNEL SECTION
STATION 13+79 TO 14+40



6 ICEHOUSE CONCRETE CHANNEL SECTION
STATION 14+40 TO 15+07



A TYPICAL LONGITUDINAL CONSTRUCTION JOINT DETAIL
NOT TO SCALE



B TYPICAL ANGLULAR CONSTRUCTION JOINT DETAIL
NOT TO SCALE

7 ROCK LINING INSTALLATION
(DESIGNED BY D/P/S, 2020)

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

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ICEHOUSE CHANNEL DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G016	C
SCALE	W.O. NO.	SHT. 16 of 83	
	15740.001.003		

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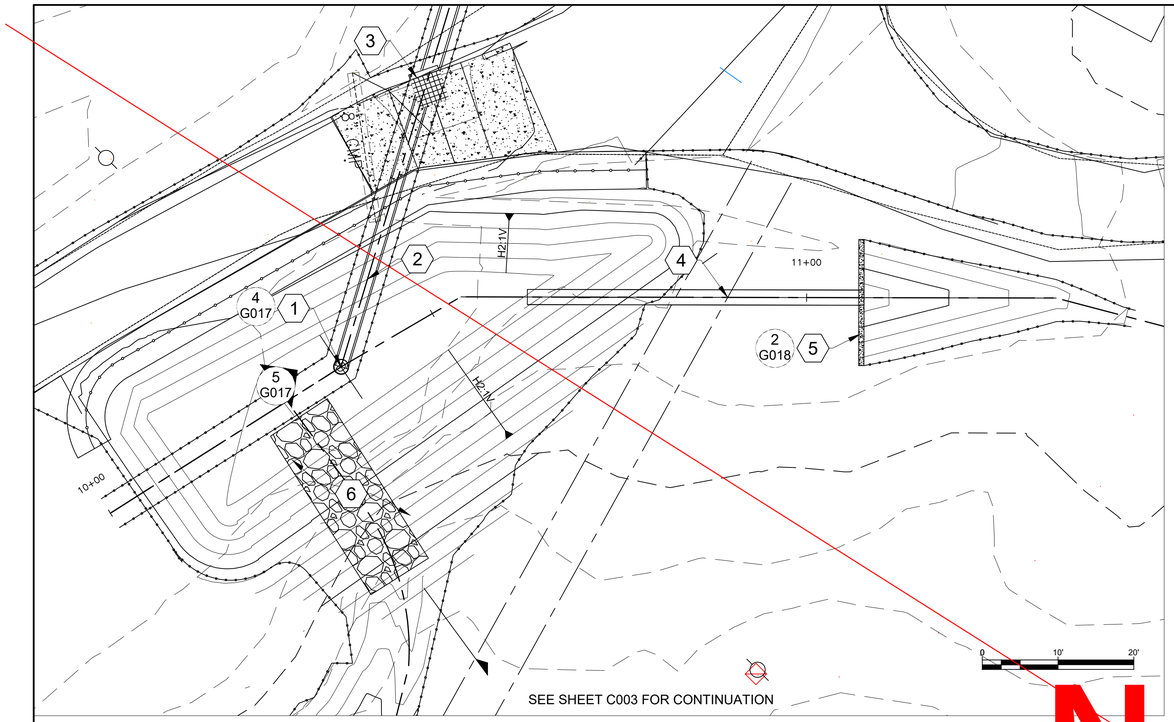
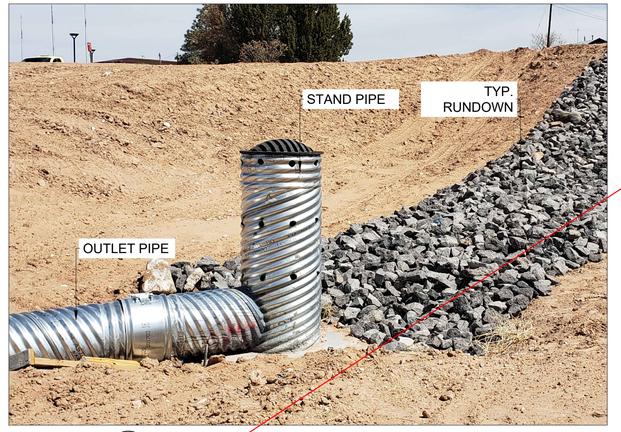


1 BETHLEHEM POND AND STANDPIPE INSTALLATION
PLAN VIEW

N.I.C.

POND PLAN & PROFILE KEY NOTES:

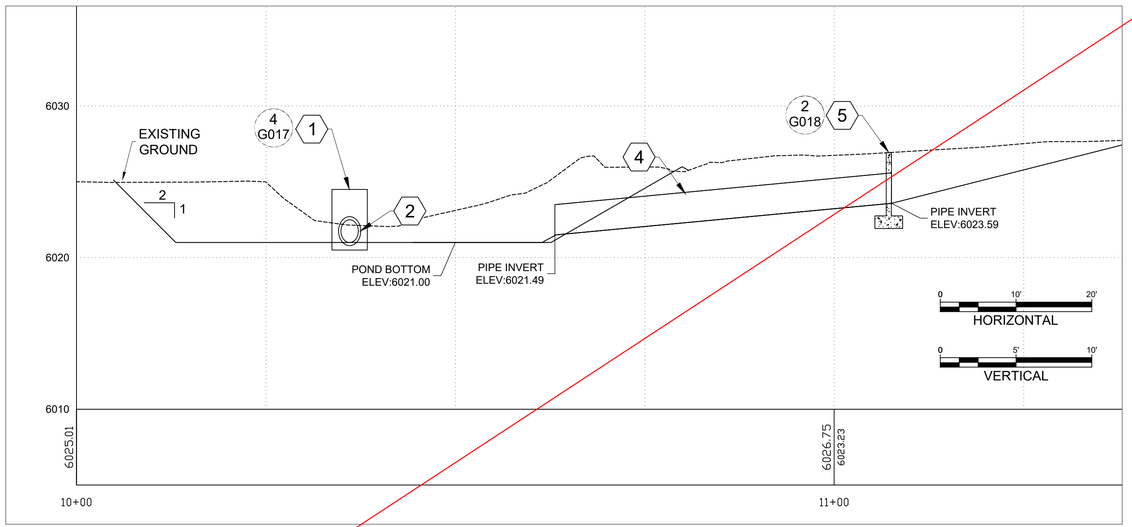
1. STANDPIPE
2. 18" DIA CMP
3. CURB DRAINAGE INLET, CONSTRUCT PER NM APWA STANDARD DRAWING 2101. SEE DWG NO. C601
4. 24" DIA CMP
5. REINFORCED CONCRETE PIPE HEADWALL. CONSTRUCT PER NMDOT STANDARD DRAWING SERIAL 511-03-1/1. SEE DWG NO. C602
6. GROUTED RIPRAP RUNDOWN



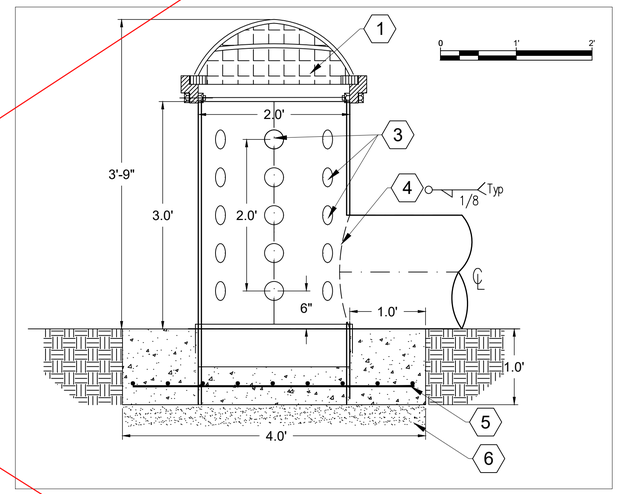
3 BETHLEHEM POND AND STANDPIPE INSTALLATION
TYPICAL

STANDPIPE KEY NOTES:

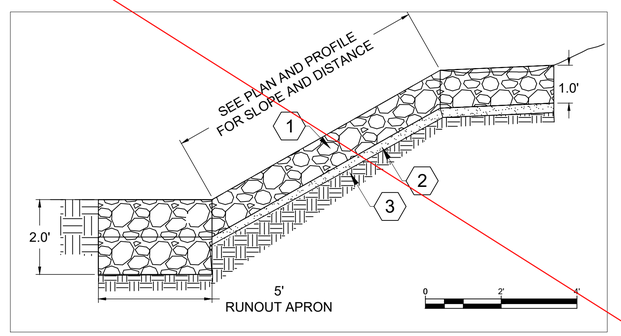
1. NEENAH R-2561 CAST IRON BEEHIVE GRATE AND FRAME FASTENED TO CMP STANDPIPE
2. 24" DIAMETER 00 GAUGE CMP RISER
3. CORE DRILL FORTY(40) 3-INCH DIA. HOLES 45 DEGREES ON CENTER AND EVENLY SPACED AS SHOWN.
4. WELD 18" DIA CMP TO 24"DIA. RISER AS INDICATED
5. #4 REBAR, 12" O.C, EACH WAY
6. PLACE ON 8" OF AGGREGATE BASE COURSE



2 BETHLEHEM POND AND STANDPIPE INSTALLATION
PROFILE VIEW



4 BETHLEHEM POND STANDPIPE DETAIL
SECTION



5 BETHLEHEM POND CHANNEL RUNDOWN DETAIL
SECTION

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WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

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APPROVED				
APPROVED				

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BETHLEHEM POND DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G017	B
SCALE	W.O. NO.	SHT. 17 of 83	
	15740.001.003		

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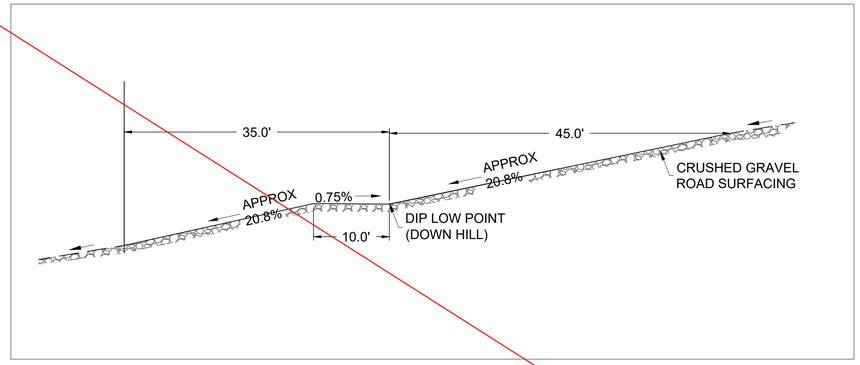
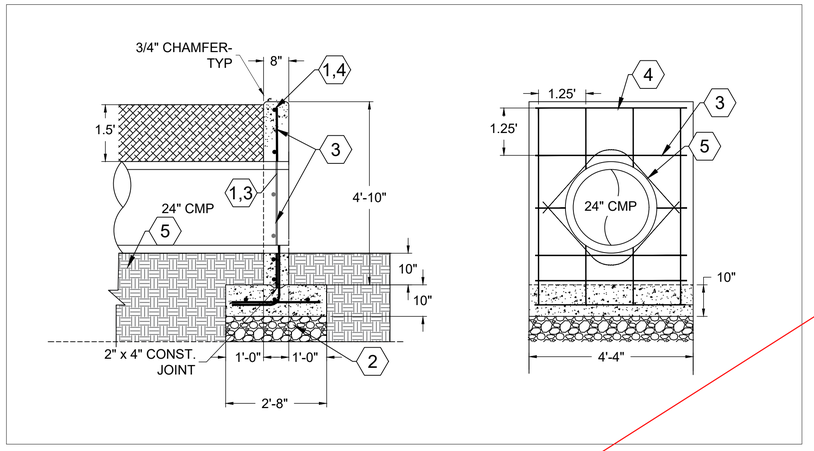


1 ROLLING DIP SECTION
PROFILE N.T.S.



2 BETHLEHEM DRIVE PAD HEADWALL DETAIL
SECTION

0 2' 4'

HEADWALL KEY NOTES:

1. REINFORCE PER NMDOT STANDARD DETAILS, PIPE CULVERT HEADWALLS - SHEET 511-03-1/1. SEE SHEET C-602.
2. PLACE ON 8" OF COARSE AGGREGATE.
3. #16 VERTICAL BARS @ 1'-2" O.C.
4. #8 HORIZONTAL BARS @ 1'-5" O.C.
5. #4 REBAR HOOP PLACED 2" OFFSET FROM PIPE OD.

N.I.C.

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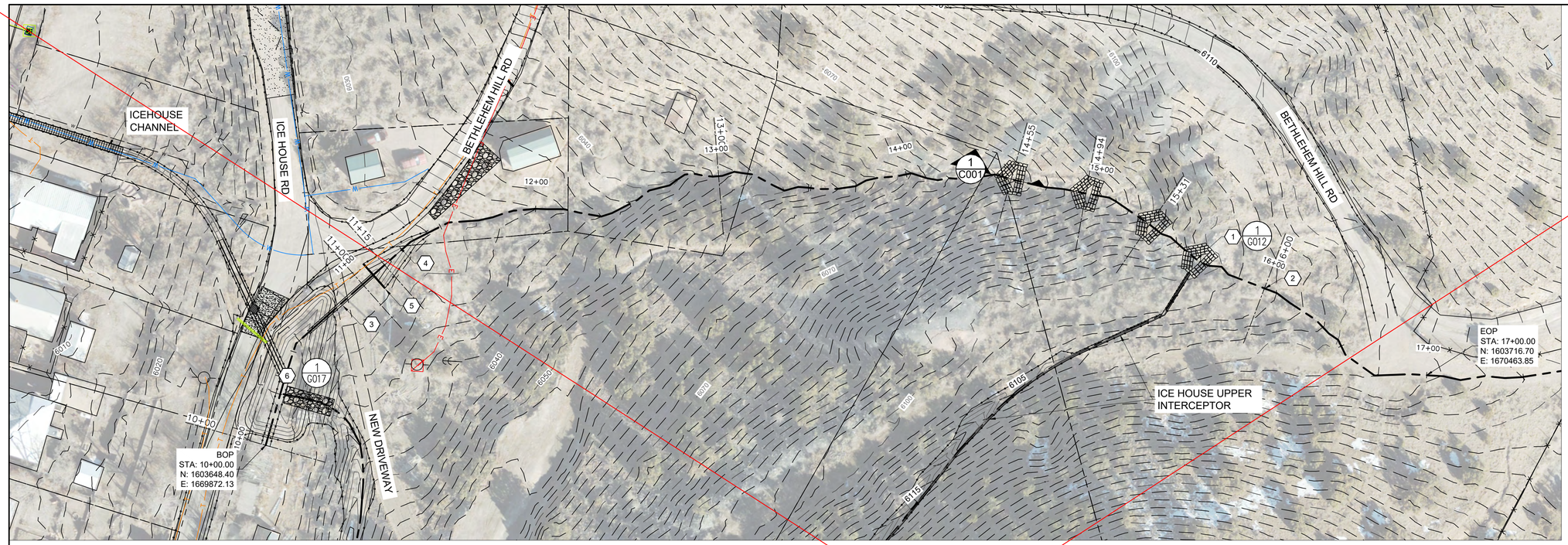
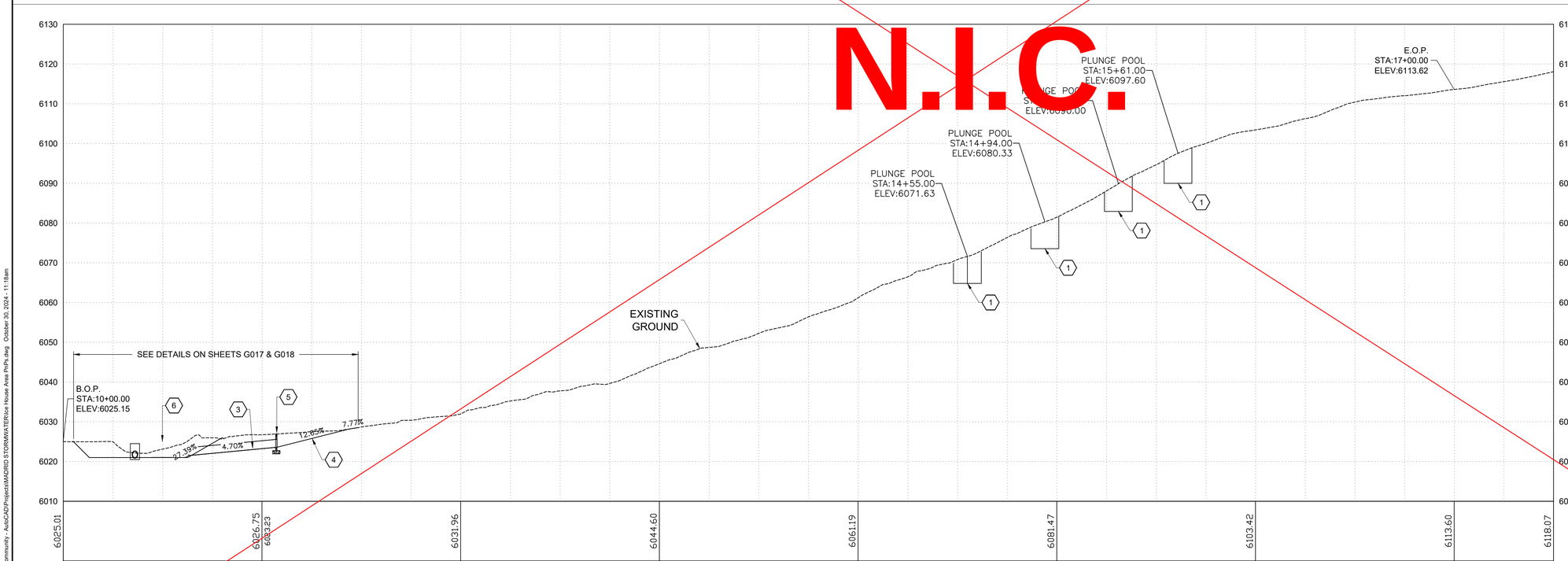
BETHLEHEM ROAD DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	G018	B
SCALE	W.O. NO. 15740.001.003	SHT. 18 of 83	

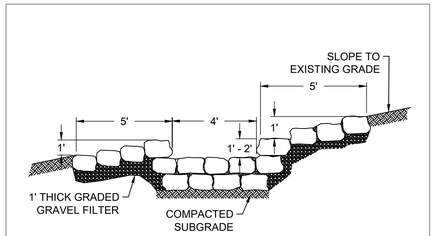




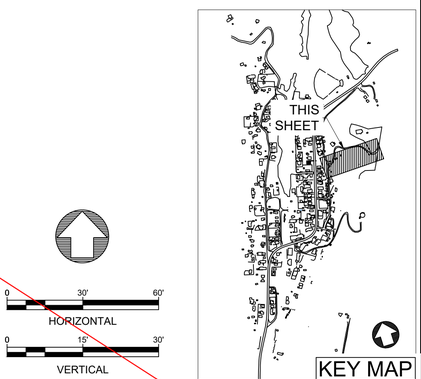
KEYED NOTES

1. PLUNGE POOL. SEE DETAIL 1 THIS SHEET FOR TYPICAL DETAIL.
2. SEE BETHLEHEM HILL ARROYO CROSS SECTIONS ON SHEET C101
3. 24-INCH CMP CULVERT.
4. DIVERSION CHANNEL
5. CONCRETE HEADWALL
6. BETHLEHEM POND

CONSTRUCTION NOTES



1 PLUNGE POOL TYPICAL SECTION (NTS)



0 30' 60'
HORIZONTAL

0 15' 30'
VERTICAL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
BETHLEHEM HILL ARROYO
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C001	B
SCALE	W.O. NO.	SHT. 19 of 83	
	15740.001.003		

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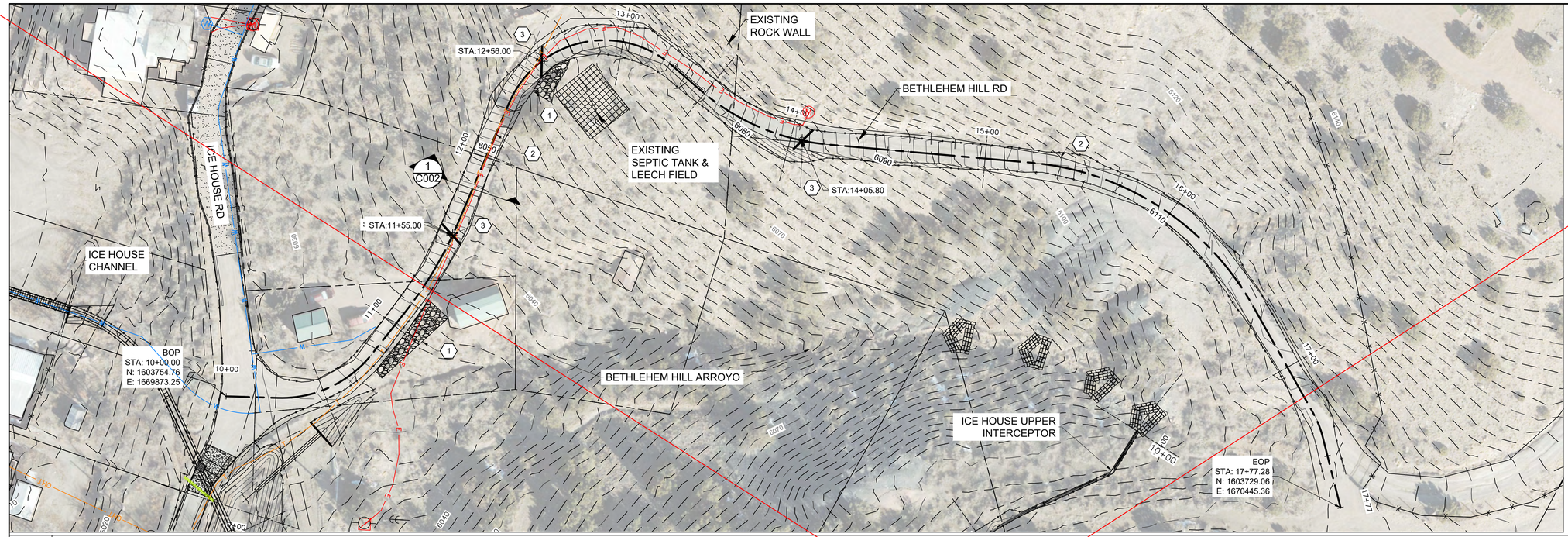
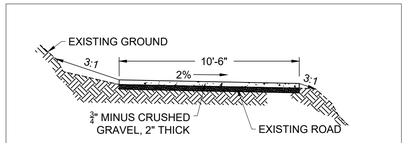
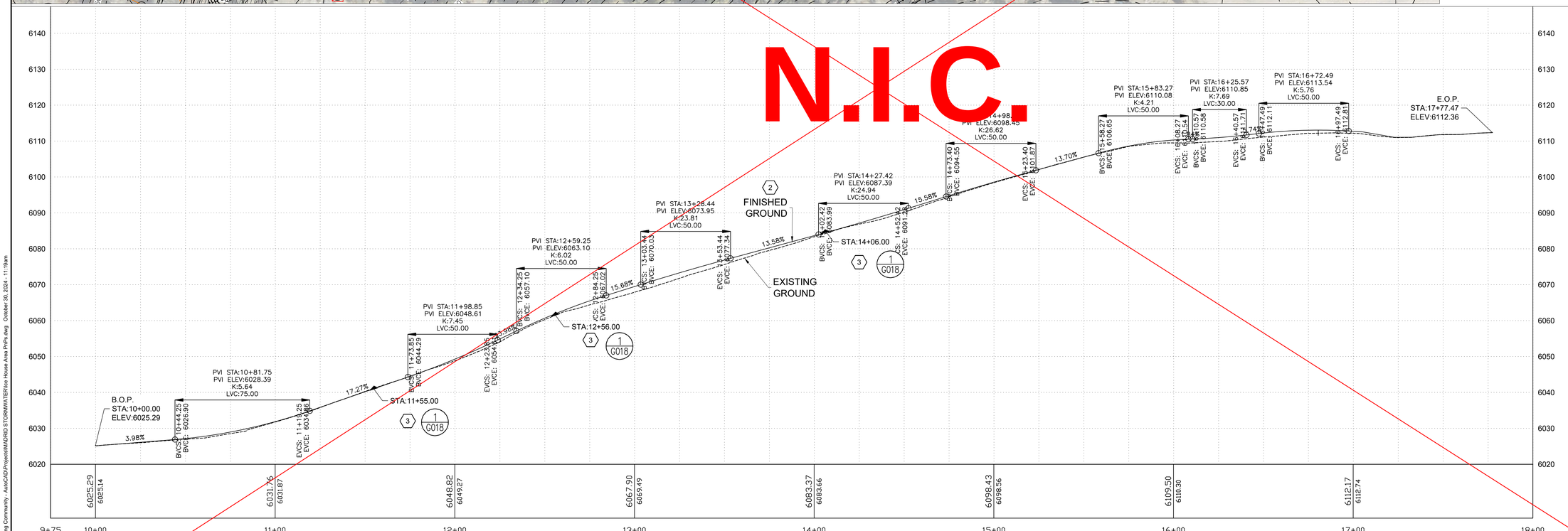


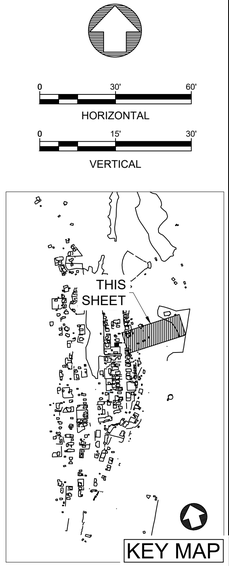
KEYED NOTES

1. FILL EROSION SCOUR WITH 6" MINUS ROCK/GRAVEL MIXTURE.
2. CROSS SLOPE ROAD GRADING. (1 / C002)
3. INSTALL ROLLING DIP. (1 / C018)

CONSTRUCTION NOTES







NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA BETHLEHEM HILL ROAD PLAN AND PROFILE

DRAWN	RW	DATE	----
SCALE		W.O. NO.	15740.001.003
DWG. NO.	C002	REV. NO.	B
SHT. 20 of 83			

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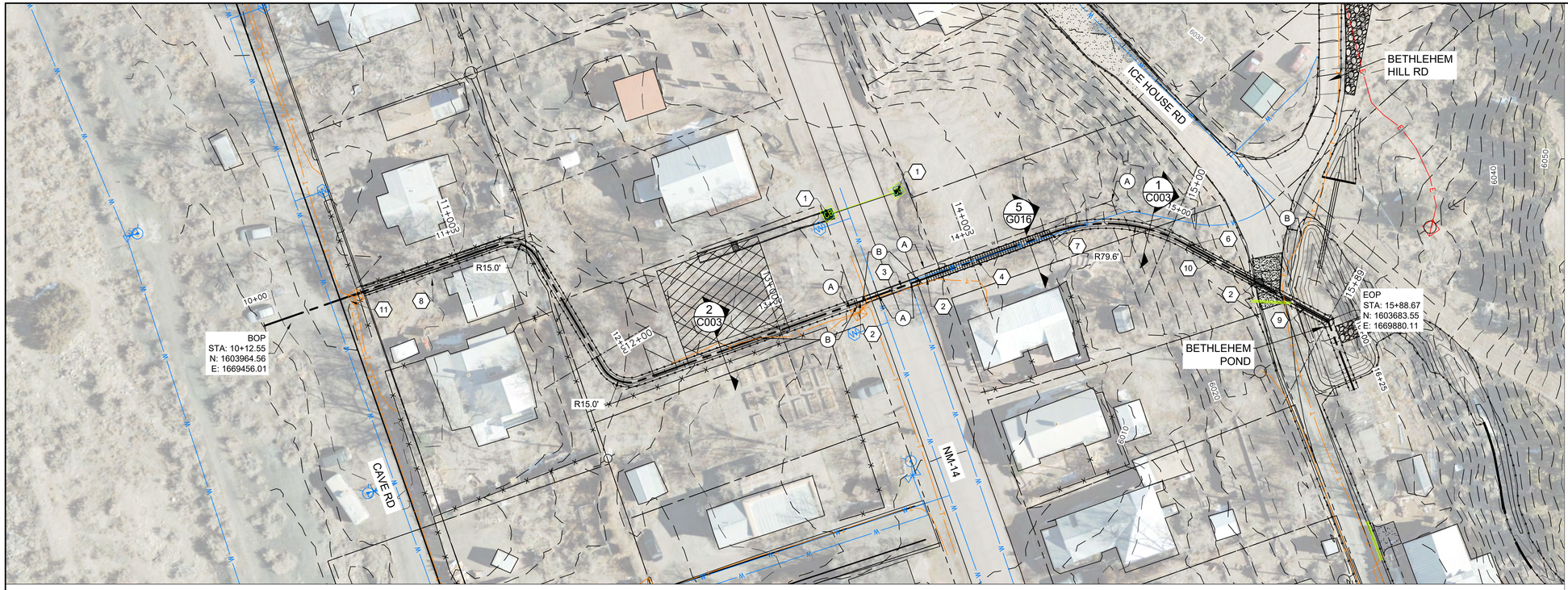
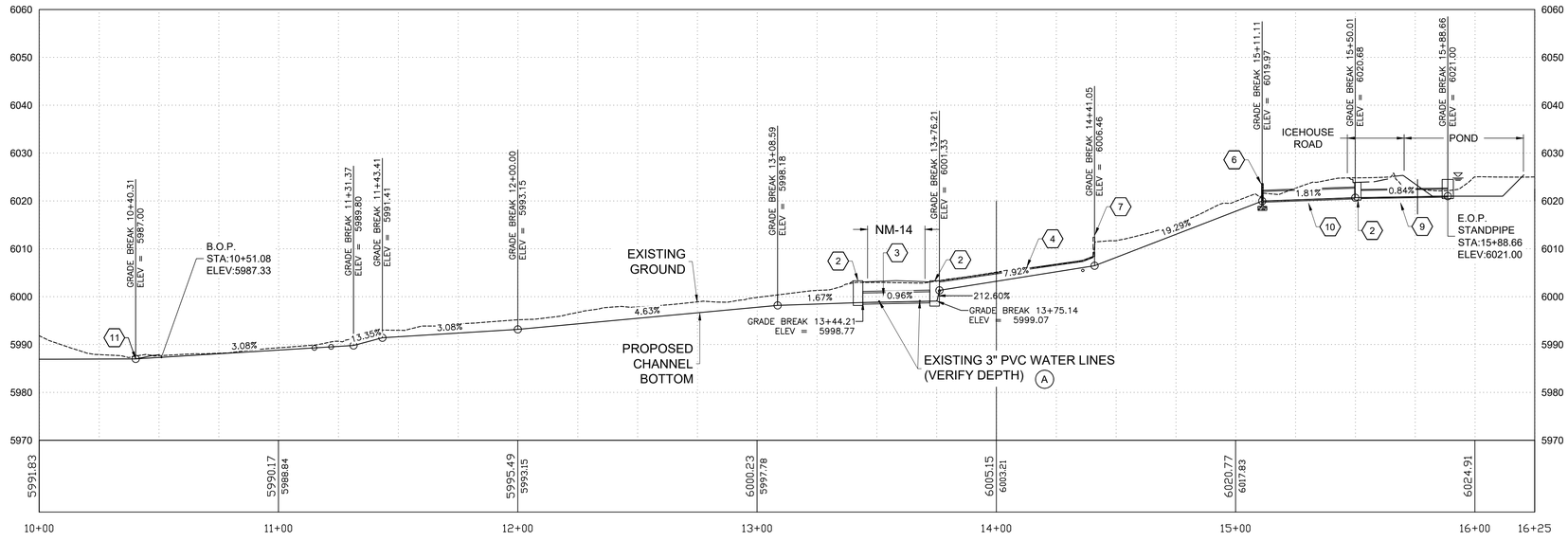




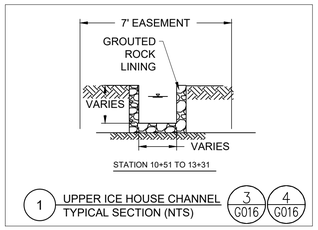
KEYED NOTES

1. REMOVE EXISTING DROP INLETS AND FILL TO GRADE.
2. PROPOSED DROP INLET (2 / G016)
3. REINFORCED CONCRETE BOX CULVERT CROSSING UNDER NM-14. (1 / G015)
4. CONCRETE CHANNEL WITH TRAFFIC RATED GRATE.
5. 24" CORRUGATED METAL PIPE CULVERT.
6. REINFORCED CONCRETE HEADWALL. (1 / G016)
7. REMOVE EXISTING ROCK WALL.
8. EXISTING SEPTIC TANK CLEANOUTS
9. 18" CORRUGATED METAL PIPE
10. 24" REINFORCED CONCRETE PIPE
11. CROSS ROAD SWALE. (SEE SHEET C218)

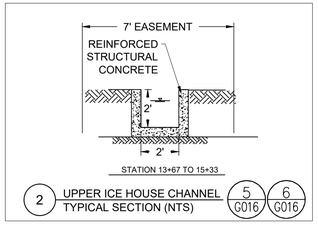
CONSTRUCTION NOTES

A. RELOCATE EXISTING 3" WATERLINE WITH NEW 3" DR 25 PVC C900 PIPE. FURNISH AND INSTALL TAPPING SADDLE AND ALL FITTINGS.

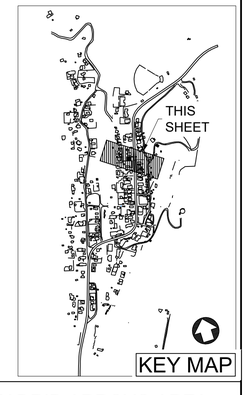
B. RELOCATE EXISTING TELEPHONE LINE (BY OTHERS).

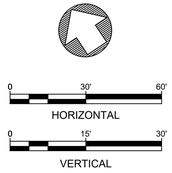


1 UPPER ICE HOUSE CHANNEL TYPICAL SECTION (NTS) (3 / G016) (4 / G016)



2 UPPER ICE HOUSE CHANNEL TYPICAL SECTION (NTS) (5 / G016) (6 / G016)





NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDERER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
ICE HOUSE CHANNEL
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C003	C
SCALE	W.O. NO.	SHT. 21 of 83	
	15740.001.003		

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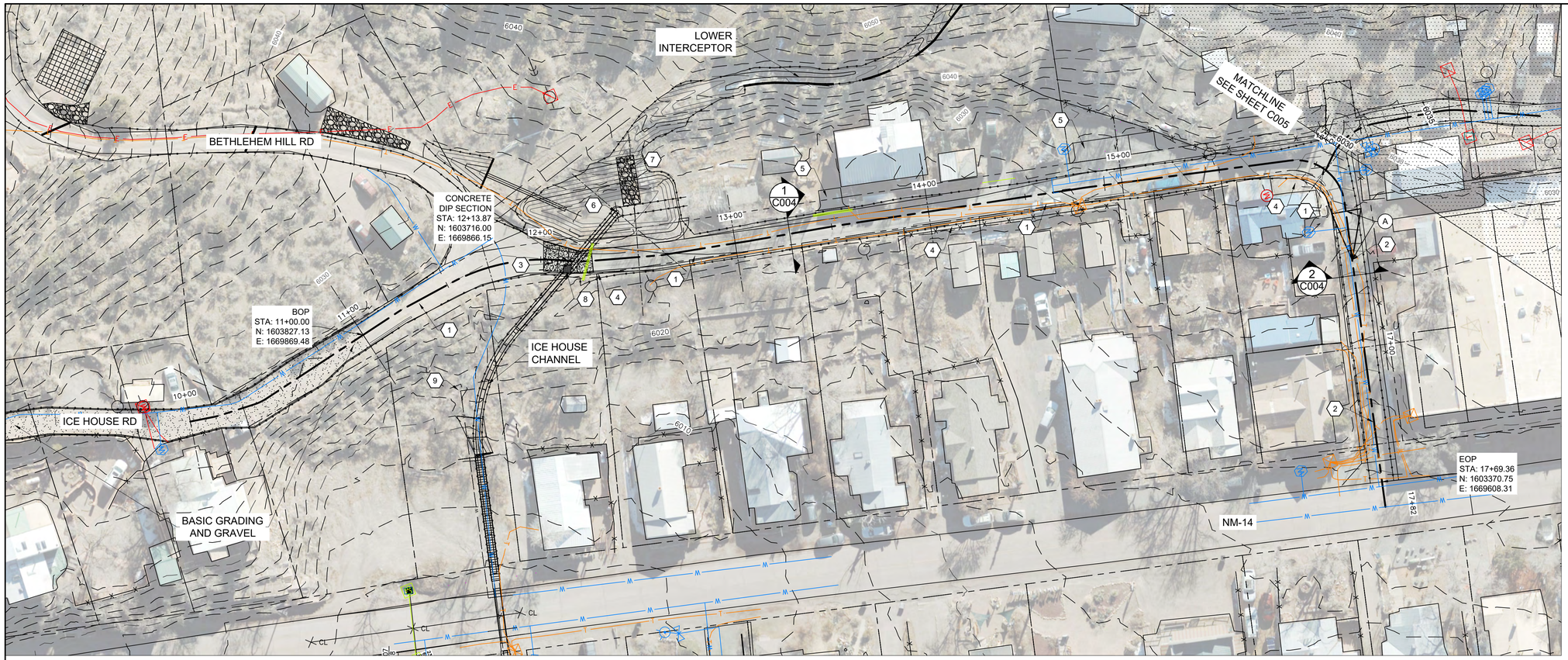
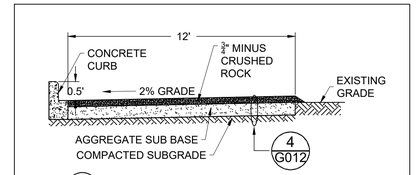


KEYED NOTES

1. ICE HOUSE ROAD CROSS SLOPE ROADWAY.
2. ICE HOUSE ROAD INVERTED CROWN ROAD.
3. ICE HOUSE ROAD CONCRETE DIP SECTION. (5 / G012)
4. CONCRETE CURB AND GUTTER. (7 / G012)
5. RESIDENTIAL DRIVE ENTRANCE. APPLY GRAVEL SURFACING FROM EDGE OF ROAD TO EXISTING GRADE.
6. BETHLEHEM POND STANDPIPE. (4 / G017)
7. BETHLEHEM POND RUNDOWN. (5 / G017)
8. CURB INLET (1,2 / C601)
9. RELOCATE WATERLINE ALONG THIS ALIGNMENT

CONSTRUCTION NOTES

A. ICE HOUSE ROAD STATIONS 16+30.00 TO 16+55.00 TRANSITION FROM CROSS SLOPED TO INVERTED CROWN ROAD.



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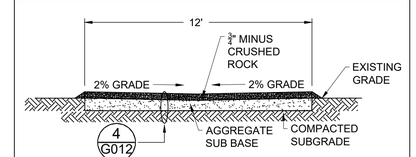

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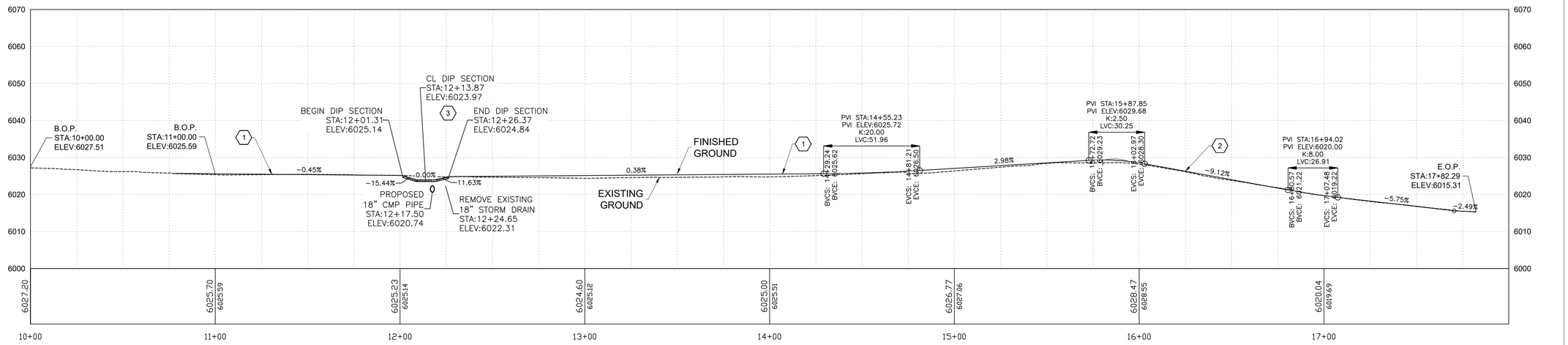

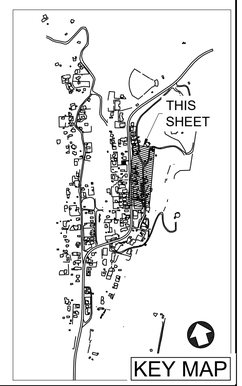

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDES — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
ICE HOUSE ROAD
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C004	C
SCALE	W.O. NO.	SHT. 22 of 83	
	15740.001.003		

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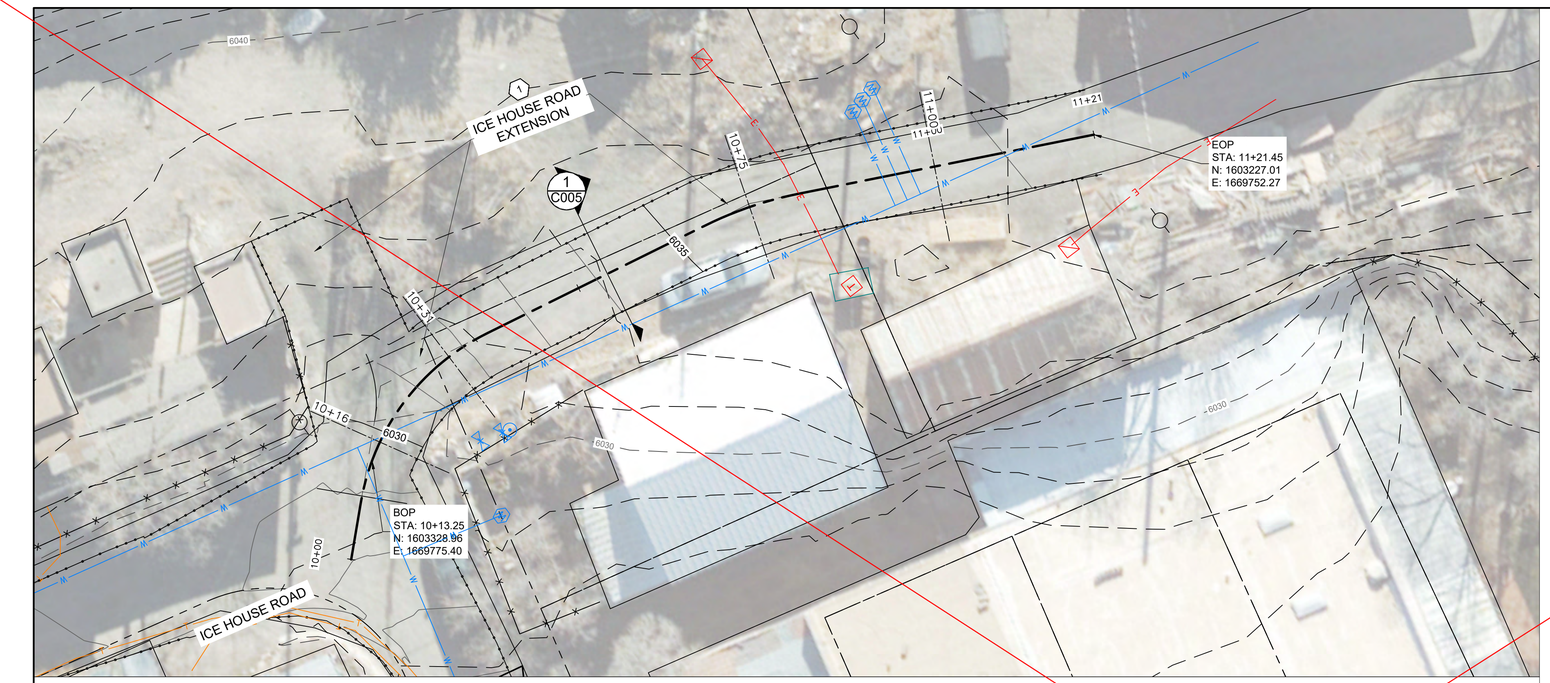
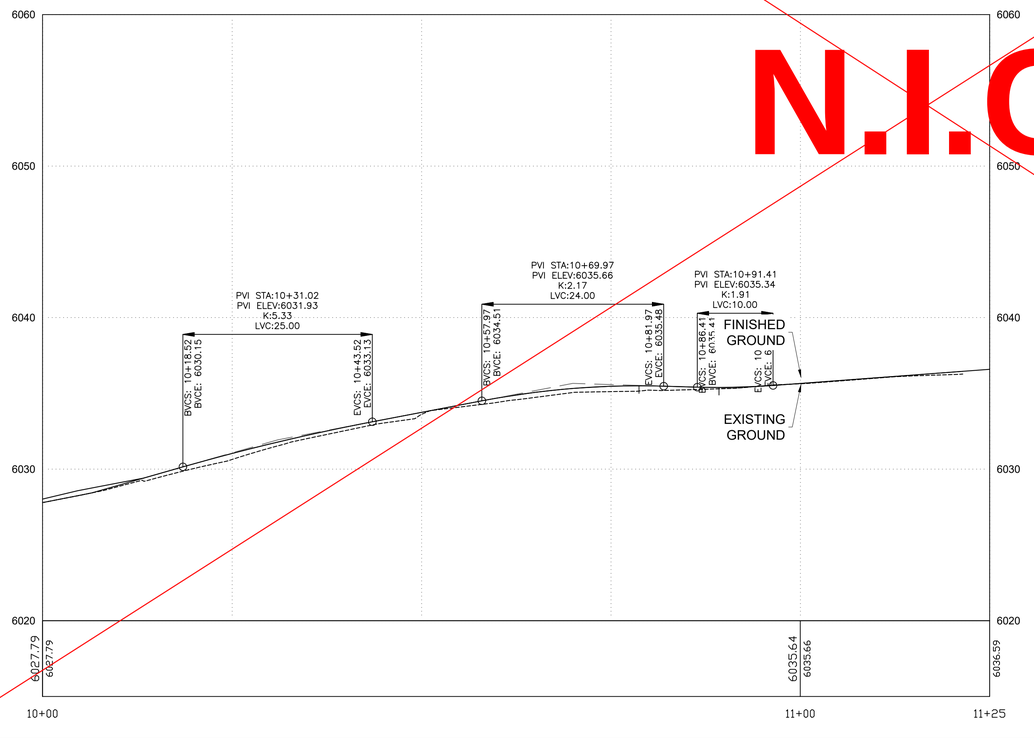


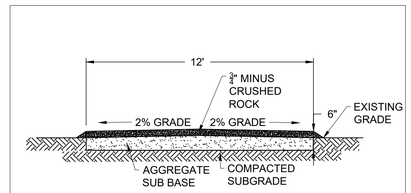


N.I.C.

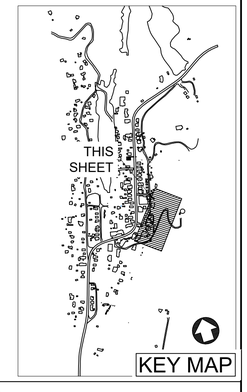
KEYED NOTES

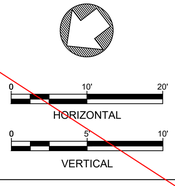
1. CROWNED ROAD.

CONSTRUCTION NOTES



1 ICE HOUSE ROAD EXTENSION
TYPICAL SECTION (NTS)





NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
ICE HOUSE ROAD EXTENSION
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C005	B
SCALE	W.O. NO.	SHT. 23 of 83	
	15740.001.003		

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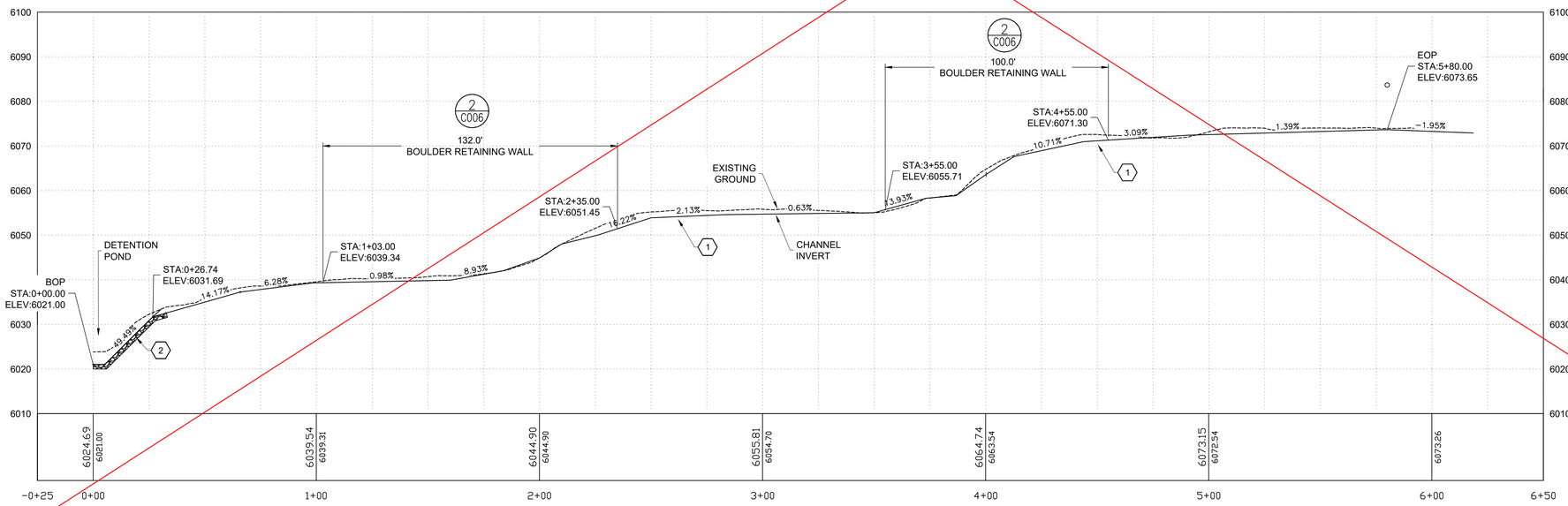
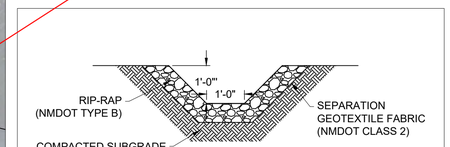
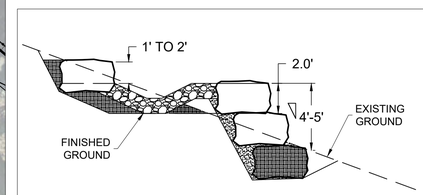


KEYED NOTES

1. RIPRAP LINED TRAPEZOIDAL CHANNEL 1 FT DEEP, 1 FT WIDE, WITH 2:1 SIDE SLOPES.
2. RIPRAP RUNDOWN.

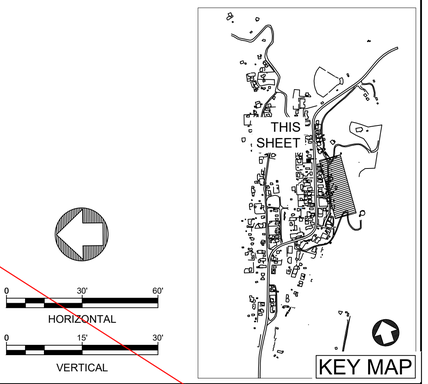


1 ICE HOUSE LOWER INTERCEPTOR TYPICAL SECTION (NTS)



STATION 1+03.00 TO 2+35.00
STATION 3+55.00 TO 4+55.00

2 BOULDER RETAINING WALL TYPICAL SECTION (NTS) — 8 C013



NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDES — NEW MEXICO — 10/30/24 — REGISTERED PROFESSIONAL ENGINEER

ICE HOUSE ROAD/MADRID ARROYO AREA
ICE HOUSE LOWER INTERCEPTOR
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C006	B
SCALE	W.O. NO. 15740.001.003	SHT. 24 of 83	

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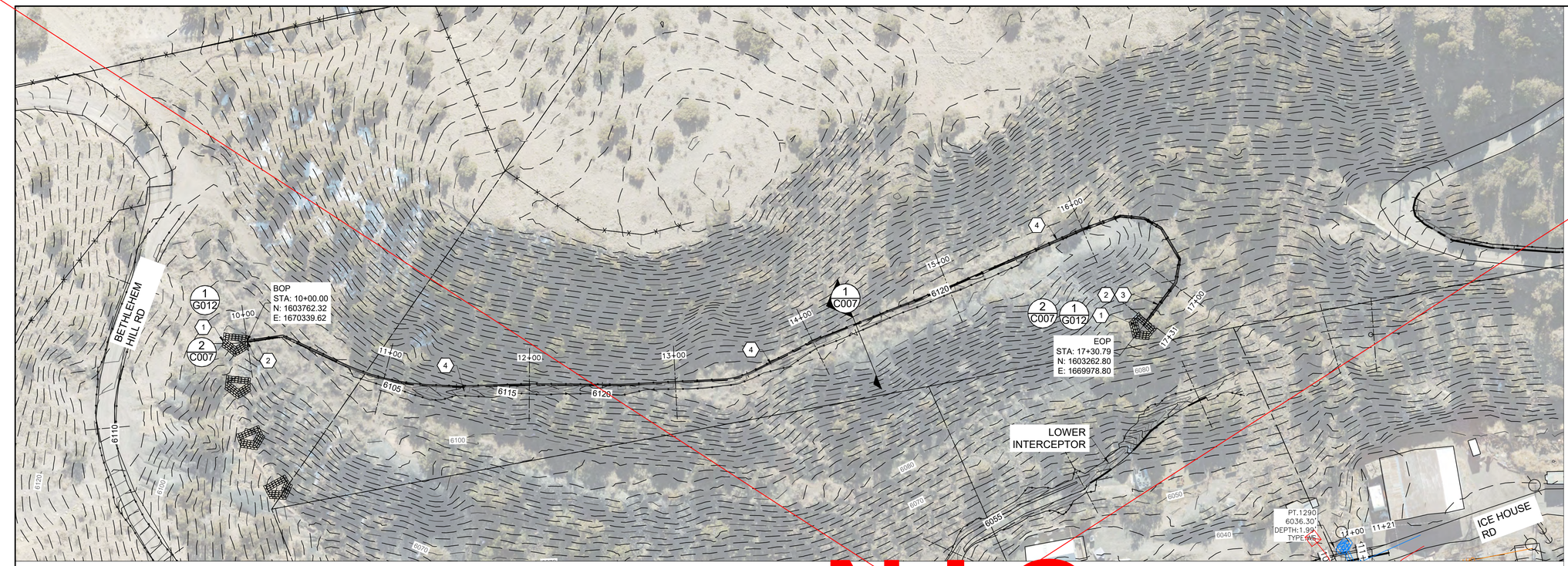

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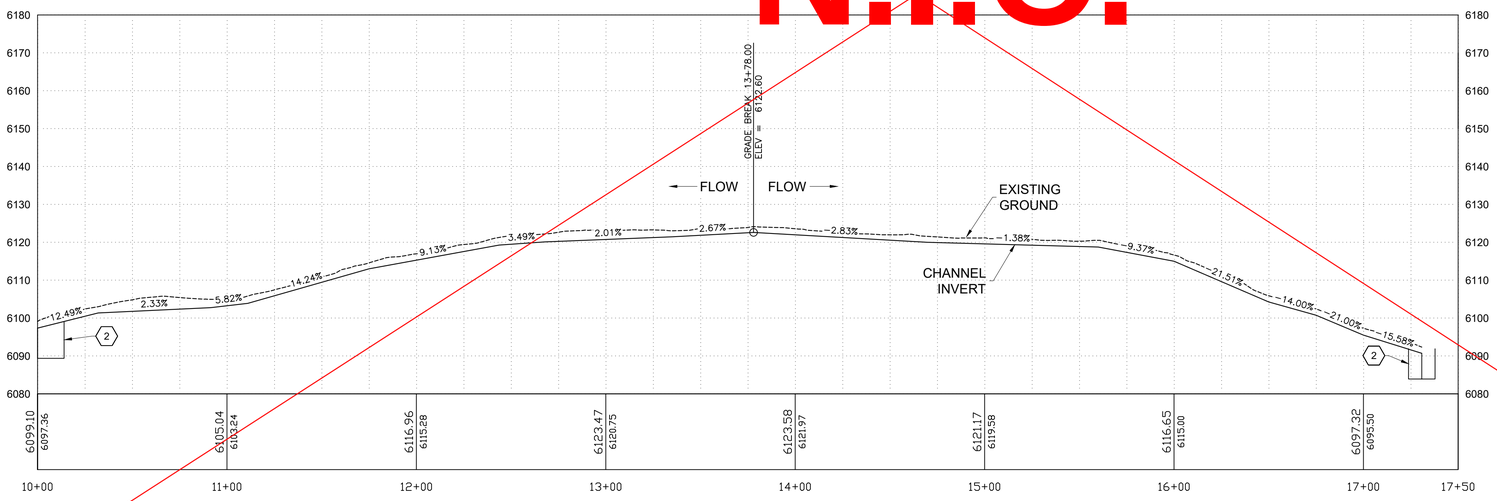
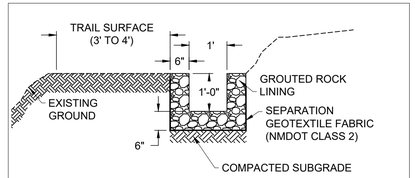
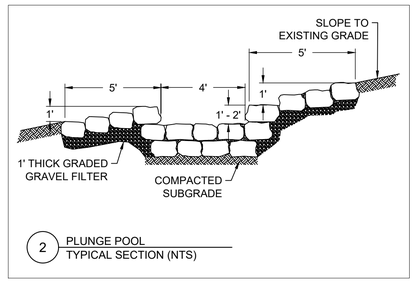


KEYED NOTES

1. PLUNGE POOL. (2 / C007)
2. DIRECT CHANNEL OUTLET INTO PLUNGE POOL.
3. RIPRAP RUNDOWN APRON WITH NMDOT TYPE B RIPRAP.
4. GROUTED-ROCK LINED CHANNEL. (1 / C007)



1 ICE HOUSE UPPER INTERCEPTOR TYPICAL SECTION (NTS)



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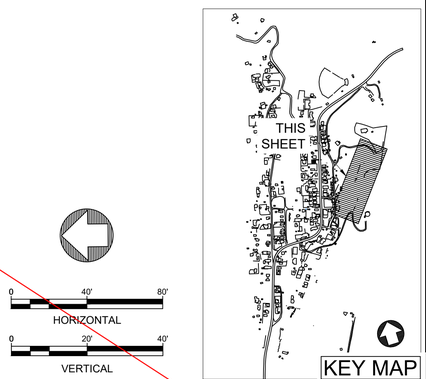

0 40' 80'
HORIZONTAL

0 20' 40'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
ICE HOUSE UPPER INTERCEPTOR
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C007	B
SCALE	W.O. NO.	SHT. 25 of 83	
	15740.001.003		

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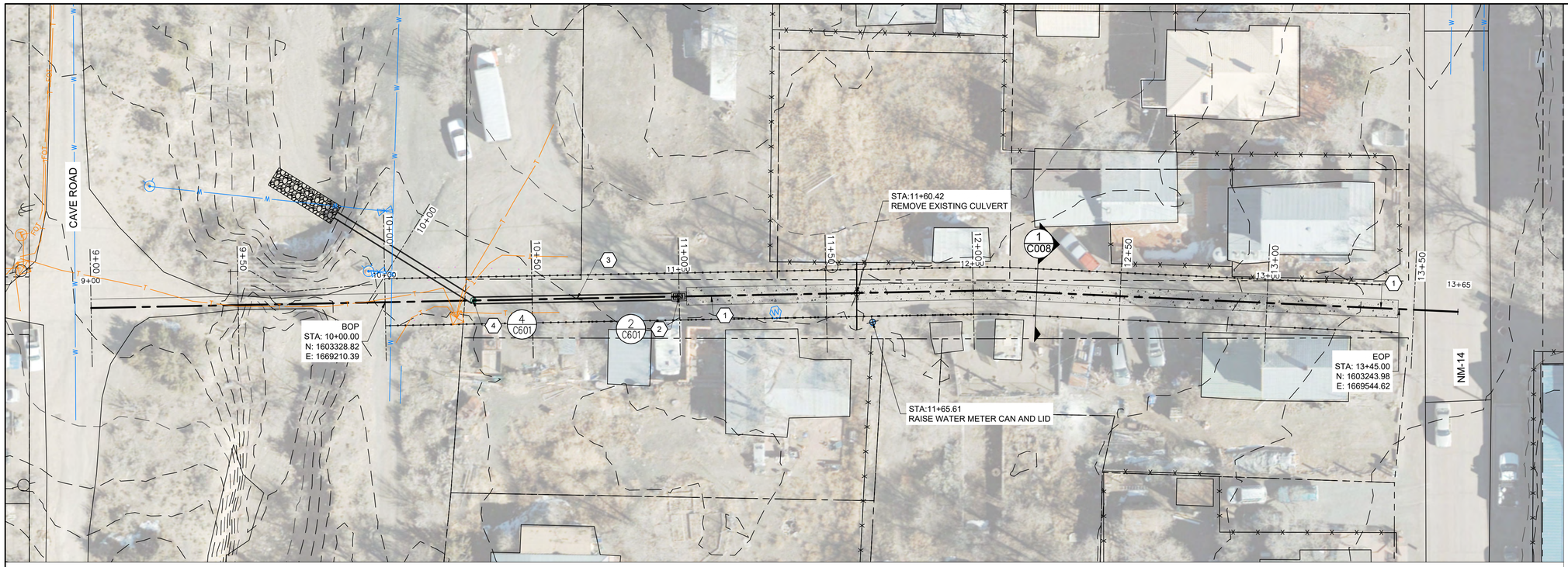
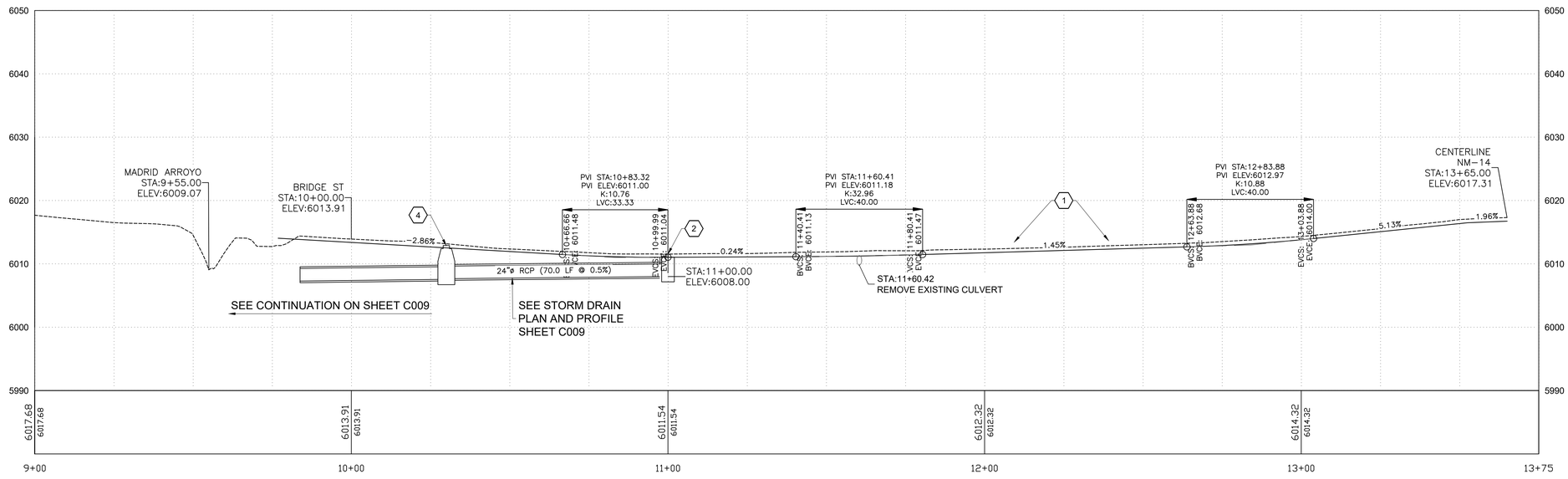
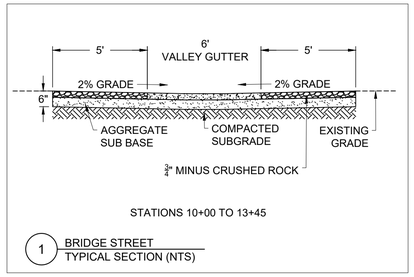




KEYED NOTES

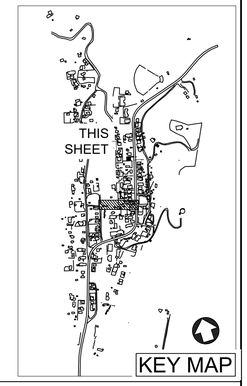
1. 6' WIDE VALLEY GUTTER. SEE DETAIL 5 ON SHEET G012.
2. DROP INLET - CATCH BASIN
3. 24" RCP STORM DRAIN
4. 48" DIAMETER MANHOLE

CONSTRUCTION NOTES



STATIONS 10+00 TO 13+45

1 BRIDGE STREET
TYPICAL SECTION (NTS)



0 20' 40'
HORIZONTAL

0 10' 20'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDEN NEW MEXICO 23782 REGISTERED PROFESSIONAL ENGINEER 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
BRIDGE STREET
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C008	C
SCALE	W.O. NO.	SHT. 26 of 83	
	15740.001.003		

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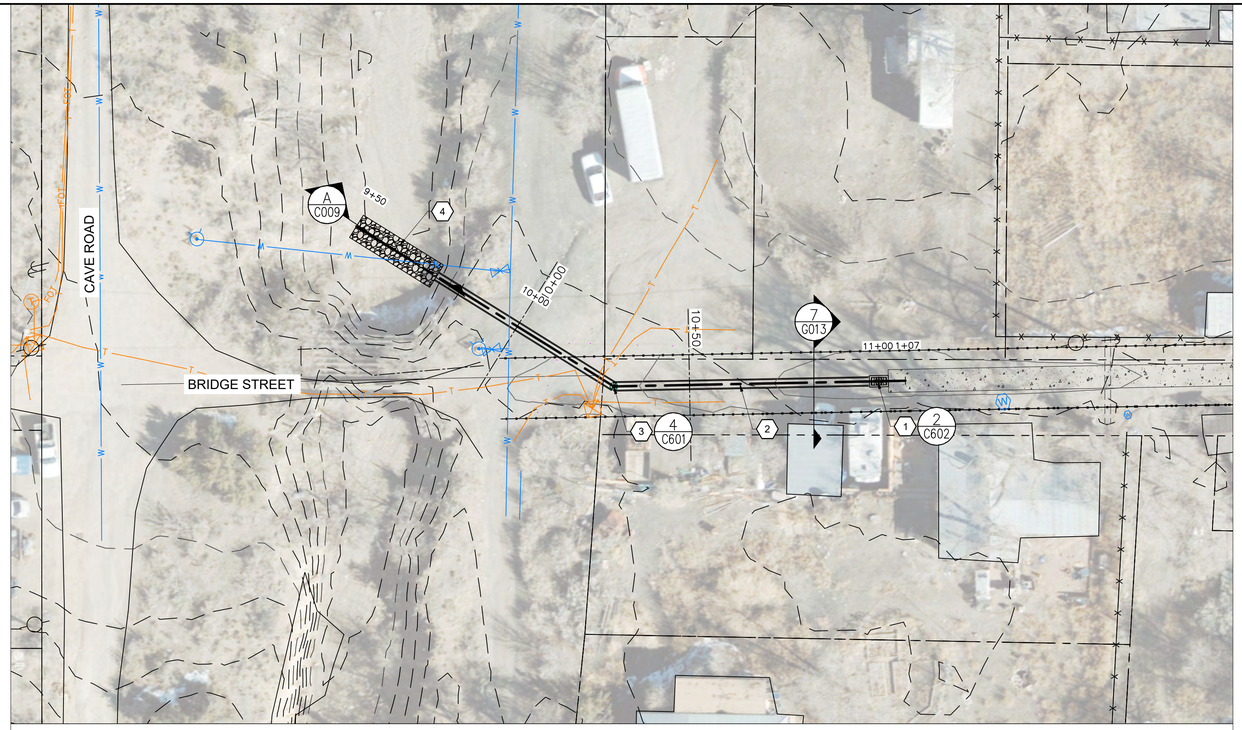
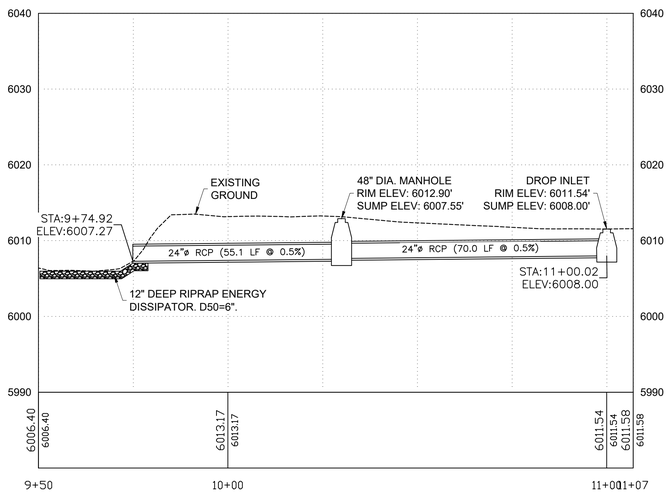


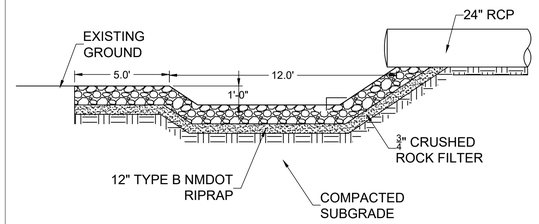
1 BRIDGE ST. STORM DRAIN
PLAN VIEW



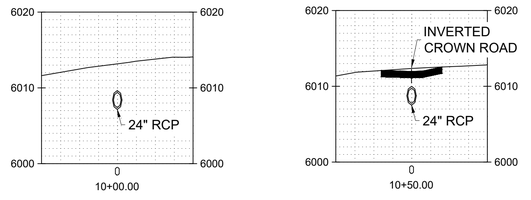
2 BRIDGE ST. STORM DRAIN
PROFILE VIEW

KEYED NOTES

1. DROP INLET - CATCH BASIN.
2. 24" RCP STORM DRAIN.
3. 48" DIAMETER MANHOLE.



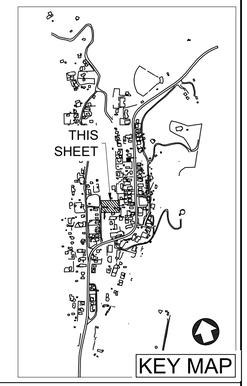
A ENERGY DISSIPATOR
DETAIL N.T.S.



3 BRIDGE ST. STORM DRAIN
CROSS-SECTIONS

0 20' 40'
HORIZONTAL

0 10' 20'
VERTICAL



NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD/MADRID ARROYO AREA
BRIDGE STREET STORM DRAIN
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C009	C
SCALE	W.O. NO.	SHT. 27 of 83	
	15740.001.003		

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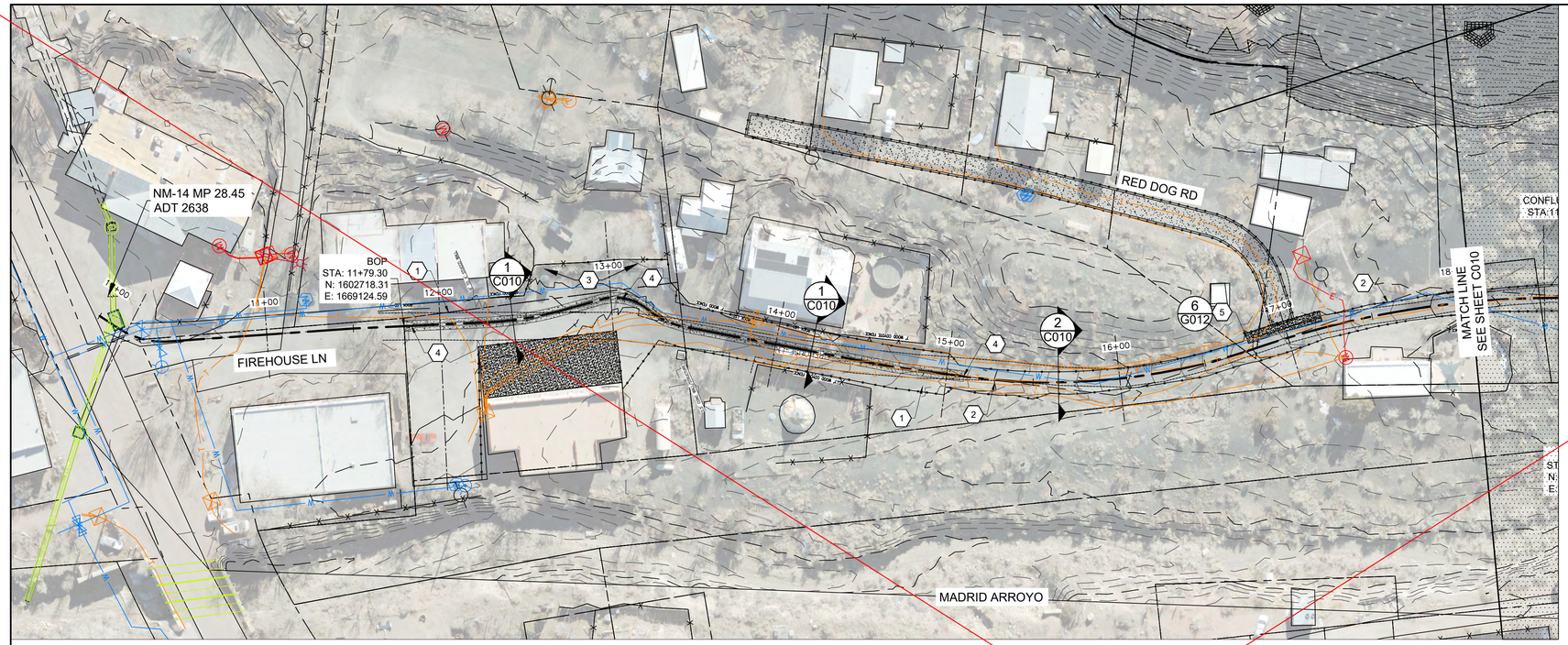

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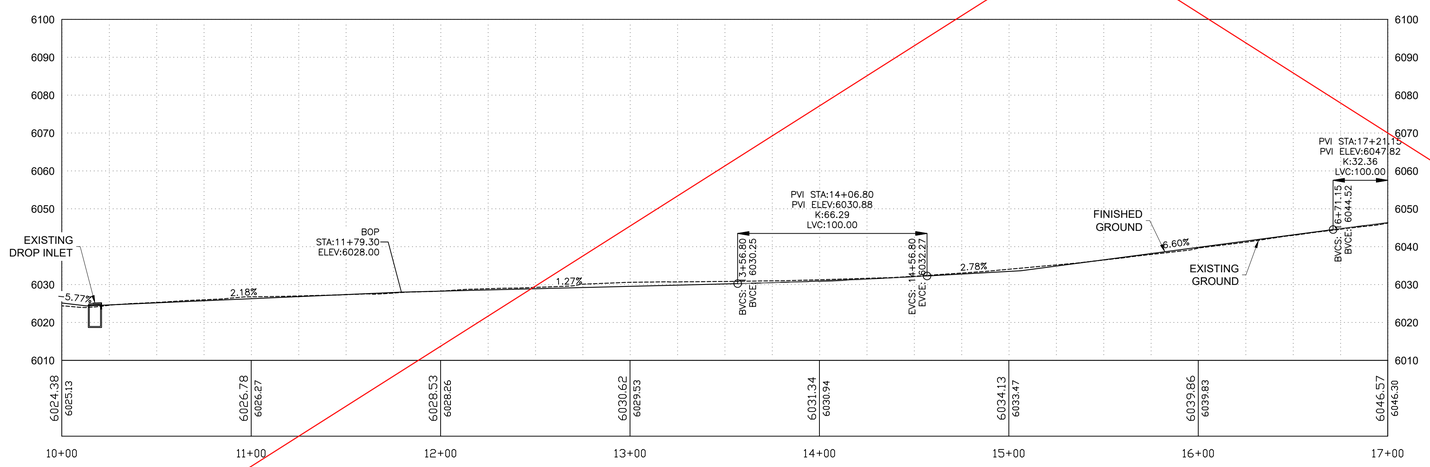
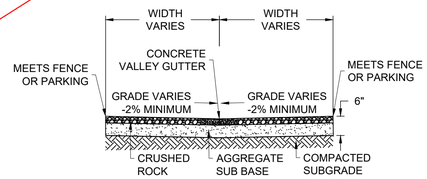


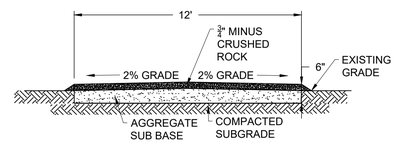
KEYED NOTES

1. INVERTED CROWN GRAVEL ROAD, WIDTH VARIES. SEE DETAIL 1 THIS SHEET.
2. 12-FOOT WIDE CROWNED GRAVEL ROAD.
3. DRIVE TURNOUT.
4. 2-FOOT WIDE CONCRETE VALLEY GUTTER
5. BUILD TYPICAL CONCRETE VALLEY GUTTER AT INTERSECTION OF FIREHOUSE LANE AND RED DOG ROAD.



STATION 11+79.30 TO 15+00.00

1 FIREHOUSE LN INVERTED CROWN TYPICAL SECTION (NTS)

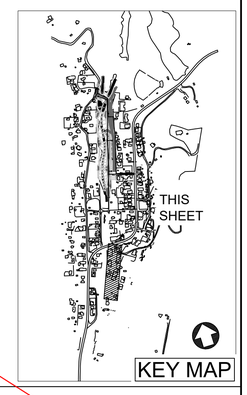


STATION 15+00.00 TO 18+00.00

2 FIREHOUSE LN CROWNED SLOPE TYPICAL SECTION (NTS)

0 40' 80'
HORIZONTAL

0 20' 40'
VERTICAL



NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE
CHECKED	NAH	10/31/24
DES. ENG.	SLJ	10/31/24
PROJ. ENG.	RGE	10/31/24
PROJ. MGR.	TDB	10/31/24
APPROVED		
APPROVED		

CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — 15740 — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE LANE
PLAN AND PROFILE (1 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C010	B
SCALE	W.O. NO. 15740.001.003	SHT. 28 of 83	

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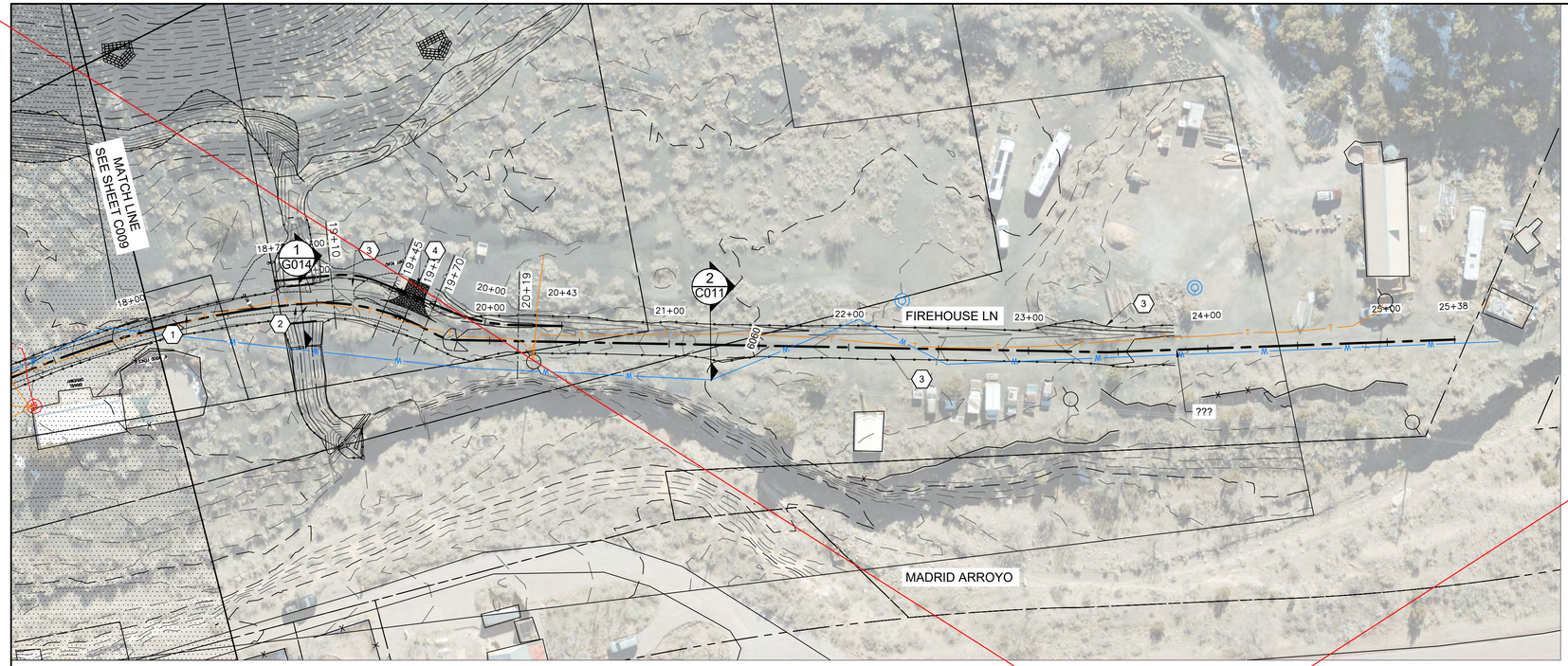
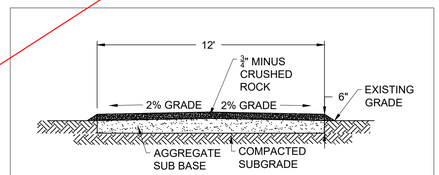


KEYED NOTES

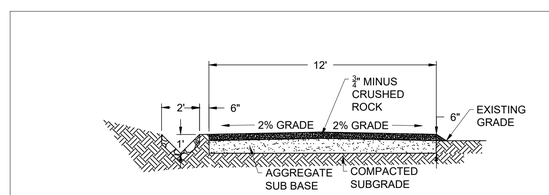
1. 12-FOOT WIDE CROSS-SLOPED GRAVEL ROAD.
2. TWO 24-INCH REINFORCED CONCRETE PIPES AND HEADWALLS.
3. 12-FOOT WIDE CROWNED GRAVEL ROAD WITH TRAPEZOID CHANNEL 1-FOOT DEEP, 2:1 SIDE SLOPES, AND ARMORED WITH ROCK.
4. 12'-FOOT WIDE DRIVE PAD WITH 18-INCH CMP CULVERT AND END SECTIONS PLACED ALONG THE FLOW LINE.

CONSTRUCTION NOTES



STATION 15+00.00 TO 18+76.00

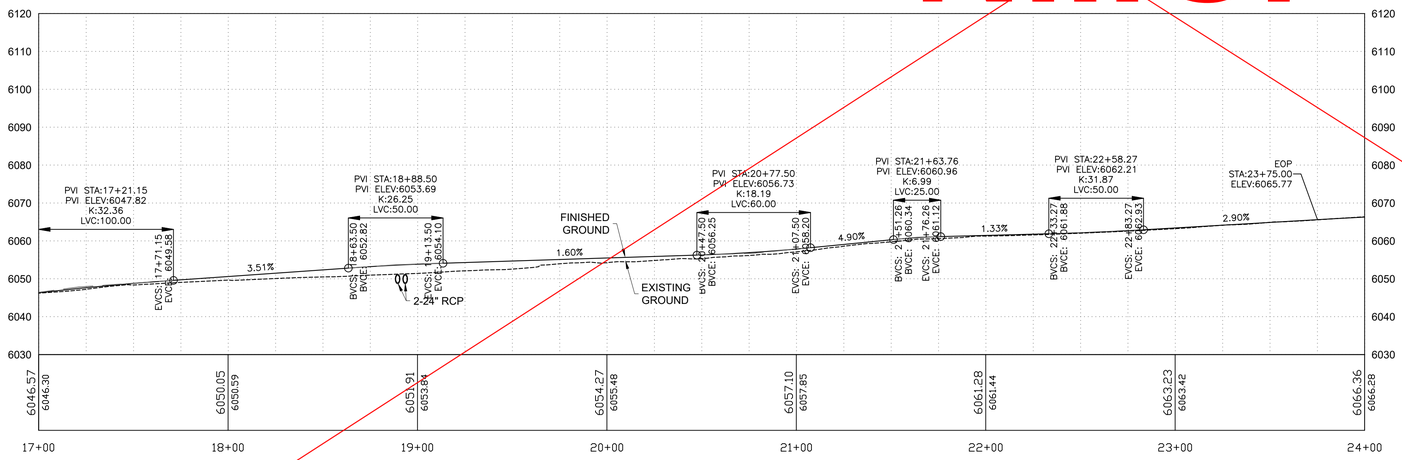
1 FIREHOUSE LN CROWNED ROAD
TYPICAL SECTION (NTS)

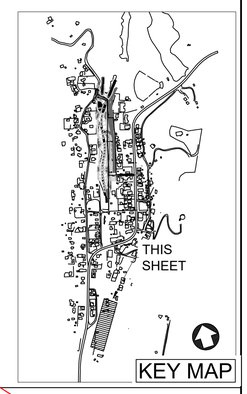


STATION 18+76.39 TO 23+81.39

2 FIREHOUSE LN CROWNED ROAD WITH V-DITCH
TYPICAL SECTION (NTS)

N.I.C.





0 40' 80'
HORIZONTAL

0 20' 40'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE LANE
PLAN AND PROFILE (2 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C011	B
SCALE	W.O. NO.	SHT. 29 of 83	
	15740.001.003		

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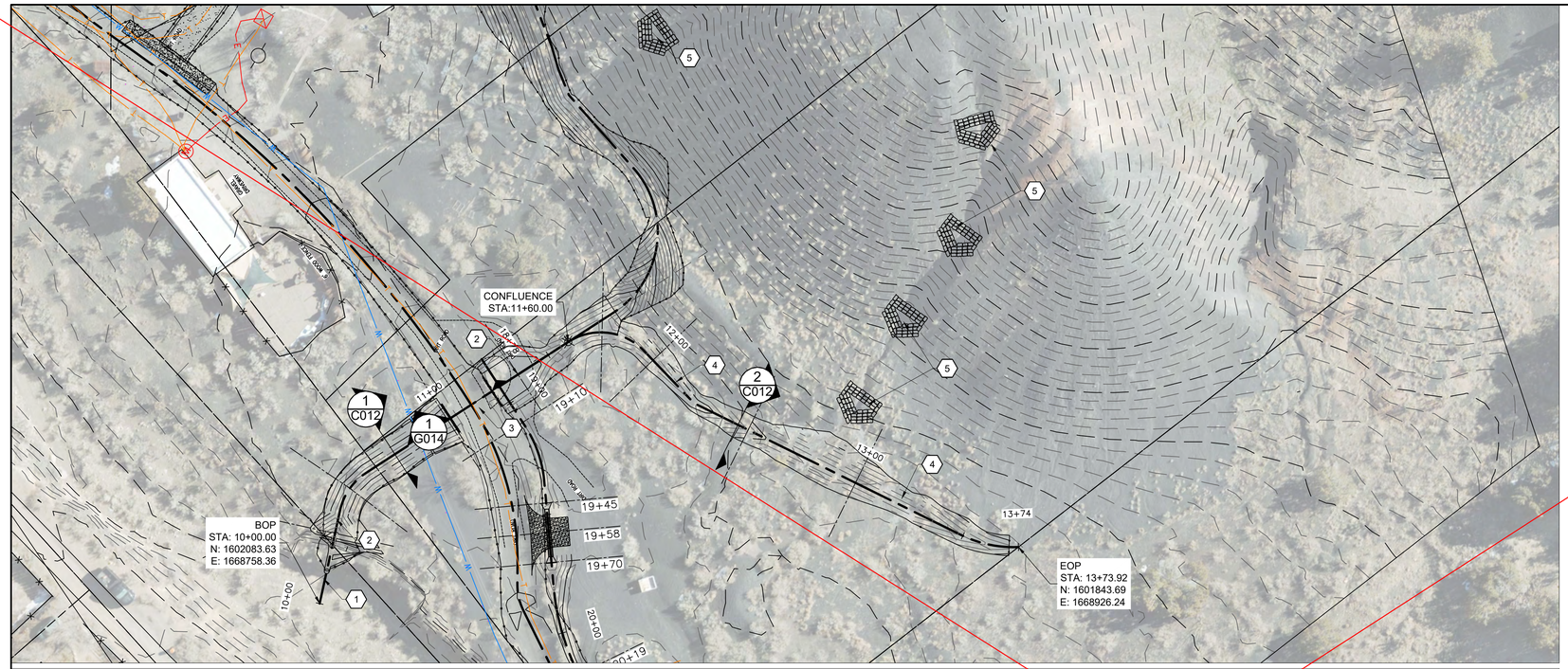
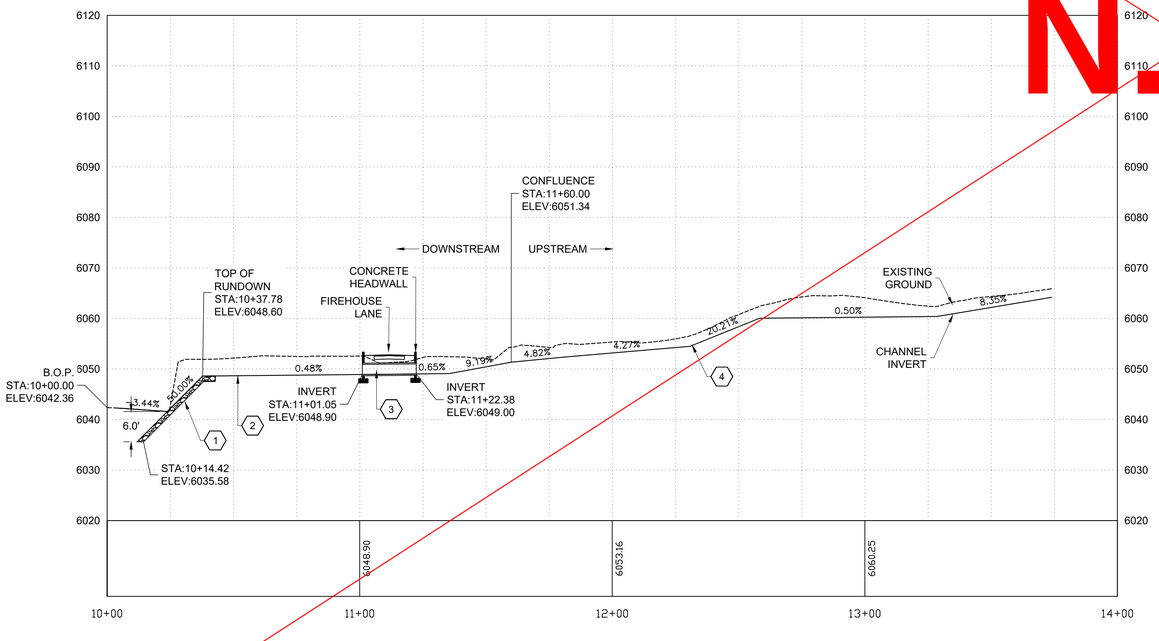




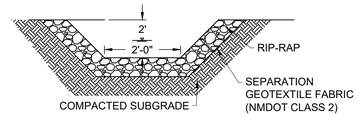
N.I.C.

KEYED NOTES

1. GROUTED RIP RAP RUNDOWN.
2. TRAPEZOIDAL CHANNEL 2-FOOT DEEP, 2-FOOT BOTTOM WIDTH, 2:1 SIDE SLOPES, AND ARMORED WITH NMDOT TYPE B RIPRAP. SEE DETAIL ON DWG G007.
3. TWO 24-INCH REINFORCED CONCRETE PIPES AND HEADWALLS.
4. TRAPEZOIDAL CHANNEL 2 FOOT DEEP, 1-FOOT BOTTOM WIDTH, 2:1 SIDE SLOPES AND ARMORED WITH NMDOT TYPE B RIPRAP. SEE SHEET G007 FOR TYPICAL SECTION.
5. PLUNGE POOL (TYP). (1 / C012)

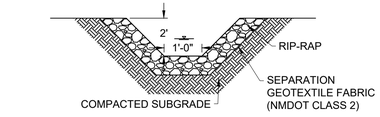
CONSTRUCTION NOTES

A. FIREHOUSE UPPER INTERCEPTOR IS TRAPEZOIDAL 2 FT DEEP AND 1 FT WIDE, WITH 2:1 SIDE SLOPES.



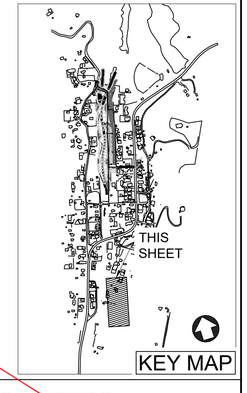
STATION 10+24.00 TO 11+60.00

1 FIREHOUSE INTERCEPTOR
DOWNSTREAM TYPICAL SECTION (NTS)



STATION 11+60.00 TO 12+72

2 FIREHOUSE INTERCEPTOR
UPSTREAM TYPICAL SECTION (NTS)



0 30' 60'
HORIZONTAL

0 15' 30'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE INTERCEPTOR
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C012	B
SCALE	W.O. NO.	SHT. 30 of 83	
	15740.001.003		

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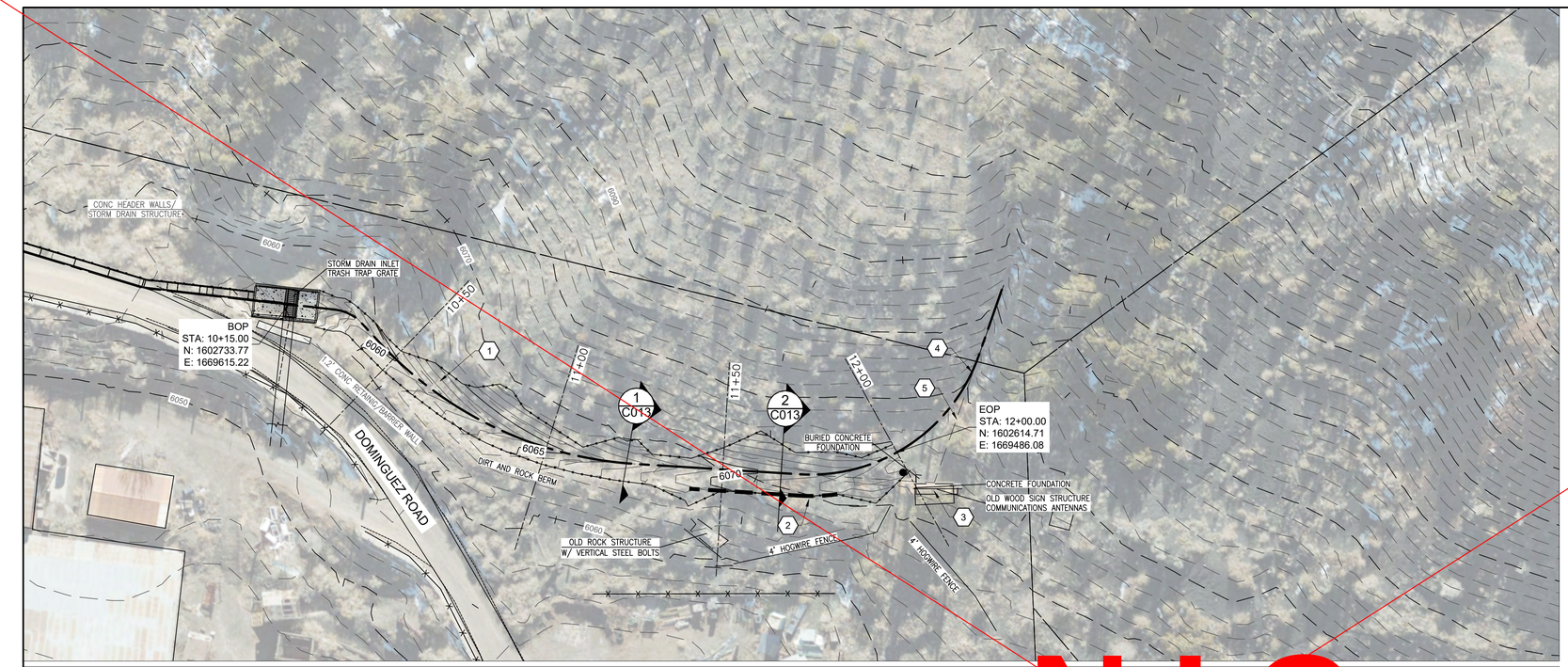

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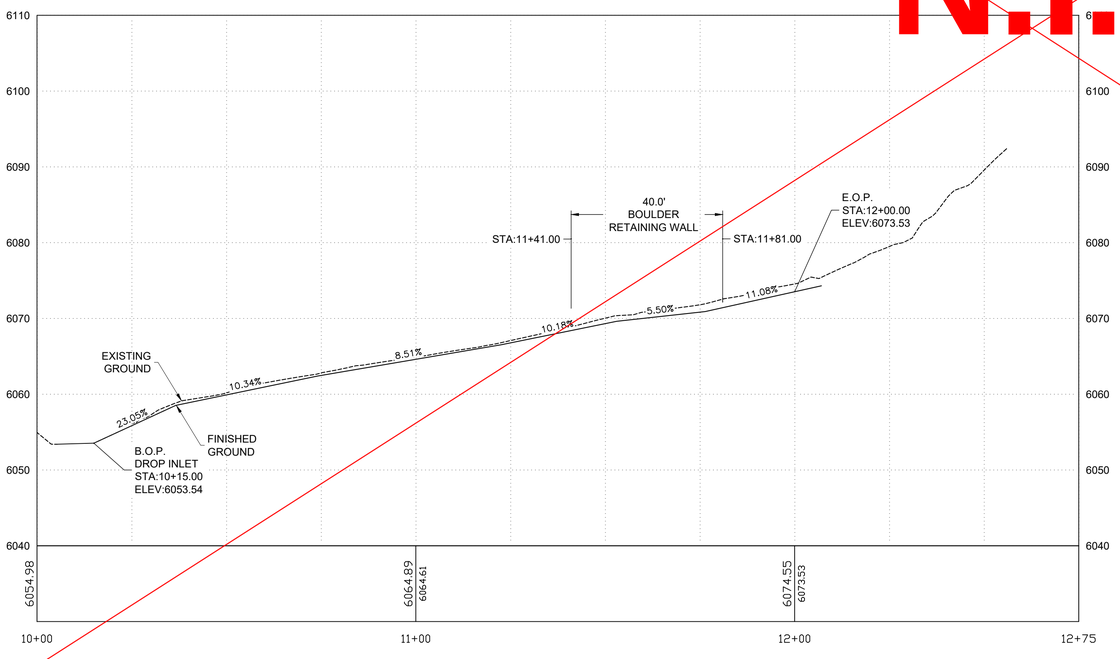
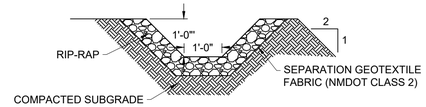


KEYED NOTES

1. TRAPEZOID CHANNEL.
2. BOULDER RETAINING WALL.
3. EXISTING POWER POLES (ABANDONED)
4. EXISTING ROCK DROP STRUCTURE
5. EXISTING PLUNGE POOL

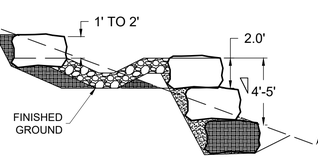
CONSTRUCTION NOTES



STATION 10+23.00 TO 11+41.00

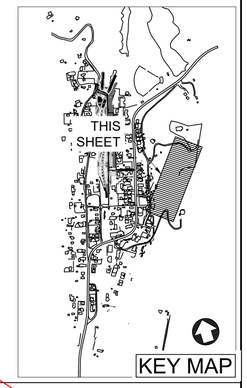
STATION 11+81.00 TO 12+00.00

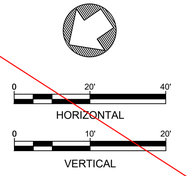
(1) MISSING LINK CHANNEL TYPICAL SECTION (NTS)



STATION 11+41.00 TO 11+81.00

(2) BOULDER RETAINING WALL TYPICAL SECTION (NTS) — 8 / C013





NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA MISSING LINK CHANNEL PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C013	B
SCALE	W.O. NO.	SHT. 31 of 83	
	15740.001.003		

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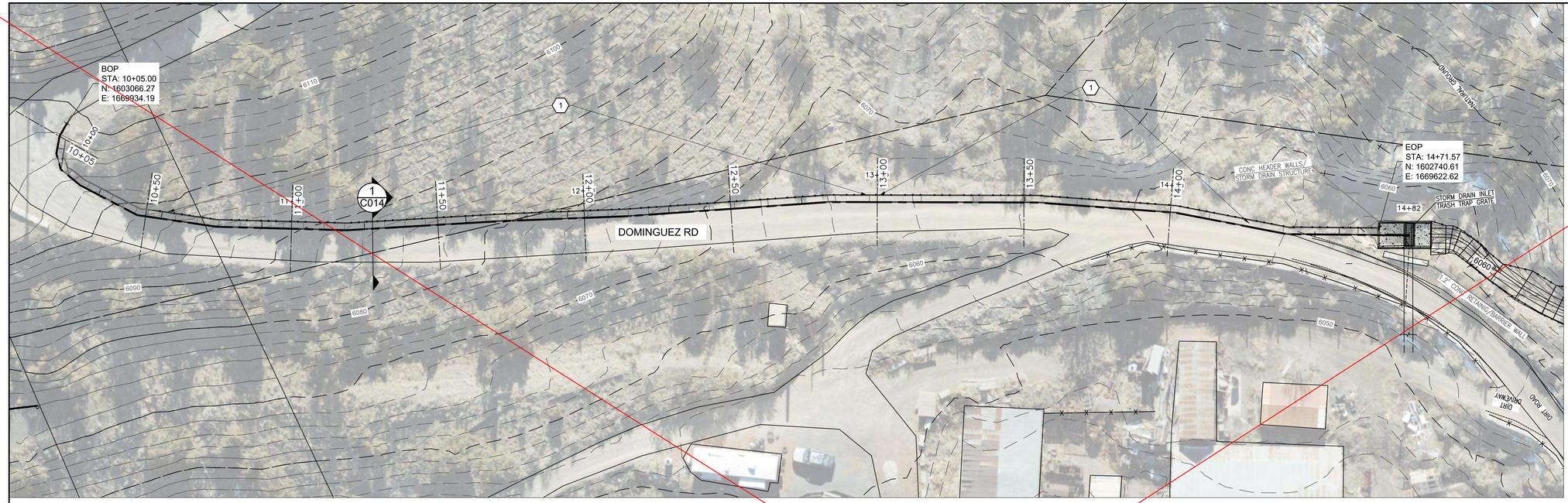

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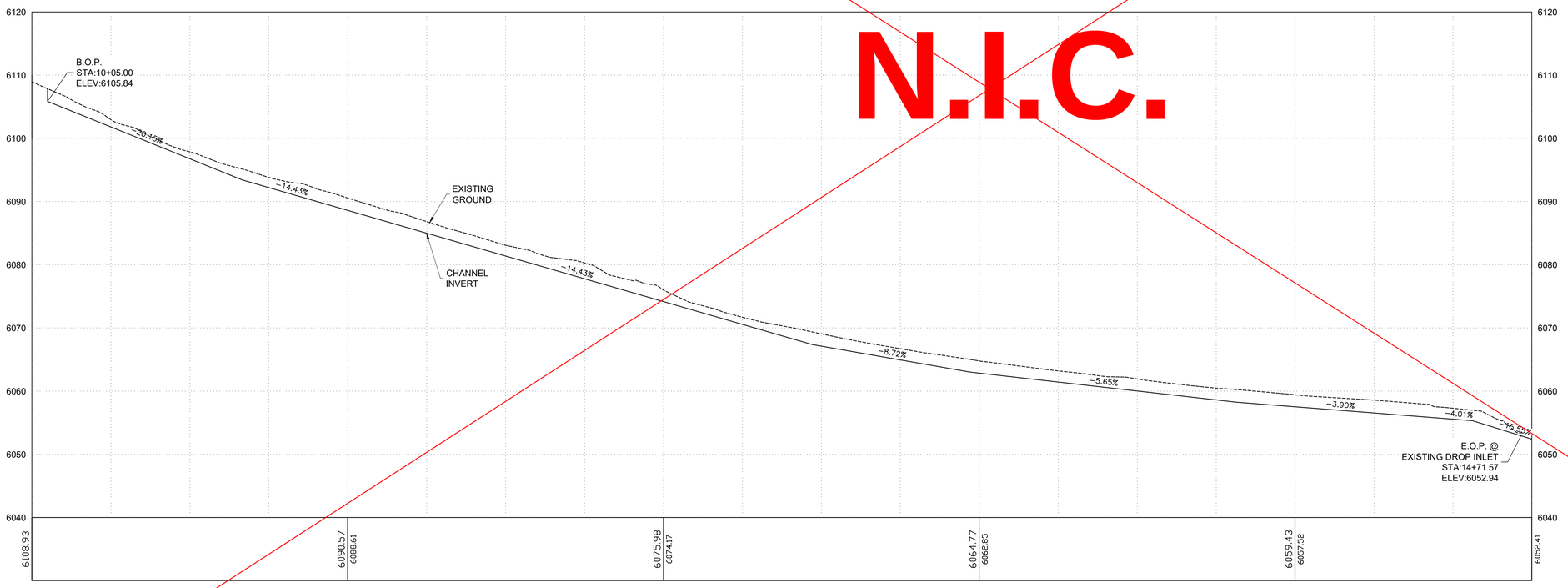
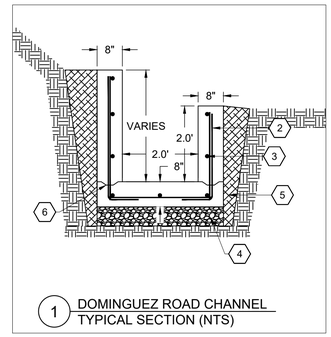


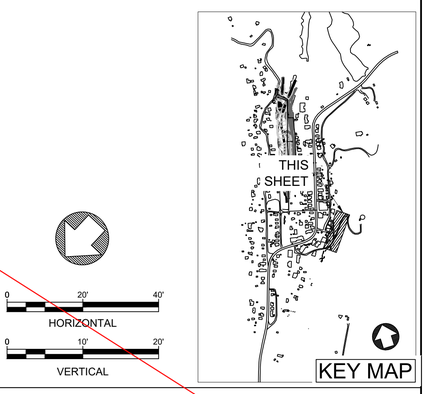
KEYED NOTES

1. 2'x2' RECTANGULAR CONCRETE DITCH
2. #5 BARS 15" O.C.
3. #7 BARS 15" O.C.
4. PLACE ON 6" COMPACTED BASE COURSE
5. COMPACTED BACKFILL
6. COLD KEY JOINT $\frac{1}{4}$" WIDE X 2" DEEP TOOLED OR SAWCUT JOINT. SEAL WITH NP-1 SEALANT

CONSTRUCTION NOTES



1 DOMINGUEZ ROAD CHANNEL
TYPICAL SECTION (NTS)



KEY MAP

0 20' 40'
HORIZONTAL

0 10' 20'
VERTICAL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDES NEW MEXICO 23782 REGISTERED PROFESSIONAL ENGINEER 10/30/24

FIREHOUSE LANE AREA
DOMINGUEZ ROAD CHANNEL
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C014	B
SCALE	W.O. NO.	SHT. 32 of 83	
	15740.001.003		

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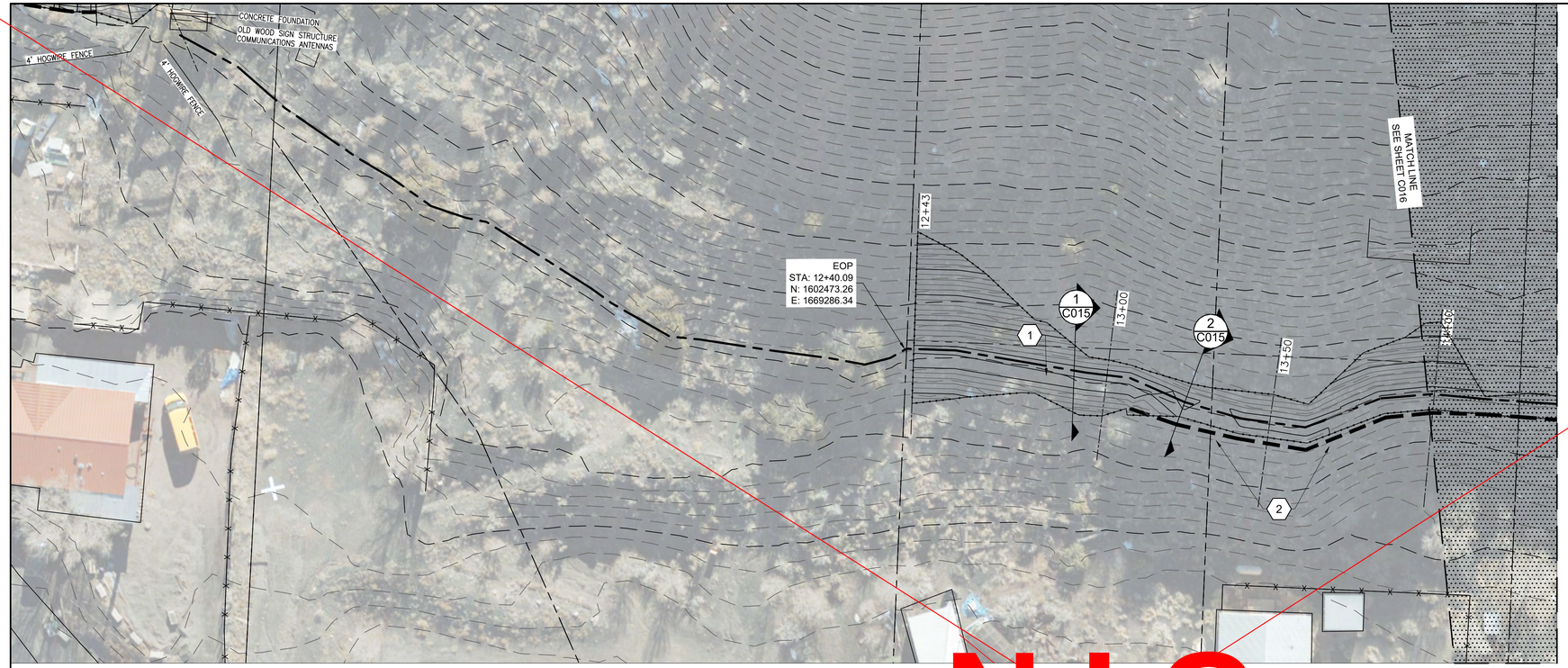

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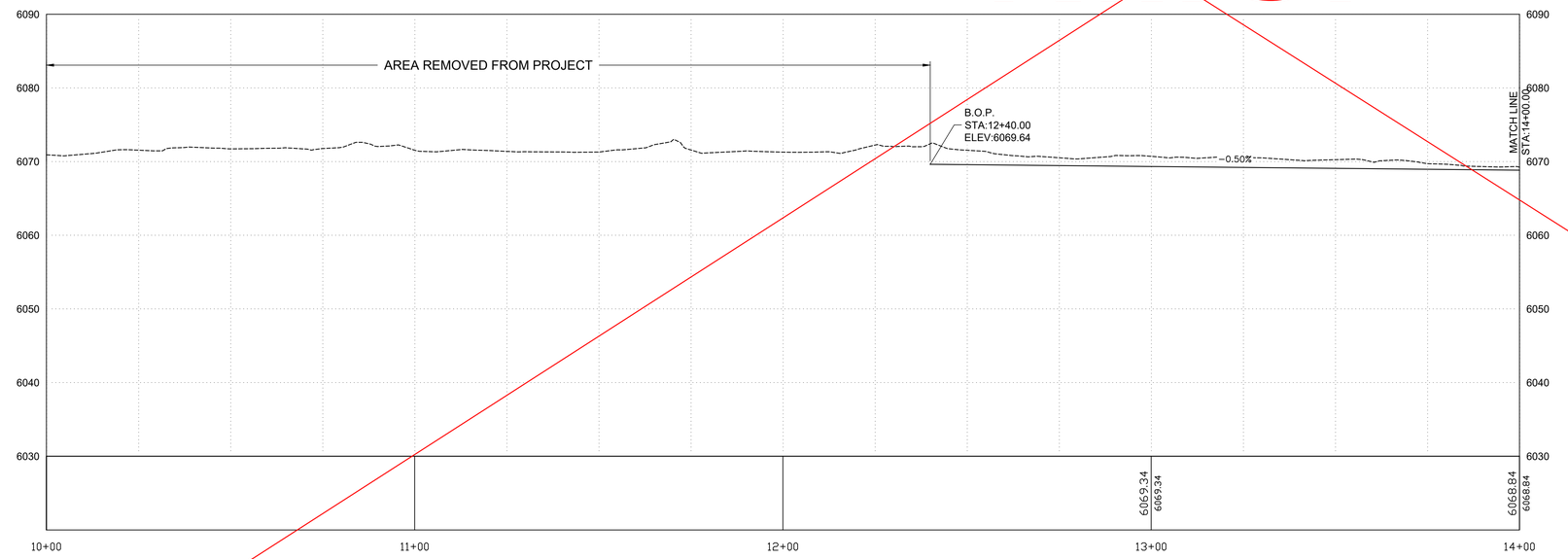
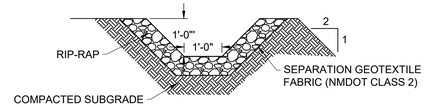


KEYED NOTES

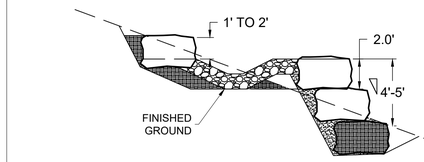
1. TRAPEZOIDAL CHANNEL 1 FT DEEP, 1 FT WIDE, 2:1 SIDE SLOPES.
2. BOULDER RETAINING WALL.

CONSTRUCTION NOTES



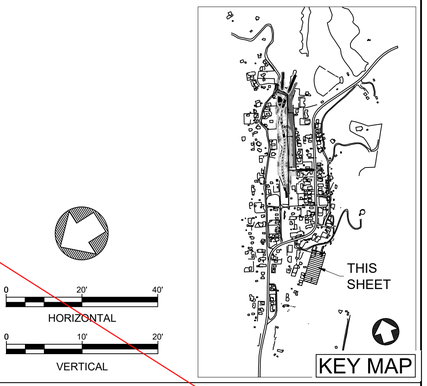
STATION 12+40.00 TO 13+10.00

1 RED DOG INTERCEPTOR TYPICAL SECTION (NTS)



STATION 13+10.00 TO 14+00.00

2 BOULDER RETAINING WALL TYPICAL SECTION (NTS) 8 C013



NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
RED DOG ROAD INTERCEPTOR
PLAN AND PROFILE (1 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C015	B
SCALE	W.O. NO.	SHT. 33 of 83	
	15740.001.003		

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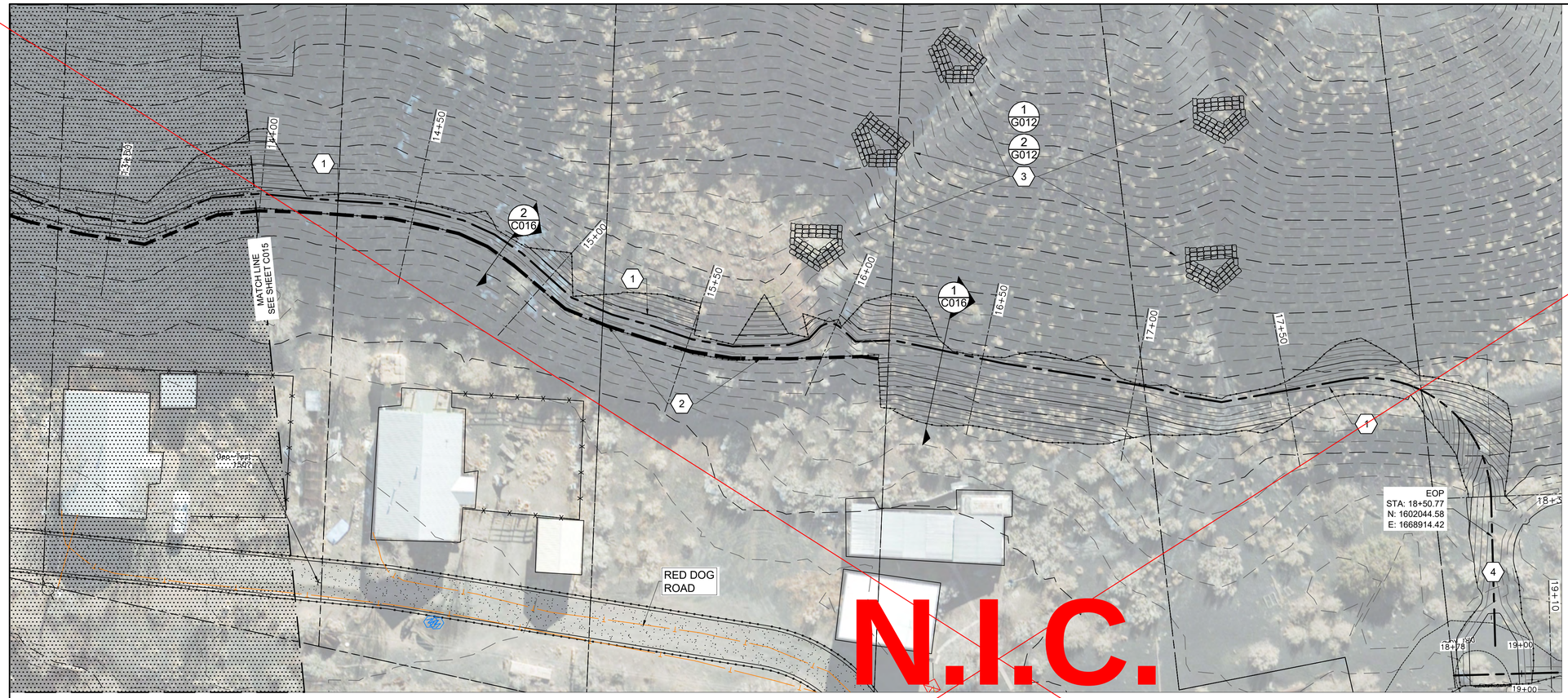
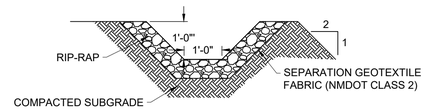


KEYED NOTES

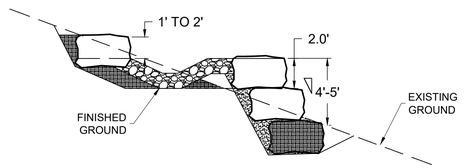
1. TRAPEZOIDAL CHANNEL 1 FT DEEP, 1 FT WIDE, 2:1 SIDE SLOPES.
2. BOULDER RETAINING WALL.
3. PLUNGE POOL.
4. CONFLUENCE CHANNEL

CONSTRUCTION NOTES



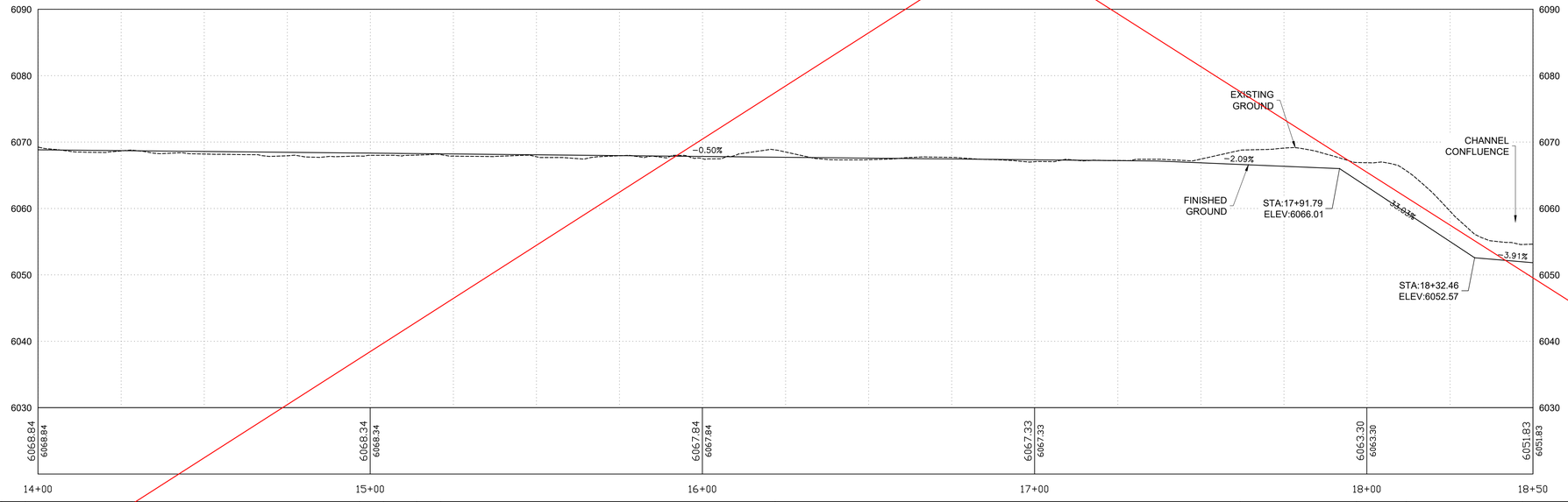
STATION 10+00.00 TO 13+10.00

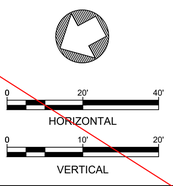
(1) RED DOG INTERCEPTOR TYPICAL SECTION (NTS)

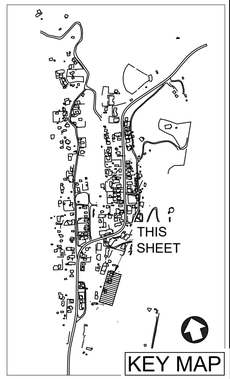


STATION 13+10.00 TO 14+00.00

(2) BOULDER RETAINING WALL TYPICAL SECTION (NTS) — 8 / G013







NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDERER — NEW MEXICO — 10/30/24 — REGISTERED PROFESSIONAL ENGINEER

FIREHOUSE LANE AREA
RED DOG ROAD INTERCEPTOR
PLAN AND PROFILE (2 OF 2)

DRAWN: RW	DATE: ----	DWG. NO.: C016	REV. NO.: B
SCALE:	W.O. NO.: 15740.001.003	SHT. 34 of 83	

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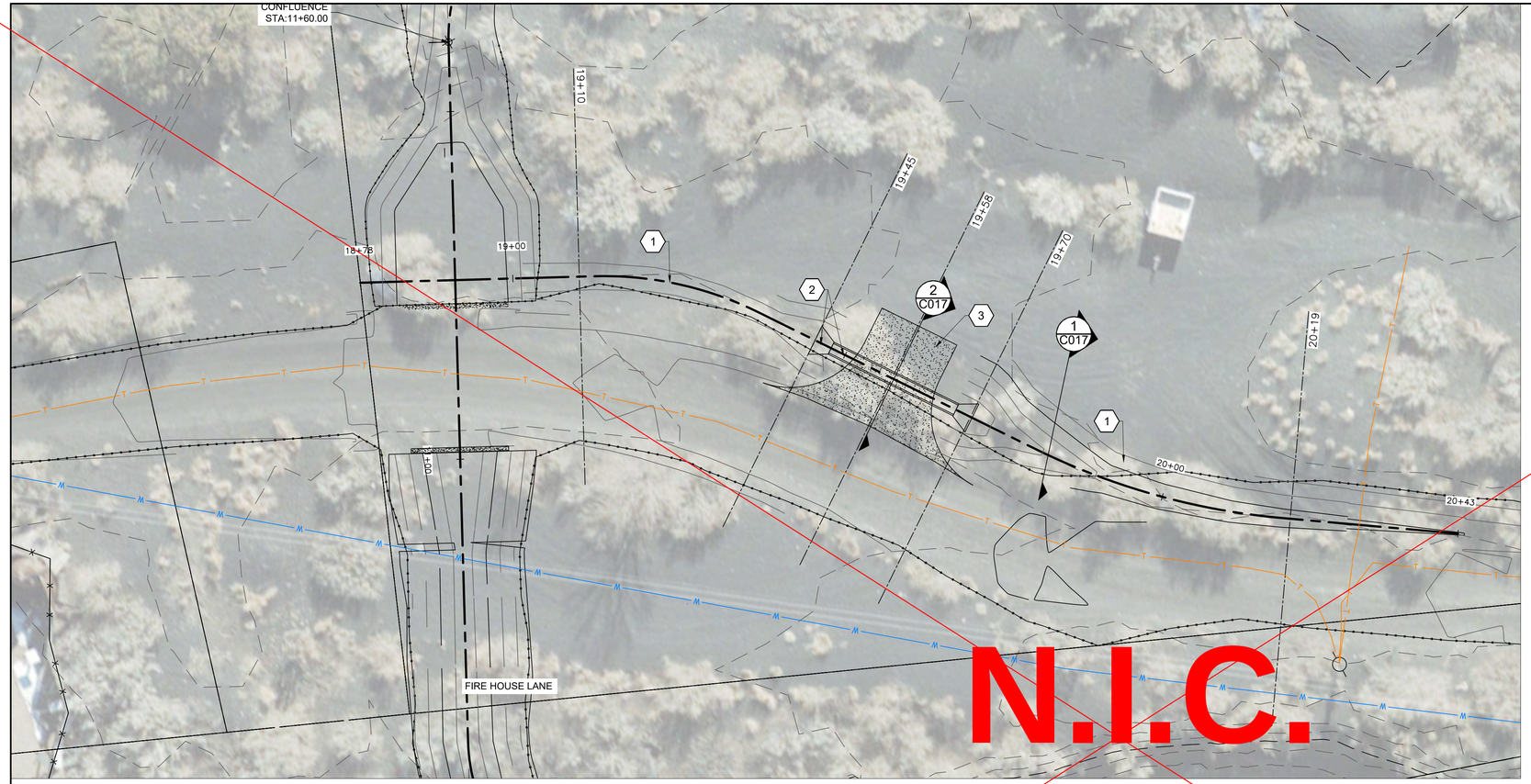
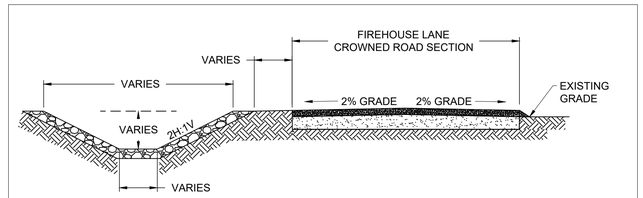


KEYED NOTES

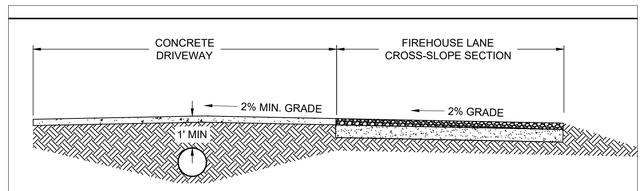
1. TRAPEZOIDAL ROADSIDE SWALE. 2:1 SIDE SLOPES, WIDTH & DEPTH VARY. SEE TYPICAL SECTION 1 ON THIS SHEET AND CROSS-SECTIONS SHEET C115.
2. 18" CMP CULVERT WITH STANDARD METAL END SECTIONS PER NMDOT STANDARD DRAWING 570-02-1/2. SEE TYPICAL SECTION 2 ON THIS SHEET.
3. 12' CONCRETE DRIVE PAD. SEE TYPICAL SECTION 2 ON THIS SHEET.

CONSTRUCTION NOTES

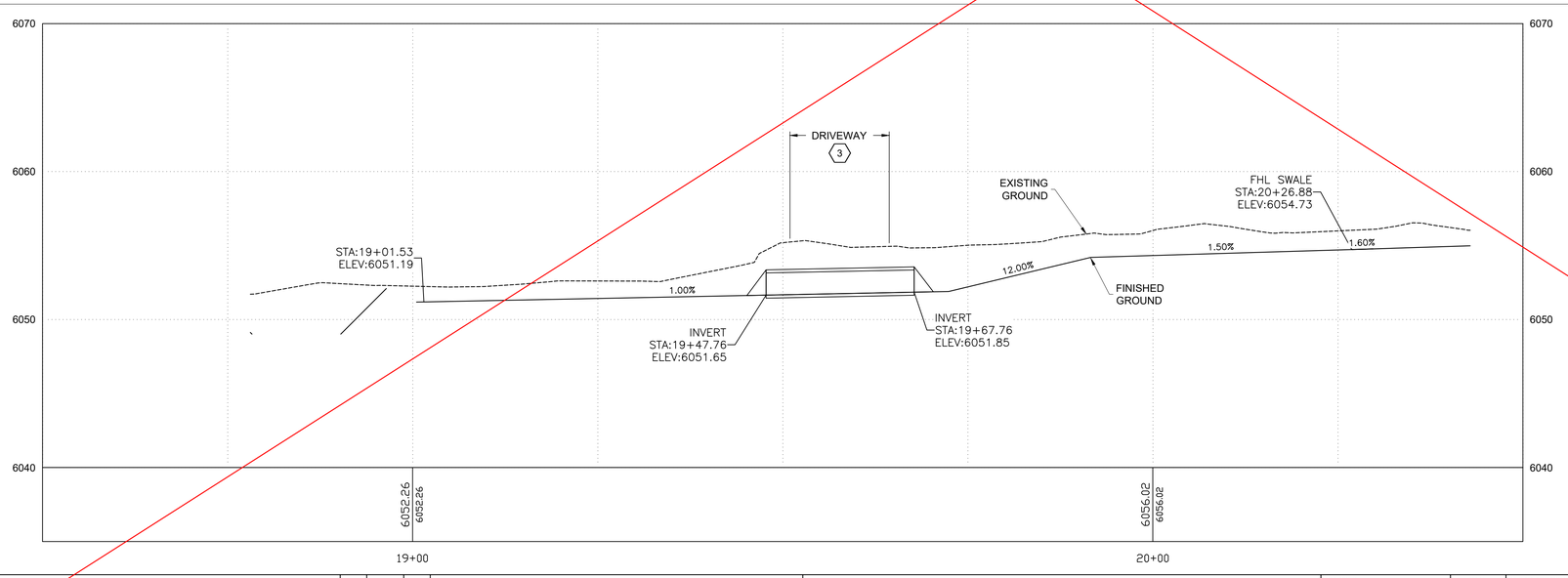
A. SEE CROSS-SECTIONS ON SHEET C115.

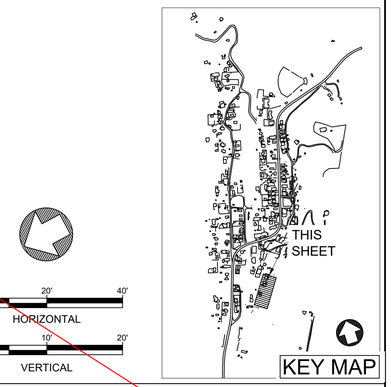


1 FIREHOUSE LANE ROADSIDE SWALE
TYPICAL SECTION (NTS)



2 FIREHOUSE LANE DRIVEWAY
TYPICAL SECTION (NTS)





KEY MAP

0 20' 40'
HORIZONTAL

0 10' 20'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDES — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE DRIVEWAY CROSSING
PLAN AND PROFILE

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C017	B
SCALE	W.O. NO.	SHT. 35 of 83	
	15740.001.003		

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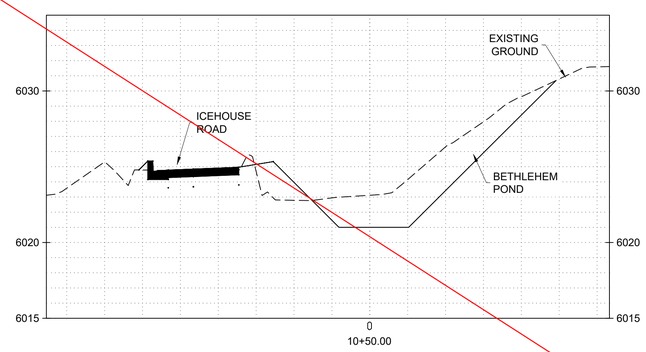

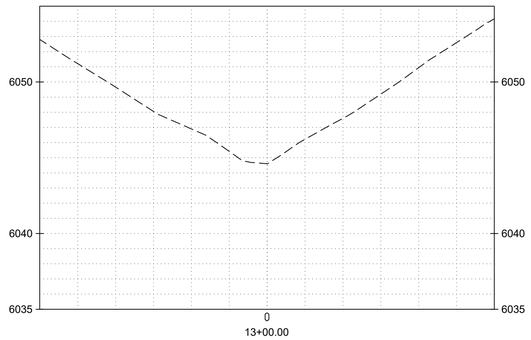

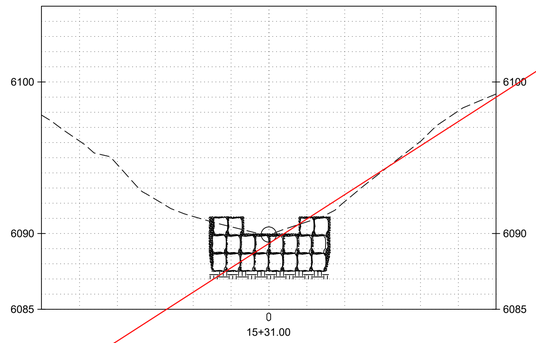

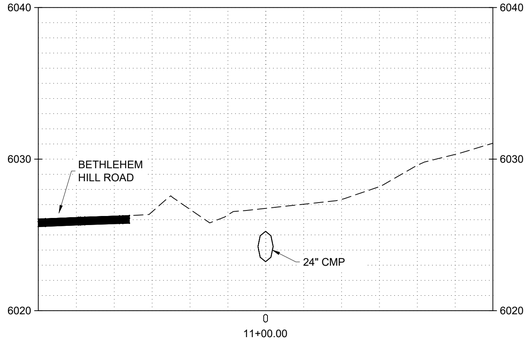

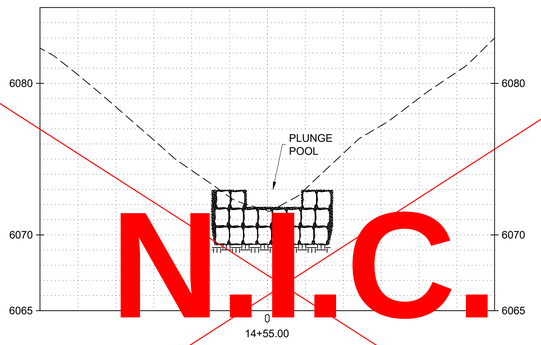

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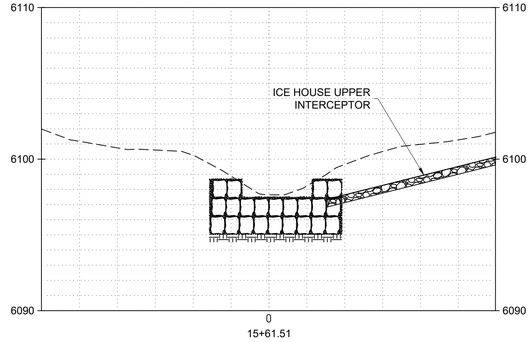

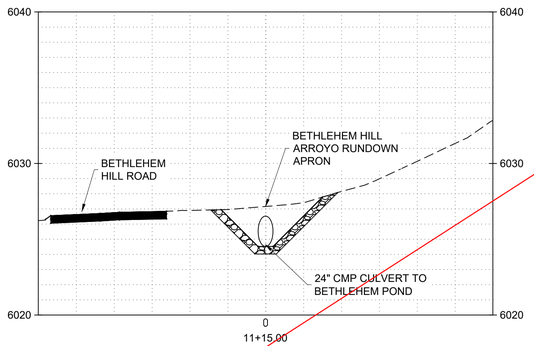

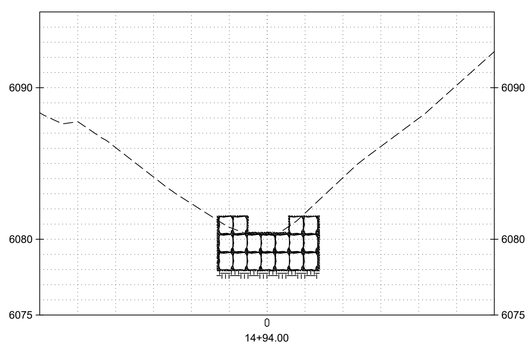

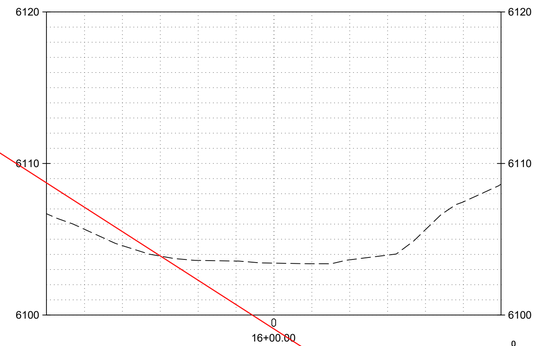

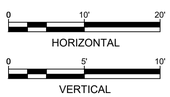

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. FEDERICI — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
BETHLEHEM HILL ARROYO
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C101	B
SCALE	W.O. NO.	SHT. 36 of 83	
	15740.001.003		

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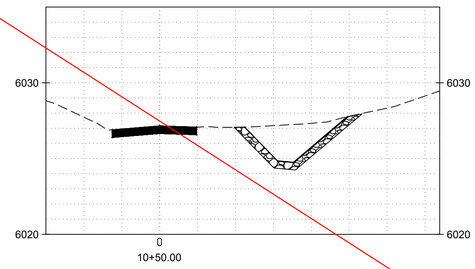

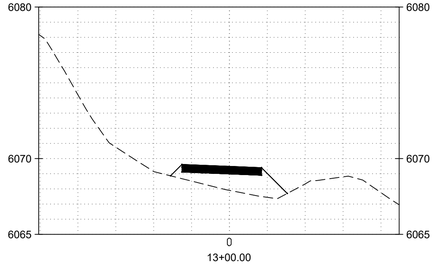

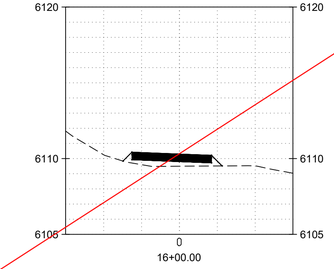

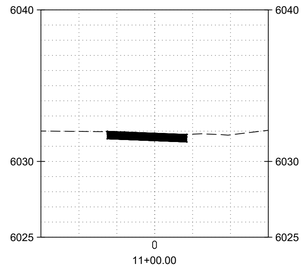

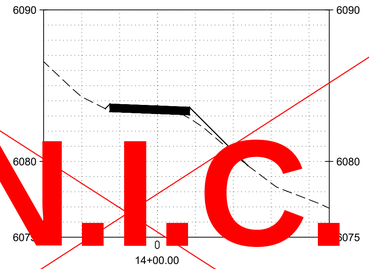

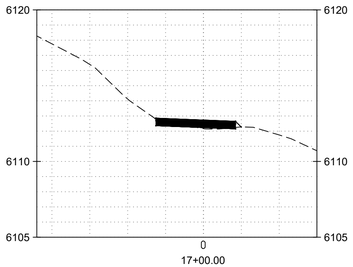

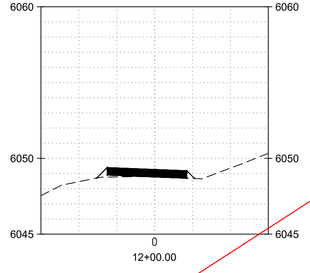

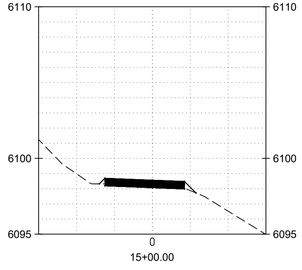

N.I.C.

0 10' 20'
HORIZONTAL

0 5' 10'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDGE — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
BETHLEHEM HILL ROAD
CROSS SECTIONS

DRAWN: RW	DATE: ----	DWG. NO.: C102	REV. NO.: B
SCALE:	W.O. NO.: 15740.001.003	SHT. 37 of 83	

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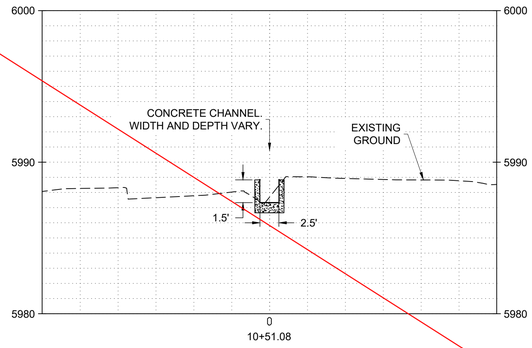

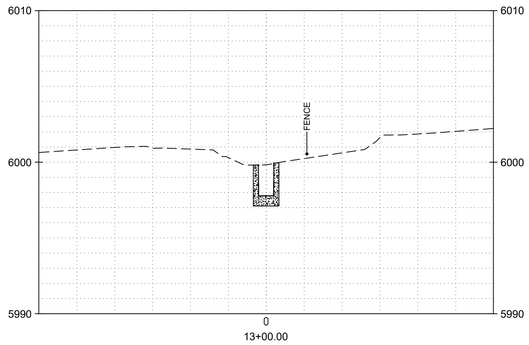

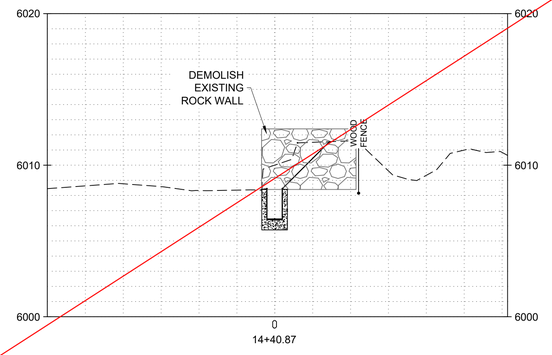

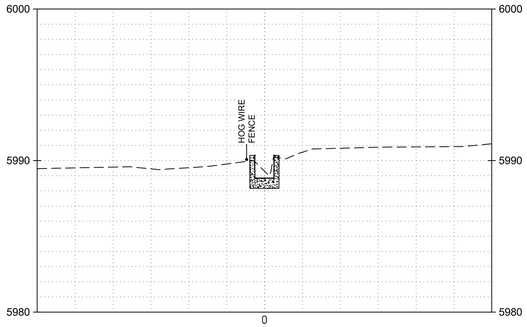

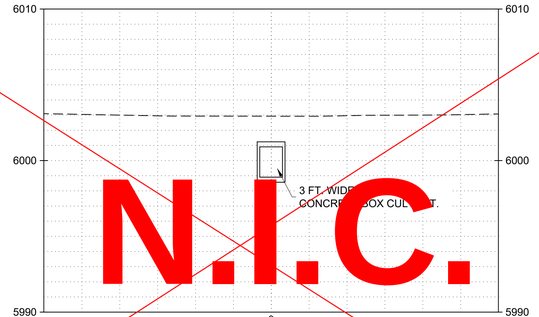

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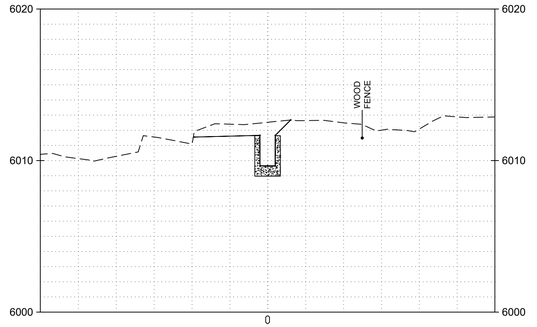

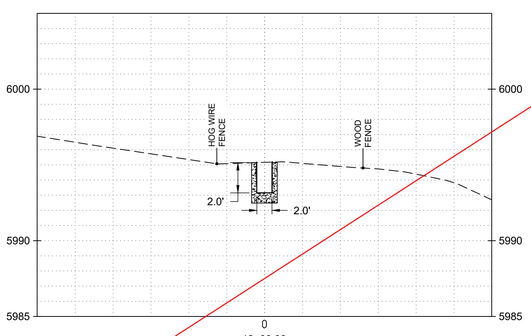

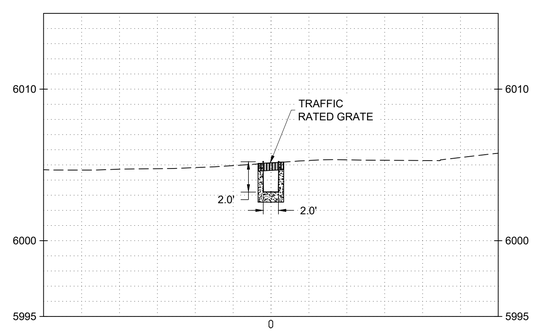

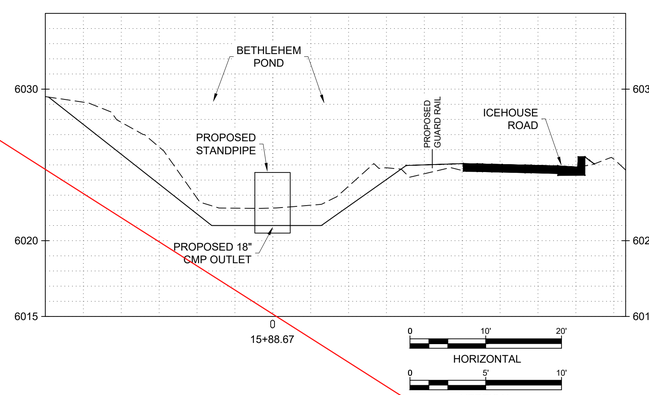

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
10/30/24

ICE HOUSE ROAD
ICE HOUSE CHANNEL
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C103	B
SCALE	W.O. NO.	SHT. 38 of 83	
	15740.001.003		

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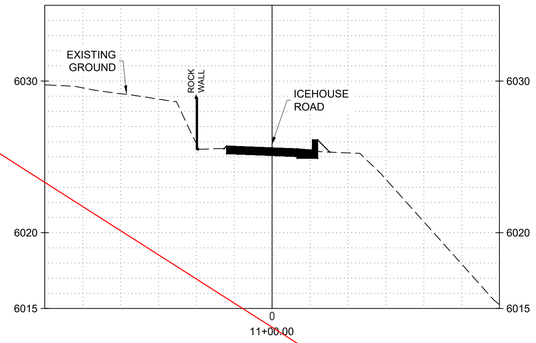

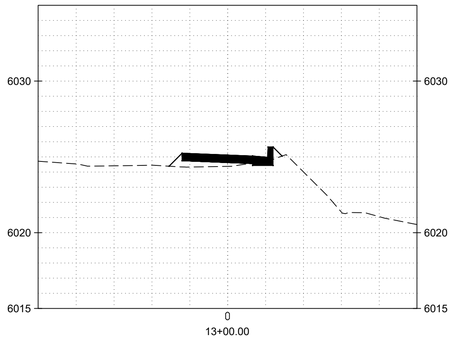

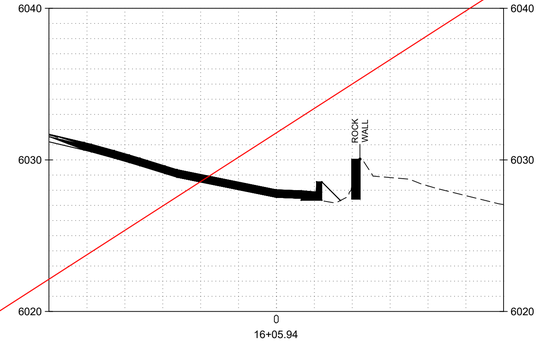

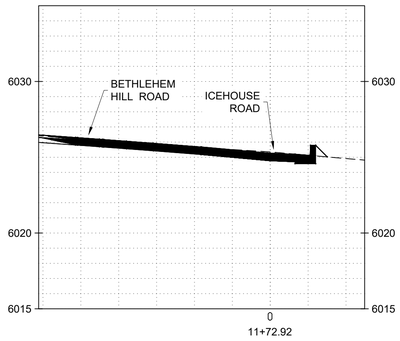

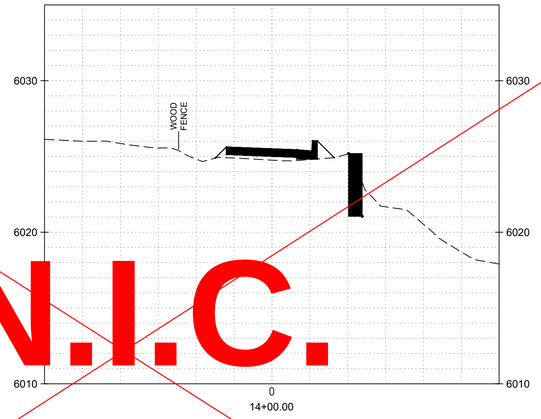

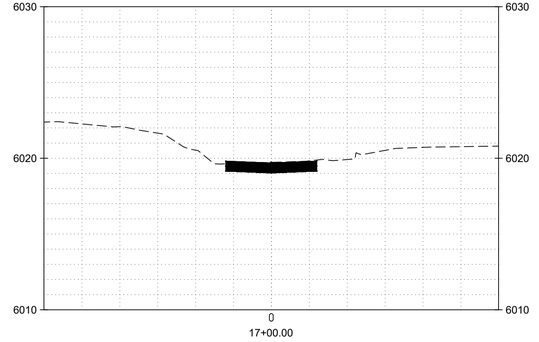

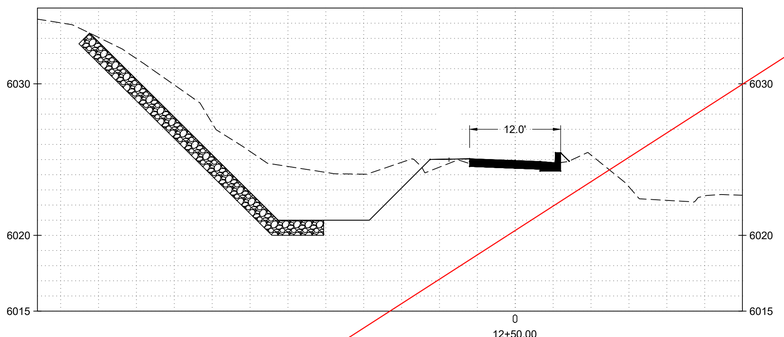

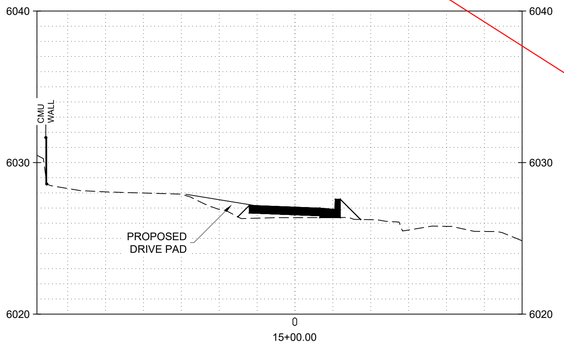

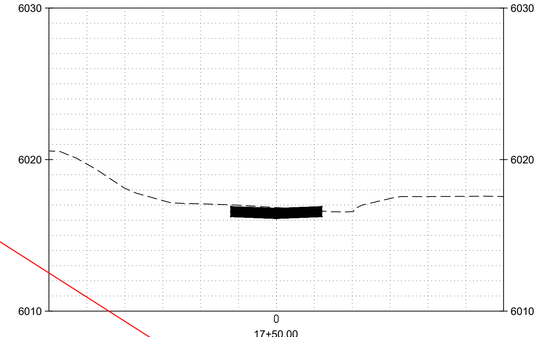

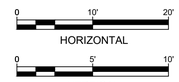

N.I.C.

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
ICE HOUSE ROAD
CROSS SECTIONS

DRAWN: RW	DATE: ----	DWG. NO. C104	REV. NO. B
SCALE	W.O. NO. 15740.001.003	SHT. 39 of 83	

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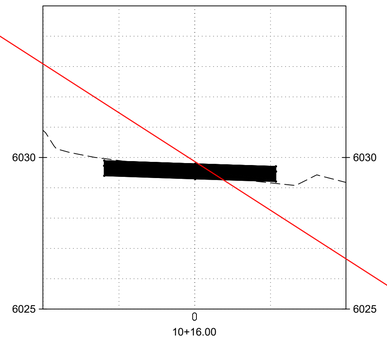

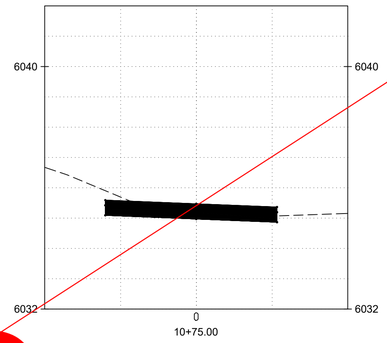

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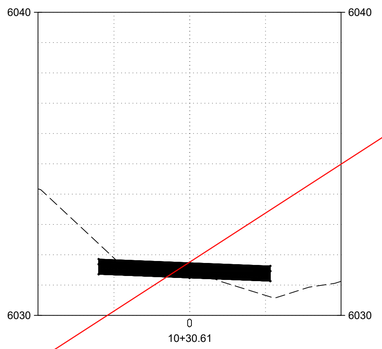

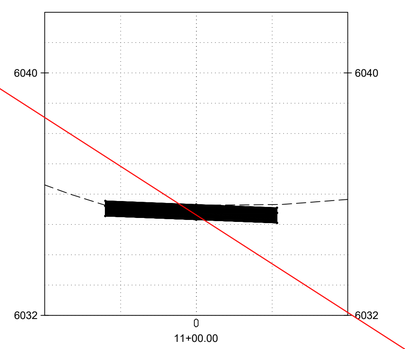

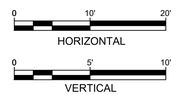

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
ICE HOUSE ROAD EXTENSION
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C105	B
SCALE	W.O. NO.	SHT. 40 of 83	
	15740.001.003		

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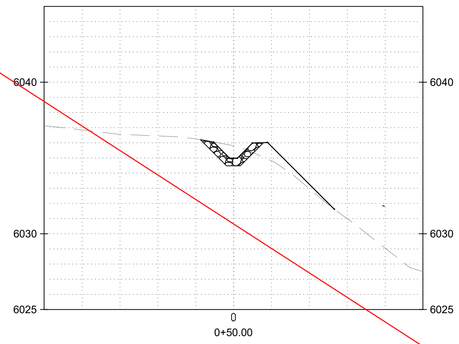

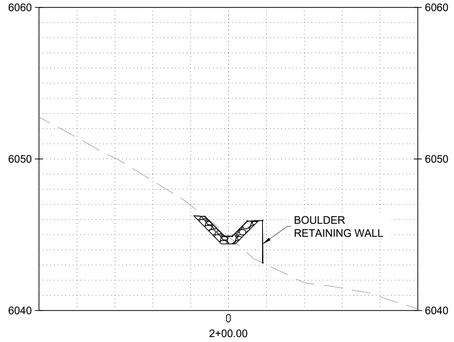

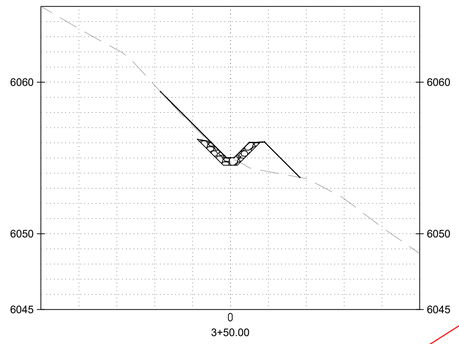

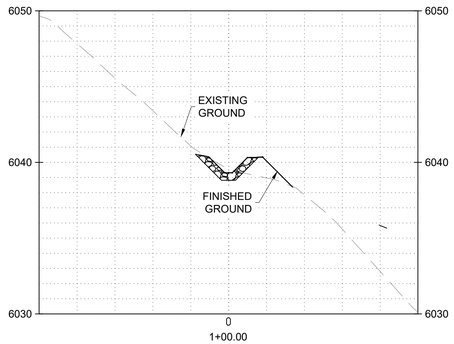

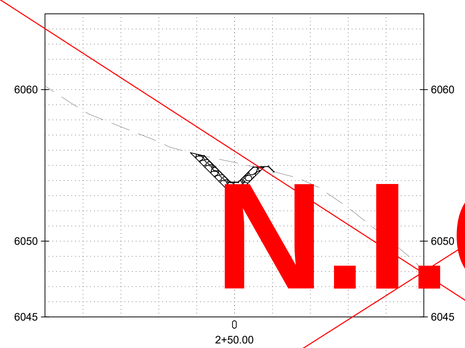

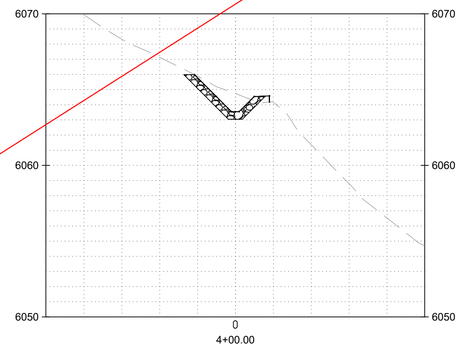

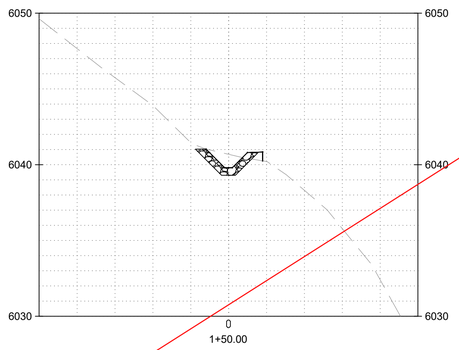

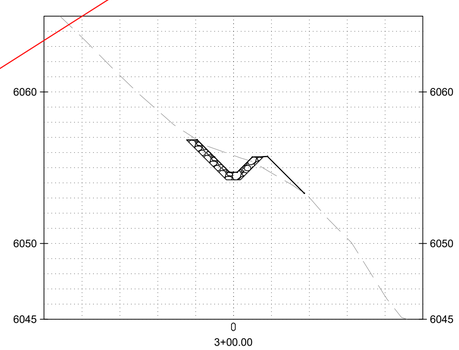

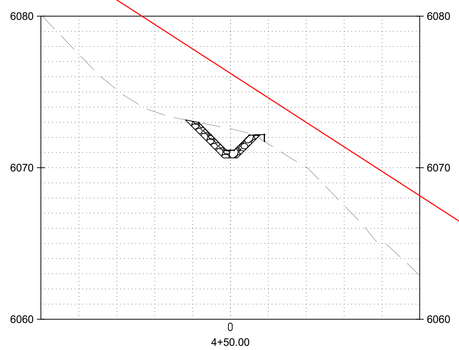

N.I.C.

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
ICE HOUSE LOWER INTERCEPTOR
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C106	B
SCALE	W.O. NO.	SHT. 41 of 83	
	15740.001.003		

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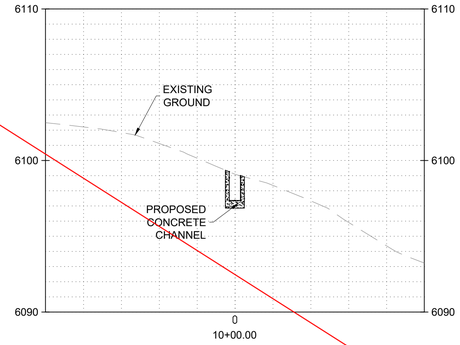

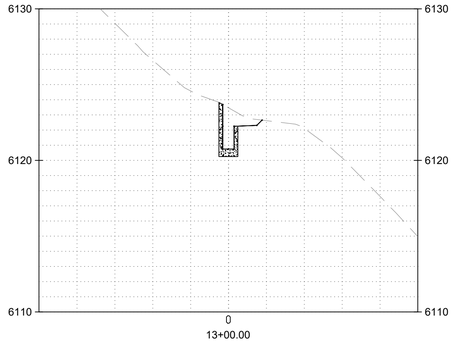

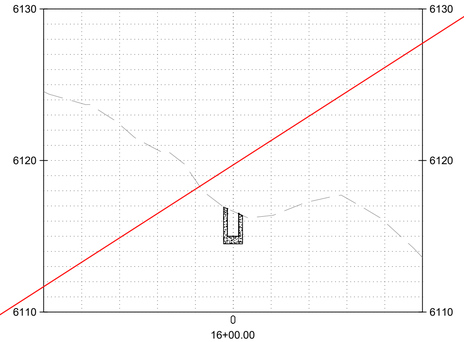

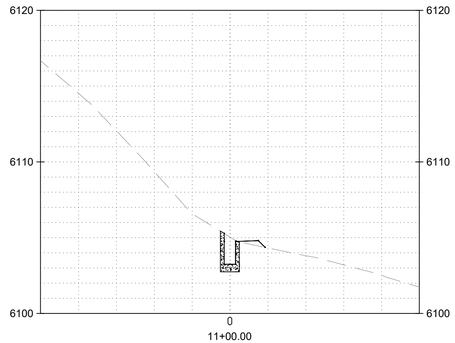

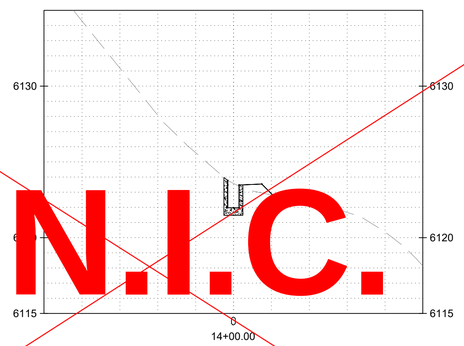

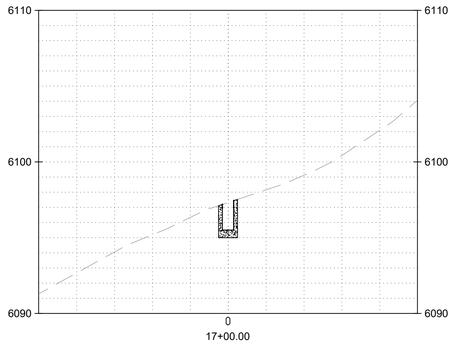

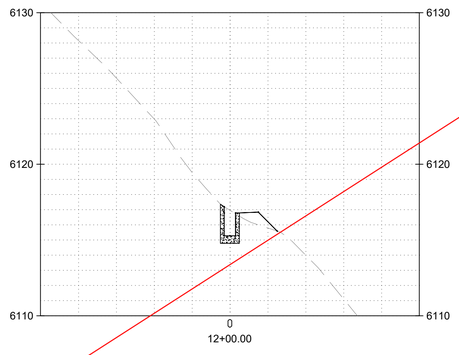

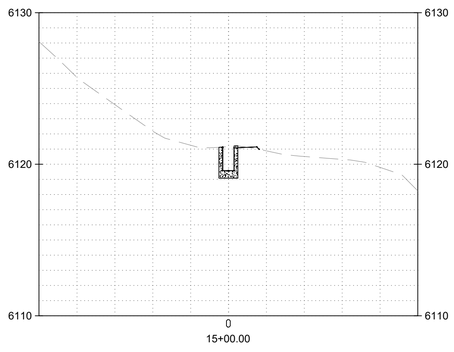

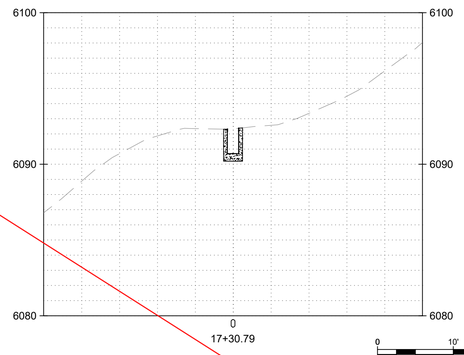

N.I.C.

0 10' 20'
HORIZONTAL

0 5' 10'
VERTICAL

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS — DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
ICE HOUSE UPPER INTERCEPTOR
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C107	B
SCALE	W.O. NO.	SHT. 42 of 83	
	15740.001.003		

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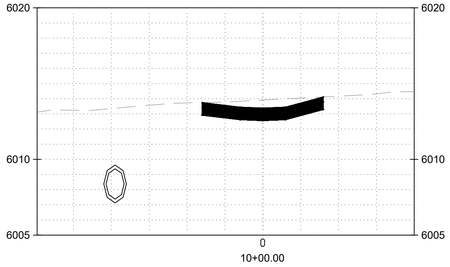

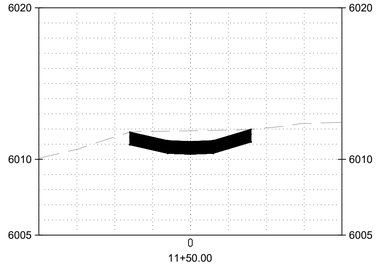

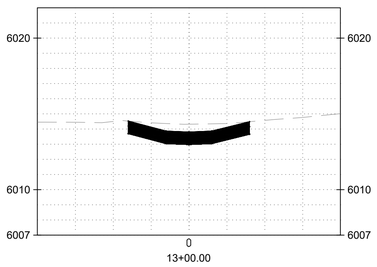

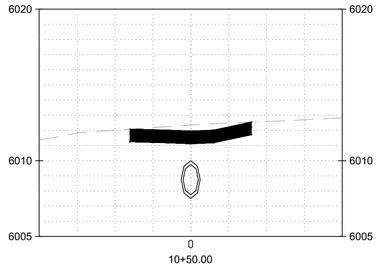

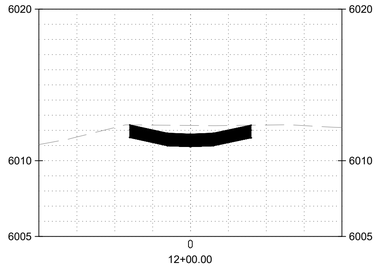

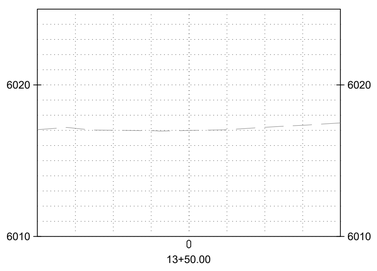

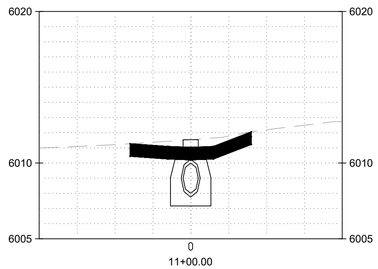

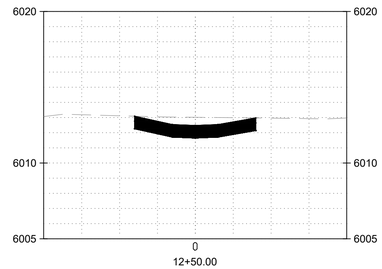

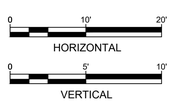

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDSEL — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

ICE HOUSE ROAD
BRIDGE ROAD
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C108	C
SCALE	W.O. NO.	SHT. 43 of 83	
	15740.001.003		

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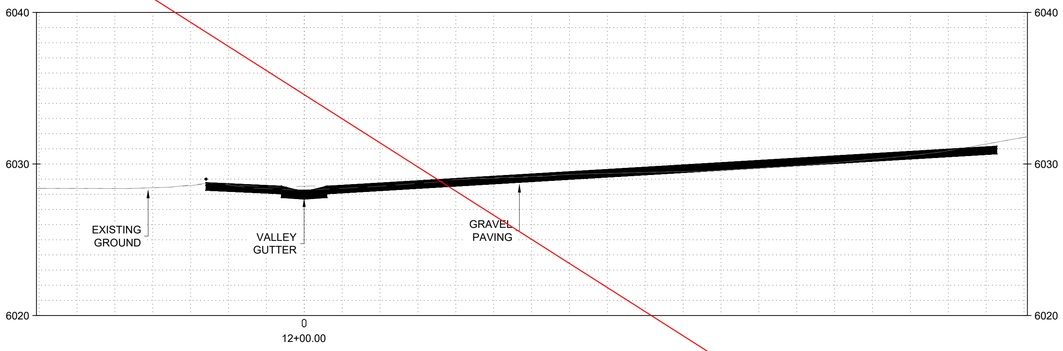

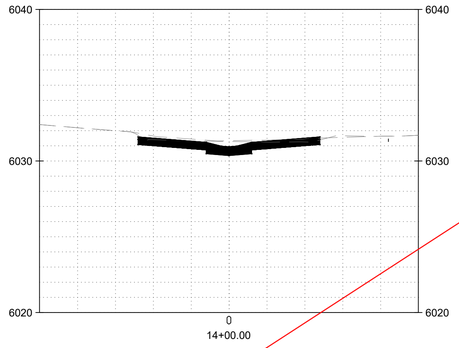

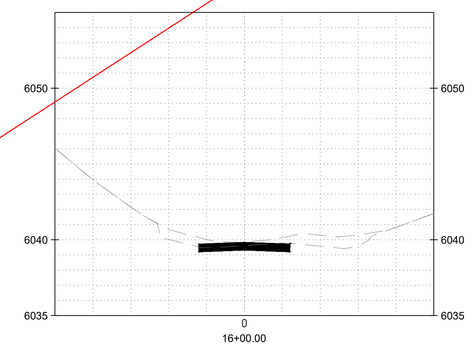

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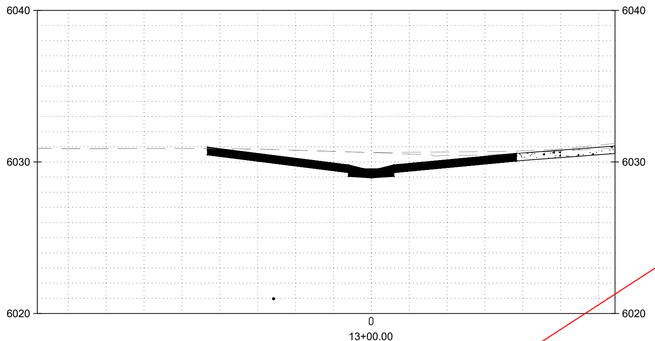

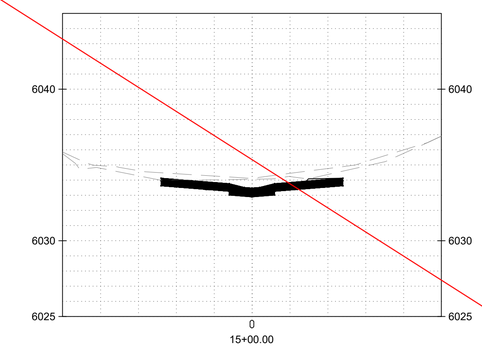

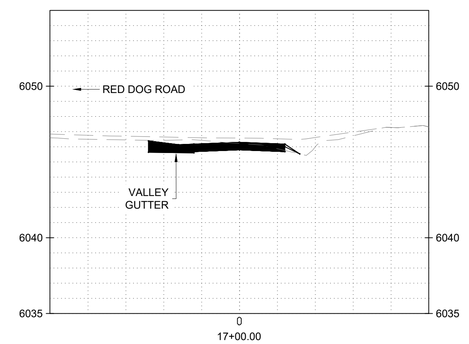

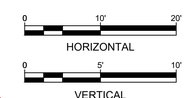

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

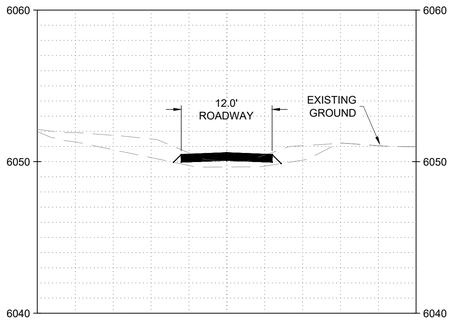
ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	CLIENT APPROVALS	DATE
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE LANE
CROSS SECTIONS (1 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C109	B
SCALE	W.O. NO.	SHT. 44 of 83	
	15740.001.003		



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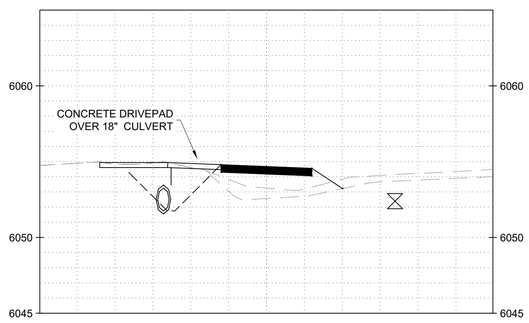

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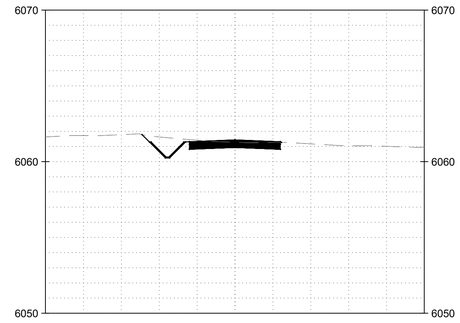

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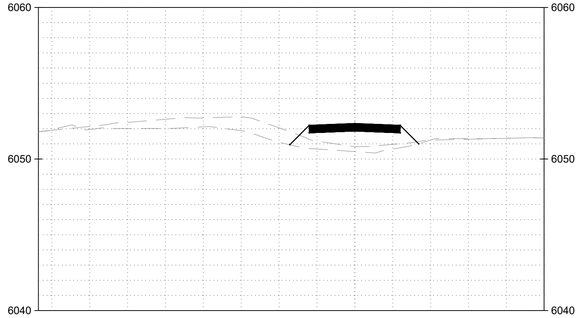

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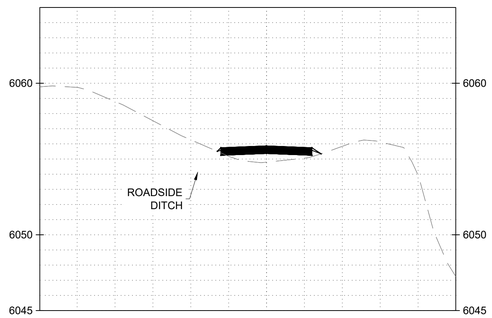

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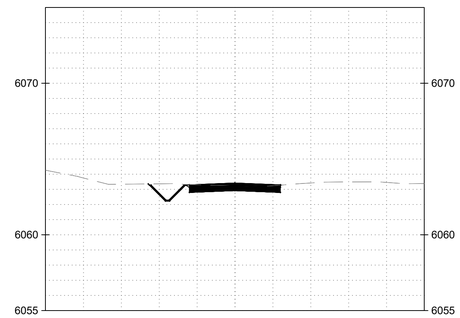

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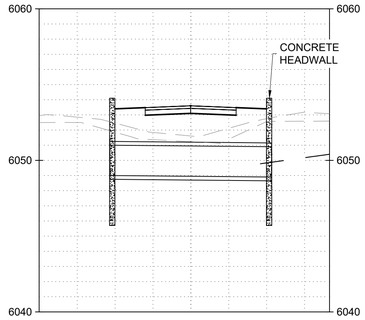

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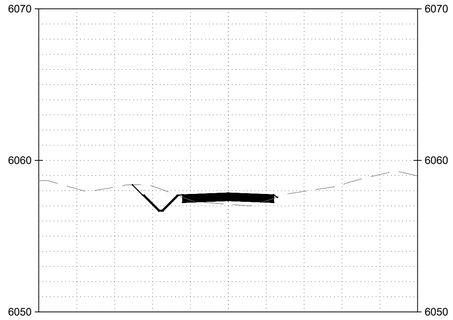

21+00.00

0 10' 20'

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE
CHECKED	NAH	10/31/24
DES. ENG.	SLJ	10/31/24
PROJ. ENG.	RGE	10/31/24
PROJ. MGR.	TDB	10/31/24
APPROVED		
APPROVED		

CLIENT APPROVALS | DATE

ROBERT G. EDES — NEW MEXICO — 10/30/24 — REGISTERED PROFESSIONAL ENGINEER

FIREHOUSE LANE AREA
FIREHOUSE LANE
CROSS SECTIONS (2 OF 2)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C110	C
SCALE	W.O. NO.	SHT. 45 of 83	
	15740.001.003		

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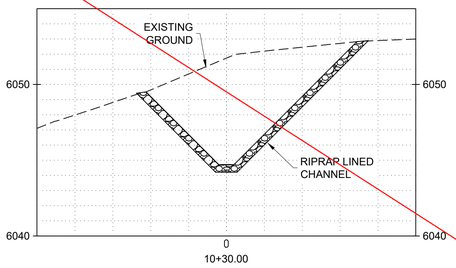

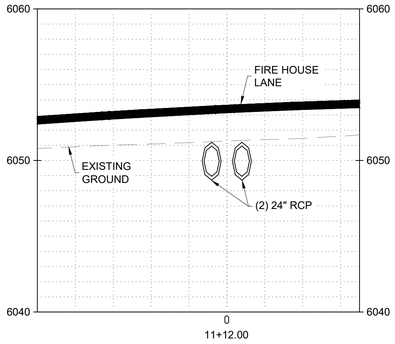

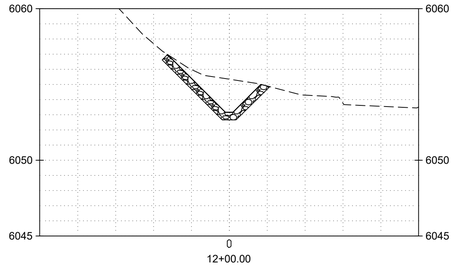

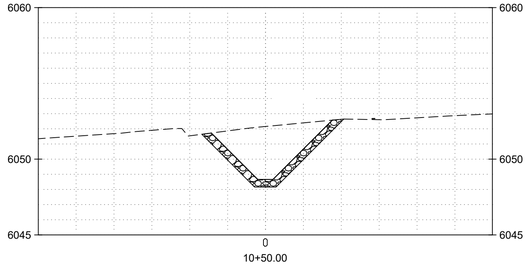

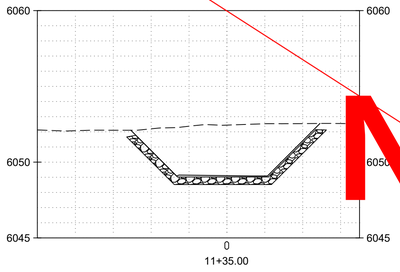

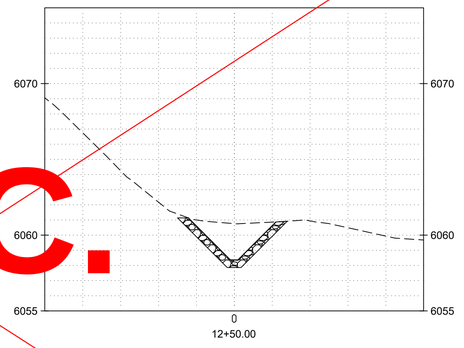

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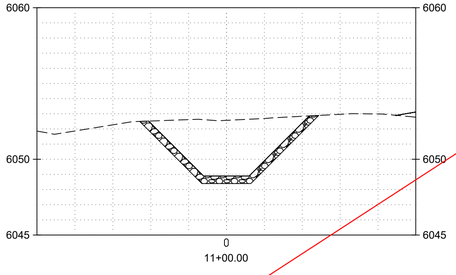

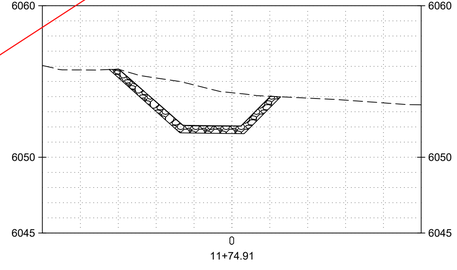

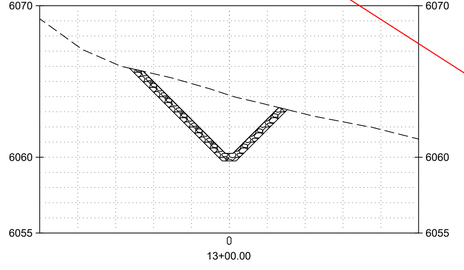

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

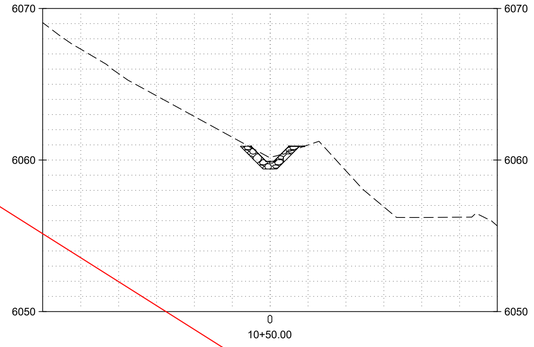
CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

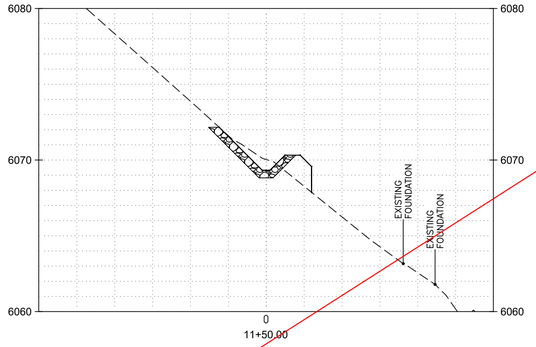
CLIENT APPROVALS — DATE

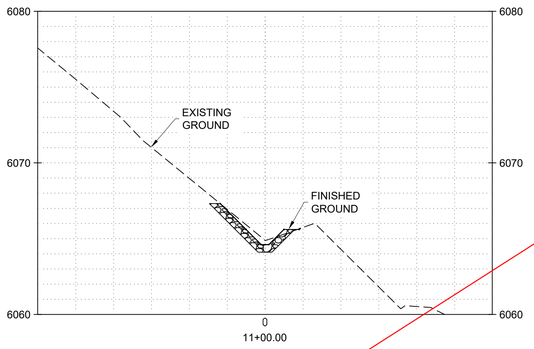
ROBERT G. EDER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

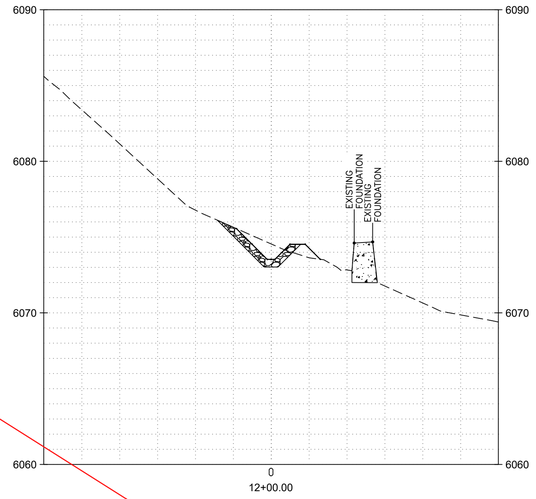
FIREHOUSE LANE AREA
FIREHOUSE INTERCEPTOR
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C111	B
SCALE	W.O. NO.	SHT. 46 of 83	
	15740.001.003		









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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS | DATE

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA MISSING LINK CHANNEL CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C112	B
SCALE	W.O. NO.		
	15740.001.003	SHT. 47 of 83	

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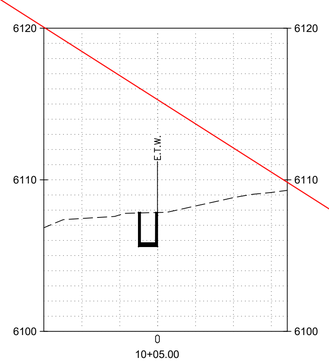
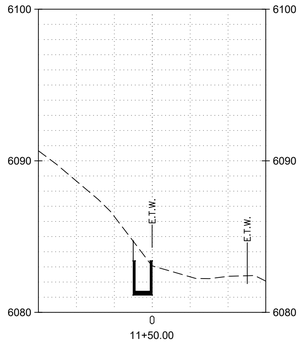
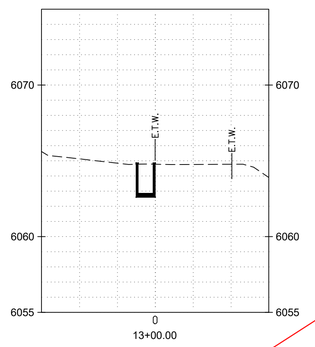
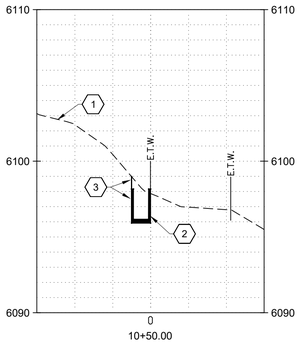


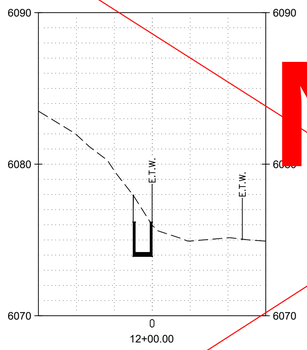


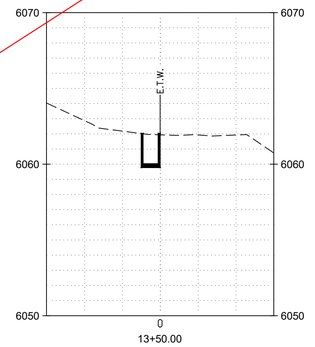


KEYED NOTES

1. EXISTING GROUND.
2. PROPOSED 2 FT X 2 FT RECTANGULAR CONCRETE CHANNEL.
3. EXTEND CONCRETE WALL TO MEET EXISTING GROUND. HEIGHT VARIES.







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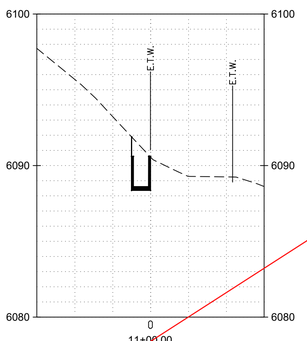

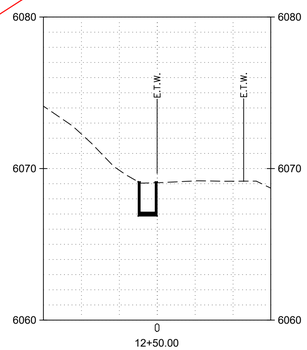

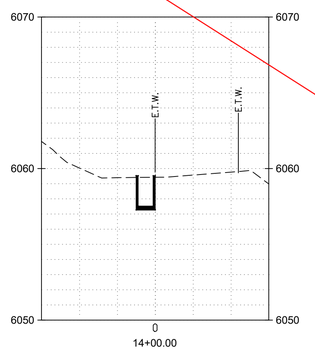

0 10' 20'

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

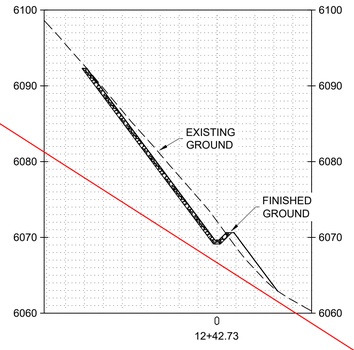
ALBUQUERQUE NEW MEXICO

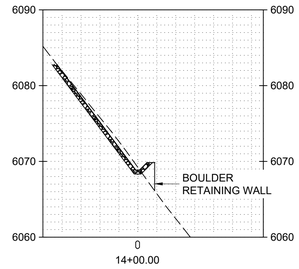
		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

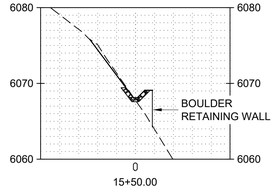
ROBERT G. EDESES — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

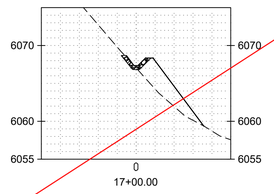
FIREHOUSE LANE AREA
DOMINGUEZ ROAD CHANNEL
CROSS SECTIONS

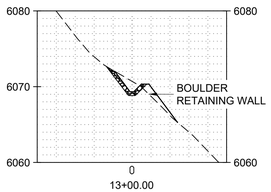
DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C113	B
SCALE	W.O. NO.	SHT. 48 of 83	
	15740.001.003		

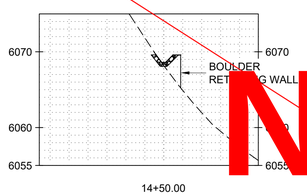


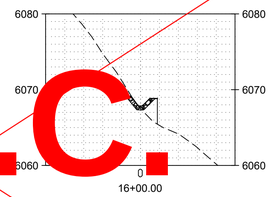


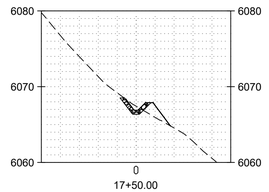


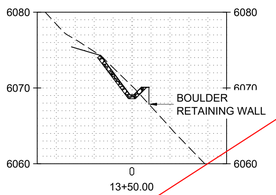


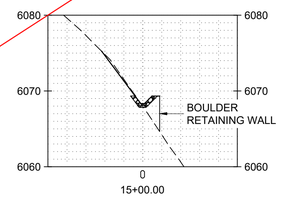


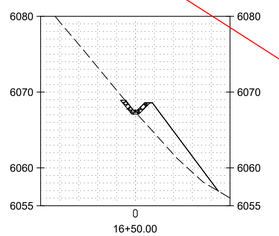


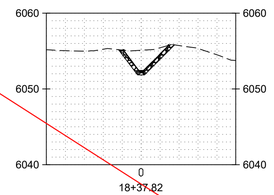












N.I.C.

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
RED DOG ROAD INTERCEPTOR
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C114	B
SCALE	W.O. NO.	SHT. 49 of 83	
	15740.001.003		

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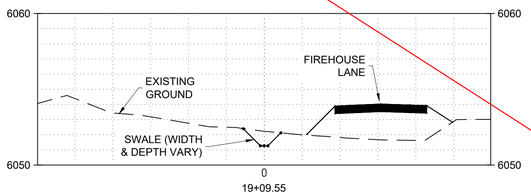

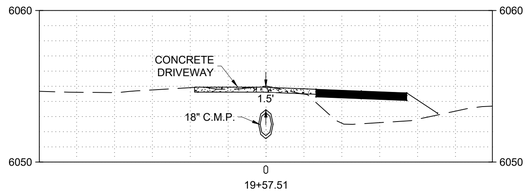

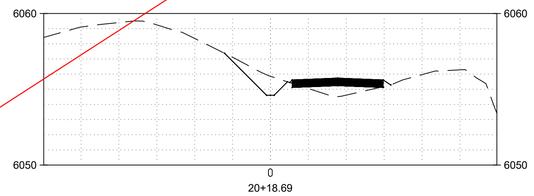

N.I.C.

0 10' 20'
HORIZONTAL

0 5' 10'
VERTICAL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

CHECKED	NAH	10/31/24	
DES. ENG.	SLJ	10/31/24	
PROJ. ENG.	RGE	10/31/24	
PROJ. MGR.	TDB	10/31/24	
APPROVED			
APPROVED			

CLIENT APPROVALS | DATE

ROBERT G. EDGER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

FIREHOUSE LANE AREA
FIREHOUSE DRIVEWAY CROSSING
CROSS SECTIONS

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C115	B
SCALE	W.O. NO.	SHT. 50 of 83	
	15740.001.003		

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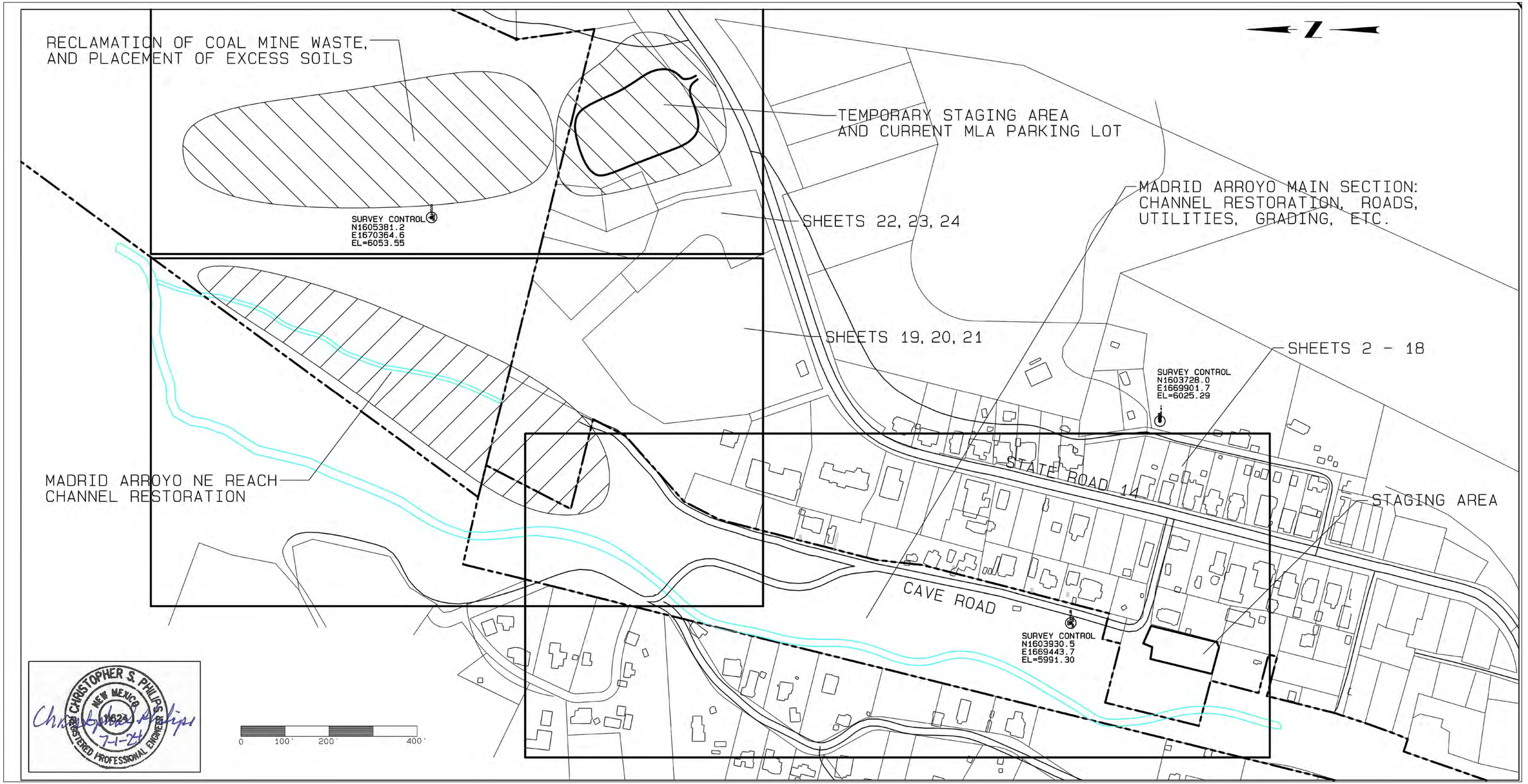

CHRISTOPHER S. PHILIPS
NEW MEXICO
16221
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
LOCATION MAP

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C201	C
SCALE	W.O. NO.	SHT. 51 of 83	
	15740.001.003		

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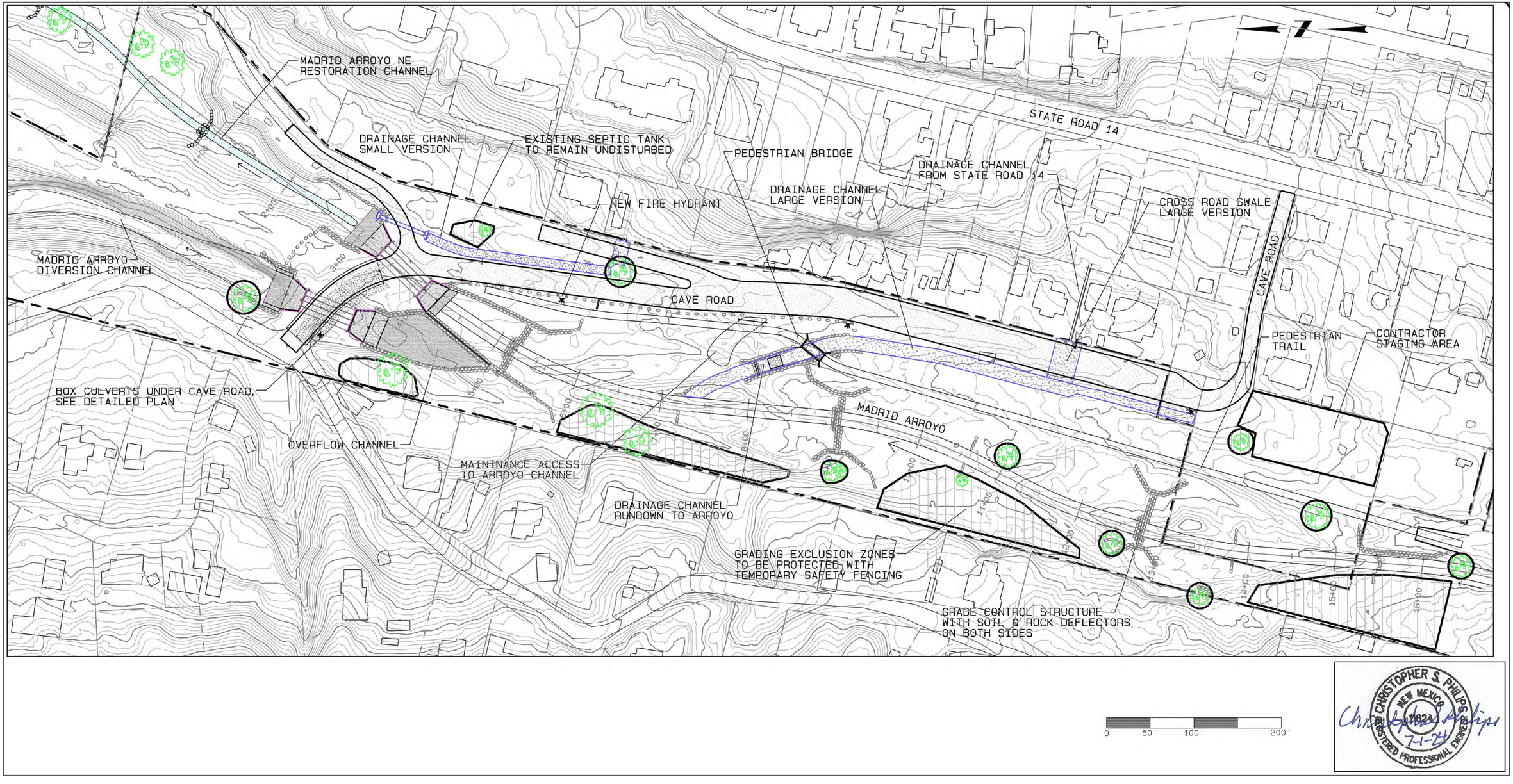

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
GENERAL SITE PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C202	C
SCALE	W.O. NO.	SHT. 52 of 83	
	15740.001.003		

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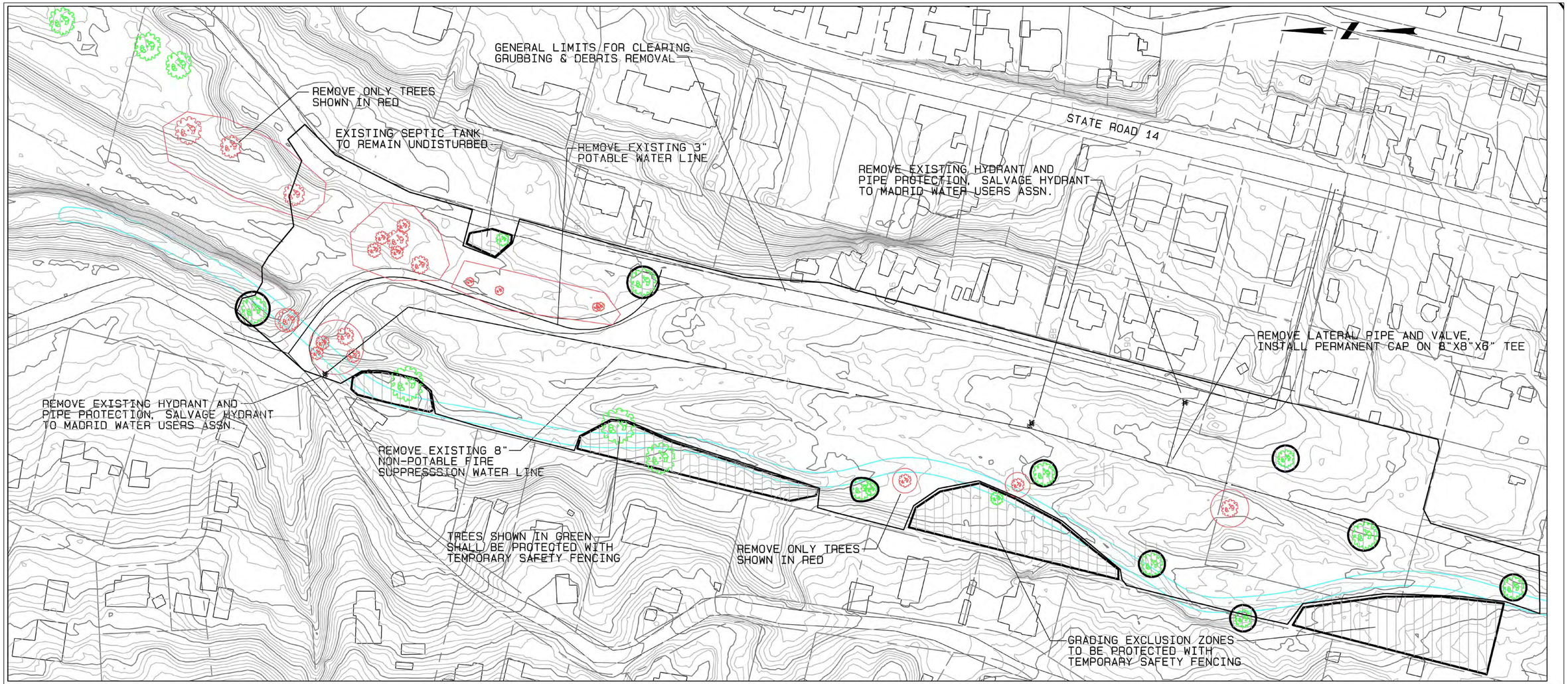

NOTES:
1) INSTALL NEW WATER ISOLATION VALVES BEFORE WATER LINE REMOVALS, SO THAT WATER SERVICE INTERUPTIONS ARE MINIMIZED.
2) INSTALL TEMPORARY SAFETY FENCING AROUND TREES THAT SHALL REMAIN, AND AROUND GRADING EXCLUSION ZONES
3) REMOVE ALL CLEAR & GRUB MATERIAL FROM THE SITE, AND ALSO TRASH AND METAL WASTE UNCOVERED IN THE GRADING OPERATION

CHRISTOPHER S. PHILIPS NEW MEXICO 11824 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
PROTECTIONS AND REMOVALS PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C203	C
SCALE	W.O. NO.	SHT. 53 of 83	
	15740.001.003		

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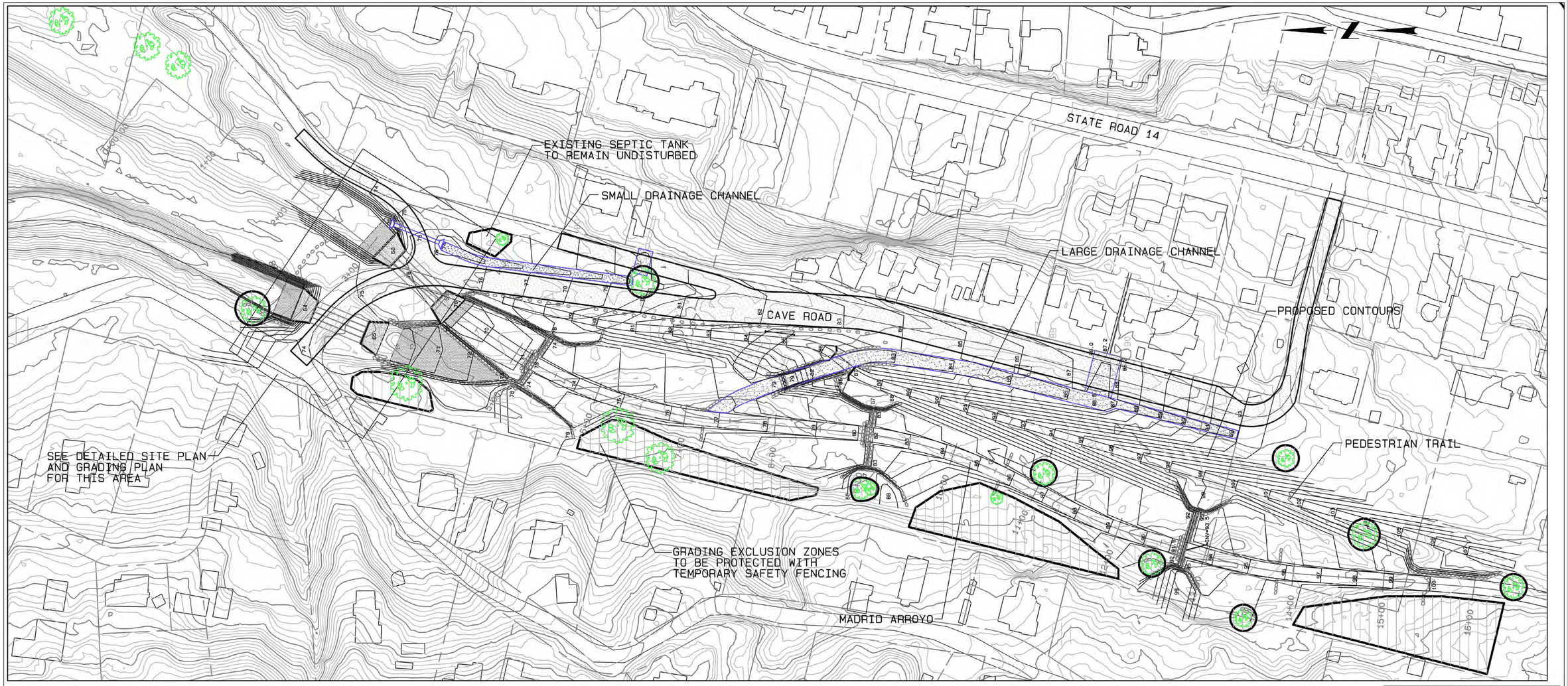

CHRISTOPHER S. PHILIPS
NEW MEXICO
16324
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
GRADING PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C204	C
SCALE	W.O. NO.	SHT. 54 of 83	
	15740.001.003		

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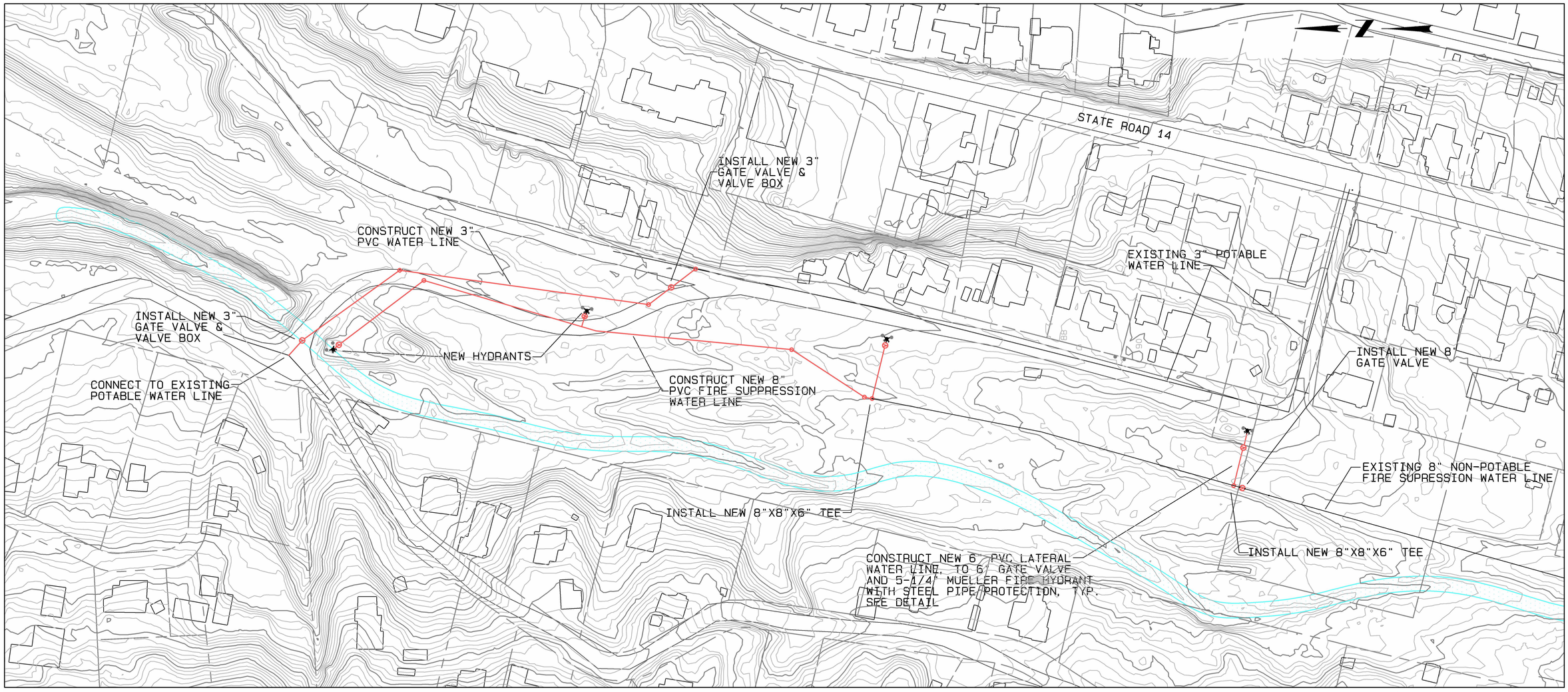

UPDATED 3-15-2025

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

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NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

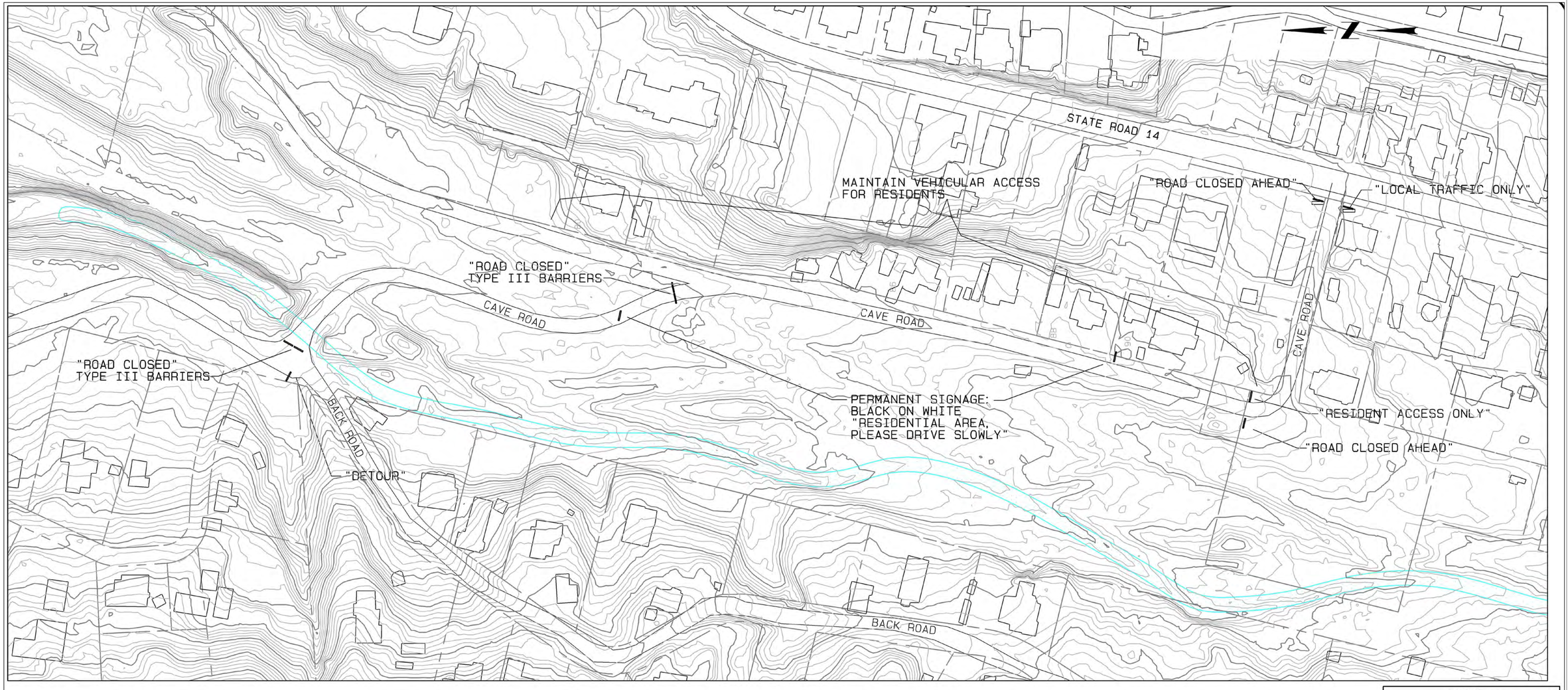
RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

CHECKED CP	DATE 10/31/24	CLIENT APPROVALS	DATE
DES. ENG. CP	10/31/24		
PROJ. ENG. CP	10/31/24		
PROJ. MGR. RE	10/31/24		
APPROVED			
APPROVED			

MADRID ARROYO
WATER UTILITIES PLAN

DRAWN C.PHILIPS	DATE ----	DWG. NO. **C205**	REV. NO. **C**
SCALE	W.O. NO. 15740.001.003	SHT. **55** of **83**	



NOTE: THE CONTRACTOR MUST MAINTAIN ACCESS FOR RESIDENTS ALONG CAVE ROAD, AS SHOWN. INTERUPTIONS IN VEHICULAR ACCESS MAY BE NECESSITATED BY CONSTRUCTION, BUT MUST BE LIMITED TO "DAY OF" CONSTRUCTION, AND WRITTEN/VERBAL NOTIFICATION MUST BE PROVIDED TO RESIDENTS PRIOR TO ACCESS DISRUPTIONS. SIMILARLY, RESIDENT PARKING PATTERNS MAY BECOME ALTERED DURING CONSTRUCTION AND AFTER CAVE ROAD IS COMPLETED. THE CONTRACTOR IS EXPECTED TO COMMUNICATE NEEDED CHANGES WITH THE RESIDENTS IN A FRIENDLY AND HELPFULL MANNER.

0 50' 100' 200'

CHRISTOPHER S. PHILIPS NEW MEXICO 16321 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
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C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
TRAFFIC CONTROL PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C206	C
SCALE	W.O. NO. 15740.001.003	SHT. 56 of 83	

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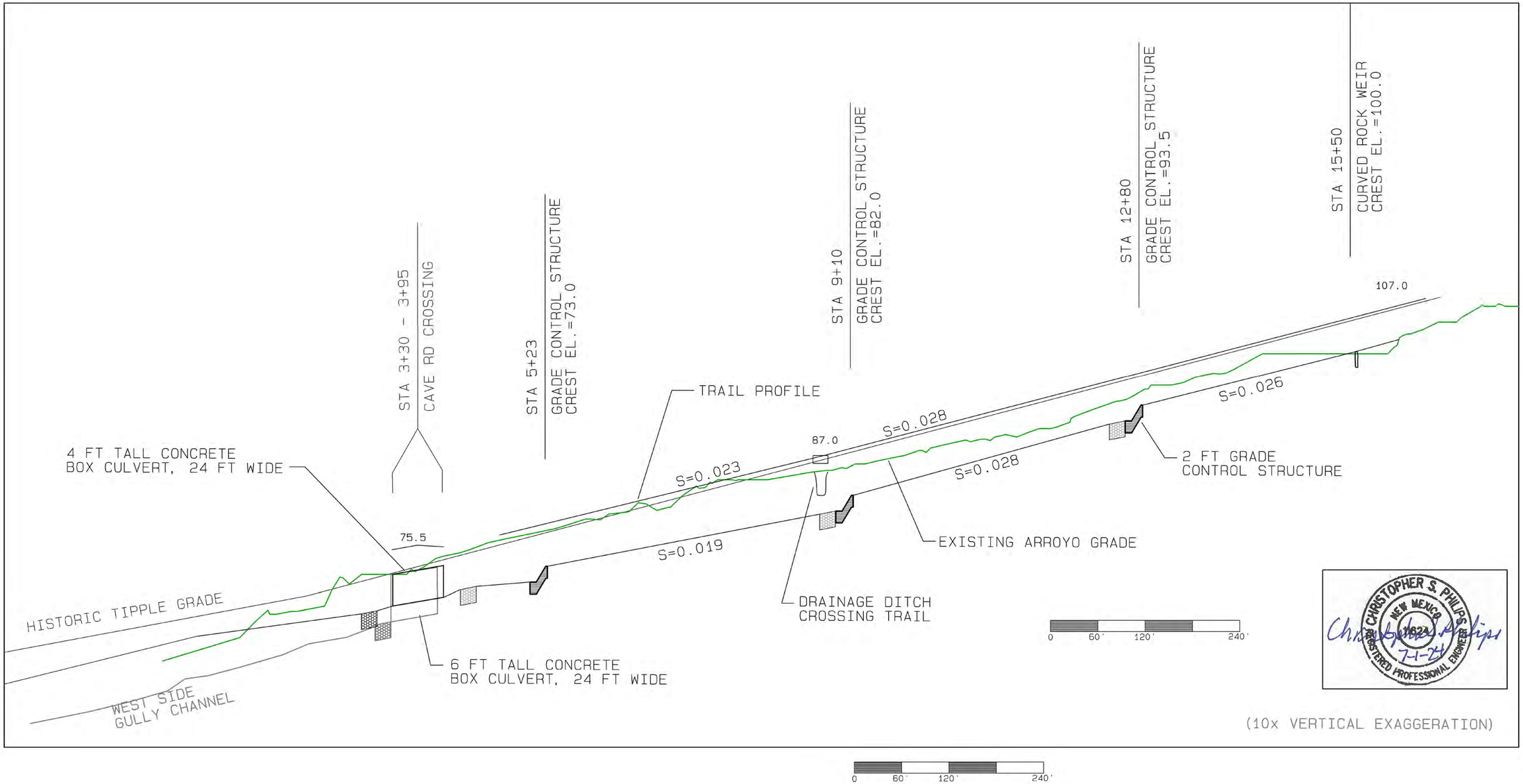

CHRISTOPHER S. PHILIPS
NEW MEXICO
17623
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
ARROYO AND TRAIL PROFILES

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C207	C
SCALE	W.O. NO. 15740.001.003	SHT. 57 of 83	

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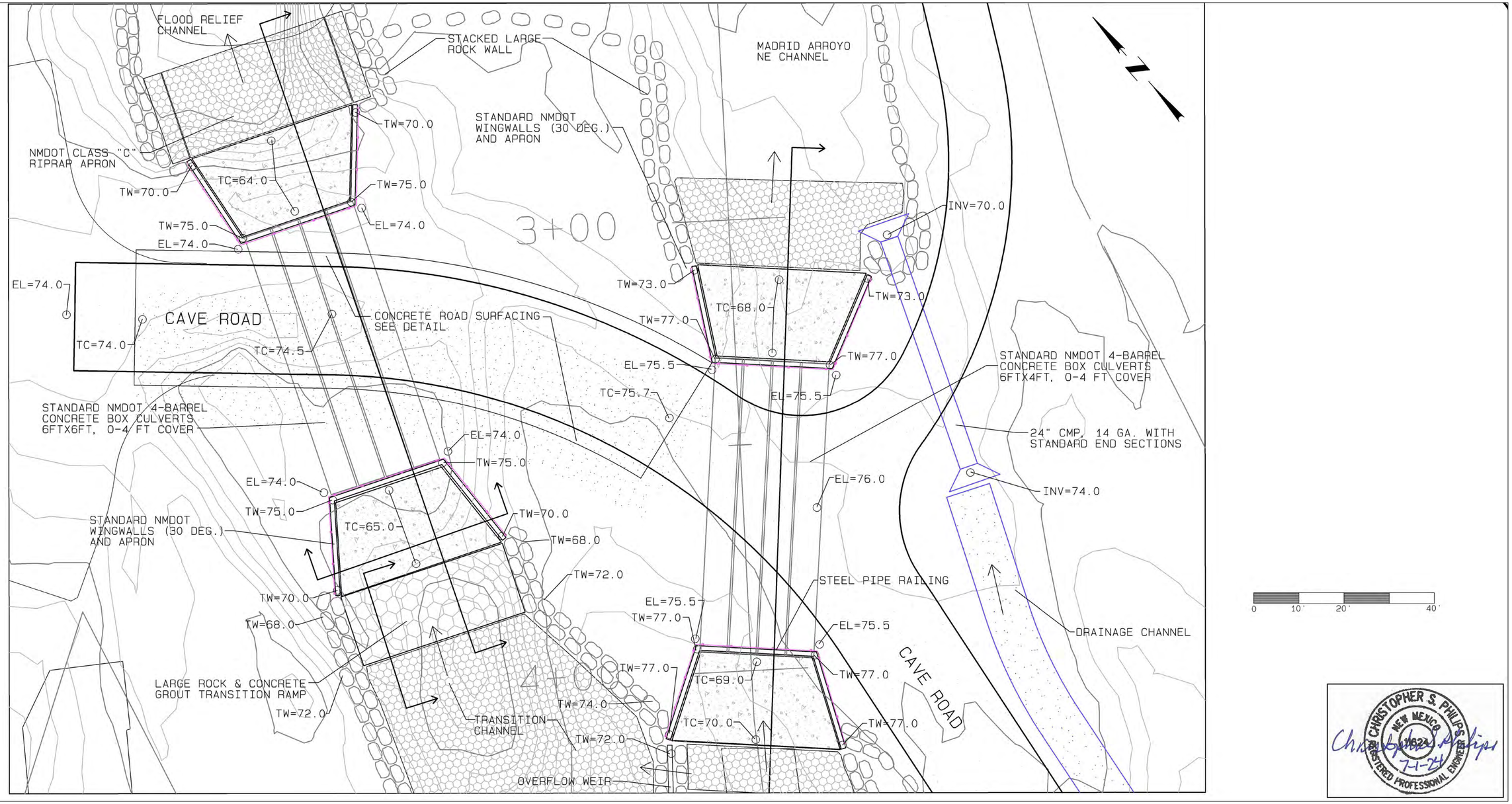

CHRISTOPHER S. PHILIPS NEW MEXICO 17921 REGISTERED PROFESSIONAL ENGINEER 7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
SITE PLAN AND GRADING PLAN
CAVE ROAD ARROYO CROSSING

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C208	C
SCALE	W.O. NO.	SHT. 58 of 83	
	15740.001.003		

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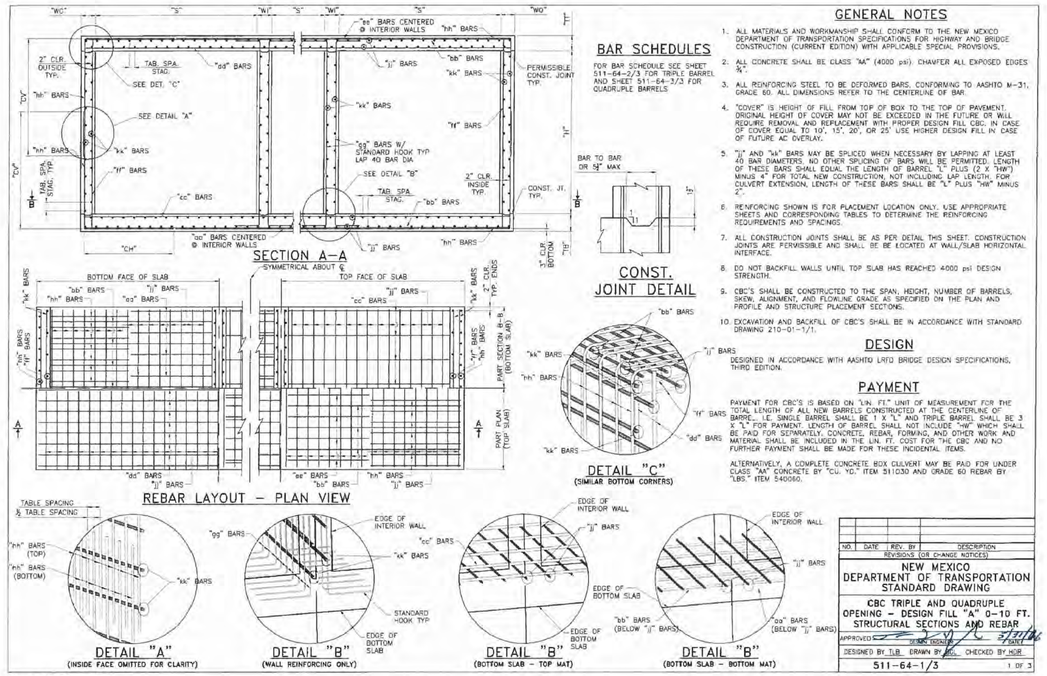


GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NEW MEXICO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SPECIAL PROVISIONS.
2. ALL CONCRETE SHALL BE CLASS "AA" (4000 psi). CHAMFER ALL EXPOSED EDGES ¾".
3. ALL REINFORCING STEEL TO BE DEFORMED BARS, CONFORMING TO AASHTO M-31, GRADE 60. ALL DIMENSIONS REFER TO THE CENTERLINE OF BAR.
4. "COVER" IS HEIGHT OF FILL FROM TOP OF BOX TO THE TOP OF PAVEMENT. ORIGINAL HEIGHT OF COVER MAY NOT BE EXCEEDED IN THE FUTURE OR WILL REQUIRE REMOVAL AND REPLACEMENT WITH PROPER DESIGN FILL CBC. IN CASE OF COVER EQUAL TO 10', 15', 20', OR 25' USE HIGHER DESIGN FILL IN CASE OF FUTURE AC OVERLAY.
5. "jj" AND "kk" BARS MAY BE SPLICED WHEN NECESSARY BY LAPPING AT LEAST 40 BAR DIAMETERS. NO OTHER SPLICING OF BARS WILL BE PERMITTED. LENGTH OF THESE BARS SHALL EQUAL THE LENGTH OF BARREL "L" PLUS (2 X "HW") MINUS 4" FOR TOTAL NEW CONSTRUCTION, NOT INCLUDING LAP LENGTH. FOR CULVERT EXTENSION, LENGTH OF THESE BARS SHALL BE "L" PLUS "HW" MINUS 2".
6. REINFORCING SHOWN IS FOR PLACEMENT LOCATION ONLY. USE APPROPRIATE SHEETS AND CORRESPONDING TABLES TO DETERMINE THE REINFORCING REQUIREMENTS AND SPACINGS.
7. ALL CONSTRUCTION JOINTS SHALL BE AS PER DETAIL THIS SHEET. CONSTRUCTION JOINTS ARE PERVISSIBLE AND SHALL BE BE LOCATED AT WALL/SLAB HORIZONTAL INTERFACE.
8. DO NOT BACKFILL WALLS UNTIL TOP SLAB HAS REACHED 4000 psi DESIGN STRENGTH.
9. CBC'S SHALL BE CONSTRUCTED TO THE SPAN, HEIGHT, NUMBER OF BARRELS, SKEW, ALIGNMENT, AND FLOWLINE GRADE AS SPECIFIED ON THE PLAN AND PROFILE AND STRUCTURE PLACEMENT SECTIONS.
10. EXCAVATION AND BACKFILL OF CBC'S SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 210-01-1/1.

BAR SCHEDULES

FOR BAR SCHEDULE SEE SHEET 511-64-2/3 FOR TRIPLE BARREL AND SHEET 511-64-3/3 FOR QUADRUPLE BARRELS

DESIGN

DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, THIRD EDITION.

PAYMENT

PAYMENT FOR CBC'S IS BASED ON "LIN. FT." UNIT OF MEASUREMENT FOR THE TOTAL LENGTH OF ALL NEW BARRELS CONSTRUCTED AT THE CENTERLINE OF BARRE., I.E. SINGLE BARREL SHALL BE 1 X "L" AND TRIPLE BARREL SHALL BE 3 X "L" FOR PAYMENT. LENGTH OF BARREL SHALL NOT INCLUDE "HW" WHICH SHALL BE PAID FOR SEPARATELY. CONCRETE, REBAR, FORMING, AND OTHER WORK AND MATERIAL SHALL BE INCLUDED IN THE LIN. FT. COST FOR THE CBC AND NO FURTHER PAYMENT SHALL BE MADE FOR THESE INCIDENTAL ITEMS.

ALTERNATIVELY, A COMPLETE CONCRETE BOX CULVERT MAY BE PAID FOR UNDER CLASS "AA" CONCRETE BY "CU. YD." ITEM 511030 AND GRADE 60 REBAR BY "LBS." ITEM 540060.

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING

CBC TRIPLE AND QUADRUPLE OPENING - DESIGN FILL "A" 0-10 FT. STRUCTURAL SECTIONS AND REBAR

APPROVED: BRIAN E. EGOLF, JR. DATE

DESIGNED BY TLB DRAWN BY SGL CHECKED BY HDR

511-64-1/3 1 OF 3

NMDOT CBC SHEET 129

QUADRUPLE OPENING BOX CULVERT STRUCTURE DIMENSIONS						GRADE 60 REINFORCING BAR SCHEDULE (BAR SIZE, SPACING AND LENGTH DIMENSIONS)																													
DIM.	0-10 FT BURIAL DESIGN FILL "A"					"aa"	"ee"	"aa" & "ee"		"bb"	"cc"	"dd"	"bb" & "cc" & "dd"	"ff"	"gg"	"ff" & "gg" **	"hh"				"jj"		"kk"											
SPAN "S" INSIDE	HEIGHT "H" INSIDE	TOP SLAB "T"	BOTTOM SLAB	WALLS OUTER "WO"	WALLS INTERIOR "WI"	SIZE	SPACING	SIZE	SPACING	LENGTH:	NUMBER OF BARS	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	LENGTH:	SIZE	SPACING	SIZE	SPACING	LENGTH:	SIZE	SPACING	"CF" LENGTH	"CV" LENGTH	SIZE	STAGGERED SPACING	SIZE	STAGGERED SPACING
4'	2'	7.5"	8.5"	7.5"	6.0"	#4	12"	#5	12"	5'-0"	3	#5	12"	#4	6"	#4	6"	1'8"-5"	#4	6"	#4	12"	2'-11"	#4	6"	24"	25"	#4	6"	#4	9"
4'	3'	7.5"	8.5"	7.5"	6.0"	#4	12"	#5	12"	5'-0"	3	#5	12"	#4	6"	#4	6"	1'8"-5"	#4	6"	#4	12"	3'-11"	#4	6"	24"	31"	#4	6"	#4	6"
4'	4'	7.5"	8.5"	7.5"	6.0"	#4	12"	#5	12"	5'-0"	3	#5	12"	#4	6"	#4	6"	1'8"-5"	#4	6"	#4	12"	4'-11"	#4	6"	24"	37"	#4	6"	#4	6"
6'	2'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	2'-11"	#5	6"	30"	27"	#4	6"	#4	6"
6'	3'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	3'-11"	#5	6"	30"	33"	#4	6"	#4	6"
6'	4'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	4'-11"	#5	6"	30"	39"	#4	6"	#4	8"
6'	5'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	5'-11"	#5	6"	30"	45"	#4	6"	#4	6"
6'	6'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	6'-11"	#5	6"	30"	51"	#4	6"	#4	6"
6'	7'	8.0"	8.5"	7.5"	6.0"	#5	12"	#7	12"	7'-5"	3	#7	12"	#6	6"	#5	6"	2'6"-5"	#5	6"	#4	12"	7'-11"	#5	6"	30"	57"	#4	6"	#4	8"
8'	4'	9.5"	9.0"	7.5"	6.0"	#7	12"	#7	12"	8'-5"	3	#7	12"	#5	6"	#5	6"	3'4"-5"	#5	6"	#4	12"	5'-1"	#6	6"	36"	41"	#4	6"	#4	6"
8'	5'	9.5"	9.0"	7.5"	6.0"	#7	12"	#7	12"	8'-5"	3	#7	12"	#5	6"	#5	6"	3'4"-5"	#5	6"	#4	12"	6'-1"	#6	6"	36"	47"	#4	6"	#4	6"
8'	6'	9.5"	9.0"	7.5"	6.0"	#7	12"	#7	12"	8'-5"	3	#7	12"	#5	6"	#5	6"	3'4"-5"	#5	6"	#4	12"	7'-1"	#6	6"	36"	53"	#4	6"	#4	6"
8'	7'	9.5"	9.0"	7.5"	6.0"	#7	12"	#7	12"	8'-5"	3	#7	12"	#5	6"	#5	6"	3'4"-5"	#5	6"	#4	12"	8'-1"	#6	6"	36"	59"	#4	6"	#4	6"
8'	8'	9.5"	9.0"	7.5"	6.0"	#7	12"	#7	12"	8'-5"	3	#7	12"	#5	6"	#5	6"	3'4"-5"	#5	6"	#4	12"	9'-1"	#6	6"	36"	65"	#4	6"	#4	6"
10'	3'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	4'-4"	#6	6"	38"	37"	#4	6"	#4	6"
10'	4'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	5'-4"	#6	6"	38"	43"	#4	6"	#4	6"
10'	5'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	6'-4"	#6	6"	38"	49"	#4	6"	#4	6"
10'	6'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	7'-4"	#6	6"	38"	55"	#4	6"	#4	8"
* 10'	7'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	8'-4"	#6	6"	38"	61"	#4	6"	#4	8"
10'	8'	11.0"	10.5"	9.0"	6.0"	#8	12"	#7	12"	10'-10"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	9'-4"	#7	6"	45"	69"	#4	6"	#4	6"
10'	9'	11.0"	10.5"	9.0"	6.0"	#8	12"	#7	12"	10'-10"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	10'-4"	#7	6"	45"	75"	#4	6"	#4	6"
10'	10'	11.0"	10.5"	9.0"	6.0"	#8	12"	#7	12"	10'-10"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	11'-4"	#7	6"	45"	81"	#4	6"	#4	8"
10'	11'	11.0"	10.5"	9.0"	6.0"	#8	12"	#7	12"	10'-10"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	12'-4"	#7	6"	45"	87"	#4	6"	#4	8"
10'	12'	11.0"	10.5"	9.0"	6.0"	#8	12"	#7	12"	10'-10"	3	#8	12"	#6	6"	#6	6"	4'2"-5"	#6	6"	#4	12"	13'-4"	#7	6"	45"	93"	#4	6"	#4	8"
12'	6'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	7'-7"	#8	6"	55"	63"	#4	6"	#4	6"
12'	7'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	8'-7"	#8	6"	55"	69"	#4	6"	#4	6"
12'	8'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	9'-7"	#8	6"	55"	75"	#4	6"	#4	6"
12'	9'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	10'-7"	#8	6"	55"	81"	#4	6"	#4	6"
12'	10'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	11'-7"	#8	6"	55"	87"	#4	6"	#4	6"
12'	12'	12.5"	12.0"	9.0"	6.0"	#8	12"	#8	12"	11'-10"	3	#8	12"	#6	6"	#7	6"	5'0"-5"	#7	6"	#4	12"	13'-7"	#8	6"	55"	99"	#4	6"	#4	8"
14'	8'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	9'-10"	#8	6"	60"	76"	#4	6"	#4	6"
14'	9'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	10'-10"	#8	6"	60"	82"	#4	6"	#4	6"
14'	10'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	11'-10"	#8	6"	60"	88"	#4	6"	#4	6"
14'	11'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	12'-10"	#8	6"	60"	94"	#4	6"	#4	6"
14'	12'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	13'-10"	#8	6"	60"	100"	#4	6"	#4	6"
14'	13'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	14'-10"	#8	6"	60"	106"	#4	6"	#4	6"
14'	14'	14.0"	13.0"	11.0"	7.0"	#9	12"	#8	12"	14'-4"	3	#9	12"	#7	6"	#7	6"	5'9"-5"	#7	6"	#4	12"	15'-10"	#8	6"	60"	112"	#4	6"	#4	6"

FOR EXTENSIONS OF EXISTING CBC'S OF S=5', S=7', AND S=9' SIZE SPANS NOT INCLUDED IN THIS TABLE, USE DIMENSIONS FOR NEXT GREATER SPAN TO BUILD. FOR EXAMPLE: FOR S=5' USE DESIGN DIMENSIONS FROM THE TABLE FOR S=6'. ALSO REDUCE THE S=6' TABLE LENGTH OF BARS "bb", "cc" AND "dd" BY ONE FOOT TO ACCOMMODATE THE SHORTER SPAN. SEE DETAILS ON SHEET 511-66-4/6. ANY OTHER SIZES OF BOX EXTENSIONS NOT COVERED BY THIS MODIFICATION SHALL BE DONE THROUGH SPECIAL DESIGNS INCLUDED IN THE PROJECT PLANS.

** TOTAL LENGTH OF "gg" BARS IS TABLE LENGTH PLUS TWO STANDARD 90° HOOKS AND OPTIONAL 40 BAR # LAP IF NECESSARY.

* EXAMPLE OF USE OF THIS TABLE:
PROPOSED STRUCTURE - QUADRUPLE BARREL, 10 FT. SPAN/7 FT. HEIGHT, CBC WITH 2 FT. DEPTH OF COVER.
USE THE FOLLOWING BUILD INFORMATION FROM THE TABLE ABOVE:

DIM.	0-10 FT BURIAL DESIGN FILL "A"					"aa"	"ee"	"aa" & "ee"		"bb"	"cc"	"dd"	"bb" & "cc" & "dd"	"ff"	"gg"	"ff" & "gg"	"hh"				"jj"		"kk"											
SPAN "S" INSIDE	HEIGHT "H" INSIDE	TOP SLAB "T"	BOTTOM SLAB	WALLS OUTER "WO"	WALLS INTERIOR "WI"	SIZE	SPACING	SIZE	SPACING	LENGTH:	NUMBER OF BARS	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	LENGTH:	SIZE	SPACING	SIZE	SPACING	LENGTH:	SIZE	SPACING	"CF" LENGTH	"CV" LENGTH	SIZE	STAGGERED SPACING	SIZE	STAGGERED SPACING
10'	7'	11.0"	10.5"	7.5"	6.0"	#8	12"	#7	12"	10'-9"	3	#8	12"	#6	6"	#5	6"	4'2"-5"	#6	6"	#4	12"	8'-4"	#6	6"	38"	61"	#4	6"	#4	6"

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING

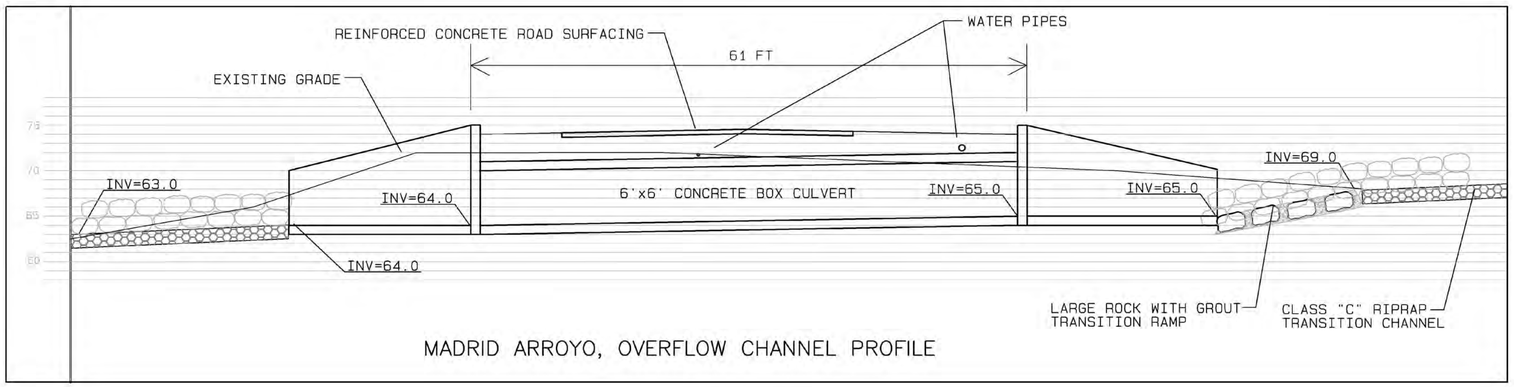
CONCRETE BOX CULVERT QUADRUPLE OPENING - DESIGN FILL "A" 0-10 FT. DIMENSIONS AND REBAR SCHEDULE

APPROVED: BRIAN E. EGOLF, JR. DATE

DESIGNED BY TLB DRAWN BY SGL CHECKED BY HDR

511-64-3/3 3 OF 3

NMDOT CBC SHEET 131



MADRID ARROYO, OVERFLOW CHANNEL PROFILE

0 50' 100' 200'

CHRISTOPHER S. PHILIPS NEW MEXICO 21624 REGISTERED PROFESSIONAL ENGINEER 7-1-24

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL				
C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

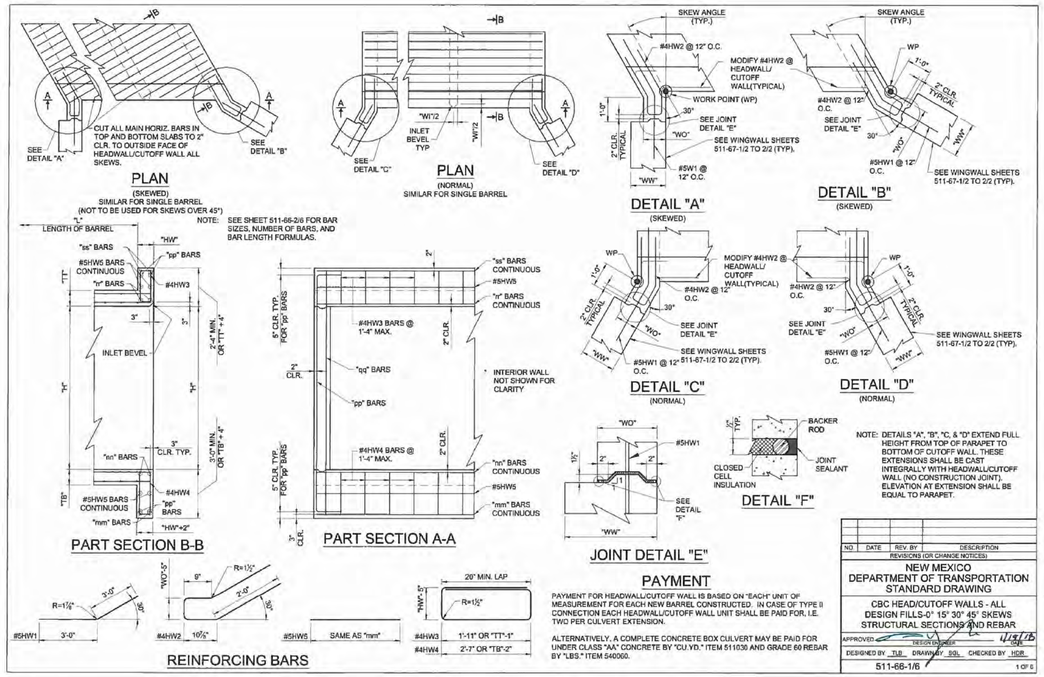
RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

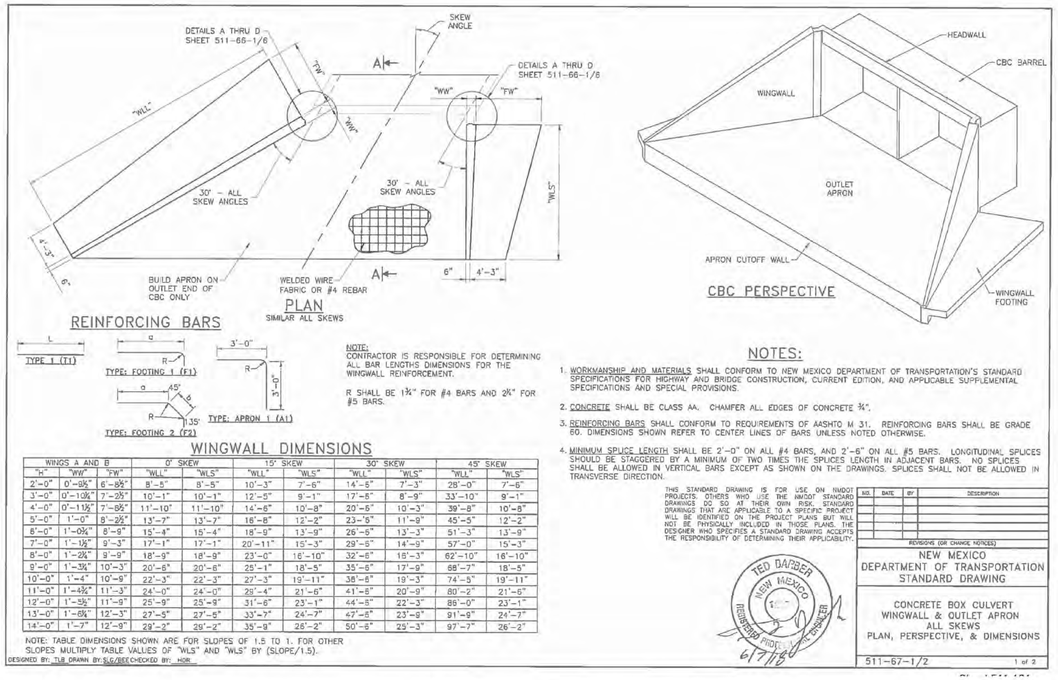
MADRID ARROYO
CONCRETE BOX CULVERT DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C209	C
SCALE	W.O. NO. 15740.001.003	SHT. 59 of 83	

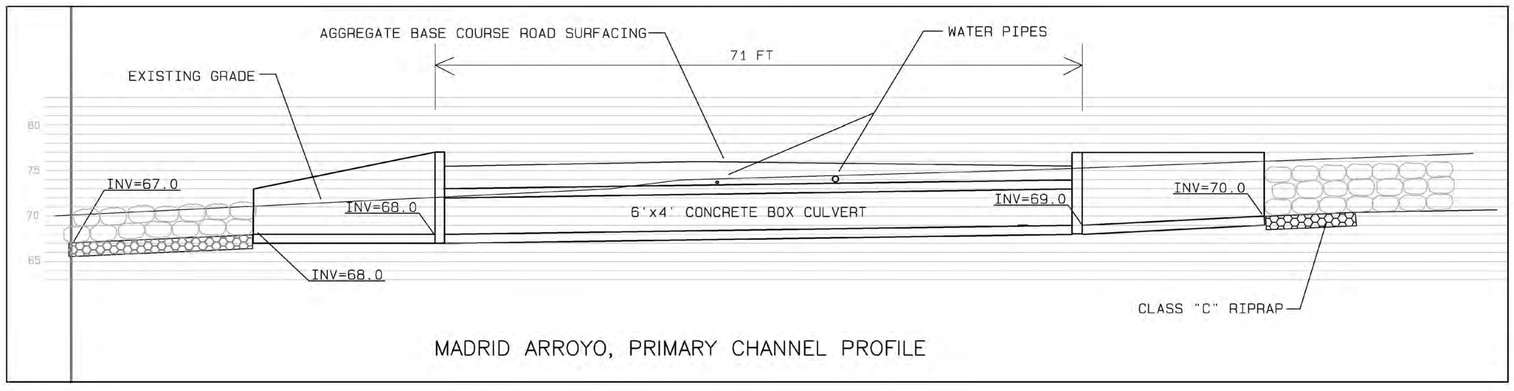
C:\Users\waters\Weston Solutions, Inc\Engineering Community - AutoCAD\Projects\MADRID STORMWATERRIVERBEND 100% FINAL.dwg October 30, 2024 - 11:44am



NMDOT CBC SHEET 135



NMDOT CBC SHEET 140



MADRID ARROYO, PRIMARY CHANNEL PROFILE

CHRISTOPHER S. PHILIPS NEW MEXICO 23824 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL				
C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO
RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
CONCRETE BOX CULVERT DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C210	C
SCALE	W.O. NO.	SHT. 60 of 83	
	15740.001.003		

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BOX CULVERT NOMINAL DIMENSIONS		HEADWALL AND CUTOFF WALL DIMENSION & GRADE 60 REINFORCING BAR SCHEDULE (BAR SIZE AND NUMBER OF BARS REQUIRED)																					
		0 DEGREE SKEW										15 DEGREE SKEW											
		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"	
SPAN "S" INSIDE	HEIGHT "H" INSIDE	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS
4'	2'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
4'	3'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
4'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
5'	2'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
5'	3'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
5'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
5'	5'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
5'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
6'	2'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
6'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
6'	5'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
6'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
7'	2'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
7'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
7'	5'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
7'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
7'	7'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#7	2	#7	2	#7	2	#4	2	#7	2
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8'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	5'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	7'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	8'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
10'	3'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	4'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	5'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	7'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	8'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	9'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	10'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	11'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	12'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
12'	6'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	7'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	8'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	9'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	10'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	11'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
12'	12'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	14"	#11	3	#10	3	#11	2	#6	2	#11	3
14'	8'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	24"	#11	4	#11	4	#10	3	#8	3	#11	4
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14'	11'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	12'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	13'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	14'	12"	#7	2	#7	2	#7	2	#4	2	#7	2	24"	#11	4	#11	4	#10	3	#8	3	#11	4

BOX CULVERT NOMINAL DIMENSIONS		HEADWALL AND CUTOFF WALL DIMENSION & GRADE 60 REINFORCING BAR SCHEDULE (BAR SIZE AND NUMBER OF BARS REQUIRED)																					
		30 DEGREE SKEW										45 DEGREE SKEW											
		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"	
SPAN "S" INSIDE	HEIGHT "H" INSIDE	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS
4'	2'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#7	2	#7	2	#4	2	#7	2	#7	2
4'	3'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#7	2	#7	2	#4	2	#7	2	#7	2
4'	4'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#7	2	#7	2	#4	2	#7	2	#7	2
5'	2'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
5'	3'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
5'	4'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
5'	5'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
5'	6'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
6'	2'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
6'	4'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
6'	5'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
6'	6'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
7'	2'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
7'	4'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
7'	5'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
7'	6'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
7'	7'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	2'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
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8'	7'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
8'	8'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#8	2	#8	2	#7	2	#4	2	#8	2
10'	3'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	4'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	5'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	6'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
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10'	8'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
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10'	10'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	11'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
10'	12'	12"	#7	2	#7	2	#4	2	#7	2	#7	2	12"	#10	2	#10	2	#8	2	#5	2	#10	2
12'	6'	14"	#11	3	#10	3	#11	2	#6	2	#11	3	14"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	7'	14"	#11	3	#10	3	#11	2	#6	2	#11	3	14"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	8'	14"	#11	3	#10	3	#11	2	#6	2	#11	3	14"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	9'	14"	#11	3	#10	3	#11	2	#6	2	#11	3	14"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	10'	24"	#11	3	#11	3	#11	2	#6	2	#11	3	24"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	11'	24"	#11	3	#11	3	#11	2	#6	2	#11	3	24"	#11	3	#11	3	#9	2	#6	2	#11	3
12'	12'	24"	#11	3	#11	3	#11	2	#6	2	#11	3	24"	#11	3	#11	3	#9	2	#6	2	#11	3
14'	8'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	9'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	10'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	11'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	12'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	13'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4
14'	14'	24"	#11	4	#11	4	#10	3	#8	3	#11	4	24"	#11	4	#11	4	#10	3	#8	3	#11	4

* EXAMPLE OF USE OF THIS TABLE:
PROPOSED STRUCTURE – DOUBLE BARREL, 12 FT. SPAN/10 FT. HEIGHT, CBC WITH 30° SKEW.
USE THE FOLLOWING BUILD INFORMATION FROM THE TABLE ABOVE:

BOX CULVERT NOMINAL DIMENSIONS		HEADWALL AND CUTOFF WALL DIMENSION GRADE 60 REINFORCING BAR SCHEDULE (BAR SIZE AND NUMBER OF BARS REQUIRED)																					
		30 DEGREE SKEW										45 DEGREE SKEW											
		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"		"mm"		"nn"		"pp"		"qq"		"rr"	"ss"	
SPAN "S" INSIDE	HEIGHT "H" INSIDE	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	WIDTH "HEAD WALL"	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS	SIZE	NUMBER OF BARS
12'	10'	24"	#11	3	#11	3	#11	2	#6	2	#11	3	#9	3									

LENGTH OF BARS: THE LENGTH OF "mm", "nn", "rr", "ss", & #3@WD SHALL BE DETERMINED BY:

LENGTH = [[[("wd"+2)+("S"+N)+["wt"+(N-1)]/COS(SKEW ANGLE)] –4" (ROUND DOWN TO NEAREST 'ft')

THESE BARS SHALL BE FURNISHED IN FULL LENGTHS CALCULATED OR BE MECHANICALLY COUPLED BY DEVICES LISTED ON THE NMDOT APPROVED PRODUCTS LIST.

N = NUMBER OF BARRELS (1, 2, 3, OR 4)

"qq" BAR LENGTH = "h" + 5'6"

"pp" BAR = ["h"+(5'–4" MIN. OR ("T1"+"T8"+8") IF LARGER)]–10"+ 2xSTANDARD HOOK LENGTH

FOR EXTENSIONS OF EXISTING CBC'S OF S=5', S=7', AND S=9' SIZE SPANS NOT INCLUDED IN THIS TABLE, USE DIMENSIONS, BAR SIZES, AND NUMBER OF BARS FOR NEXT GREATER SPAN TO BUILD. FOR EXAMPLE, FOR S=8' USE DIMENSIONS AND BAR DETAILS FROM THE TABLE FOR S=9'. USE S=5' IN FORMULAS TO DETERMINE LENGTH OF BARS "mm", "nn", "ss", "rr", AND #3@WS. ANY OTHER SIZE OF BOX EXTENSIONS NOT COVERED BY THIS MODIFICATION SHALL BE DONE THROUGH SPECIAL DESIGNS INCLUDED IN THE PROJECT PLANS.

NOTE:
THIS TABLE IS FOR USE WITH ONE TO FOUR BARRELS. FOR FIVE OR MORE BARRELS USE COMBINATIONS OF ONE TO FOUR BARRELS REPEATING THIS DESIGN.

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

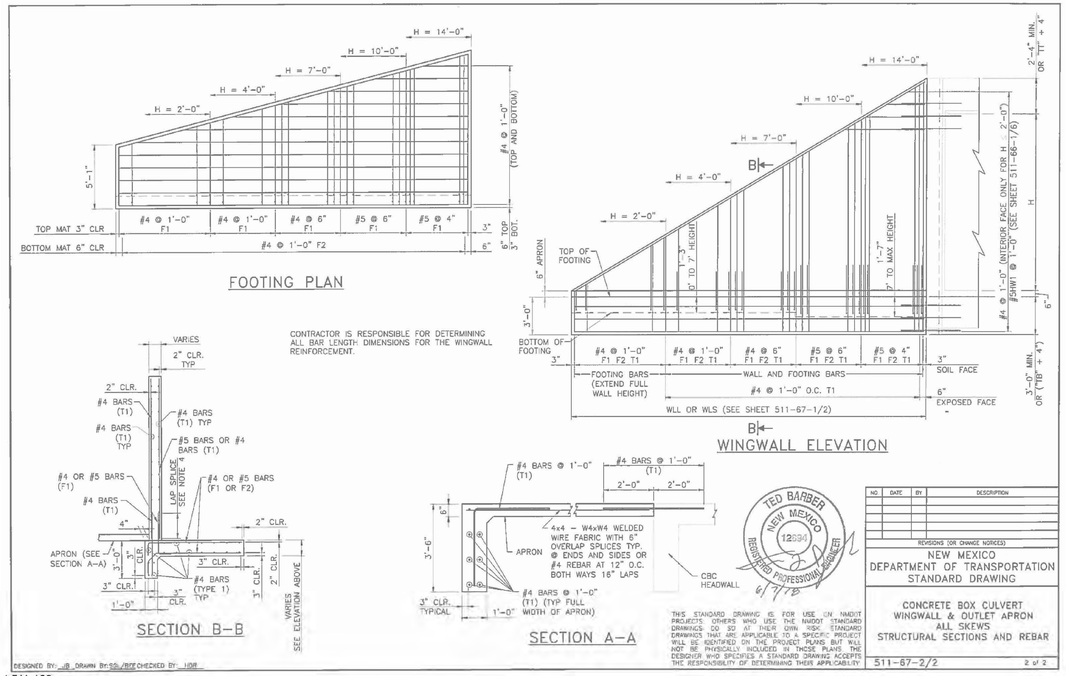
NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

CONCRETE BOX CULVERT HEADWALL
ALL DESIGN FILLS–0' 15° 30° 45°
SKEWS DIMS. AND REBAR SCHEDULE

APPROVED _____ DATE 4-24-07
HIGHWAY ENGINEER

DESIGNED BY TLB DRAWN BY SGL CHECKED BY HDR

511–66–2/6 2 OF 6



FOOTING PLAN

CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL BAR LENGTH DIMENSIONS FOR THE WINGWALL REINFORCEMENT.

WINGWALL ELEVATION

SECTION B–B

SECTION A–A

THIS STANDARD DRAWING IS FOR USE ON NMDOT PROJECTS. OTHERS WHO USE THE NMDOT STANDARD DRAWINGS DO SO AT THEIR OWN RISK. STANDARD DRAWINGS THAT ARE APPLICABLE TO A SPECIFIC PROJECT WILL BE IDENTIFIED ON THE PROJECT PLANS BUT WILL NOT BE PHYSICALLY INCLUDED IN THOSE PLANS. THE DESIGNER WHO SPECIFIES A STANDARD DRAWING ACCEPTS THE RESPONSIBILITY OF DETERMINING THEIR APPLICABILITY.

TED BARBER NEW MEXICO 12396 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

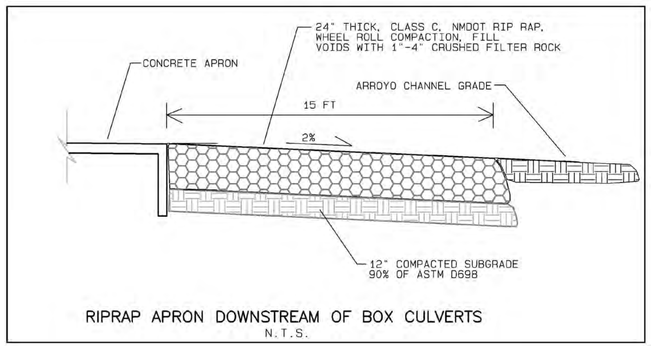
CONCRETE BOX CULVERT
WINGWALL & OUTLET APRON
ALL SKEWS
STRUCTURAL SECTIONS AND REBAR

511–67–2/2 2 of 2

DESIGNED BY: JB DRAWN BY: SG/BDF CHECKED BY: HDR

* 511-102

NMDOT CBC SHEET 136



RIPRAP APRON DOWNSTREAM OF BOX CULVERTS
N.T.S.

NOTE: TOP OF PARAPET WALL AND TOP OF WING WALL MAY BE TALLER THAN THE STANDARD DETAIL SHOWS. REFER TO GRADING PLAN FOR TOP-OF-WALL ELEVATIONS. VERTICAL WALL EXTENSIONS WILL HAVE THE SAME REBAR PATTERN AS THE WALL BELOW.

NMDOT CBC SHEET 141

CHRISTOPHER S. PHILIPS NEW MEXICO 21824 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL				
C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

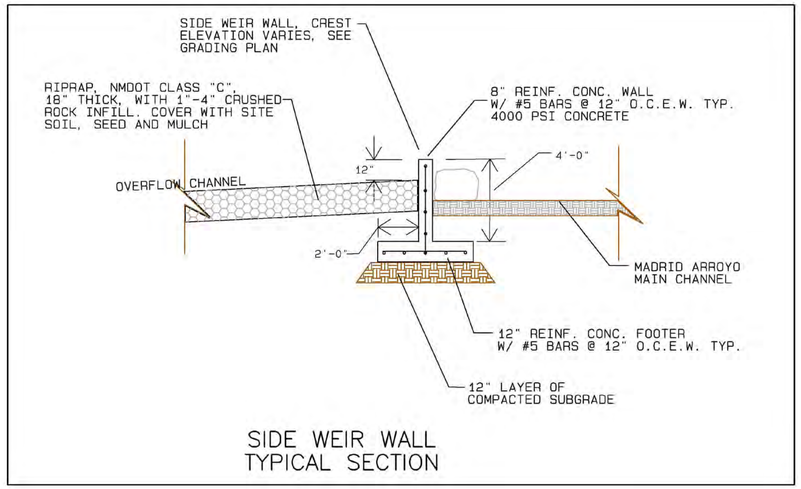
RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

CHECKED	CP	10/31/24	CLIENT APPROVALS	DATE
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

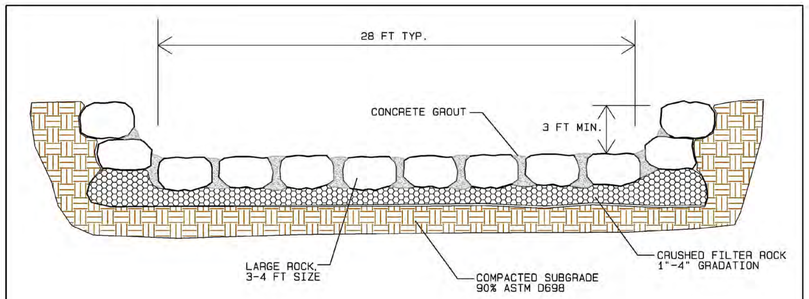
MADRID ARROYO
CONCRETE STRUCTURE DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C211	C
SCALE	W.O. NO.	SHT. 61 of 83	
	15740.001.003		

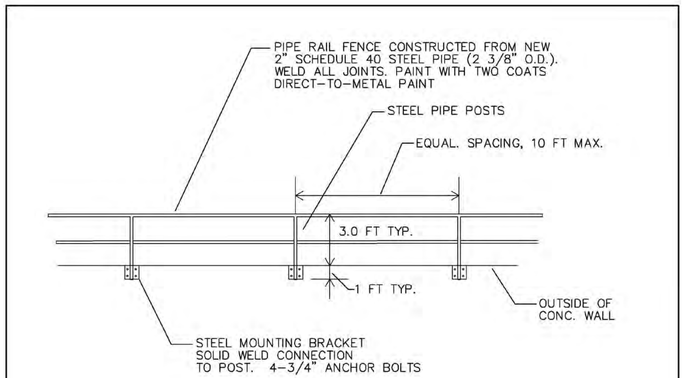
C:\Users\waters\Weston Solutions, Inc\Engineering Community - AutoCAD\Projects\MADRID STORM\WATER\RIVERBEND 100% FINAL.dwg October 30, 2024 - 11:44am



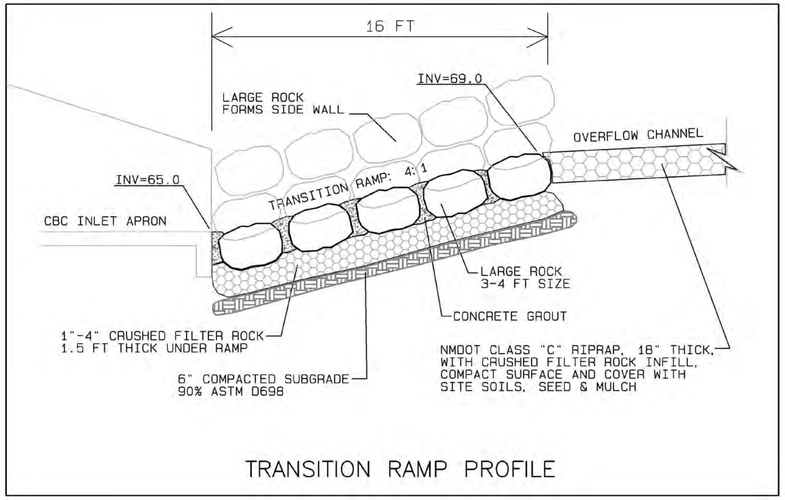
SIDE WEIR WALL
TYPICAL SECTION



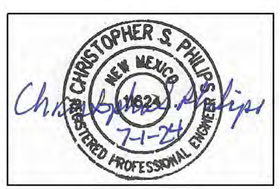
TRANSITION RAMP CROSS SECTION



PIPE RAILING, TYPICAL DETAIL



TRANSITION RAMP PROFILE



NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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MADRID ARROYO
CAVE ROAD CROSSING DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C212	C
SCALE	W.O. NO. 15740.001.003	SHT. 62 of 83	

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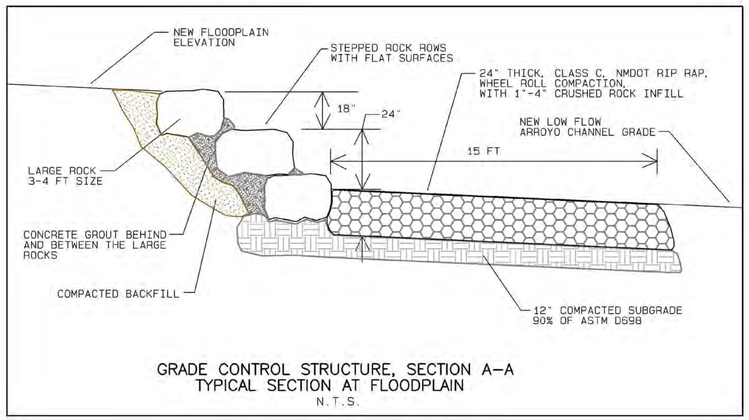
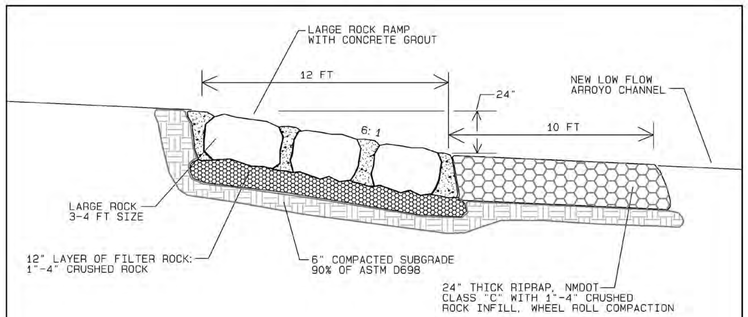
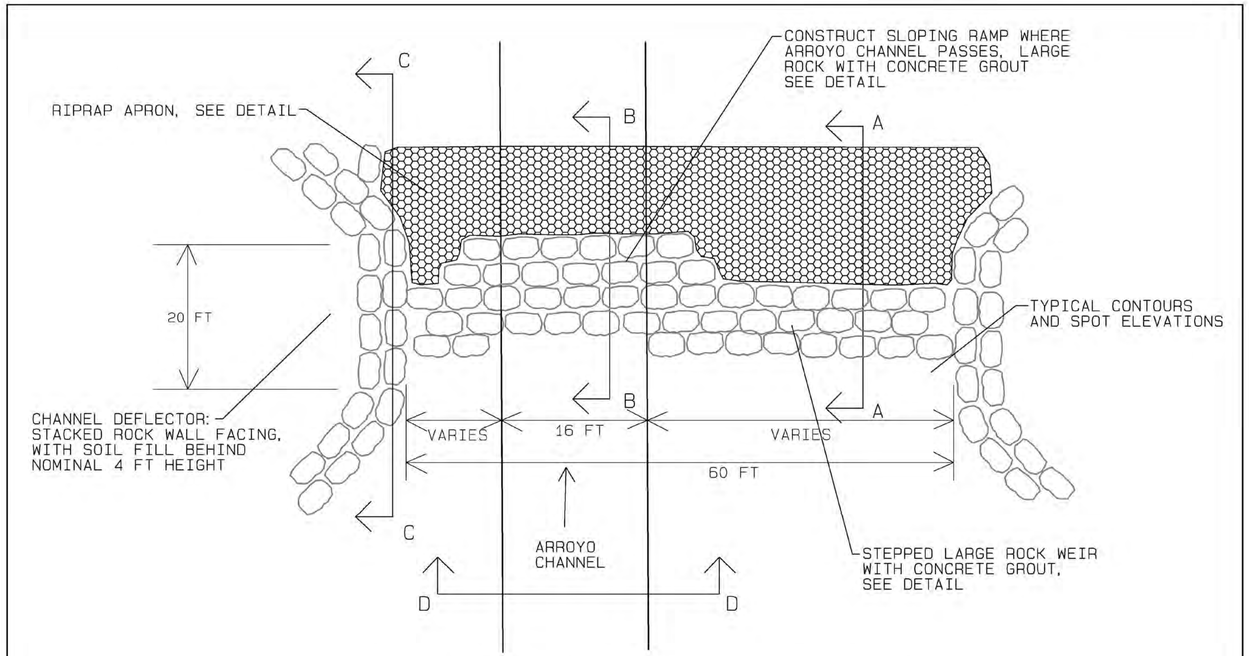


GRADE CONTROL STRUCTURE, SECTION A–A
TYPICAL SECTION AT FLOODPLAIN
N.T.S.



GRADE CONTROL STRUCTURE, SECTION B–B
TYPICAL SECTION AT ARROYO CHANNEL
N.T.S.



MAIN ARROYO GRADE CONTROL STRUCTURE, PLAN VIEW

NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
GRADE CONTROL STRUCTURE DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C213	C
SCALE	W.O. NO.	SHT. 63 of 83	
	15740.001.003		

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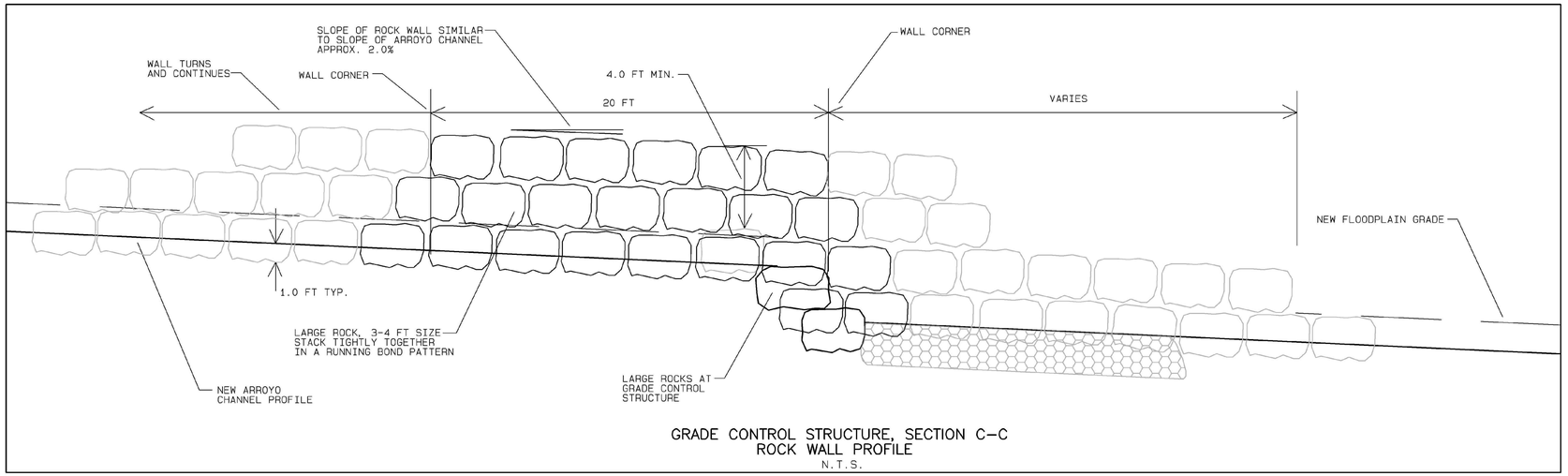
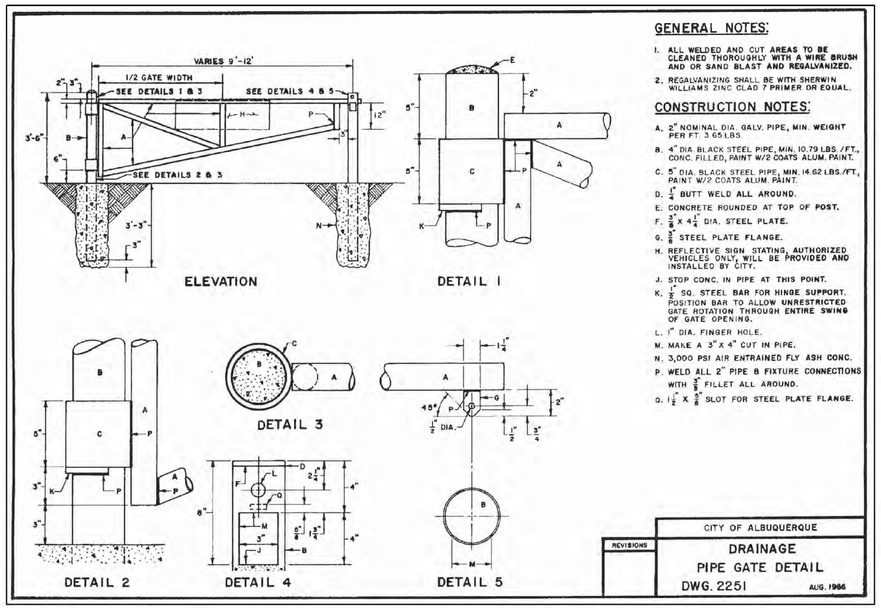


GRADE CONTROL STRUCTURE, SECTION C–C
ROCK WALL PROFILE
N.T.S.



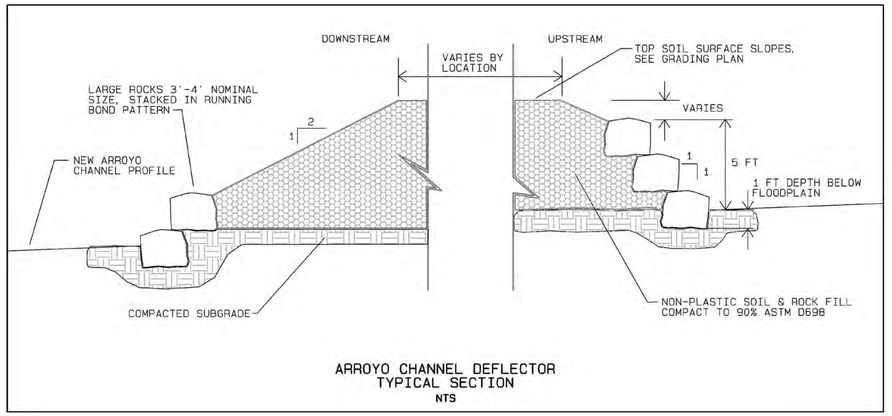
GENERAL NOTES:

1. ALL WELDED AND CUT AREAS TO BE CLEANED THOROUGHLY WITH A WIRE BRUSH AND OR SAND BLAST AND REGALVANIZED.
2. REGALVANIZING SHALL BE WITH SHERWIN WILLIAMS ZINC CLAD 7 PRIMER OR EQUAL.

CONSTRUCTION NOTES:

A. 2" NOMINAL DIA. GALV. PIPE, MIN. WEIGHT PER FT. 3.65 LBS.
B. 4" DIA. BLACK STEEL PIPE, MIN. 10.79 LBS. /FT., CONC. FILLED, PAINT W/2 COATS ALUM. PAINT.
C. 5" DIA. BLACK STEEL PIPE, MIN. 14.62 LBS./FT., PAINT W/2 COATS ALUM. PAINT.
D. $\frac{1}{4}$" BUTT WELD ALL AROUND.
E. CONCRETE ROUNDED AT TOP OF POST.
F. $\frac{3}{8}$" x 4$\frac{1}{2}$" DIA. STEEL PLATE.
G. $\frac{3}{8}$" STEEL PLATE FLANGE.
H. REFLECTIVE SIGN STATING, AUTHORIZED VEHICLES ONLY, WILL BE PROVIDED AND INSTALLED BY CITY.
J. STOP CONC. IN PIPE AT THIS POINT.
K. $\frac{1}{2}$" SQ. STEEL BAR FOR HINGE SUPPORT. POSITION BAR TO ALLOW UNRESTRICTED GATE ROTATION THROUGH ENTIRE SWING OF GATE OPENING.
L. 1" DIA. FINGER HOLE.
M. MAKE A 3" X 4" CUT IN PIPE.
N. 3,000 PSI AIR ENTRAINED FLY ASH CONC.
P. WELD ALL 2" PIPE & FIXTURE CONNECTIONS WITH $\frac{3}{8}$" FILLET ALL AROUND.
Q. 1$\frac{1}{2}$" X $\frac{3}{8}$" SLOT FOR STEEL PLATE FLANGE.

REVISIONS	CITY OF ALBUQUERQUE DRAINAGE PIPE GATE DETAIL DWG. 2251 AUG. 1986



ARROYO CHANNEL DEFLECTOR
TYPICAL SECTION
NTS

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

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C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

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PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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APPROVED				

MADRID ARROYO
GRADE CONTROL STRUCTURE DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C214	C
SCALE	W.O. NO.	SHT. 64 of 83	
	15740.001.003		

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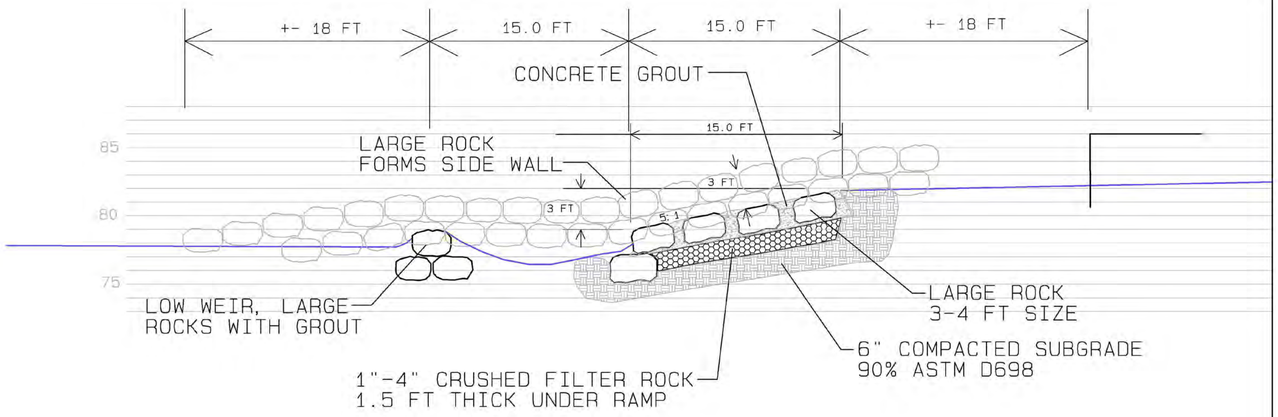
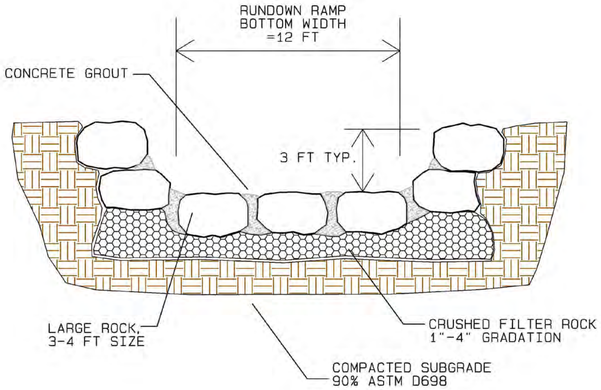
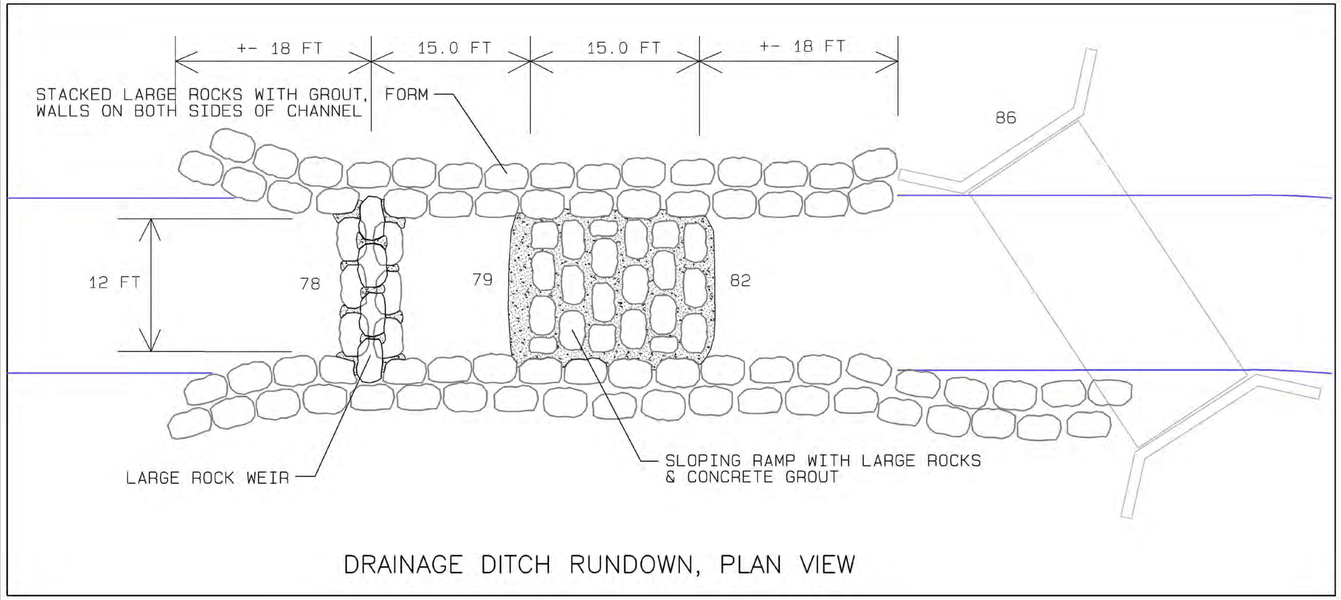


DRAINAGE DITCH RUNDOWN, PROFILE VIEW



DRAINAGE CHANNEL RUNDOWN
TYPICAL SECTION



DRAINAGE DITCH RUNDOWN, PLAN VIEW

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

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PROJ. MGR.	RE	10/31/24		
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MADRID ARROYO
DRAINAGE DITCH RUNDOWN
PLAN, PROFILE, SECTION

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C215	C
SCALE	W.O. NO.	SHT. 65 of 83	
	15740.001.003		

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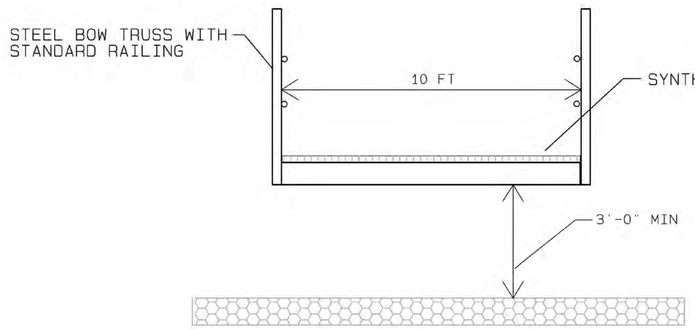
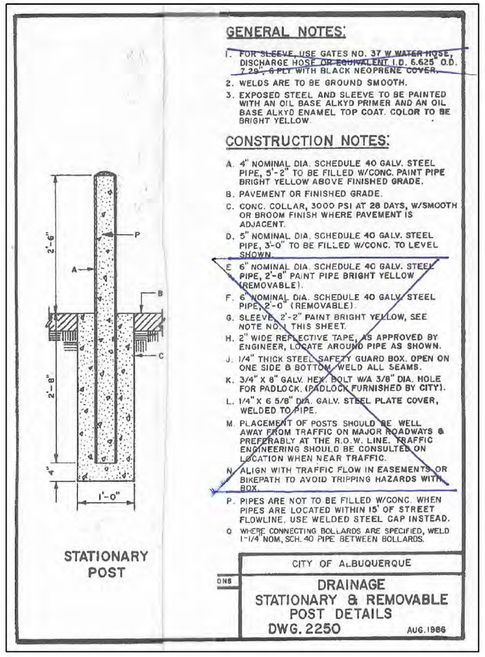


PEDESTRIAN BRIDGE SECTION

NTS



GENERAL NOTES:

1. FOR SLEEVE, USE GATES NO. 37 W.WATER HOSE, DISCHARGE HOSE OR EQUIVALENT I.D. 6.625" O.D. 7.20, 6 PLY WITH BLACK NEOPRENE COVER.
2. WELDS ARE TO BE GROUND SMOOTH.
3. EXPOSED STEEL AND SLEEVE TO BE PAINTED WITH AN OIL BASE ALKYD PRIMER AND AN OIL BASE ALKYD ENAMEL TOP COAT. COLOR TO BE BRIGHT YELLOW.

CONSTRUCTION NOTES:

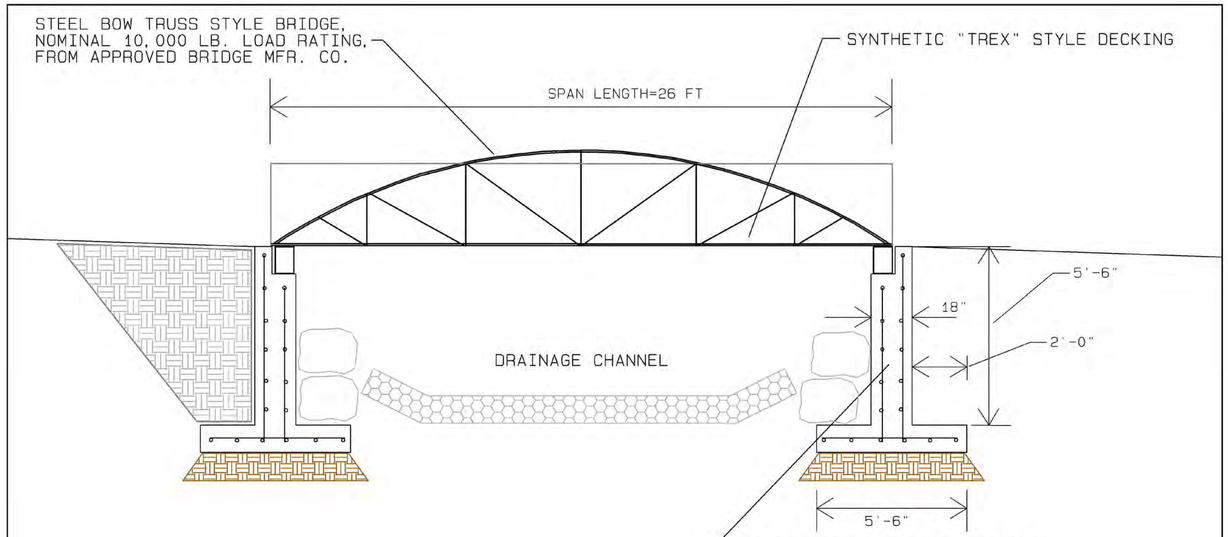
A. 4" NOMINAL DIA. SCHEDULE 40 GALV. STEEL PIPE, 5'-2" TO BE FILLED W/CONC. PAINT PIPE BRIGHT YELLOW ABOVE FINISHED GRADE.
B. PAVEMENT OR FINISHED GRADE.
C. CONC. COLLAR, 3000 PSI AT 28 DAYS, W/SMOOTH OR BROOM FINISH WHERE PAVEMENT IS ADJACENT.
D. 5" NOMINAL DIA. SCHEDULE 40 GALV. STEEL PIPE, 3'-0" TO BE FILLED W/CONC. TO LEVEL SHOWN.
E. 6" NOMINAL DIA. SCHEDULE 40 GALV. STEEL PIPE, 2'-8" PAINT PIPE BRIGHT YELLOW (REMOVABLE).
F. 6" NOMINAL DIA. SCHEDULE 40 GALV. STEEL PIPE, 2'-0" (REMOVABLE).
G. SLEEVE, 2'-2" PAINT BRIGHT YELLOW, SEE NOTE NO.1 THIS SHEET.
H. 2" WIDE REFLECTIVE TAPE, AS APPROVED BY ENGINEER, LOCATE AROUND PIPE AS SHOWN.
J. 1/4" THICK STEEL SAFETY GUARD BOX. OPEN ON ONE SIDE & BOTTOM. WELD ALL SEAMS.
K. 3/4" X 8" GALV. HEX. BOLT W/A 3/8" DIA. HOLE FOR PADLOCK (PADLOCK FURNISHED BY CITY).
L. 1/4" X 6 5/8" DIA. GALV. STEEL PLATE COVER, WELDED TO PIPE.
M. PLACEMENT OF POSTS SHOULD BE WELL AWAY FROM TRAFFIC ON MAJOR ROADWAYS & PREFERABLY AT THE R.O.W. LINE. TRAFFIC ENGINEERING SHOULD BE CONSULTED ON LOCATION WHEN NEAR TRAFFIC.
N. ALIGN WITH TRAFFIC FLOW IN EASEMENTS OR BIKEPATH TO AVOID TRIPPING HAZARDS WITH BOX.
P. PIPES ARE NOT TO BE FILLED W/CONC. WHEN PIPES ARE LOCATED WITHIN 15' OF STREET FLOWLINE, USE WELDED STEEL CAP INSTEAD.
Q. WHERE CONNECTING BOLLARDS ARE SPECIFIED, WELD 1-1/4 NOM. SCH. 40 PIPE BETWEEN BOLLARDS.

STATIONARY POST

CITY OF ALBUQUERQUE

DRAINAGE
STATIONARY & REMOVABLE
POST DETAILS
DWG. 2250

DNS AUG. 1986



PEDESTRIAN BRIDGE SECTION

NTS

CHRISTOPHER S. PHILIPS
NEW MEXICO
11624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

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MADRID ARROYO
PEDESTRIAN BRIDGE DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C216	C
SCALE	W.O. NO. 15740.001.003	SHT. 66 of 83	

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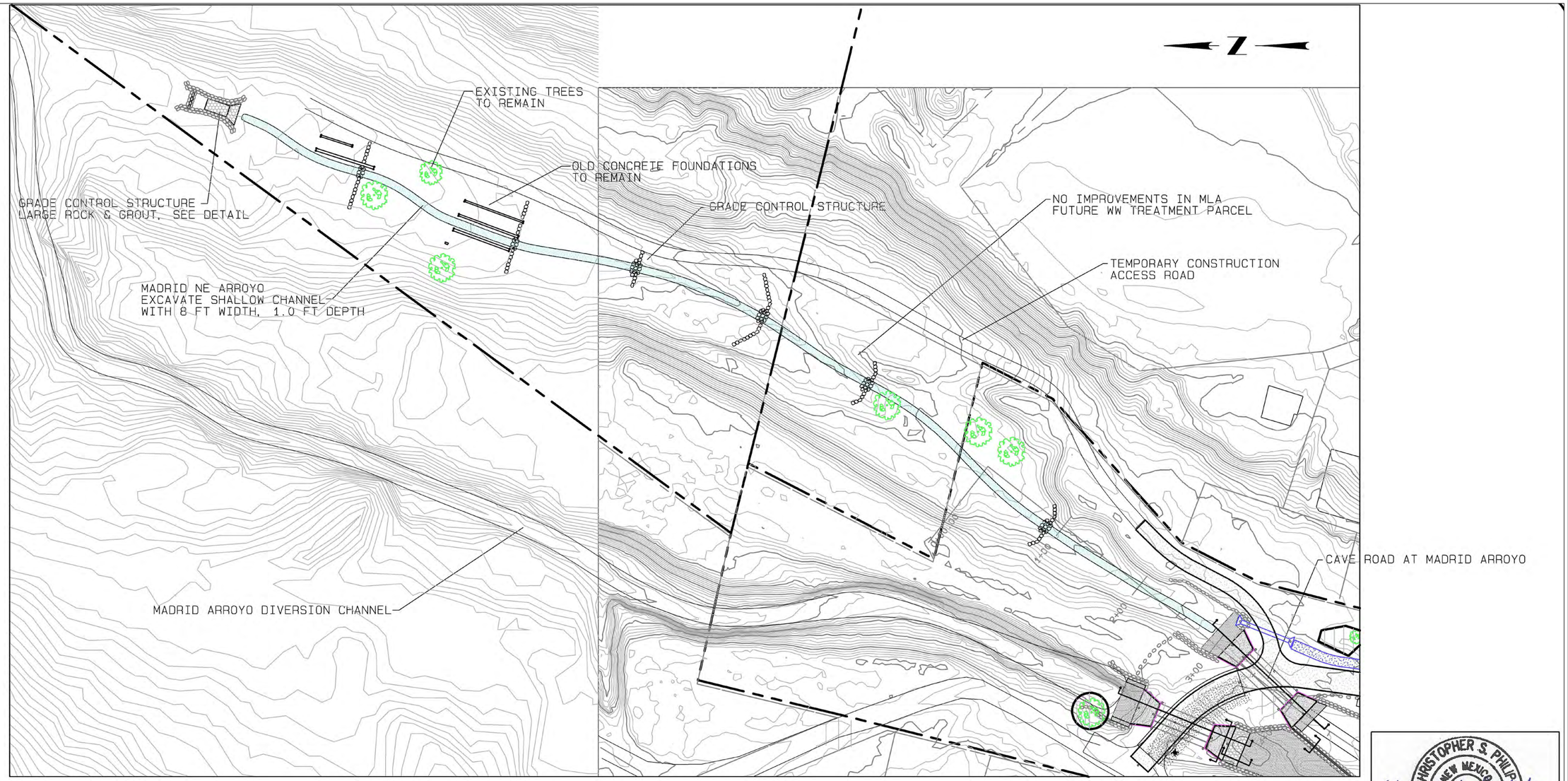

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

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MADRID ARROYO
TYPICAL SECTIONS
ROAD,TRAIL, ARROYO

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C217	C
SCALE	W.O. NO.	SHT. 67 of 83	
	15740.001.003		

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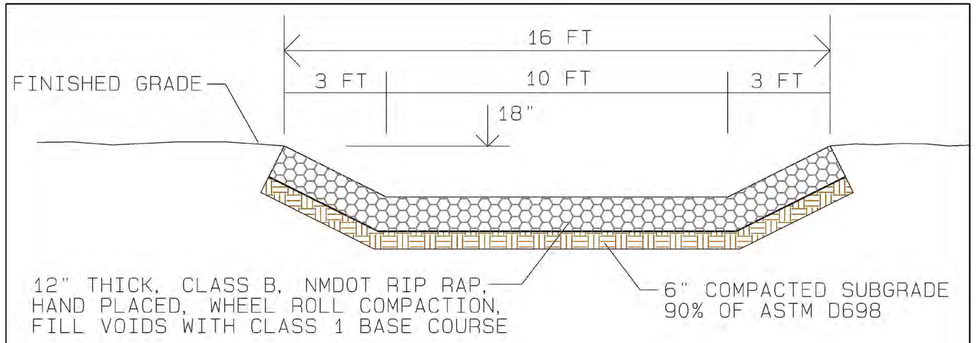
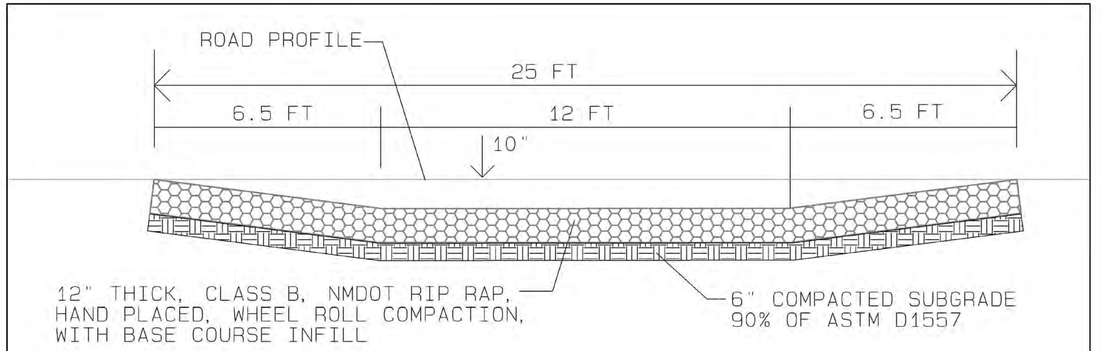
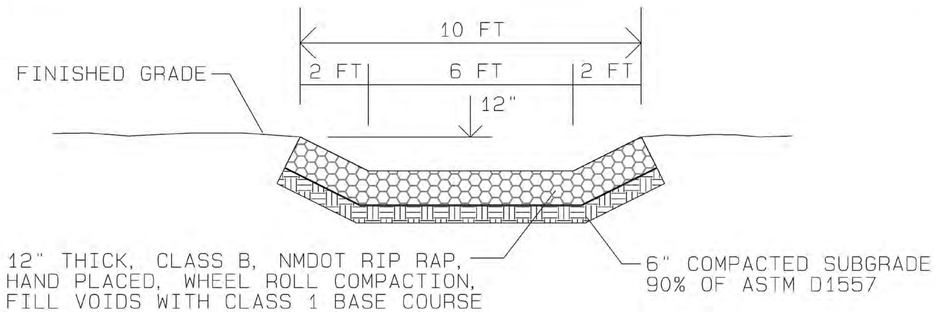


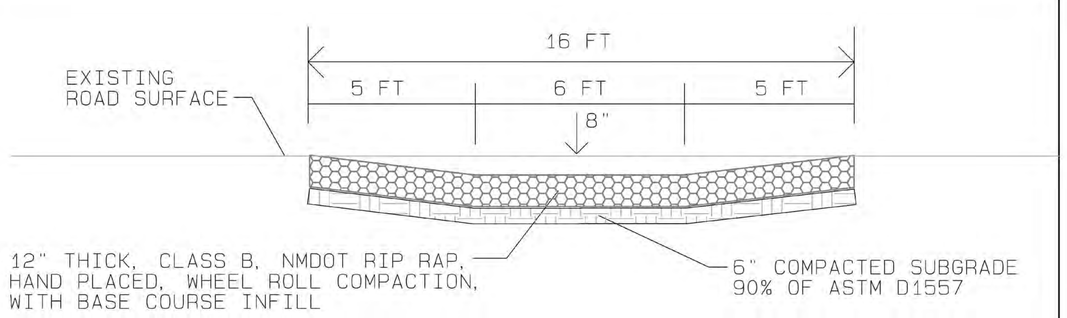
RIP RAP LINED DRAINAGE CHANNEL, LARGE VERSION
TYPICAL SECTION
NTS



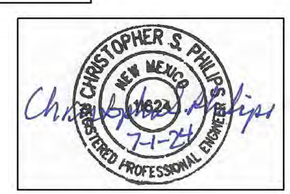
RIP RAP LINED CROSS-ROAD SWALE, LARGE VERSION
TYPICAL SECTION
CROSS SLOPE=1.0-1.5%



RIP RAP LINED DRAINAGE CHANNEL, SMALL VERSION
TYPICAL SECTION
NTS



RIP RAP LINED CROSS-ROAD SWALE, SMALL VERSION
TYPICAL SECTION
NTS
CROSS SLOPE=1.0-1.5%



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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

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MADRID ARROYO
TYPICAL SECTIONS
DRAINAGE DITCHES AND CROSS-ROAD SWALES

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C218	C
SCALE	W.O. NO. 15740.001.003	SHT. 68 of 83	

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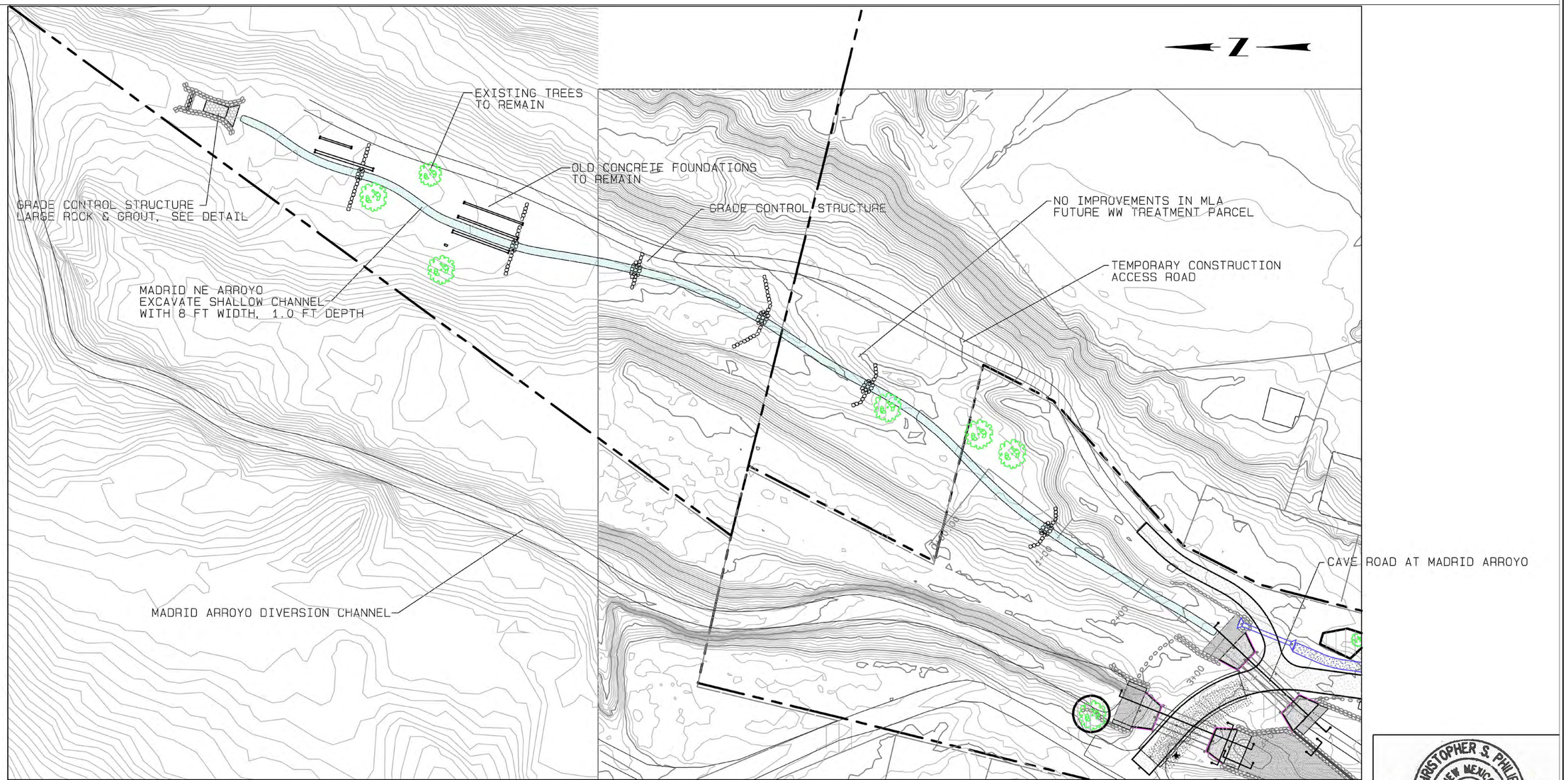

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

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VILLAGE OF MADRID, NM
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APPROVED				

MADRID ARROYO
NE ARROYO IMPROVEMENTS
SITE PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C219	C
SCALE	W.O. NO. 15740.001.003	SHT. 69 of 83	

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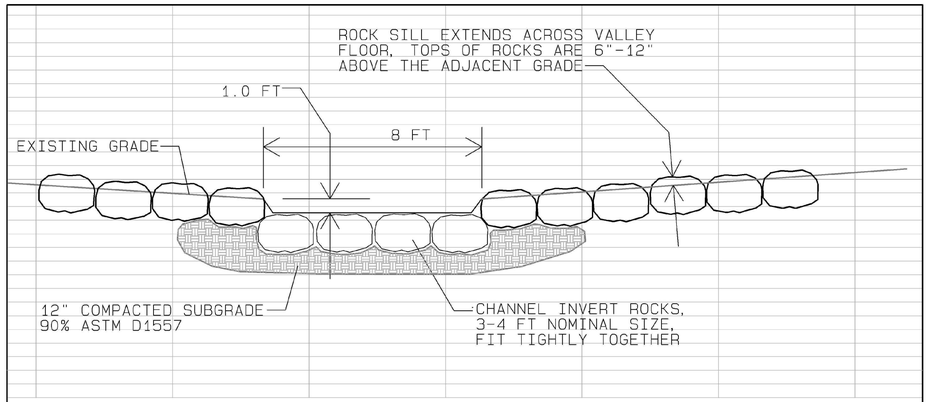
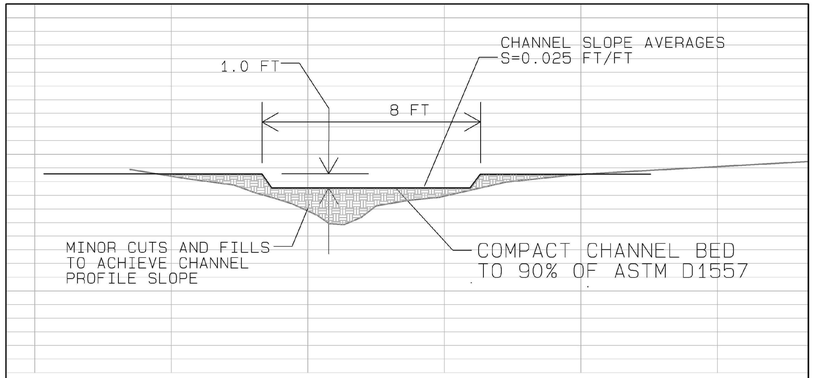
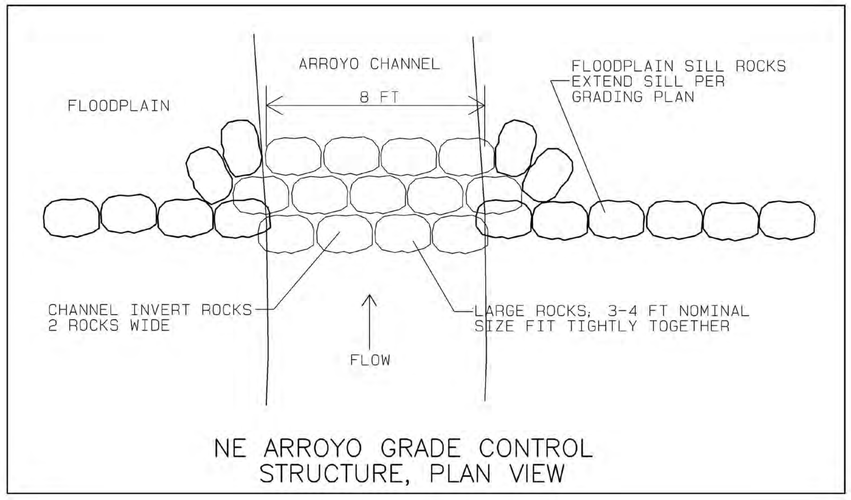


NE ARROYO GRADE CONTROL STRUCTURE, TYPICAL SECTION



NE ARROYO CHANNEL, TYPICAL SECTION



NE ARROYO GRADE CONTROL STRUCTURE, PLAN VIEW

CHRISTOPHER S. PHILIPS NEW MEXICO 21624 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

CHECKED	CP	10/31/24	
DES. ENG.	CP	10/31/24	
PROJ. ENG.	CP	10/31/24	
PROJ. MGR.	RE	10/31/24	
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APPROVED			

CLIENT APPROVALS — DATE

MADRID ARROYO
NE ARROYO IMPROVEMENTS
CHANNEL DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C220	C
SCALE	W.O. NO. 15740.001.003	SHT. 70 of 83	

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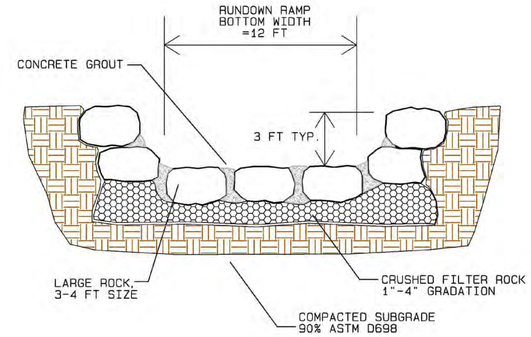
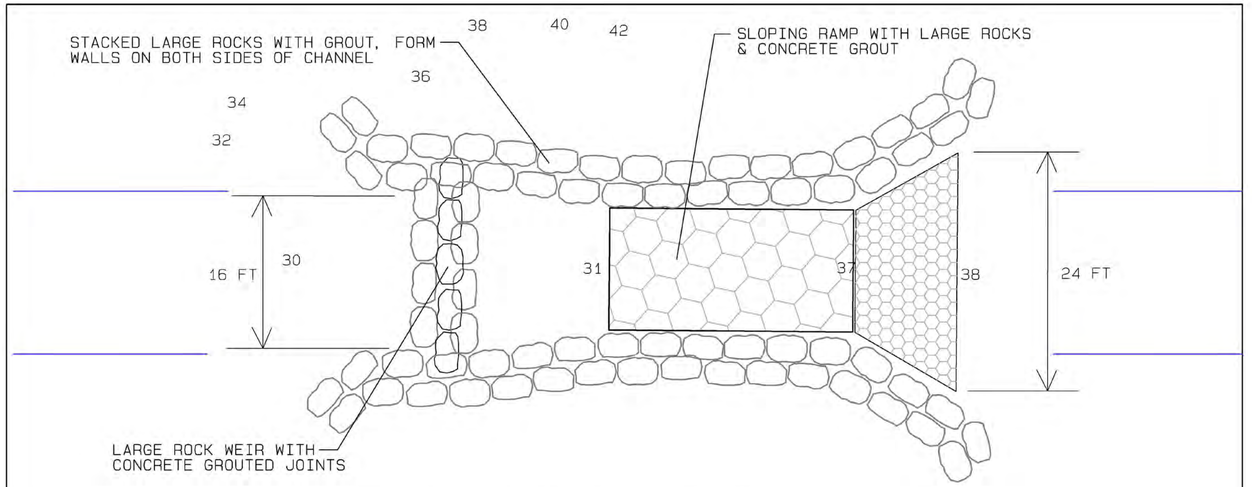
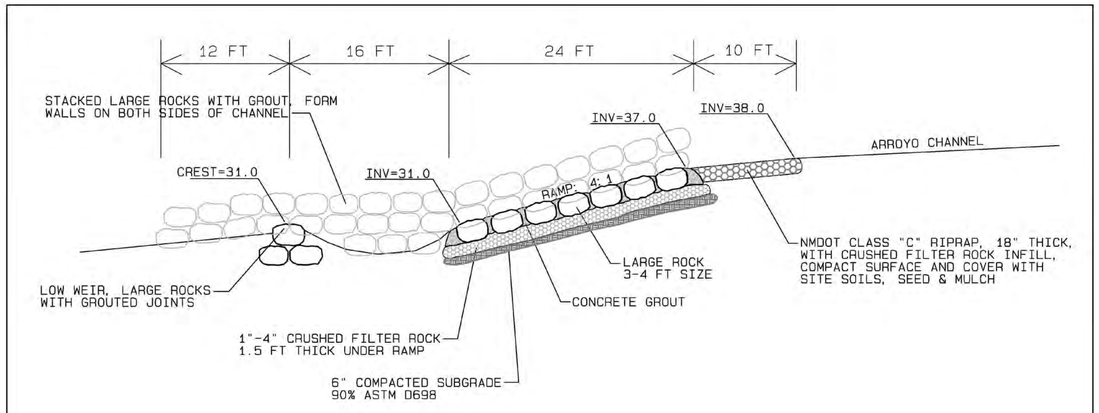


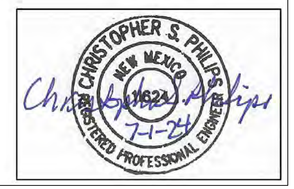
ARROYO GRADE CONTROL STRUCTURE
TYPICAL SECTION



ARROYO GRADE CONTROL STRUCTURE, PLAN VIEW



ARROYO GRADE CONTROL STRUCTURE, PROFILE



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NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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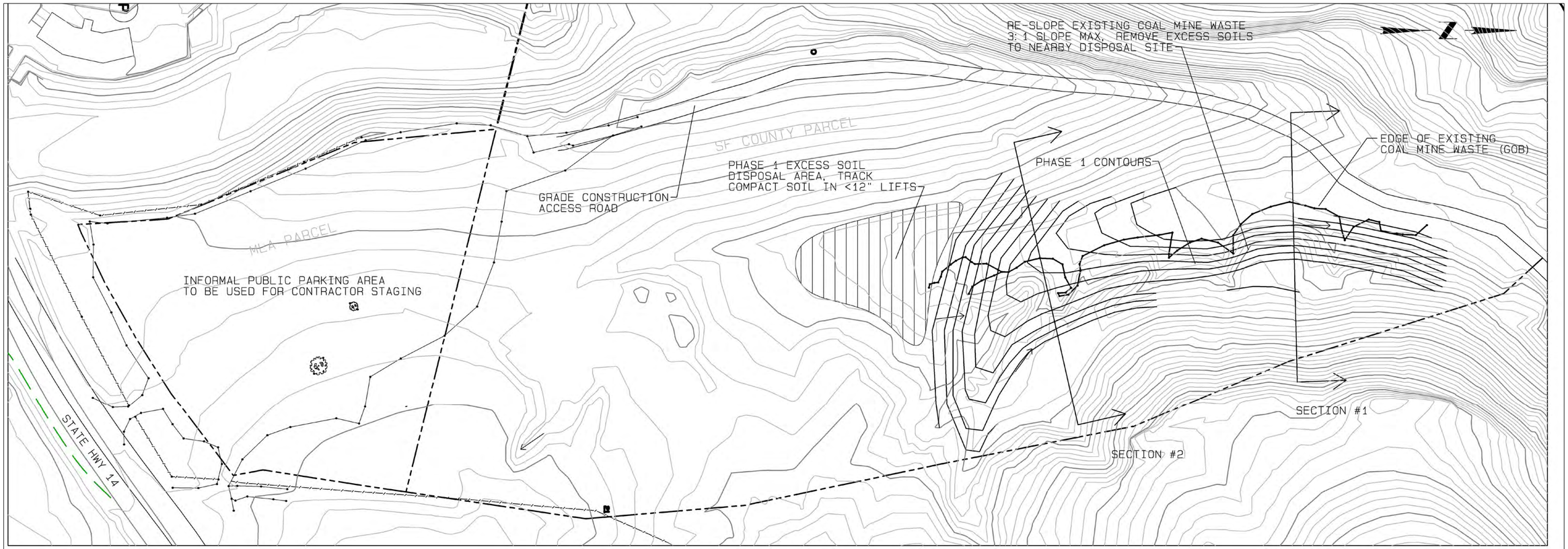
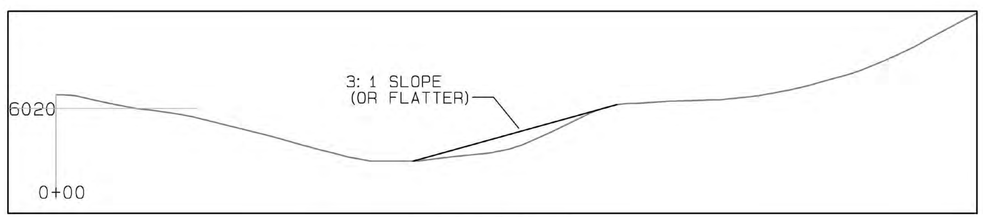
MADRID ARROYO
NE ARROYO IMPROVEMENTS
GRADE CONTROL STRUCTURE

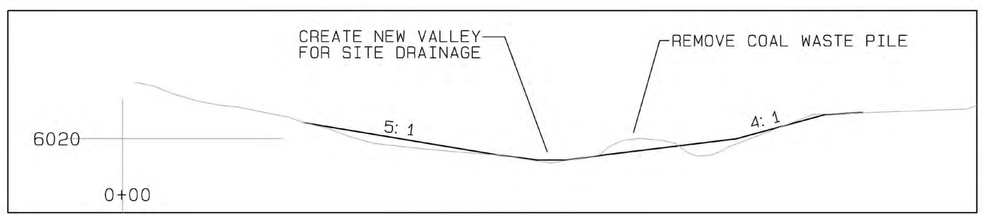
DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C221	C
SCALE	W.O. NO.	SHT. 71 of 83	
	15740.001.003		



PHASE 1 SITE PLAN



SECTION 1



SECTION 2

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

CHECKED	CP	10/31/24	CLIENT APPROVALS	DATE
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
PHASE 1 SITE PLAN, SOIL GRADING, AND CONTRACTOR STAGING AREA

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C222	C
SCALE	W.O. NO. 15740.001.003	SHT. 72 of 83	

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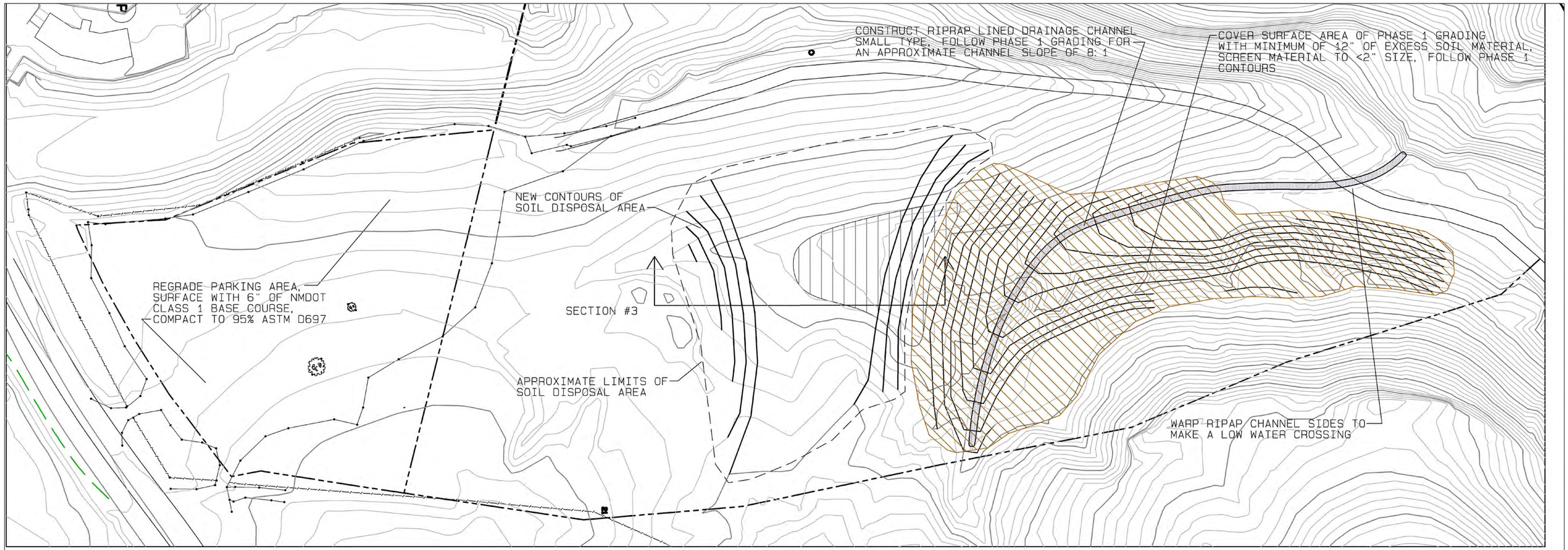
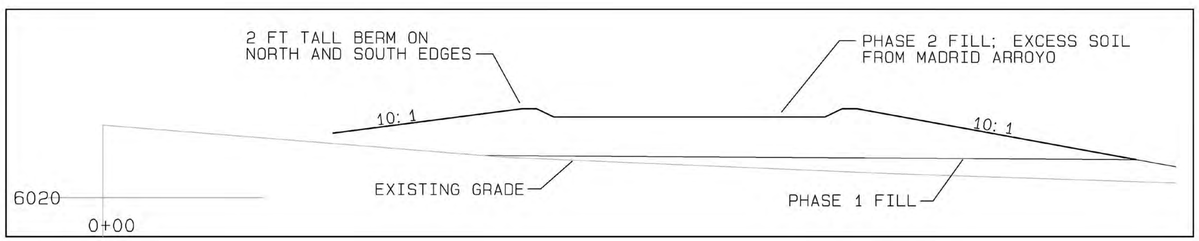


NOTE: THE FINAL ELEVATION OF THE PHASE 2 SOIL FILL WILL HAVE TO BE ADJUSTED TO MEET FIELD CONDITIONS. THE QUANTITY OF SOIL ACTUALY REMOVED FROM MADRID ARROYO AND OTHER PROJECT AREAS, THE QUANTITY OF FILL NEEDED TO COVER THE PHASE 1 GRADING, SOIL SHRINK, ETC. WILL AFFECT THE FINAL EXCESS SOIL GRADES, UP OR DOWN.



SECTION 3

CHRISTOPHER S. PHILIPS NEW MEXICO 17623 REGISTERED PROFESSIONAL ENGINEER
7-1-24

NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	CP	10/31/24		
DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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APPROVED				

MADRID ARROYO
PHASE 2 SITE PLAN, SOIL GRADING, AND CONTRACTOR STAGING AREA

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C223	C
SCALE	W.O. NO.	SHT. 73 of 83	
	15740.001.003		

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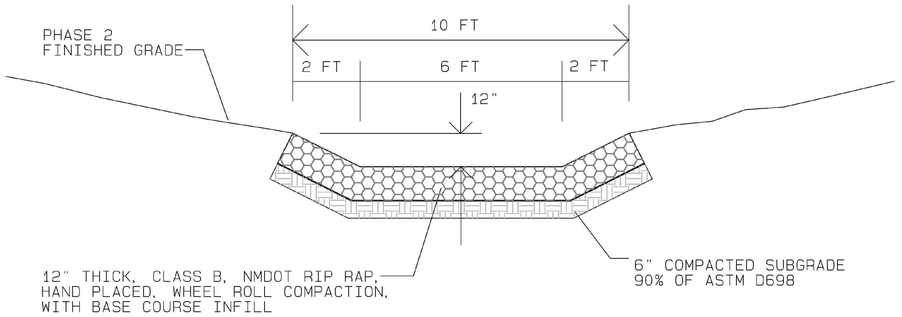

RIP RAP LINED DRAINAGE CHANNEL, SMALL VERSION

TYPICAL SECTION

NTS

CHRISTOPHER S. PHILIPS
NEW MEXICO
21624
REGISTERED PROFESSIONAL ENGINEER
7-1-24

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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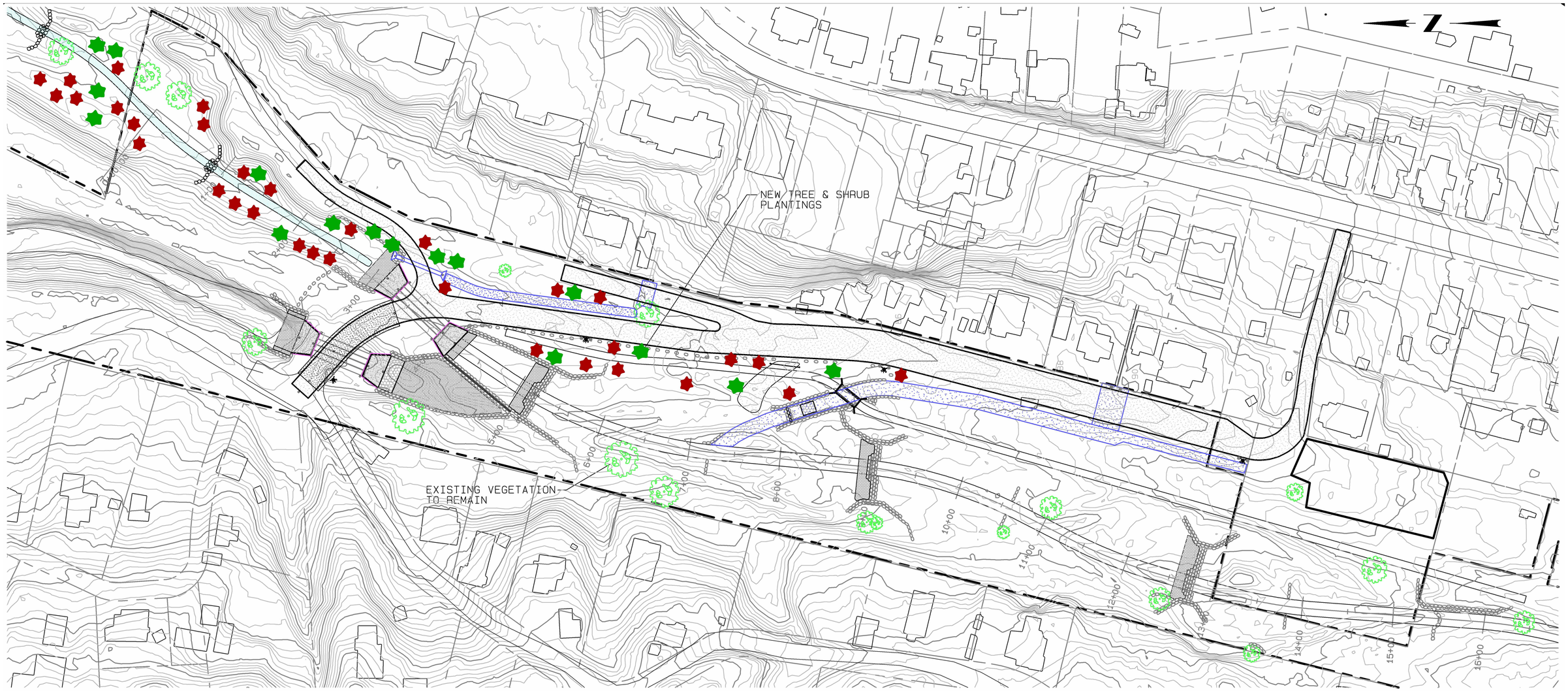
APPROVED				

MADRID ARROYO
SOIL DISPOSAL AREA
CONSTRUCTION DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C224	C
SCALE	W.O. NO.	SHT. 74 of 83	
	15740.001.003		



PLANTING LEGEND

- SUMAC OR OAK TREE
- PINON TREE

0 50' 100' 200'

DBS&A
a Geo-Logic Company

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

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PROJ. MGR.	RE	10/31/24		
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APPROVED				

MADRID ARROYO
PLANTING PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C225	C
SCALE	W.O. NO.	SHT. 75 of 83	
	15740.001.003		

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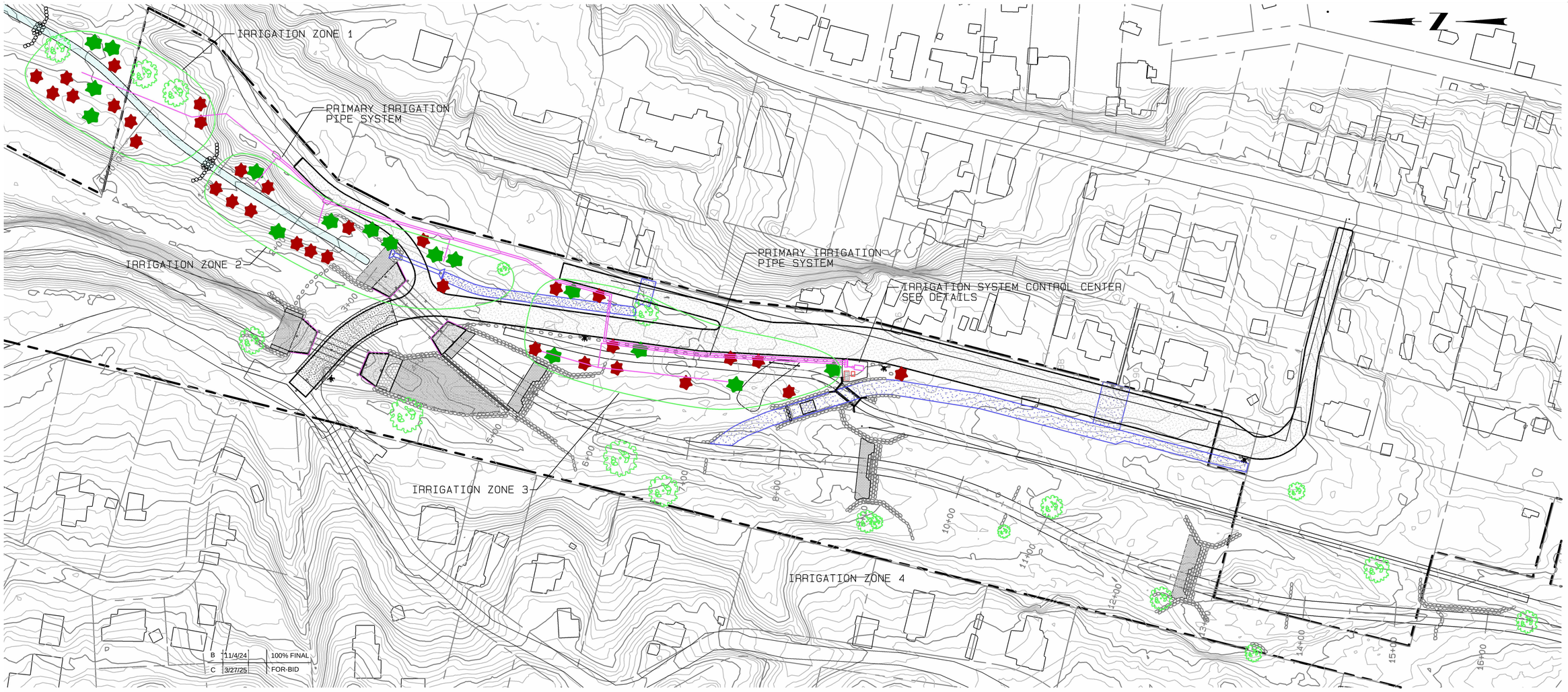

CHRISTOPHER S. PHILIPS
NEW MEXICO
3-19-25
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
IRRIGATION PLAN

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C226	C
SCALE	W.O. NO.	SHT. 76 of 83	
	15740.001.003		

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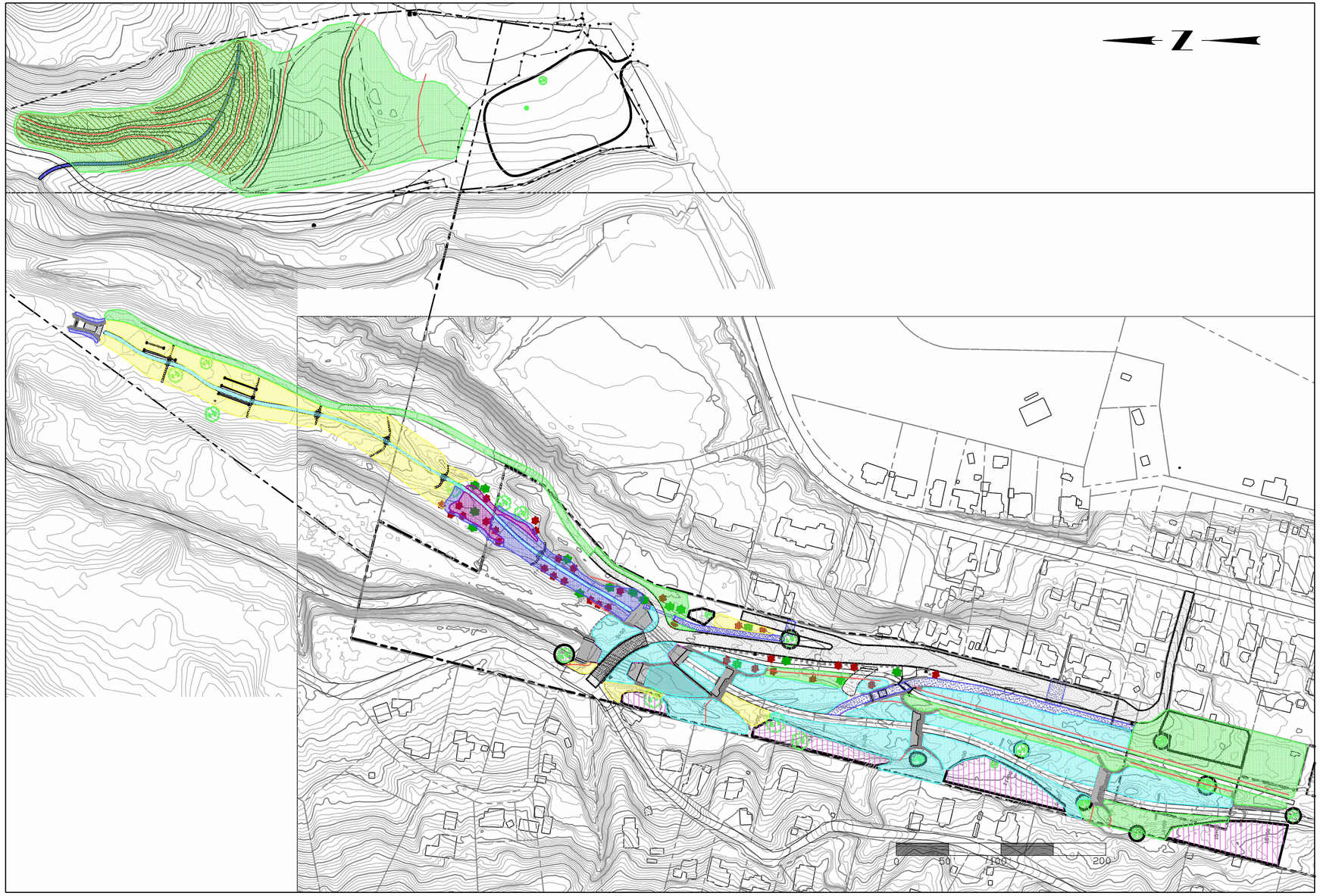
NOTES:

1) SEED QUANTITIES IN THE BID FORM HAVE BEEN INCREASED UNIFORMLY BY 10% OVER NEAT LINE QUANTITIES. THIS IS INTENDED TO ACCOUNT FOR THE APPLICATION OF SEED & MULCH IN MANY SMALL ZONES THAT ARE NOT EXPRESSLY SHOWN ON THE PLANS.
2) A MORE DETAILED VERSION OF THE SEEDING PLAN MAY BE OBTAINED FROM THE ENGINEER UPON REQUEST.

SEEDING TYPE KEY

- Type A seeding, upland mix
- Type B seeding, higher soil moisture
- Type C seeding, shade adapted mix
- Type D seeding, mix of types A & B
- Type E seeding, mix of types B & C
- Type F seeding, type A mix, no mulch
- Straw Wattle locations

Note: Areas of Types A, B, C, D & E will all require hydromulch application



0 100' 200' 400'

DBS&A
A Geo-Logic Company

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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
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DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
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MADRID ARROYO
SEEDING PLAN
SEED TYPE OVERVIEW

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C227	C
SCALE	W.O. NO.	SHT. 77 of 83	
	15740.001.003		

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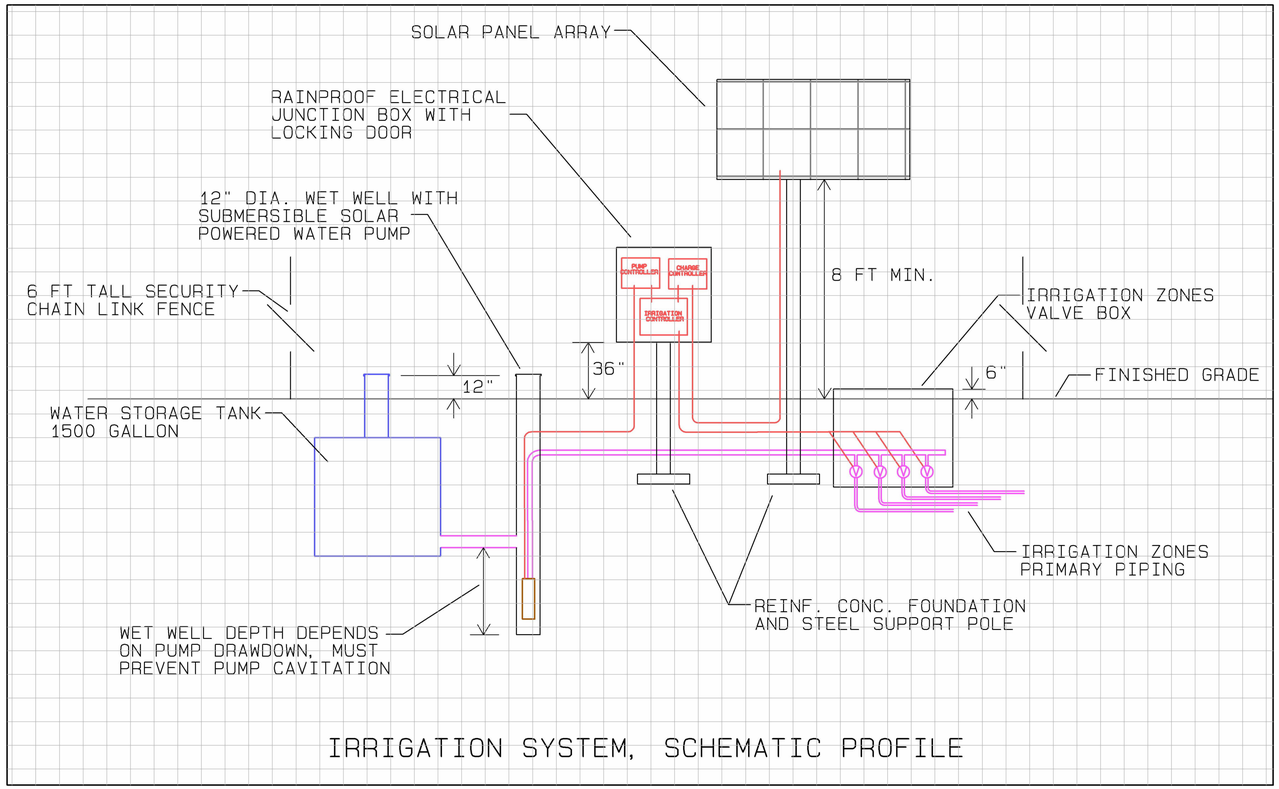
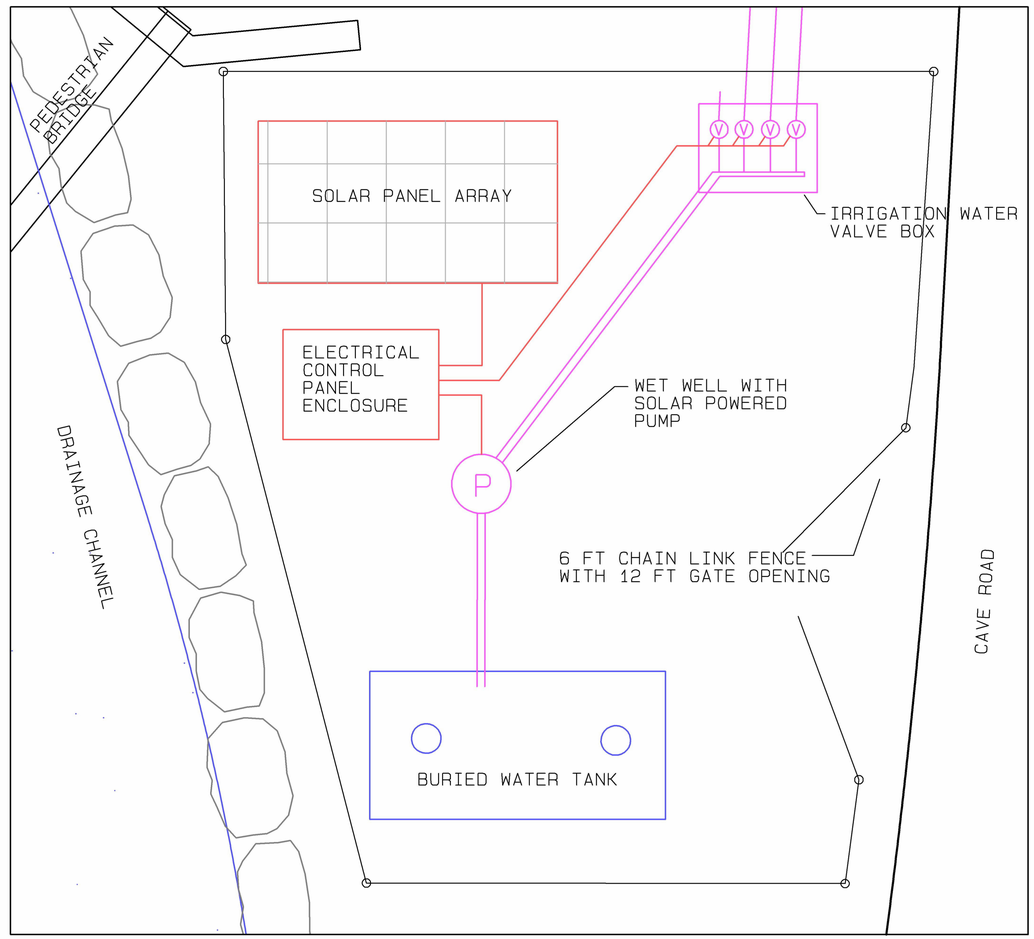


IRRIGATION SYSTEM, SCHEMATIC PROFILE



IRRIGATION CONTROL SYSTEM, PLAN VIEW

CHRISTOPHER S. PHILIPS NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 12-19-25

NO.	DATE	APPR.	REVISION
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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

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DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
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APPROVED				

MADRID ARROYO
IRRIGATION PLAN
CONTROL SYSTEM

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C228	C
SCALE	W.O. NO.	SHT. 78 of 83	
	15740.001.003		

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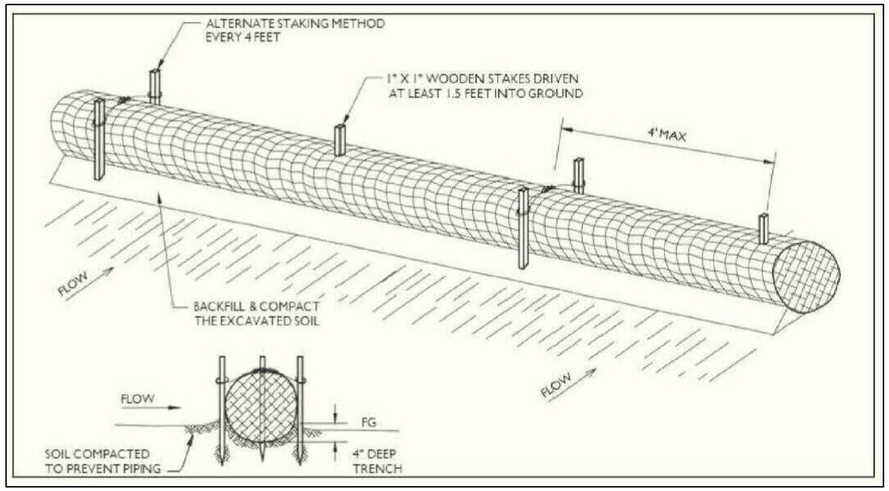
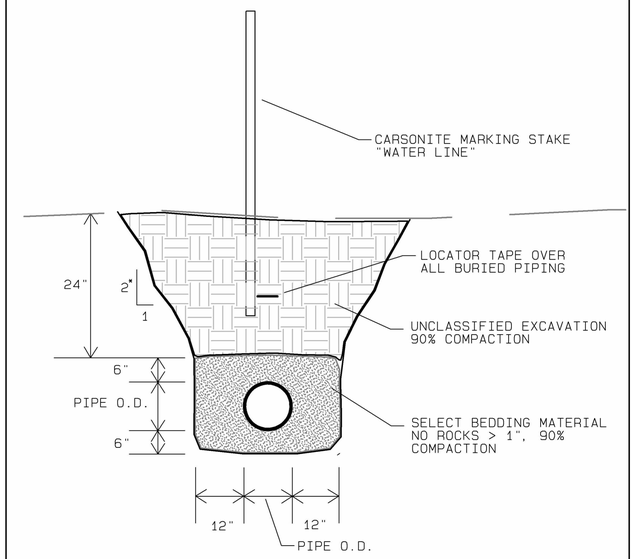
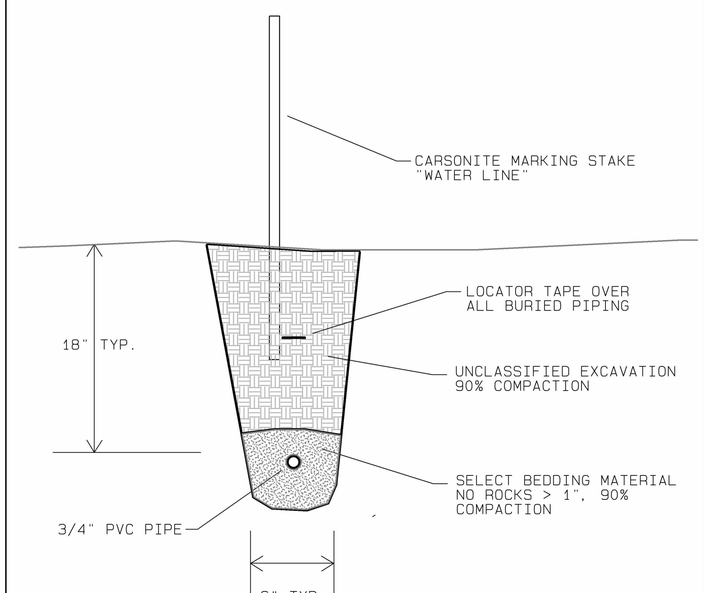


STRAW WATTLE INSTALLATION DETAIL

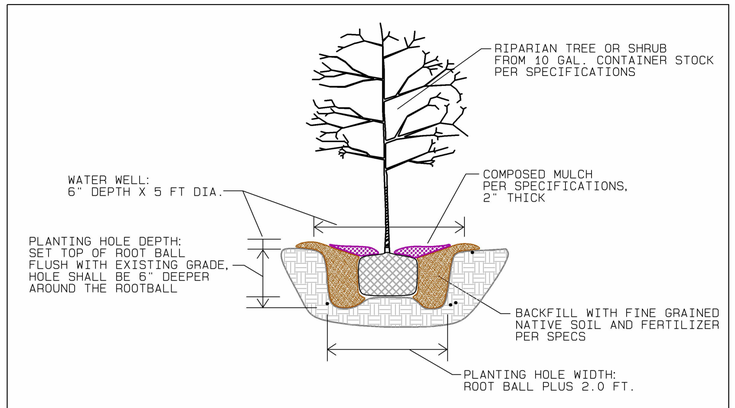


* SIDESLOPE VARIES DEPENDING
ON SOIL TYPE AND MOISTURE CONTENT

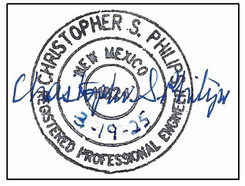
TYPICAL SECTION FOR WATER PIPE INSTALLATION
POTABLE AND FIRE PROTECTION LINES



TYPICAL SECTION FOR IRRIGATION PIPES



TREE OR SHRUB TRANSPLANT DETAIL
N.T.S.



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VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

RIVERBEND ENGINEERING, LLC
ALBUQUERQUE NEW MEXICO

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DES. ENG.	CP	10/31/24		
PROJ. ENG.	CP	10/31/24		
PROJ. MGR.	RE	10/31/24		
APPROVED				
APPROVED				

MADRID ARROYO
IRRIGATION & PLANTING PLAN
STANDARD DETAILS

DRAWN	DATE	DWG. NO.	REV. NO.
C.PHILIPS	----	C229	C
SCALE	W.O. NO.	SHT. 79 of 83	
	15740.001.003		

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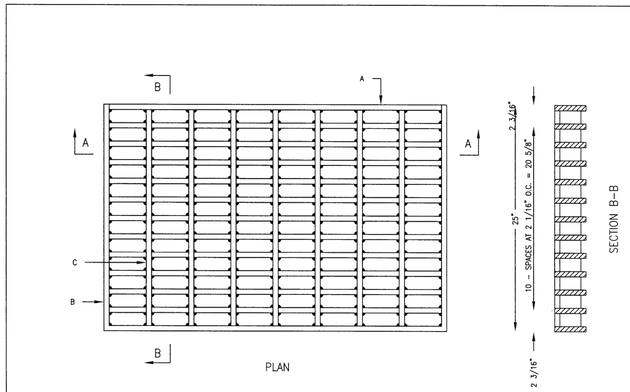


GENERAL NOTES:

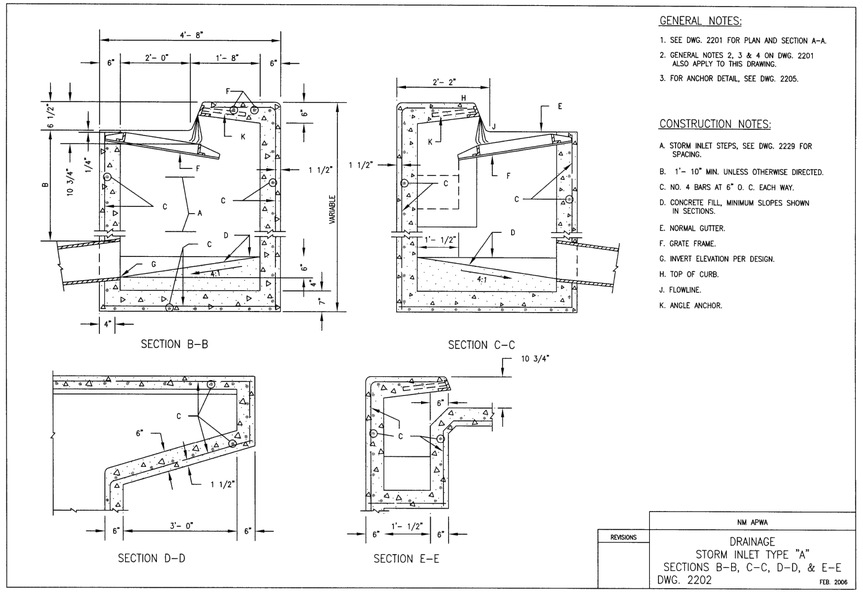
1. ALL BARS SHALL BE STRUCTURAL GRADE STEEL, GRADE A36.
2. THE GRATE SHALL BE WELDED WITH 1/8" FILLET WELD AROUND BOTH SIDES OF CROSS BARS, 1/4". FILLET WELD BOTH SIDES OF BEARING BARS TO END BARS.
3. AFTER CLEANING SURFACE OF SCALE, RUST, OILS, ETC., PAINT GRATE WITH ONE SHOP COAT RED OXIDE, TWO FINISH COATS ALUMINUM PAINT (AASHTO M 69).
4. TOP OF CROSS BARS SHALL BE FLUSH WITH TOP OF GRATE.
5. GRIND WELDS FLUSH WITH BEARING BARS.
6. WHEN INSTALLED IN FRAME, PUSH TIGHT TO ONE SIDE, OTHER SIDE SHALL HAVE 1/2" MAX. OPENING. SPACERS WELDED TO FRAME MAY BE USED IF REQUIRED TO KEEP 1/2" SPACE OR LESS.

CONSTRUCTIION NOTES:

A. BEARING BARS, (13) 1/2" X 3 1/2" X 39".
B. END BARS, (2) 1/2" X 3" X 25".
C. CROSS BARS, (7) 1/2" DIA. X 24".

REVISIONS	NM APWA
	DRAINAGE STORM INLET GRATE DWG. 2220 FEB. 2006

1 STORM INLET GRATE NM APWA STANDARD DETAIL



GENERAL NOTES:

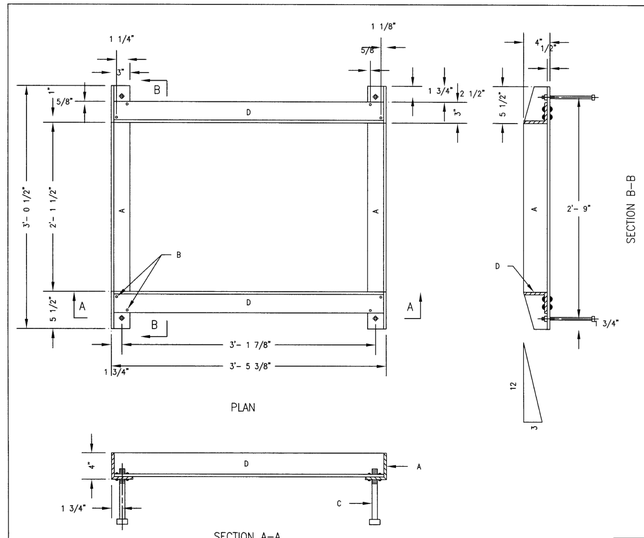
1. SEE DWG. 2201 FOR PLAN AND SECTION A-A.
2. GENERAL NOTES 2, 3 & 4 ON DWG. 2201 ALSO APPLY TO THIS DRAWING.
3. FOR ANCHOR DETAIL, SEE DWG. 2205.

CONSTRUCTION NOTES:

A. STORM INLET STEPS, SEE DWG. 2229 FOR SPACING.
B. 1'- 10" MIN. UNLESS OTHERWISE DIRECTED.
C. NO. 4 BARS AT 6" O. C. EACH WAY.
D. CONCRETE FILL, MINIMUM SLOPES SHOWN IN SECTIONS.
E. NORMAL GUTTER.
F. GRATE FRAME.
G. INVERT ELEVATION PER DESIGN.
H. TOP OF CURB.
J. FLOWLINE.
K. ANGLE ANCHOR.

REVISIONS	NM APWA
	DRAINAGE STORM INLET TYPE "A" SECTIONS B-B, C-C, D-D, & E-E DWG. 2202 FEB. 2006

2 STORM INLET (TYPE A) NM APWA STANDARD DETAIL



GENERAL NOTES:

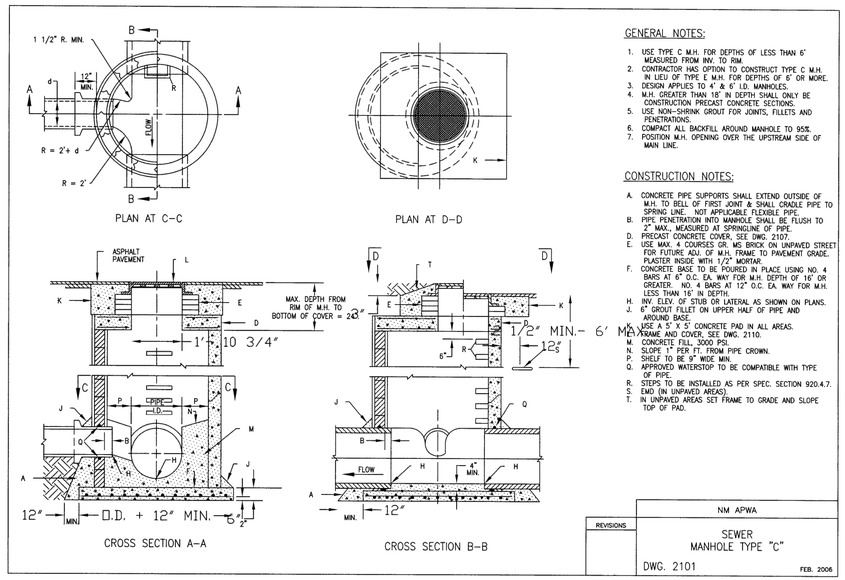
1. ALL EXPOSED METAL PARTS SHALL BE PAINTED PRIOR TO ASSEMBLY. WELDING, MACHINING AND DRILLING SHALL BE DONE PRIOR TO PAINTING. ALL DIMENSIONS ARE FINISH DIMENSIONS.
2. ALL PARTS SHALL BE OF STRUCTURAL STEEL, GRADE 36.
3. FOR CLEANING AND PAINTING OF FRAME SEE DWG. 2215, GENERAL NOTE NO. 4.
4. FRAME MAY BE WELDED OR RIVETED.

CONSTRUCTION NOTES:

A. 4" X 3" X 1/2" X 3" 1/2" ∠.
B. 2 - 3/8" RIVETS AT EACH CORNER, SEE GENERAL NOTE NO. 5.
C. 4 - 1/2" X 8" BOLTS WITH SQUARE HEAD & NUT AT EACH CORNER. FOR ANCHORING FRAME INTO CONCRETE WALL.
D. 3 - 1/2" X 3" X 3/8" X 3'-4 3/8" ∠

REVISIONS	NM APWA
	DRAINAGE STORM INLET FRAME DWG. 2216 FEB. 2006

3 STORM INLET FRAME NM APWA STANDARD DETAIL



GENERAL NOTES:

1. USE TYPE C M.H. FOR DEPTHS OF LESS THAN 6' MEASURED FROM INV. TO RIM.
2. CONTRACTOR HAS OPTION TO CONSTRUCT TYPE C M.H. IN LIEU OF TYPE E M.H. FOR DEPTHS OF 6' OR MORE.
3. DESIGN APPLIES TO 4' & 6' I.D. MANHOLES.
4. M.H. GREATER THAN 18' IN DEPTH SHALL ONLY BE CONSTRUCTION PRECAST CONCRETE SECTIONS.
5. USE NON-SHRINK GROUT FOR JOINTS, FILLETS AND PENETRATIONS.
6. COMPACT ALL BACKFILL AROUND MANHOLE TO 95%.
7. POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.

CONSTRUCTION NOTES:

A. CONCRETE PIPE SUPPORTS SHALL EXTEND OUTSIDE OF M.H. TO BELL OF FIRST JOINT & SHALL CRADLE PIPE TO SPRING LINE. NOT APPLICABLE FLEXIBLE PIPE
B. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRINGLINE OF PIPE.
D. PRECAST CONCRETE COVER, SEE DWG. 2107.
E. USE MAX. 4 COURSES CR. MS BRICK ON UNPAVED STREET FOR FUTURE ADJ. OF M.H. FRAME TO PAVEMENT GRADE. PLASTER INSIDE WITH 1/2" MORTAR.
F. CONCRETE BASE TO BE POURED IN PLACE USING NO. 4 BARS AT 6" O.C. EA. WAY FOR M.H. DEPTH OF 16' OR GREATER. NO. 4 BARS AT 12" O.C. EA. WAY FOR M.H. LESS THAN 16' IN DEPTH.
H. INV. ELEV. OF STUB OR LATERAL AS SHOWN ON PLANS.
J. 6" GROUT FILLET ON UPPER HALF OF PIPE AND AROUND BASE.
K. USE A 5' X 5' CONCRETE PAD IN ALL AREAS.
L. FRAME AND COVER, SEE DWG. 2110.
M. CONCRETE FILL, 3000 PSI.
N. SLOPE 1" PER FT. FROM PIPE CROWN.
P. SHELF TO BE 9" WIDE MIN.
Q. APPROVED WATERSTOP TO BE COMPATIBLE WITH TYPE OF PIPE.
R. STEPS TO BE INSTALLED AS PER SPEC. SECTION 920.4.7.
S. EMD (IN UNPAVED AREAS).
T. IN UNPAVED AREAS SET FRAME TO GRADE AND SLOPE TOP OF PAD.

REVISIONS	NM APWA
	SEWER MANHOLE TYPE "C" DWG. 2101 FEB. 2006

4 SEWER MANHOLE TYPE C NM APWA STANDARD DETAIL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL				
C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT
MADRID NEW MEXICO

WESTON SOLUTIONS
ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDENS NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 10/30/24

STANDARD DRAWINGS
(1 OF 4)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C601	C
SCALE	W.O. NO.	SHT. 80 of 83	
	15740.001.003		

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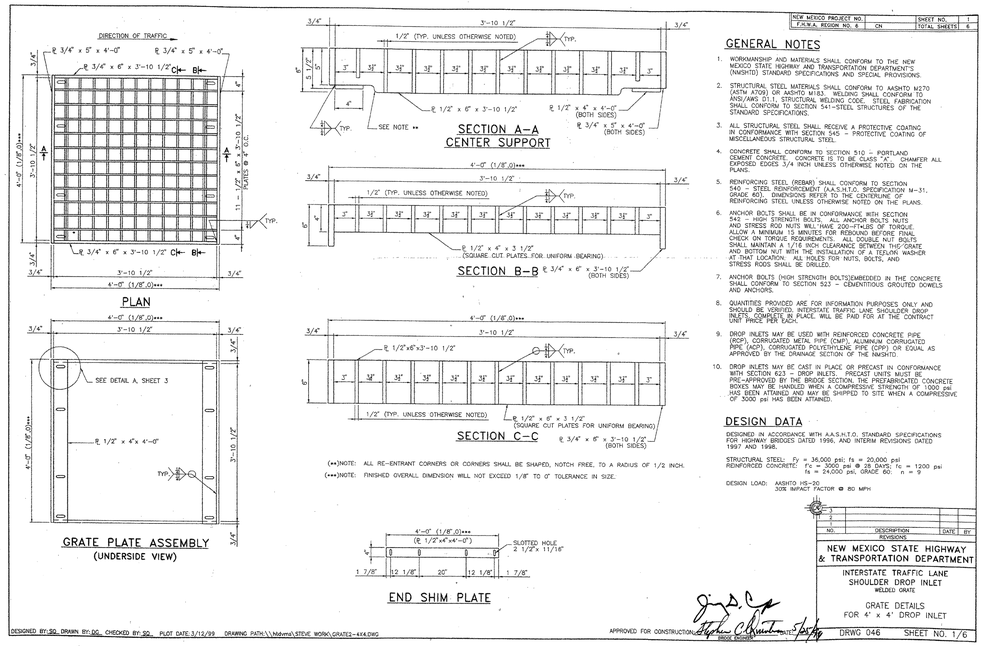


NEW MEXICO PROJECT NO. | SHEET NO. 1
F.H.W.A. REGION NO. 6 | CN | TOTAL SHEETS 6

GENERAL NOTES

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT'S (NMSHTD) STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. STRUCTURAL STEEL MATERIALS SHALL CONFORM TO AASHTO M270 (ASTM A709) OR AASHTO M183. WELDING SHALL CONFORM TO ANSI/AWS D1.1, STRUCTURAL WELDING CODE, STEEL FABRICATION SHALL CONFORM TO SECTION 541–STEEL STUCTURES OF THE STANDARD SPECIFICATIONS.
3. ALL STRUCTURAL STEEL SHALL RECEIVE A PROTECTIVE COATING IN CONFORMANCE WITH SECTION 545– PROTECTIVE COATING OF MISCELLANEOUS STRUCTURAL STEEL.
4. 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.
5. REINFORCING STEEL (REBAR) SHALL CONFORM TO SECTION 540 – STEEL REINFORCEMENT (A.A.S.H.T.O. SPECIFICATION M–31, GRADE 60). DIMENSIONS REFER TO THE CENTERLINE OF REINFORCING STEEL UNLESS OTHERWISE NOTED ON THE PLANS.
6. ANCHOR BOLTS SHALL BE IN CONFORMANCE WITH SECTION 542 – HIGH STRENGTH BOLTS AND STRESS ROD NUTS WILL HAVE 200–FT-LBS OF TORQUE. ALLOW A MINIMUM 15 MINUTES FOR REBOUND BEFORE FINAL CHECK ON TORQUE REQUIREMENTS. ALL DOUBLE NUT BOLTS SHALL MAINTAIN A 1/16 INCH CLEARANCE BETWEEN THE GRATE AND BOTTOM NUT WITH THE INSTALLATION OF A TEFLON WASHER AT THAT LOCATION. ALL HOLES FOR NUTS, BOLTS, AND STRESS RODS SHALL BE DRILLED.
7. ANCHOR BOLTS (HIGH STRENGTH BOLTS)EMBEDDED IN THE CONCRETE SHALL CONFORM TO SECTION 523 – CEMENTITIOUS GROUTED DOWELS AND ANCHORS.
8. QUANTITIES PROVIDED ARE FOR INFORMATION PURPOSES ONLY AND SHOULD BE VERIFIED. INTERSTATE TRAFFIC LANE SHOULDER DROP INLETS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH.
9. DROP INLETS MAY BE USED WITH REINFORCED CONCRETE PIPE (RCP), CORRUGATED METAL PIPE (CMP), ALUMINUM CORRUGATED PIPE (ACP), CORRUGATED POLYETHYLENE PIPE (CPP) OR EQUAL AS APPROVED BY THE DRAINAGE SECTION OF THE NMSHTD.
10. DROP INLETS MAY BE CAST IN PLACE OR PRECAST IN CONFORMANCE WITH SECTION 623–DROP INLETS. PRECAST UNITS MUST BE PRE–APPROVED BY THE BRIDGE SECTION. THE PREFABRICATED CONCRETE BOXES MAY BE HANDLED WHEN A COMPRESSIVE STRENGTH OF 1000 psi HAS BEEN ATTAINED AND MAY BE SHIPPED TO SITE WHEN A COMPRESSIVE STRENGTH OF 3000 psi HAS BEEN ATTAINED.

(**)NOTE: ALL RE–ENTRANT CORNERS OR CORNERS SHALL BE SHAPED, NOTCH FREE, TO A RADIUS OF 1/2 INCH.

(***)NOTE: FINISHED OVERALL DIMENSION WILL NOT EXCEED 1/8" TO 0" TOLERANCE IN SIZE.

DESIGN DATA

DESIGNED IN ACCORDANCE WITH A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1996, AND INTERIM REVISIONS DATED 1997 AND 1998.

STRUCTURAL STEEL: Fy = 36,000 psi; fa = 20,000 psi
REINFORCED CONCRETE: f'c = 3000 psi @ 28 DAYS; fc = 1200 psi
fs = 24,000 psi, GRADE 60; n = 9

DESIGN LOAD: AASHTO HS–20
30% IMPACT FACTOR @ 80 MPH

NO.	DESCRIPTION REVISIONS	DATE	BY

NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPARTMENT

INTERSTATE TRAFFIC LANE SHOULDER DROP INLET WELDED GRATE

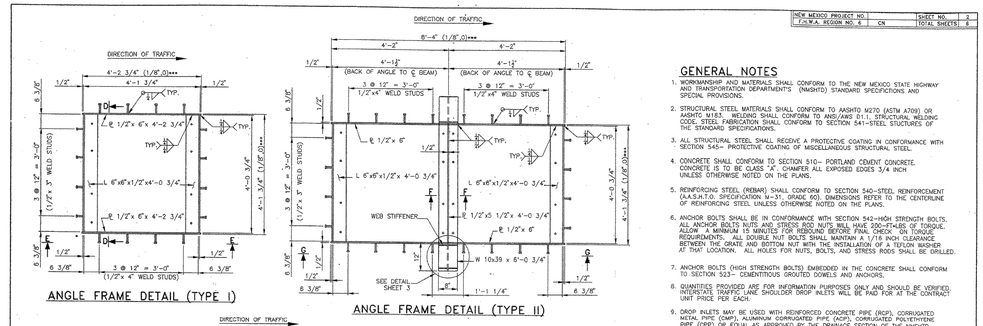
GRATE DETAILS FOR 4' x 4' DROP INLET

DRWG 046 SHEET NO. 1/6

APPROVED FOR CONSTRUCTION: Steven C. Kinnaird 5/6/99 BRIDGE ENGINEER

DESIGNED BY:SQ DRAWN BY:DG CHECKED BY:SQ PLOT DATE:3/12/99 DRAWING PATH:\\Mdnm\STEVE WORK\GRATE2–4X4.DWG

1 SHOULDER DROP INLET NMDOT STANDARD DETAIL (1/3)



NEW MEXICO PROJECT NO. | SHEET NO. 2
F.H.W.A. REGION NO. 6 | CN | TOTAL SHEETS 6

GENERAL NOTES

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT'S (NMSHTD) STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. STRUCTURAL STEEL MATERIALS SHALL CONFORM TO AASHTO M270 (ASTM A709) OR AASHTO M183. WELDING SHALL CONFORM TO ANSI/AWS D1.1, STRUCTURAL WELDING CODE, STEEL FABRICATION SHALL CONFORM TO SECTION 541–STEEL STUCTURES OF THE STANDARD SPECIFICATIONS.
3. ALL STRUCTURAL STEEL SHALL RECEIVE A PROTECTIVE COATING IN CONFORMANCE WITH SECTION 545– PROTECTIVE COATING OF MISCELLANEOUS STRUCTURAL STEEL.
4. 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.
5. REINFORCING STEEL (REBAR) SHALL CONFORM TO SECTION 540–STEEL REINFORCEMENT (A.A.S.H.T.O. SPECIFICATION M–31, GRADE 60). DIMENSIONS REFER TO THE CENTERLINE OF REINFORCING STEEL UNLESS OTHERWISE NOTED ON THE PLANS.
6. ANCHOR BOLTS SHALL BE IN CONFORMANCE WITH SECTION 542–HIGH STRENGTH BOLTS. ALL ANCHOR BOLTS NUTS AND STRESS ROD NUTS WILL HAVE 200–FT-LBS OF TORQUE. ALLOW A MINIMUM 15 MINUTES FOR REBOUND BEFORE FINAL CHECK ON TORQUE REQUIREMENTS. ALL DOUBLE NUT BOLTS SHALL MAINTAIN A 1/16 INCH CLEARANCE BETWEEN THE GRATE AND BOTTOM NUT WITH THE INSTALLATION OF A TEFLON WASHER AT THAT LOCATION. ALL HOLES FOR NUTS, BOLTS, AND STRESS RODS SHALL BE DRILLED.
7. ANCHOR BOLTS (HIGH STRENGTH BOLTS) EMBEDDED IN THE CONCRETE SHALL CONFORM TO SECTION 523– CEMENTITIOUS GROUTED DOWELS AND ANCHORS.
8. QUANTITIES PROVIDED ARE FOR INFORMATION PURPOSES ONLY AND SHOULD BE VERIFIED. INTERSTATE TRAFFIC LANE SHOULDER DROP INLETS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH.
9. DROP INLETS MAY BE USED WITH REINFORCED CONCRETE PIPE (RCP), CORRUGATED METAL PIPE (CMP), ALUMINUM CORRUGATED PIPE (ACP), CORRUGATED POLYETHYLENE PIPE (CPP) OR EQUAL AS APPROVED BY THE DRAINAGE SECTION OF THE NMSHTD.
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DESIGN DATA

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STRUCTURAL STEEL: Fy = 36,000 psi; fa = 20,000 psi
REINFORCED CONCRETE: f'c = 3000 psi @ 28 DAYS; fc = 1200 psi
fs = 24,000 psi, GRADE 60; n = 9

DESIGN LOAD: AASHTO HS–20
30% IMPACT FACTOR @ 80 MPH

NOTE: DROP INLET GRATES AND FRAMES SHALL BE FABRICATED SQUARE AND TRUE WITH THE BEARING SURFACES ON A FLAT PLANE.

(***)NOTE: FINISHED OVERALL DIMENSION WILL NOT EXCEED 1/8" TO 0" TOLERANCE IN SIZE.

NO.	DESCRIPTION REVISIONS	DATE	BY

NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPARTMENT

INTERSTATE TRAFFIC LANE SHOULDER DROP INLET WELDED GRATE

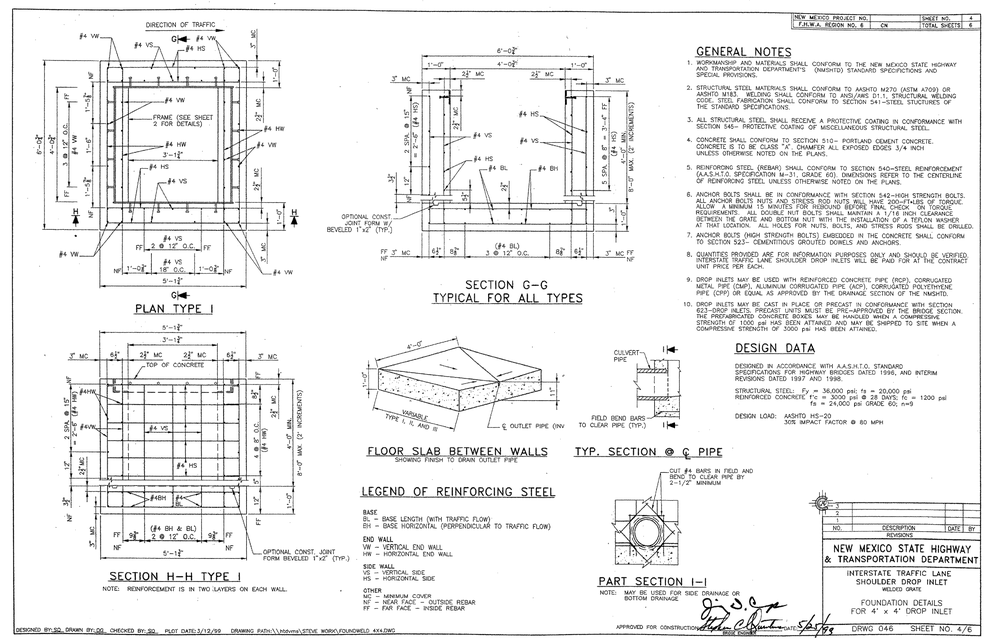
FRAME DETAILS FOR 4' x 4' DROP INLET

DRWG 046 SHEET NO. 2/6

APPROVED FOR CONSTRUCTION: Steven C. Kinnaird 5/6/99 BRIDGE ENGINEER

DESIGNED BY:SQ DRAWN BY:DG CHECKED BY:SQ PLOT DATE:3/12/99 DRAWING PATH:\\Mdnm\STEVE WORK\FRAME2–4X4.DWG

3 SHOULDER DROP INLET NMDOT STANDARD DETAIL (3/3)



NEW MEXICO PROJECT NO. | SHEET NO. 4
F.H.W.A. REGION NO. 6 | CN | TOTAL SHEETS 6

GENERAL NOTES

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2. STRUCTURAL STEEL MATERIALS SHALL CONFORM TO AASHTO M270 (ASTM A709) OR AASHTO M183. WELDING SHALL CONFORM TO ANSI/AWS D1.1, STRUCTURAL WELDING CODE, STEEL FABRICATION SHALL CONFORM TO SECTION 541–STEEL STUCTURES OF THE STANDARD SPECIFICATIONS.
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DESIGN DATA

DESIGNED IN ACCORDANCE WITH A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1996, AND INTERIM REVISIONS DATED 1997 AND 1998.

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fs = 24,000 psi (GRADE 60); n=9

DESIGN LOAD: AASHTO HS–20
30% IMPACT FACTOR @ 80 MPH

LEGEND OF REINFORCING STEEL

BASE
BL – BASE LENGTH (WITH TRAFFIC FLOW)
BH – BASE HORIZONTAL (PERPENDICULAR TO TRAFFIC FLOW)

END WALL
VW – VERTICAL END WALL
HW – HORIZONTAL END WALL

SIDE WALL
VS – VERTICAL SIDE
HS – HORIZONTAL SIDE

OTHER
MC – MINIMUM COVER
NF – NEAR FACE – OUTSIDE REBAR
FF – FAR FACE – INSIDE REBAR

NO.	DESCRIPTION REVISIONS	DATE	BY

NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPARTMENT

INTERSTATE TRAFFIC LANE SHOULDER DROP INLET WELDED GRATE

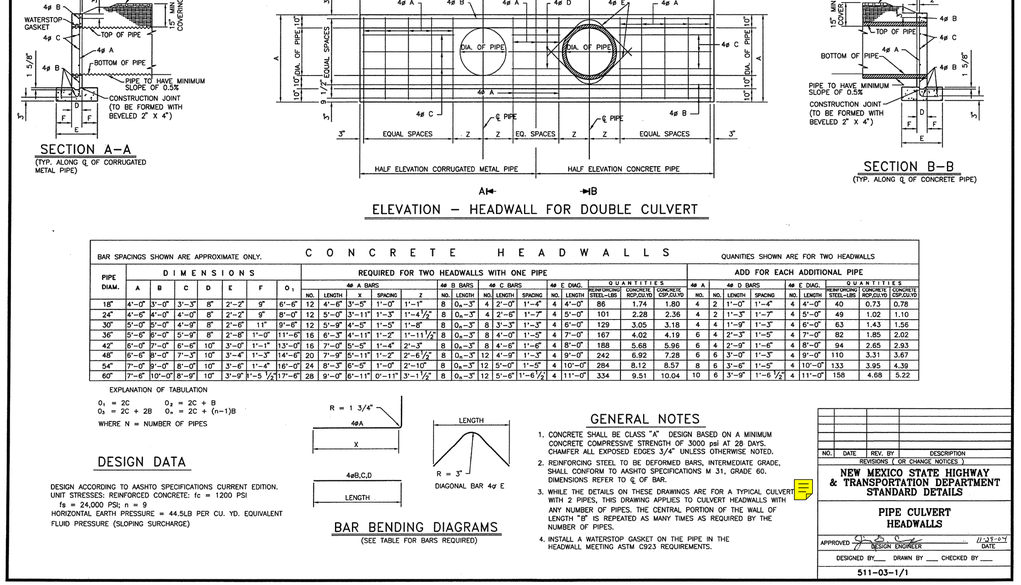
FOUNDATION DETAILS FOR 4' x 4' DROP INLET

DRWG 046 SHEET NO. 4/6

APPROVED FOR CONSTRUCTION: Steven C. Kinnaird 5/6/99 BRIDGE ENGINEER

DESIGNED BY:SQ DRAWN BY:DG CHECKED BY:SQ PLOT DATE:3/12/99 DRAWING PATH:\\Mdnm\STEVE WORK\FOUNDWELD. 4X4.DWG

2 SHOULDER DROP INLET NMDOT STANDARD DETAIL (2/3)



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 TWO HEADWALLS

PIPE DIAM.	DIMENSIONS A	B	C	D	E	F	O_1	REQUIRED FOR TWO HEADWALLS WITH ONE PIPE: #4 A BARS NO.	LENGTH	S	SPACING	T	#4 B BARS NO.	LENGTH	#4 C BARS NO.	LENGTH	SPACING	#4 E DIAG. NO.	LENGTH	QUANTITIES REINFORCING STEEL–LBS	CONCRETE RCP,CU.YD	CONCRETE CSP,CU.YD	ADD FOR EACH ADDITIONAL PIPE: #4 A NO.	#4 D BARS NO.	LENGTH	SPACING	#4 E DIAG. NO.	LENGTH	QUANTITIES REINFORCING STEEL–LBS	CONCRETE RCP,CU.YD	CONCRETE CSP,CU.YD
18"	4'–0"	3'–0"	3'–3"	8"	2'–2"	9"	6'–6"	12	4'–8"	3'–5"	1'–0"	1'–1"	8	O_1–3"	4	2'–0"	1'–4"	4	4'–0"	86	1.74	1.80	4	2	1'–0"	1'–4"	4	4'–0"	40	0.73	0.78
24"	4'–6"	4'–0"	4'–0"	8"	2'–2"	9"	8'–0"	12	5'–0"	3'–11"	1'–3"	1'–4½"	8	O_1–3"	4	2'–6"	1'–7"	4	5'–0"	101	2.28	2.36	4	2	1'–3"	1'–7"	4	5'–0"	49	1.02	1.10
30"	5'–0"	5'–0"	4'–9"	8"	2'–6"	11"	9'–6"	12	5'–9"	4'–5"	1'–5"	1'–8"	8	O_1–3"	8	3'–3"	1'–3"	4	6'–0"	129	3.05	3.18	4	4	1'–9"	1'–3"	4	6'–0"	63	1.43	1.56
36"	5'–6"	6'–0"	5'–6"	8"	2'–8"	1'–0"	11'–6"	16	6'–3"	4'–11"	1'–7"	1'–11½"	8	O_1–3"	8	4'–0"	1'–5"	4	7'–0"	167	4.02	4.19	6	4	2'–3"	1'–5"	4	7'–0"	82	1.85	2.02
42"	6'–0"	7'–0"	6'–6"	10"	3'–0"	1'–1"	13'–0"	16	7'–0"	5'–5"	1'–4"	2'–3"	8	O_1–3"	8	4'–6"	1'–6"	4	8'–0"	188	5.68	5.96	6	4	2'–9"	1'–6"	4	8'–0"	94	2.65	2.93
48"	6'–6"	8'–0"	7'–3"	10"	3'–4"	1'–3"	14'–6"	20	7'–9"	5'–11"	1'–2"	2'–6½"	8	O_1–3"	12	4'–9"	1'–3"	4	9'–0"	242	6.92	7.28	6	6	3'–0"	1'–3"	4	9'–0"	110	3.31	3.67
54"	7'–0"	9'–0"	8'–0"	10"	3'–6"	1'–4"	16'–0"	24	8'–3"	6'–5"	1'–0"	2'–10"	8	O_1–3"	12	5'–0"	1'–5"	4	10'–0"	284	8.12	8.57	8	6	3'–6"	1'–5"	4	10'–0"	133	3.95	4.39
60"	7'–6"	10'–0"	8'–9"	10"	3'–9"	1'–5 ½"	17'–6"	28	9'–0"	6'–11"	0'–11"	3'–1½"	8	O_1–3"	12	5'–6"	1'–6½"	4	11'–0"	334	9.51	10.04	10	6	3'–9"	1'–6 ½"	4	11'–0"	158	4.68	5.22

EXPLANATION OF TABULATION

O_1 = 2C O_2 = 2C + B
O_3 = 2C + 2B O_4 = 2C + (n–1)B
WHERE N = NUMBER OF PIPES

DESIGN DATA

DESIGN ACCORDING TO AASHTO SPECIFICATIONS CURRENT EDITION.
UNIT STRESSES: REINFORCED CONCRETE: fc = 1200 PSI
fs = 24,000 PSI; n = 9
HORIZONTAL EARTH PRESSURE = 44.5LB PER CU. YD. EQUIVALENT FLUID PRESSURE (SLOPING SURCHARGE)

BAR BENDING DIAGRAMS
(SEE TABLE FOR BARS REQUIRED)

GENERAL NOTES

1. CONCRETE SHALL BE CLASS "A" DESIGN BASED ON A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 3000 psi AT 28 DAYS. CHAMFER ALL EXPOSED EDGES 3/4" UNLESS OTHERWISE NOTED.
2. REINFORCING STEEL TO BE DEFORMED BARS, INTERMEDIATE GRADE, SHALL CONFORM TO AASHTO SPECIFICATIONS M 31, GRADE 60. DIMENSIONS REFER TO ℄ OF BAR.
3. 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 "E" IS REPEATED AS MANY TIMES AS REQUIRED BY THE NUMBER OF PIPES.
4. INSTALL A WATERSTOP GASKET ON THE PIPE IN THE HEADWALL MEETING ASTM C923 REQUIREMENTS.

NO.	DATE	REV. BY	DESCRIPTION REVISIONS (OR CHANGE NOTICES)

NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPARTMENT STANDARD DETAILS

PIPE CULVERT HEADWALLS

APPROVED: Steven C. Kinnaird 11-23-04 DESIGN ENGINEER DATE

DESIGNED BY___ DRAWN BY ___ CHECKED BY ___

511-03-1/1

4 PIPE CULVERT NMDOT STANDARD DETAIL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION
B	11/4/24		100% FINAL				
C	3/27/25		FOR-BID				

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDES NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 10/30/24

STANDARD DRAWINGS
(2 OF 4)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C602	C
SCALE	W.O. NO.	SHT. 81 of 83	
	15740.001.003		

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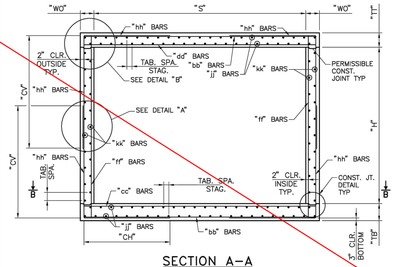
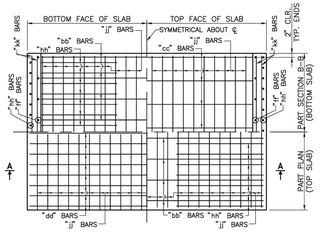
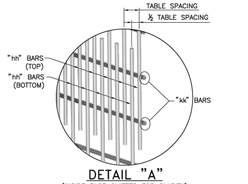


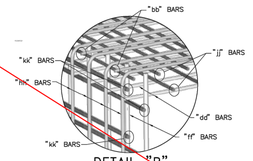
SECTION A–A



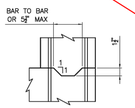
REBAR LAYOUT – PLAN VIEW



DETAIL "A"
(INSIDE FACE OMITTED FOR CLARITY)



DETAIL "B"
(SIMILAR BOTTOM CORNERS)



CONSTRUCTION JOINT DETAIL

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NEW MEXICO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SPECIAL PROVISIONS.
2. ALL CONCRETE SHALL BE CLASS "AA" (4000 psi). CHAMFER ALL EXPOSED EDGES ¾".
3. ALL REINFORCING STEEL TO BE DEFORMED BARS, CONFORMING TO AASHTO M–31, GRADE 60. ALL DIMENSIONS REFER TO THE CENTERLINE OF BAR.
4. "COVER" IS HEIGHT OF FILL FROM TOP OF BOX TO THE TOP OF PAVEMENT. ORIGINAL HEIGHT OF COVER MAY NOT BE EXCEEDED IN THE FUTURE OR WILL REQUIRE REMOVAL AND REPLACEMENT WITH PROPER DESIGN FILL CBC. IN CASE OF COVER EQUAL TO 10', 15', 20', OR 25' USE HIGHER DESIGN FILL IN CASE OF FUTURE AC OVERLAY.
5. "jj" AND "kk" BARS MAY BE SPLICED WHEN NECESSARY BY LAPPING AT LEAST 40 BAR DIAMETERS. NO OTHER SPLICING OF BARS WILL BE PERMITTED. LENGTH OF THESE BARS SHALL EQUAL THE LENGTH OF BARREL "L" PLUS (2 X "HW") MINUS 4" FOR TOTAL NEW CONSTRUCTION, NOT INCLUDING LAP LENGTH. FOR CULVERT EXTENSION; LENGTH OF THESE BARS SHALL BE "L" PLUS "HW" MINUS 2".
6. REINFORCING SHOWN IS FOR PLACEMENT LOCATION ONLY. USE APPROPRIATE SHEETS AND CORRESPONDING TABLES TO DETERMINE THE REINFORCING REQUIREMENTS AND SPACINGS.
7. ALL CONSTRUCTION JOINTS SHALL BE AS PER DETAIL THIS SHEET. CONSTRUCTION JOINTS ARE PERMISSIBLE AND SHALL BE LOCATED AT WALL/SLAB HORIZONTAL INTERFACE.
8. DO NOT BACKFILL WALLS UNTIL TOP SLAB HAS REACHED 4000 psi DESIGN STRENGTH.
9. CBC'S SHALL BE CONSTRUCTED TO THE SPAN, HEIGHT, NUMBER OF BARRELS, SKEW, ALIGNMENT, AND FLOWLINE GRADE AS SPECIFIED ON THE PLAN AND PROFILE AND STRUCTURE PLACEMENT SECTIONS.
10. EXCAVATION AND BACKFILL OF CBC'S SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 210–01–1/1.

DESIGN

DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, THIRD EDITION.

PAYMENT

PAYMENT FOR CBC'S IS BASED ON "LIN. FT." UNIT OF MEASUREMENT FOR THE TOTAL LENGTH OF ALL NEW BARRELS CONSTRUCTED AT THE CENTERLINE OF BARREL. I.E. SINGLE BARREL SHALL BE 1 X "L" AND TRIPLE BARREL SHALL BE 3 X "L" FOR PAYMENT. LENGTH OF BARREL SHALL NOT INCLUDE "HW" WHICH SHALL BE PAID FOR SEPARATELY. CONCRETE, REBAR, FORMING, AND OTHER WORK AND MATERIAL SHALL BE INCLUDED IN THE LIN. FT. COST FOR THE CBC AND NO FURTHER PAYMENT SHALL BE MADE FOR THESE INCIDENTAL ITEMS.

ALTERNATIVELY, A COMPLETE CONCRETE BOX CULVERT MAY BE PAID FOR UNDER CLASS "AA" CONCRETE BY "CU. YD." ITEM 511030 AND GRADE 60 REBAR BY "LBS." ITEM 540060.

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING

CONCRETE BOX CULVERT SINGLE OPENING – DESIGN FILL "A" 0–10 FT STRUCTURAL SECTIONS AND REBAR

APPROVED: [signature] APR 9, 07
BUREAU CHIEF DATE

DESIGNED BY TLB DRAWN BY SGL CHECKED BY HDR

511–60–1/2 1 OF 2

1 CONCRETE BOX CULVERT BARRELS SINGLE OPENING NMDOT STANDARD DETAIL

SINGLE OPENING BOX CULVERT STRUCTURE DIMENSIONS				GRADE 60 REINFORCING BAR SCHEDULE (BAR SIZE, SPACING AND LENGTH DIMENSIONS)																
DIM	0–10 FT BURIAL DESIGN FILL "A"			"bb"	"cc"		"dd"		"bb", "cc" & "dd"	"ff"			"hh"				"jj"		"kk"	
SPAN "S" INSIDE	HEIGHT "H" INSIDE	TOP SLAB "TT"	BOTTOM SLAB "TB"	WALLS OUTER "WO"	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	LENGTH	SIZE	SPACING	LENGTH	SIZE	SPACING	"CH" LENGTH	"CV" LENGTH	SIZE	STAGGERED SPACING	SIZE	STAGGERED SPACING
4'	2'	7.5"	8.5"	7.5"	#4	12"	#4	6"	#4	6"	4'–11"	#4	12"	2'–11"	#4	6"	25"	25"	#4	6"	#4	6"
4'	3'	7.5"	8.5"	7.5"	#4	12"	#4	6"	#4	6"	4'–11"	#4	12"	3'–11"	#4	6"	25"	31"	#4	6"	#4	6"
4'	4'	7.5"	8.5"	7.5"	#4	12"	#4	6"	#4	6"	4'–11"	#4	12"	4'–11"	#5	6"	25"	37"	#4	6"	#4	6"
6'	2'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	2'–11"	#5	6"	30"	26"	#4	6"	#4	6"
6'	3'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	3'–11"	#5	6"	30"	32"	#4	6"	#4	6"
6'	4'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	4'–11"	#5	6"	30"	38"	#4	6"	#4	6"
6'	5'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	5'–11"	#5	6"	30"	44"	#4	6"	#4	6"
6'	6'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	6'–11"	#5	6"	30"	50"	#4	6"	#4	6"
6'	7'	7.5"	8.5"	7.5"	#5	12"	#5	6"	#6	6"	6'–11"	#4	12"	7'–11"	#5	6"	30"	56"	#4	6"	#4	6"
8'	4'	9.0"	9.5"	7.5"	#6	12"	#6	6"	#7	6"	8'–11"	#4	12"	5'–1"	#6	6"	36"	41"	#4	6"	#4	6"
8'	5'	9.0"	9.5"	7.5"	#6	12"	#6	6"	#7	6"	8'–11"	#4	12"	6'–1"	#6	6"	36"	47"	#4	6"	#4	6"
8'	6'	9.0"	9.5"	7.5"	#6	12"	#6	6"	#7	6"	8'–11"	#4	12"	7'–1"	#6	6"	36"	53"	#4	6"	#4	6"
8'	7'	9.0"	9.5"	7.5"	#6	12"	#6	6"	#7	6"	8'–11"	#4	12"	8'–1"	#6	6"	36"	59"	#4	6"	#4	6"
8'	8'	9.0"	9.5"	7.5"	#6	12"	#6	6"	#7	6"	8'–11"	#4	12"	9'–1"	#6	6"	36"	65"	#4	6"	#4	6"
10'	3'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	4'–1"	#7	6"	43"	38"	#4	6"	#4	6"
10'	4'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	5'–1"	#7	6"	43"	44"	#4	6"	#4	6"
10'	5'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	6'–1"	#7	6"	43"	50"	#4	6"	#4	6"
10'	6'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	7'–1"	#7	6"	43"	56"	#4	6"	#4	6"
• 10'	7'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	8'–1"	#7	6"	43"	62"	#4	6"	#4	6"
10'	8'	9.5"	10.0"	9.0"	#8	12"	#8	6"	#8	6"	11'–2"	#5	6"	9'–2"	#8	6"	53"	72"	#4	6"	#4	6"
10'	9'	9.5"	10.0"	9.0"	#8	12"	#8	6"	#8	6"	11'–2"	#5	6"	10'–2"	#8	6"	53"	78"	#4	6"	#4	6"
10'	10'	9.5"	10.0"	9.0"	#8	12"	#8	6"	#8	6"	11'–2"	#5	6"	11'–2"	#8	6"	53"	84"	#4	6"	#4	6"
10'	11'	9.5"	10.0"	9.0"	#8	12"	#8	6"	#8	6"	11'–2"	#5	6"	12'–2"	#8	6"	53"	90"	#4	6"	#4	6"
10'	12'	9.5"	10.0"	9.0"	#8	12"	#8	6"	#8	6"	11'–2"	#5	6"	13'–2"	#8	6"	53"	96"	#4	6"	#4	6"
12'	6'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	7'–4"	#8	6"	56"	61"	#4	6"	#4	6"
12'	7'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	8'–4"	#8	6"	56"	67"	#4	6"	#4	6"
12'	8'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	9'–4"	#8	6"	56"	73"	#4	6"	#4	6"
12'	9'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	10'–4"	#8	6"	56"	79"	#4	6"	#4	6"
12'	10'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	11'–4"	#8	6"	56"	85"	#4	6"	#4	6"
12'	12'	10.0"	11.0"	9.5"	#8	12"	#9	6"	#9	6"	13'–3"	#4	6"	13'–4"	#8	6"	56"	97"	#4	6"	#4	6"
14'	8'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	9'–6"	#9	6"	101"	79"	#4	6"	#4	6"
14'	9'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	10'–6"	#9	6"	101"	85"	#4	6"	#4	6"
14'	10'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	11'–6"	#9	6"	101"	91"	#4	6"	#4	6"
14'	11'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	12'–6"	#9	6"	101"	97"	#4	6"	#4	6"
14'	12'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	13'–6"	#9	6"	101"	103"	#4	6"	#4	6"
14'	13'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	14'–6"	#9	6"	101"	109"	#4	6"	#4	6"
14'	14'	11.0"	12.0"	10.5"	#9	12"	#9	6"	#9	6"	15'–5"	#5	6"	15'–6"	#9	6"	101"	115"	#4	6"	#4	6"

FOR EXTENSIONS OF EXISTING CBC'S OF S=5', S=7', AND S=9' SIZE SPANS NOT INCLUDED IN THIS TABLE, USE DIMENSIONS FOR NEXT GREATER SPAN TO BUILD. FOR EXAMPLE: FOR S=5' USE DESIGN DIMENSIONS FROM THE TABLE FOR S=6'. ALSO REDUCE THE SHEET TABLE LENGTH OF BARS "bb", "cc" AND "dd" BY ONE FOOT TO ACCOMMODATE THE SHORTER SPAN. SEE DETAILS ON SHEET 511–66–4/6. ANY OTHER SIZES OF BOX EXTENSIONS NOT COVERED BY THIS MODIFICATION SHALL BE DONE THROUGH SPECIAL DESIGNS INCLUDED IN THE PROJECT PLANS.

• EXAMPLE OF USE OF THIS TABLE:
PROPOSED STRUCTURE – SINGLE BARREL, 10 FT. SPAN/7 FT. HEIGHT, CBC WITH 2 FT. DEPTH OF COVER.
USE THE FOLLOWING BUILD INFORMATION FROM THE TABLE ABOVE:

DIM	0–10 FT BURIAL DESIGN FILL "A"			"bb"	"cc"		"dd"		"bb", "cc" & "dd"	"ff"			"hh"				"jj"		"kk"	
SPAN "S" INSIDE	HEIGHT "H" INSIDE	TOP SLAB "TT"	BOTTOM SLAB "TB"	WALLS OUTER "WO"	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	LENGTH	SIZE	SPACING	LENGTH	SIZE	SPACING	"CH" LENGTH	"CV" LENGTH	SIZE	STAGGERED SPACING	SIZE	STAGGERED SPACING
10'	7'	9.0"	9.5"	7.5"	#7	12"	#8	6"	#8	6"	10'–11"	#4	12"	8'–1"	#7	6"	43"	62"	#4	6"	#4	6"

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS (OR CHANGE NOTICES)

NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING

CONCRETE BOX CULVERT SINGLE OPENING – DESIGN FILL "A" 0–10 FT DIMENSIONS AND REBAR SCHEDULE

APPROVED: [signature] APR 9, 07
BUREAU CHIEF DATE

DESIGNED BY TLB DRAWN BY SGL CHECKED BY HDR

511–60–2/2 2 OF 2

1 CONCRETE BOX CULVERT BARRELS SINGLE OPENING NMDOT STANDARD DETAIL

N.I.C.

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NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

WESTON SOLUTIONS

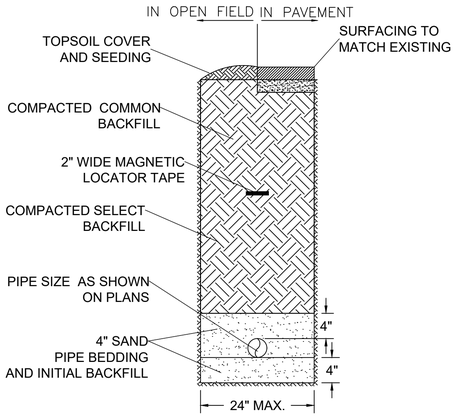
ALBUQUERQUE NEW MEXICO

CHECKED NAH	10/31/24	CLIENT APPROVALS	DATE
DES. ENG. SLJ	10/31/24		
PROJ. ENG. RGE	10/31/24		
PROJ. MGR. TDB	10/31/24		
APPROVED			
APPROVED			

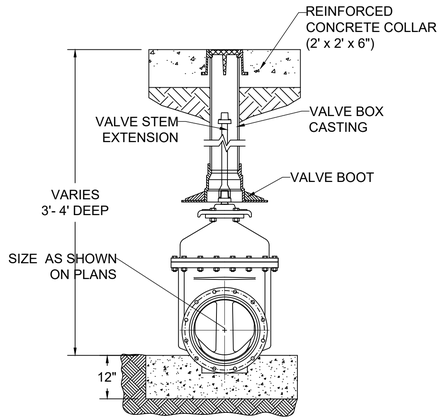
ROBERT G. EDER, NEW MEXICO, REGISTERED PROFESSIONAL ENGINEER, 10/30/24

STANDARD DRAWINGS
(3 OF 4)

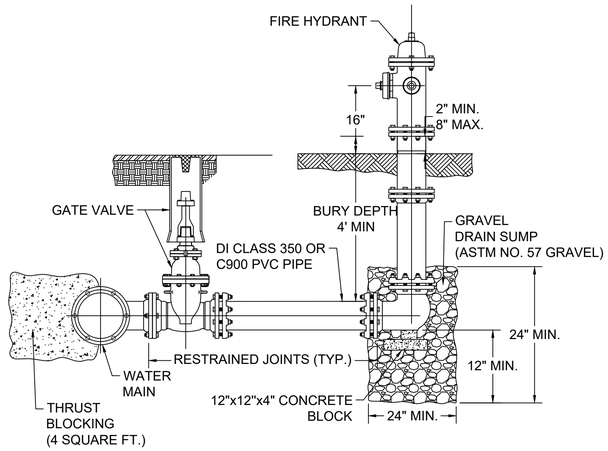
DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C603	B
SCALE	W.O. NO. 15740.001.003	SHT. 82 of 83	



1 WATER CONVEYANCE PIPE TRENCH
TYPICAL SECTION (N.T.S.)



2 BURIED GATE VALVE DETAIL
DETAIL (N.T.S.)



3 FIRE HYDRANT REPLACEMENT DETAIL
DETAIL (N.T.S.)

NO.	DATE	APPR.	REVISION
A	5/10/24		100% DRAFT- ISSUED FOR REVIEW
B	11/4/24		100% FINAL
C	3/27/25		FOR-BID

VILLAGE OF MADRID, NM
STORM WATER & EROSION CONTROL PROJECT

MADRID NEW MEXICO

ALBUQUERQUE NEW MEXICO

		DATE	CLIENT APPROVALS	DATE
CHECKED	NAH	10/31/24		
DES. ENG.	SLJ	10/31/24		
PROJ. ENG.	RGE	10/31/24		
PROJ. MGR.	TDB	10/31/24		
APPROVED				
APPROVED				

ROBERT G. EDERER — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 10/30/24

STANDARD DRAWINGS
(4 OF 4)

DRAWN	DATE	DWG. NO.	REV. NO.
RW	----	C604	C
SCALE	W.O. NO.	SHT. 83 of 83	
	15740.001.003		

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