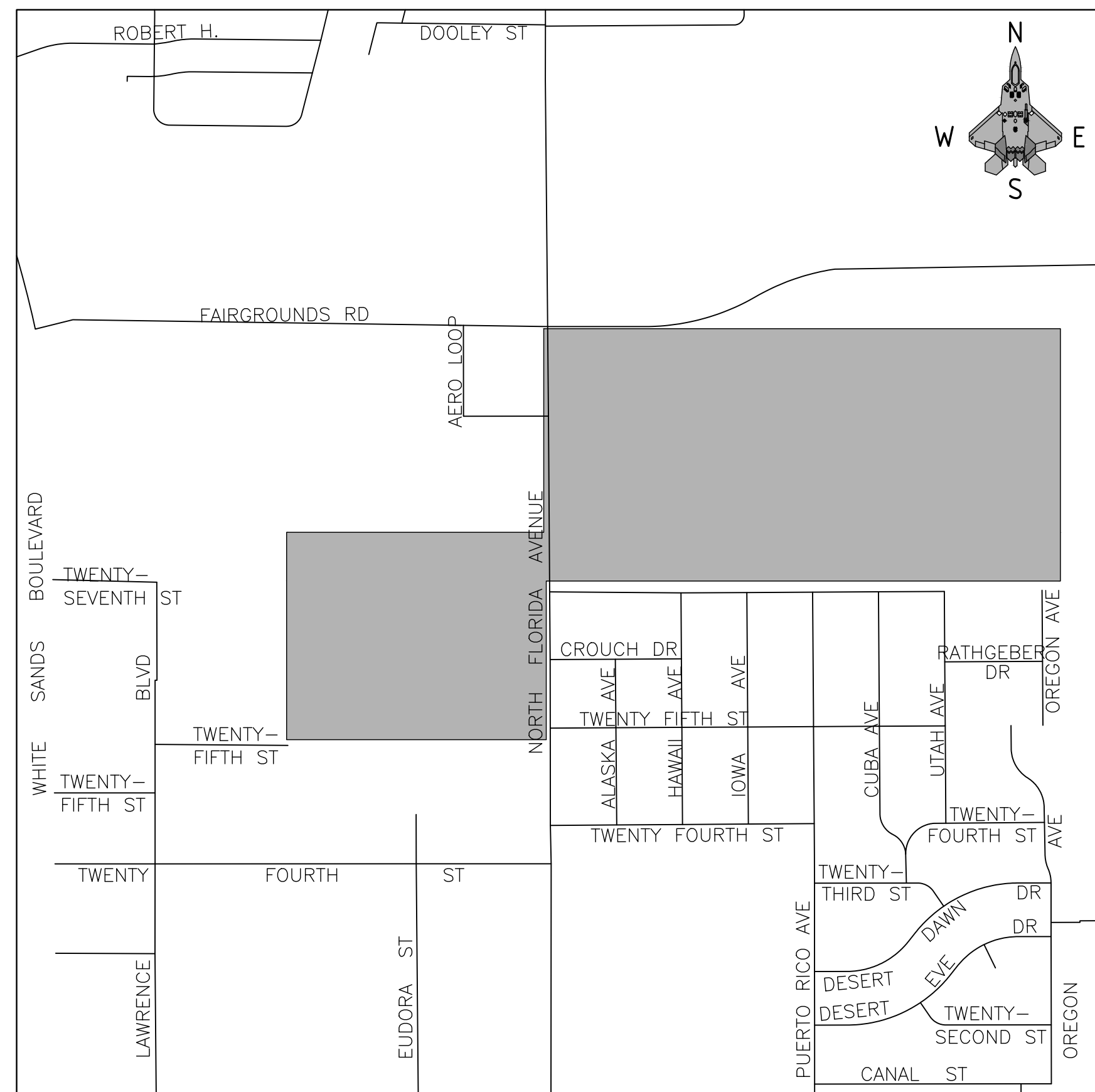


ENGINEERING DEPARTMENT



VICINITY MAP
NO SCALE

A L A M O G O R D O



NEW MEXICO

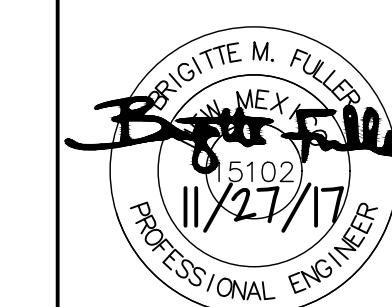
Sheet Legend

- Sht 1 - Cover Sheet with Vicinity Map
- G - General Sheets
- Q - Summary of Quantities
- SR - Survey Sheet and Control Points
- R - Removal Plan Sheets
- RC - Roadway Construction Plans
- TC1.0 - Construction Traffic Control Plan
- D - Miscellaneous Detail Plan Sheets
- NMDOT - New Mexico Department of Transportation Standard Drawings
- Reference - Griggs Reservoir Improvements (2016)

GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS

EDA AWARD NO. 08-79-05104

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ENGINEERING DEPT.

COVER SHEET

Public Works Bid No.:

2018-003

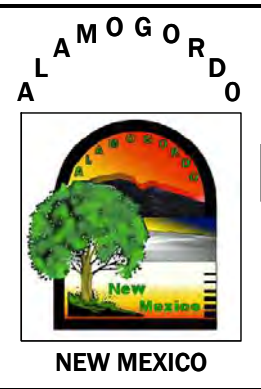
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SHEET INDEX		
SHEET #	SHEET #	SHEET TITLE
1	Sht.01	COVER SHEET
2	G1.0	SHEET INDEX
3	G2.0	LEGENDS & ABBREVEATIONS
4	G3.0	GENERAL NOTES
5	Q1.0	SUMMARY OF QUANTITIES
6	SR1.0	SURVEY & CONTROL POINTS
7	SR1.1	SURVEY & CONTROL POINTS
8	R-101	PROJECT REMOVALS
9	R-102	PROJECT REMOVALS
10	R-103	PROJECT REMOVALS
11	RC1.0	PLAN & PROFILE
12	RC1.1	PLAN & PROFILE
13	RC1.2	PLAN & PROFILE
14	RC1.3	PLAN & PROFILE
15	RC1.4	PLAN & PROFILE
16	RC1.5	PLAN & PROFILE
17	RC1.6	PLAN & PROFILE
18	RC1.7	PLAN & PROFILE
19	RC1.8	GRADING AND DRAINAGE
20	RC1.9	GRADING AND DRAINAGE CROSS SECTIONS
21	TC1.0	CONSTRUCTION TRAFFIC CONTROL PLAN
22	D1.1	MISCELLANEOUS DETAILS
23	D1.2	MISCELLANEOUS DETAILS
24	D1.3	MISCELLANEOUS DETAILS
25	D1.4	ALAMAGORDO DETAILS
26	D1.5	ALAMAGORDO DETAILS
27	D1.6	ALAMAGORDO DETAILS
28	D1.7	CHANNEL DETAILS
29	G-003	RESERVOIR CONTROL POINTS & DATA PLAN
30	C-101	RESERVOIR GRADING PLAN
31	C-102	RESERVOIR CROSS SECTIONS
32	C-501	SITE DETAILS
33	C-502A	SITE DETAILS
34	C-502B	SITE DETAILS
35	C-503	SITE DETAILS
36	C-504	SITE DETAILS
37	C-505	NMDOT 602-01-1_1

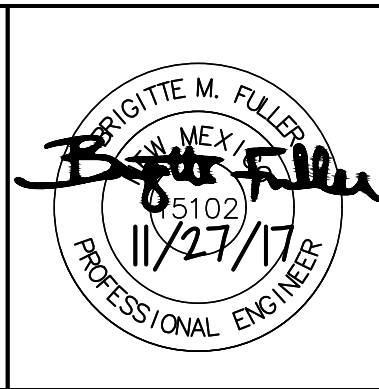
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**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 SHEET INDEX**

CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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 ALBUQUERQUE, NM 87109
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 FAX: 505-348-4055 FIRST FLOOR
 www.wilco.com

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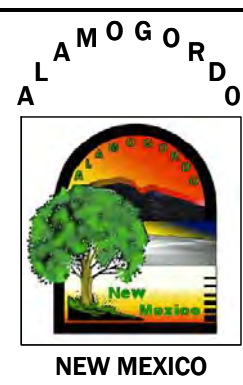
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 Sheet 2 of 37

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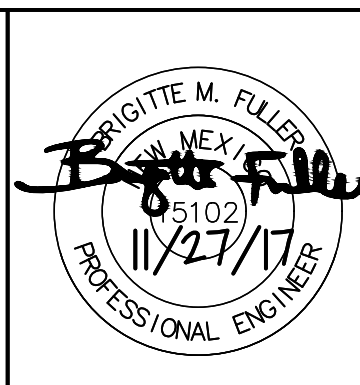
ITEM NO.	ITEM DESCRIPTION	UNIT	PROJECT TOTAL	
			EST. QTY	FINAL
1	MOBILIZATION	LS	1	
2	CLEARING & GRUBBING	LS	1	
3	PROJECT REMOVALS	LS	1	
4	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	LS	1	
5	TRAFFIC CONTROL MANAGEMENT	LS	1	
6	CONSTRUCTION STAKING AND SURVEYING	LS	1	
7	UTILITY ALLOWANCE	AL	1	
8	DIVERSION & CARE OF STORM WATER	AL	1	
9	UNCLASSIFIED EXCAVATION	CY	38,200	
10	EMBANKMENT OF ENGINEERED FILL	CY	4,200	
11	4"HMA SP-IV W/PG 74-22 COMPLETE (INCLUDES SUB GRADE PREP, BASE COARSE AND PRIME COAT, BINDER, CIP)	SY	390	
12	STANDARD CURB & GUTTER - TYPE II	LF	20	
13	CONCRETE SIDEWALK 4" THICK	SY	20	
14	MANHOLE, 8-FOOT DIAMETER	EA	4	
15	48" ULTRAFLO STORM DRAIN PIPE	LF	662	
16	54" ULTRAFLO STORM DRAIN PIPE	LF	1110	
17	60" ULTRAFLO STORM DRAIN PIPE	LF	1104	
18	60" CULVERT HEADWALL	EA	1	
19	ULTRAFLOW TEE MANHOLE	EA	3	
20	1' THICK WIRE ENCLOSED RIP RAP	CY	81	
21	6' X 6' JUNCTION BOX, PRECAST CONCRETE STRUCTURES	EA	1	
22	CHANNEL OUTLET (BLEEDER PIPE WITH FLAP GATE, AND CONCRETE WEIR)	LS	1	
23	GRIGGS CONCRETE INTAKE RISER, INC. FOUNDATION, SOIL CEMENT SLAB, COMPLETE	LS	1	
24	30" x 30" CONCRETE BOX CULVERT	LF	152	
25	GRIGGS EMERGENCY SPILLWAY 5" THICK REINFORCED CONCRETE, INCLUDING CUTOFF WALL, CIP	CY	200	
26	REMOVE AND REPLACE EXISTING ASPHALT PER CITY OF ALAMOGORDO PAVMENT PATCH DETAIL	SY	1206	

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**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 SUMMARY OF QUANTITIES**
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

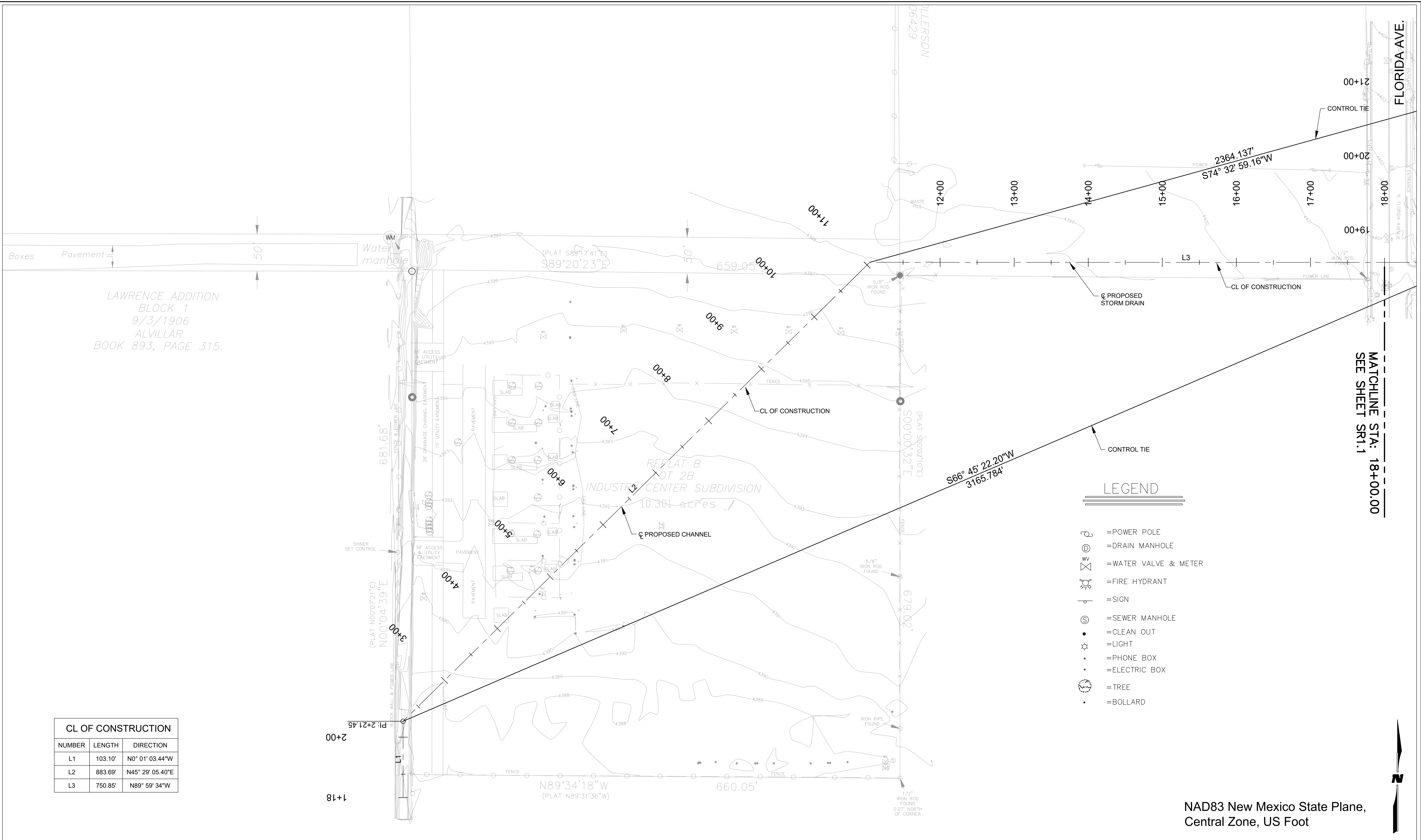


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Sheet No.: **Q1.0**
 Sheet 5 of 37

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LAWRENCE ADDITION
BLOCK 1
9/3/1906
ALVILLAR
BOOK 893, PAGE 315.

MATCHLINE STA: 18+00.00
SEE SHEET SR1.1

CL OF CONSTRUCTION		
NUMBER	LENGTH	DIRECTION
L1	103.10'	N0° 01' 03.44"W
L2	883.69'	N45° 29' 05.40"E
L3	750.85'	N89° 59' 34"W

- LEGEND**
- =POWER POLE
 - =DRAIN MANHOLE
 - =WATER VALVE & METER
 - =FIRE HYDRANT
 - =SIGN
 - =SEWER MANHOLE
 - =CLEAN OUT
 - =LIGHT
 - =PHONE BOX
 - =ELECTRIC BOX
 - =TREE
 - =BOLLARD

NAD83 New Mexico State Plane,
Central Zone, US Foot

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 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

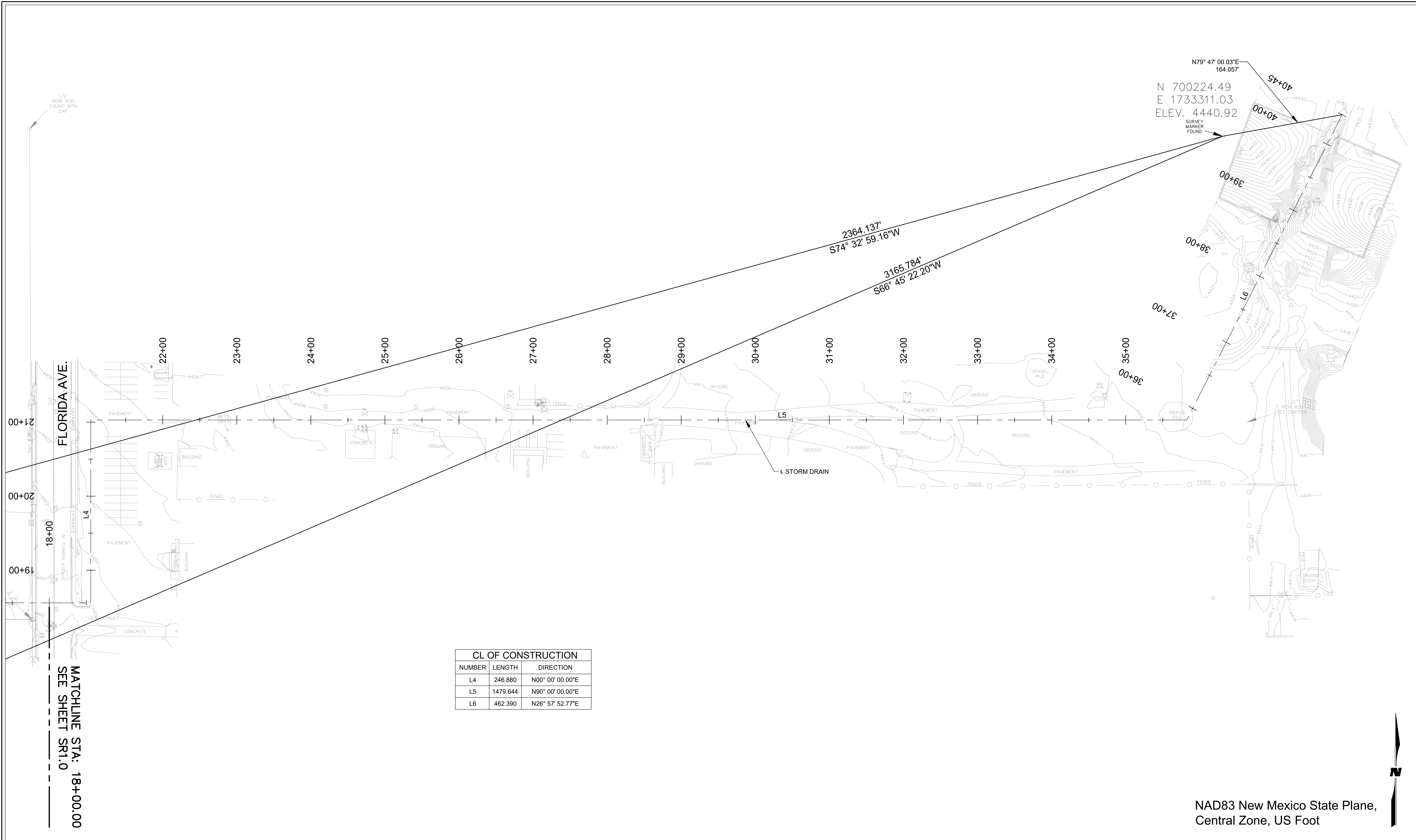
BRIGITTE M. FULLER
NEW MEXICO
5102
11/27/17
PROFESSIONAL ENGINEER

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Sheet No.: SR1.0
 Sheet 6 of 37

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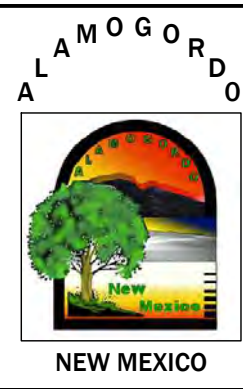
CL OF CONSTRUCTION		
NUMBER	LENGTH	DIRECTION
L4	246.880	N00° 00' 00.00"E
L5	1479.644	N90° 00' 00.00"E
L6	462.390	N26° 57' 52.77"E

NAD83 New Mexico State Plane,
Central Zone, US Foot

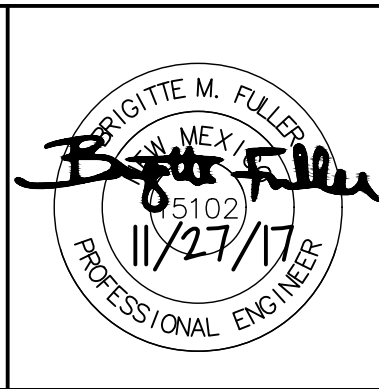


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**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 SURVEY & CONTROL POINTS**
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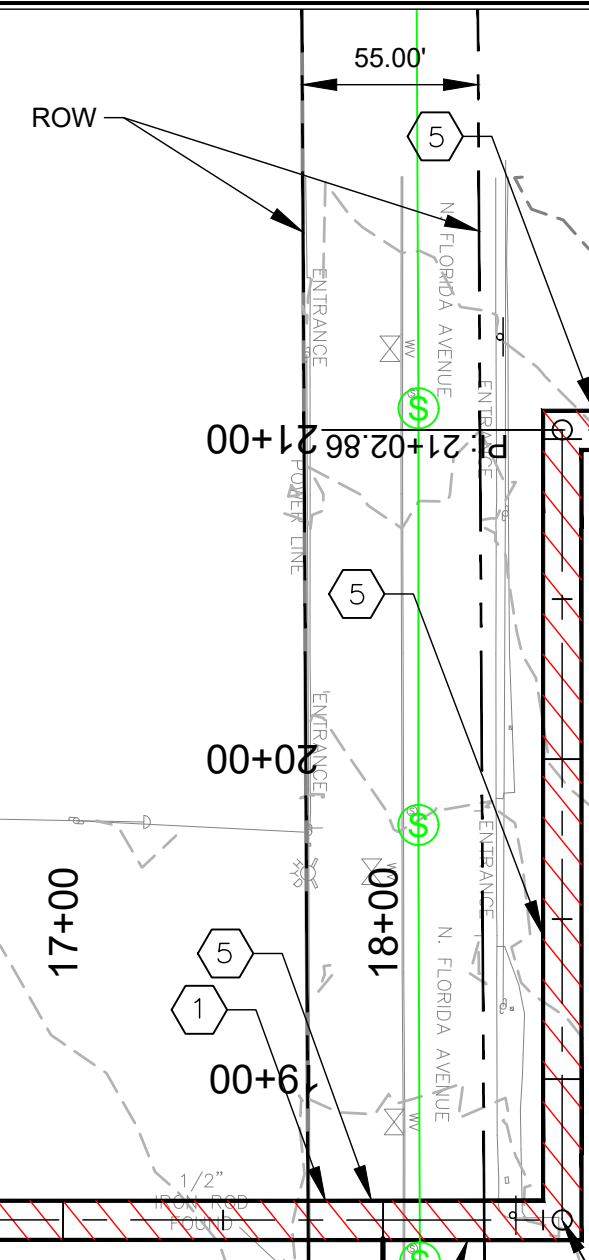
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Scale: Horiz.: 1" = 60' Vert.: _____

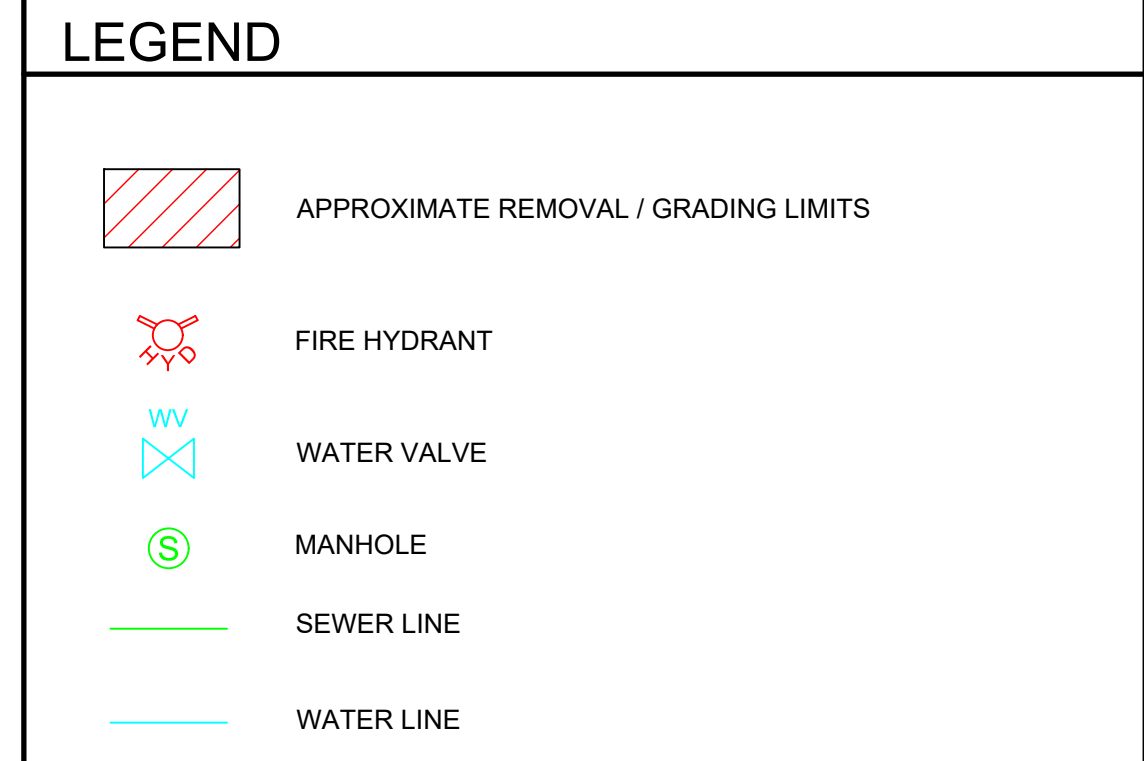
Sheet No.:
SR1.1
 Sheet 7 of 37

10.057 ACRE ±

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ROLLERSON



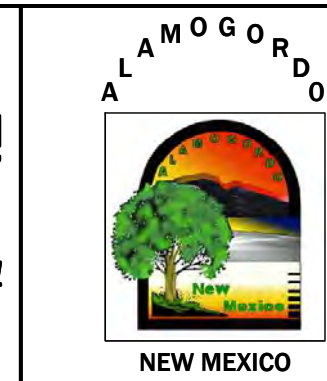
- KEYNOTES**
1. SAWCUT NEAT LINE, REMOVE AND REPLACE EXISTING CURB AND GUTTER AND SIDEWALK TO THE NEAREST JOINT AS REQUIRED. SEE SHEET D1.6 FOR TYPICAL CURB AND GUTTER DETAIL.
 2. REMOVE AND DISPOSE EXISTING CONCRETE AND PAVEMENT.
 3. REMOVE AND DISPOSE FENCE. REMOVE FENCE AS REQUIRED FOR IMPROVEMENTS.
 4. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES ON-SITE ARE NOT LIVE. CONTRACTOR SHALL REMOVE AND DISPOSE ALL UTILITIES THAT WILL NOT BE USED WITHIN THE PROJECT AREA.
 5. SAWCUT NEAT LINE, REMOVE AND REPLACE PAVEMENT SECTION. SEE SHEET D1.6 FOR TYPICAL PAVEMENT PATCH DETAIL.



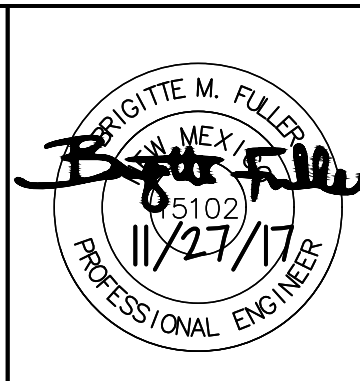
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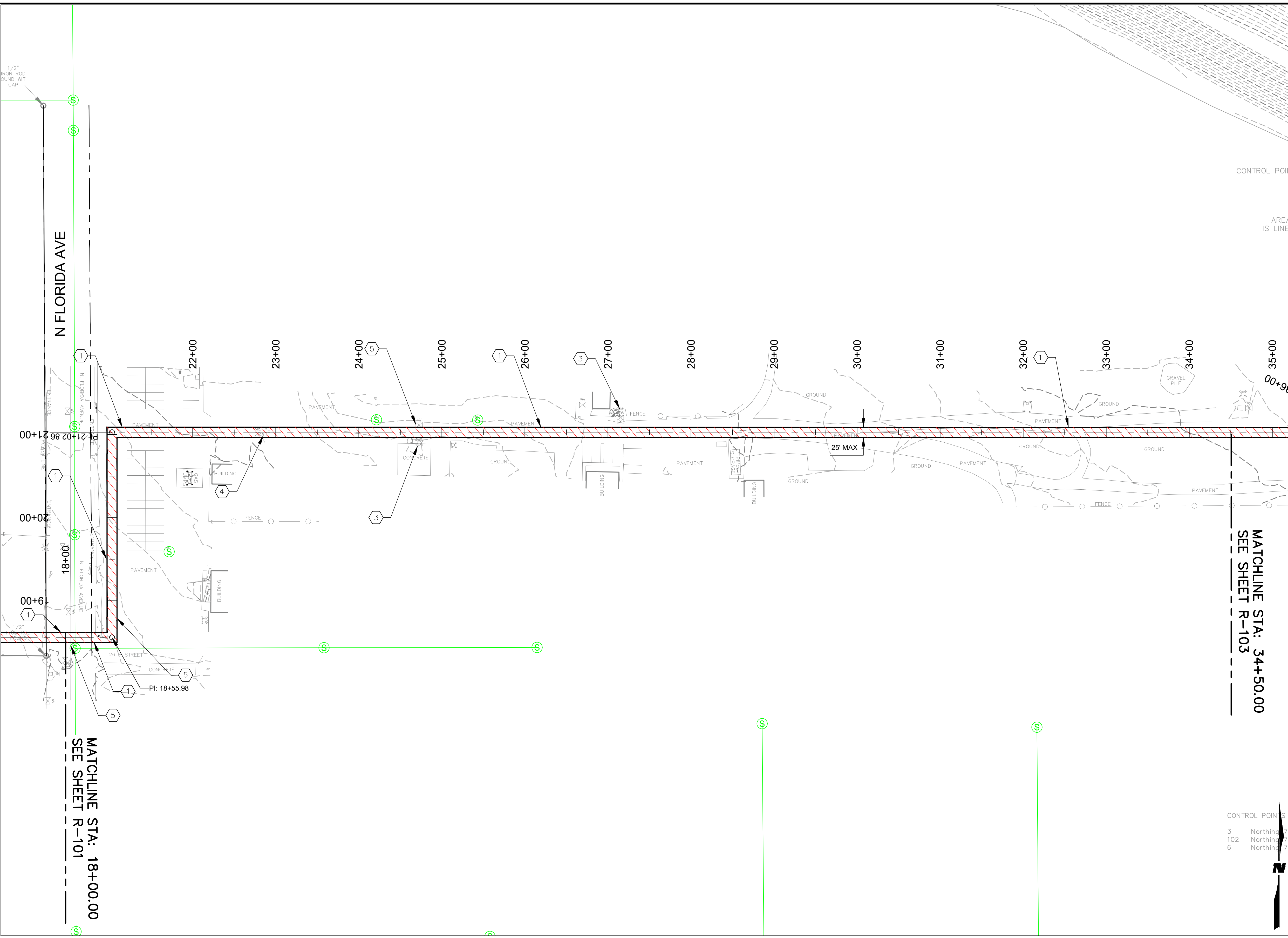
**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 PROJECT REMOVALS**
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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 Drawn By: MTR Designed By: EEV
 Checked By: BMF Approved By: _____
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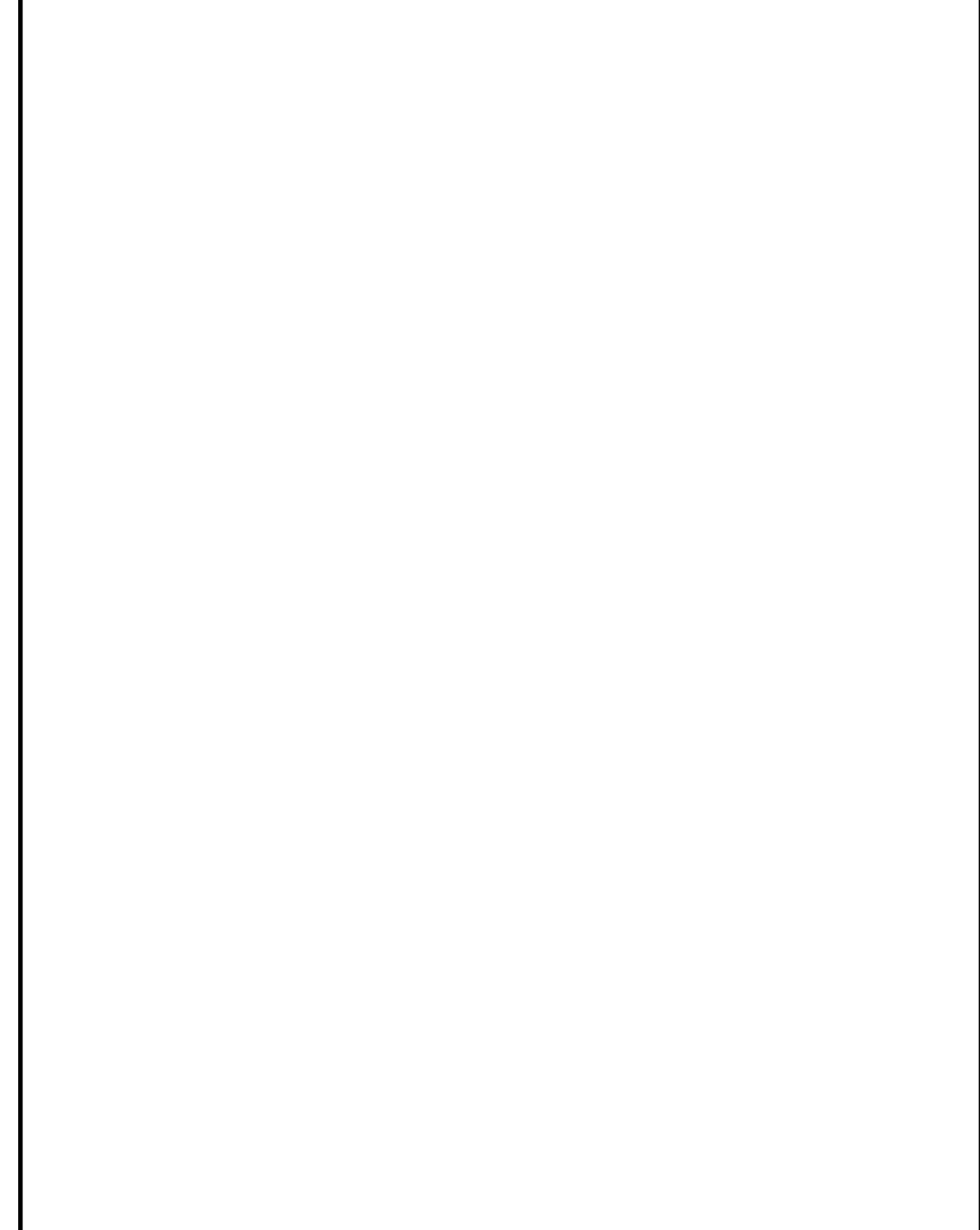
Sheet No.: **R-101**
 Sheet 8 of 37

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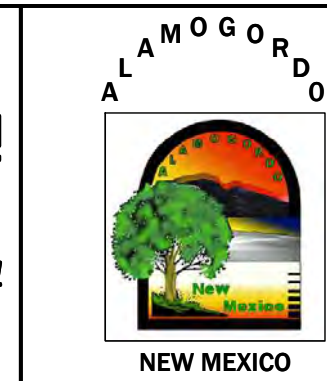
- KEYNOTES**
1. SAWCUT NEAT LINE.
 2. REMOVE AND REPLACE PAVEMENT SECTION. SEE SHEET D1.6 FOR TYPICAL PAVEMENT PATCH DETAIL.
 3. PROTECT EXISTING FIRE HYDRANT.
 4. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALAMOGORDO PUBLIC WORKS SERVICE YARD ON REMOVAL OF OBSTRUCTIONS WITHIN IMPROVEMENT AREA.
 5. CONTRACTOR TO VERIFY ALL UTILITY CROSSING DEPTHS.
 6. PROTECT EXISTING TREE.

GENERAL NOTES



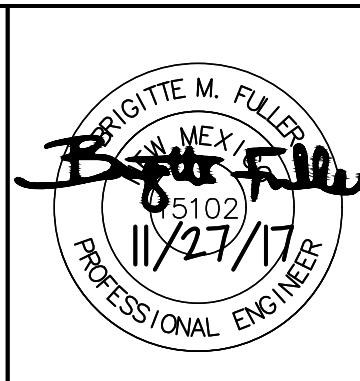
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**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 PROJECT REMOVALS**

CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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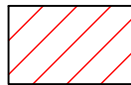





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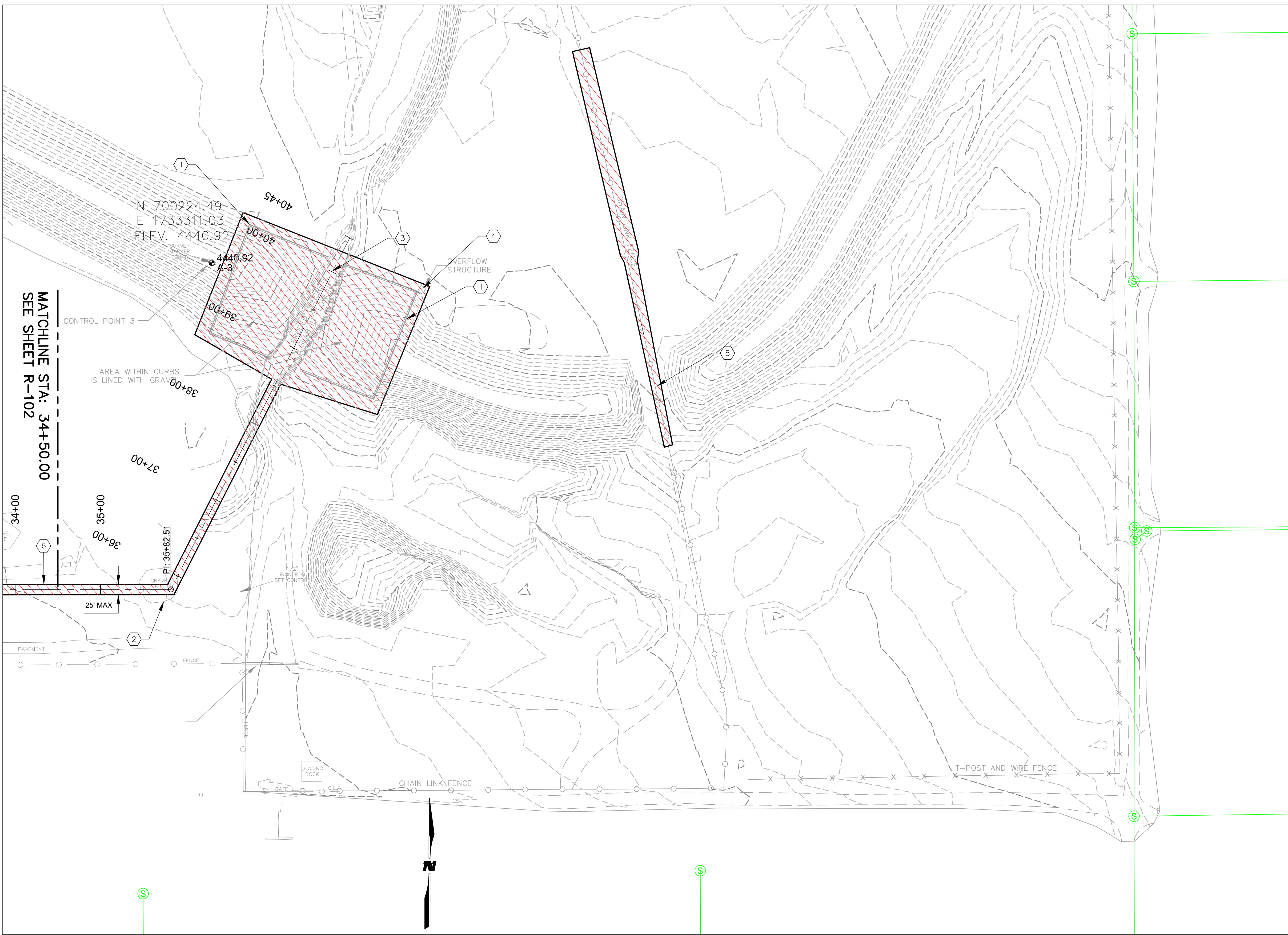
Sheet No.: **R-102**
 Sheet 9 of 37

KEYNOTES

1. REMOVE AND DISPOSE EXISTING CURB.
2. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALAMOGORDO PUBLIC WORKS SERVICE YARD ON REMOVAL OF OBSTRUCTIONS WITHIN IMPROVEMENT AREA.
3. REMOVE AND DISPOSE EXISTING BROKEN CONCRETE.
4. REMOVE AND DISPOSE EXISTING OUTLET STRUCTURE.
5. REMOVE AND DISPOSE 140 LF OF EXISTING FENCE.
6. SAWCUT NEAT LINE. REMOVE AND REPLACE PAVEMENT SECTION. SEE SHEET D1.6 FOR TYPICAL PAVEMENT PATCH DETAIL.

LEGEND

-  APPROXIMATE REMOVAL / GRADING LIMITS
-  FIRE HYDRANT
-  WATER VALVE
-  MANHOLE
-  SEWER LINE
-  WATER LINE

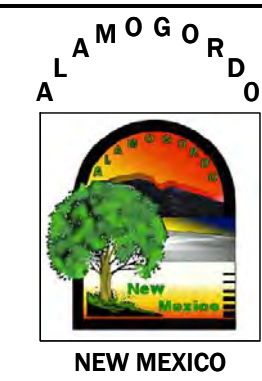


MATCHLINE STA: 34+50.00
SEE SHEET R-102

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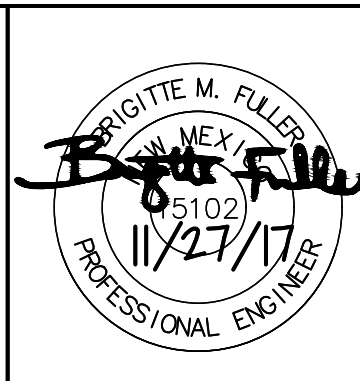
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 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 PROJECT REMOVALS**

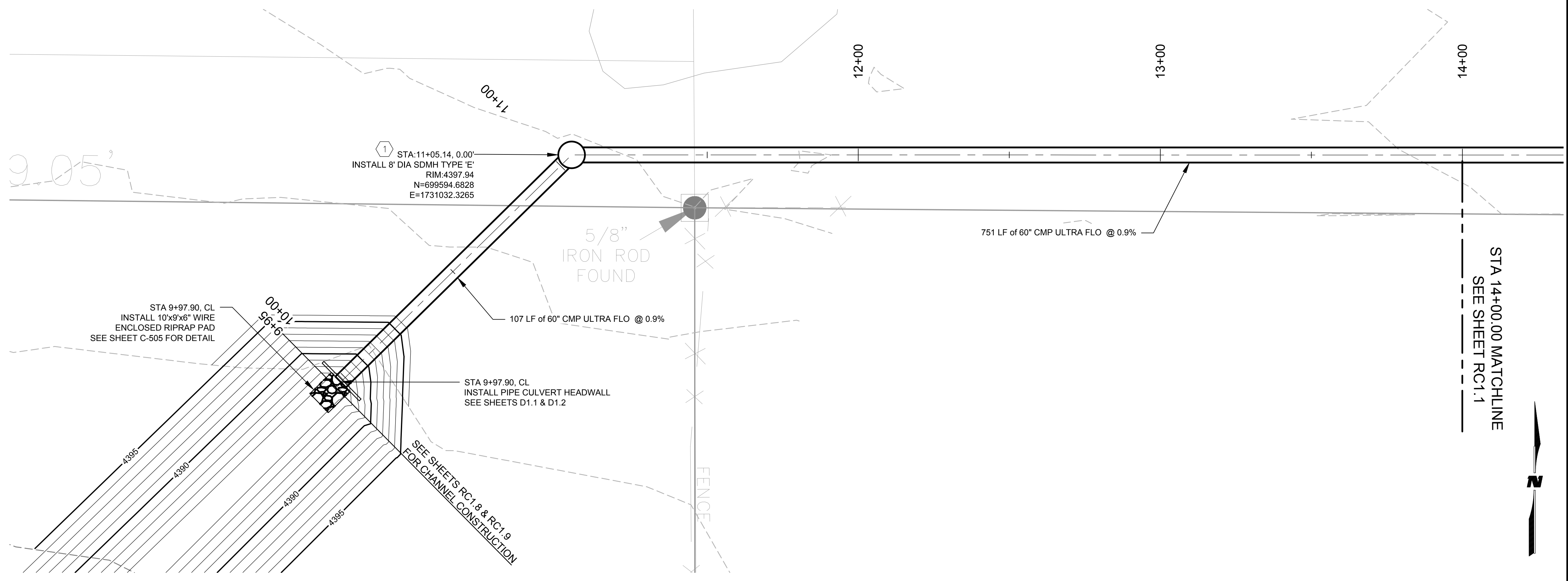
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Sheet No.: **R-103**
 Sheet 10 of 37



KEYNOTES

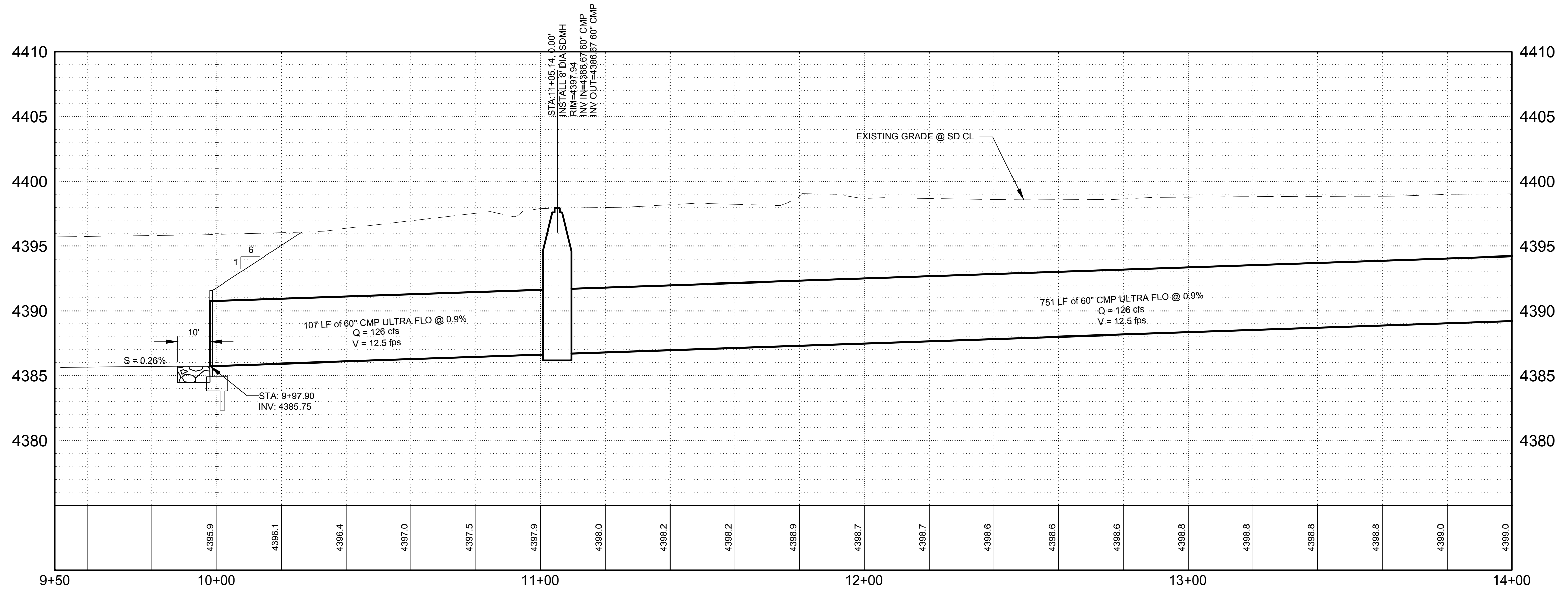
- SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- STORM DRAIN PIPE SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL.

LEGEND

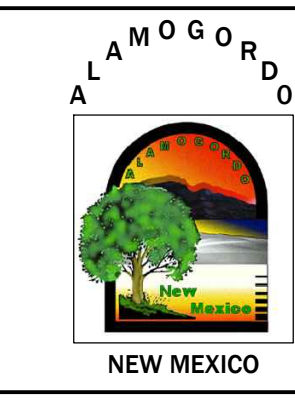
- 3817 PROPOSED CONTOURS MAJOR
- 3817 PROPOSED INTERMEDIATE CONTOURS
- 3817 EXISTING CONTOURS MAJOR
- EXISTING INTERMEDIATE CONTOURS
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND WATER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ELECTRIC OVERHEAD
- EXISTING SAS LINE
- EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE



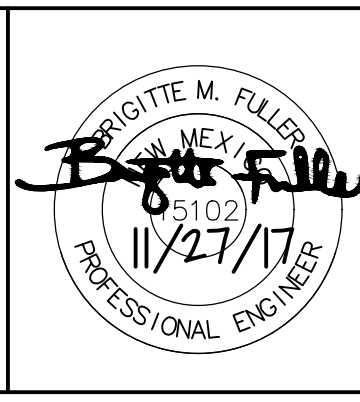
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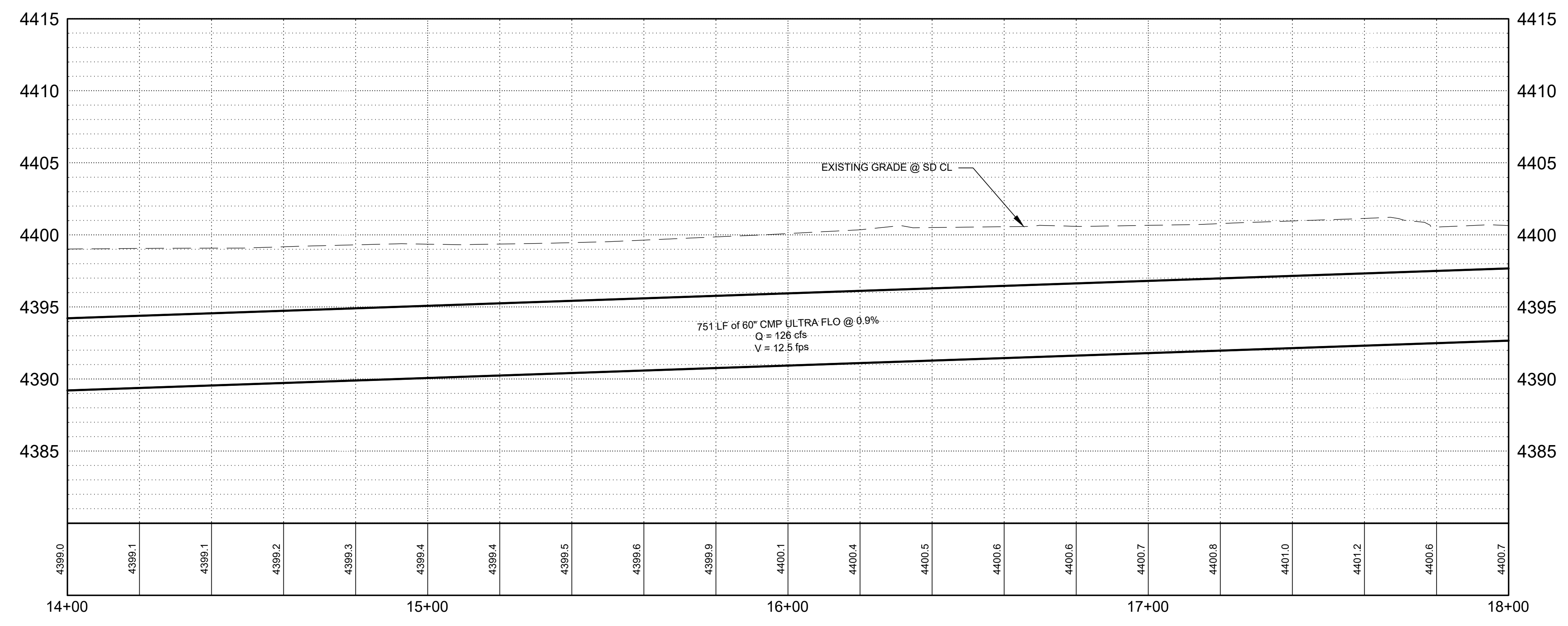
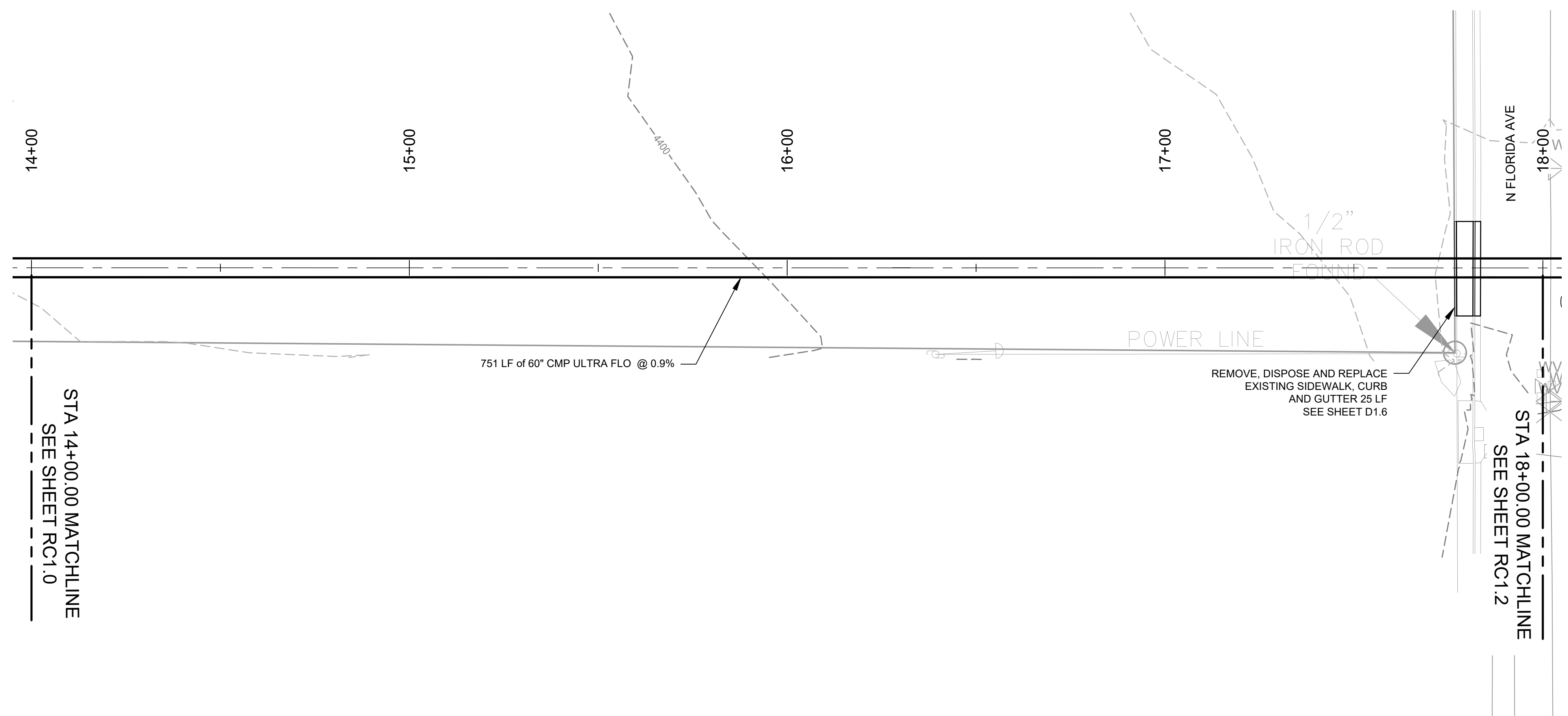
**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS**
PLAN & PROFILE
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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Sheet No.: **RC1.0**
 Sheet 11 of 37



GENERAL NOTES

1. STORM DRAIN PIPE SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL.

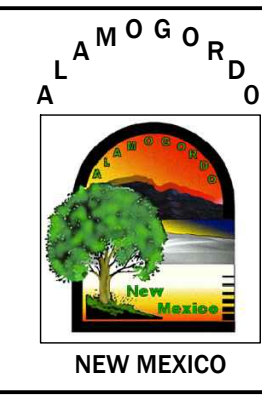
LEGEND

- 3817 — PROPOSED CONTOURS MAJOR
- — PROPOSED INTERMEDIATE CONTOURS
- - - 3817 - - - EXISTING CONTOURS MAJOR
- - - EXISTING INTERMEDIATE CONTOURS
- GAS — GAS — GAS — EXISTING UNDERGROUND GAS
- WTR — WTR — WTR — EXISTING UNDERGROUND WATER
- UE — UE — UE — EXISTING UNDERGROUND ELECTRIC
- OHE — OHE — OHE — EXISTING ELECTRIC OVERHEAD
- SS — EXISTING SAS LINE
- — EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE

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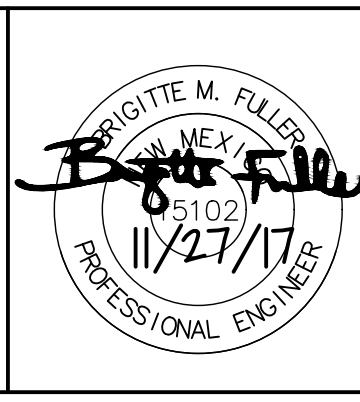
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 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 PLAN & PROFILE**

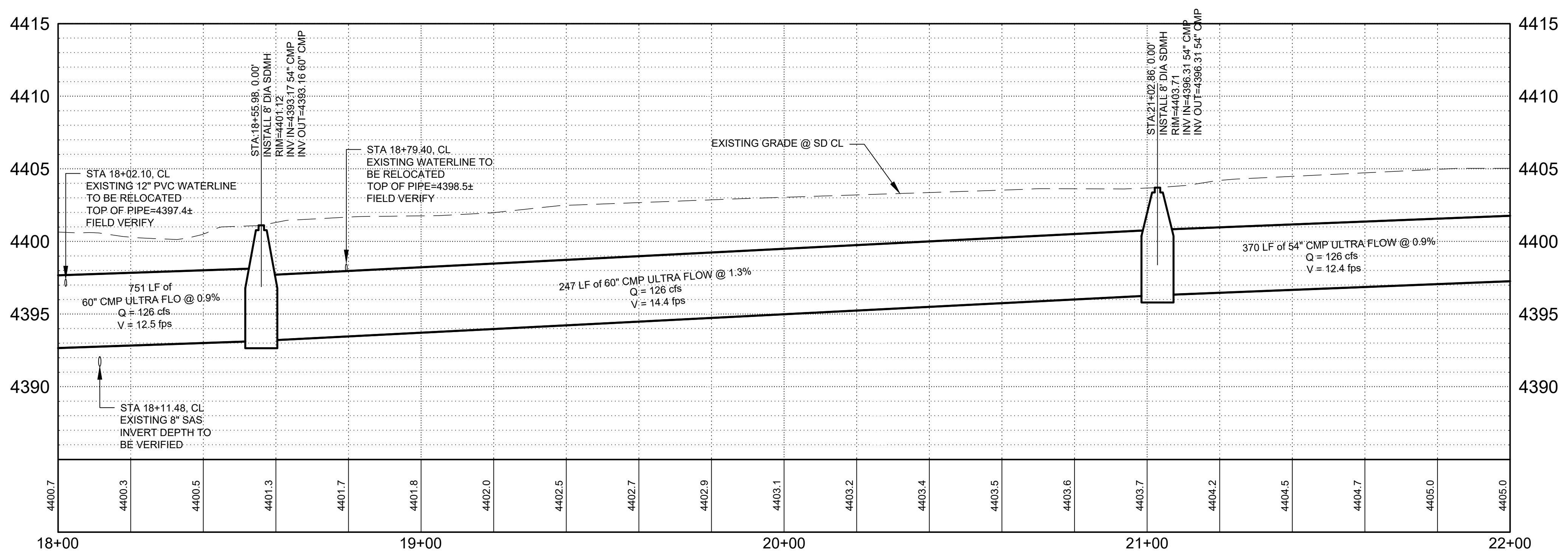
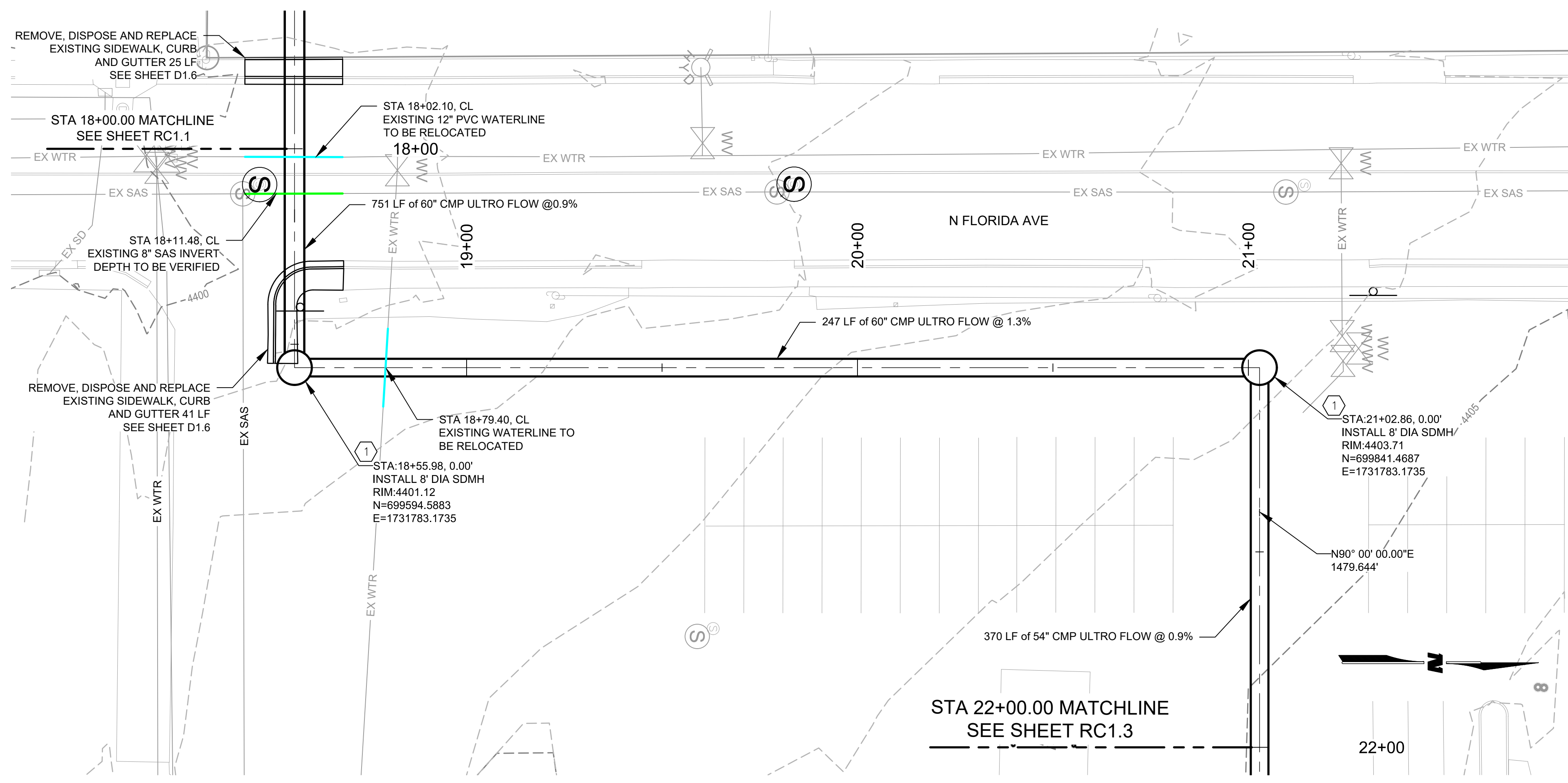
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Public Works Bid No.: 2018-003
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 Checked By: BMF Approved By: _____
 Scale: Horiz.: 1" = 20' Vert.: 1" = 5'

Sheet No.: **RC1.1**
 Sheet 12 of 37



KEYNOTES

- 1. SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- 1. STORM DRAIN PIPE SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL.

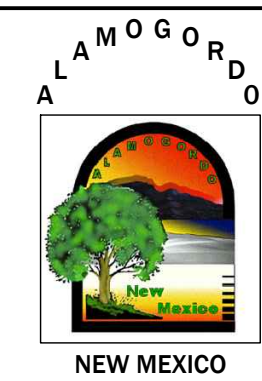
LEGEND

- 3817 PROPOSED CONTOURS MAJOR
- PROPOSED INTERMEDIATE CONTOURS
- 3817 EXISTING CONTOURS MAJOR
- EXISTING INTERMEDIATE CONTOURS
- GAS EXISTING UNDERGROUND GAS
- WTR EXISTING UNDERGROUND WATER
- UE EXISTING UNDERGROUND ELECTRIC
- CHE EXISTING ELECTRIC OVERHEAD
- SS EXISTING SAS LINE
- EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- S EXISTING SEWER MANHOLE
- P EXISTING POWER POLE
- WV EXISTING WATER VALVE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GTE GATE

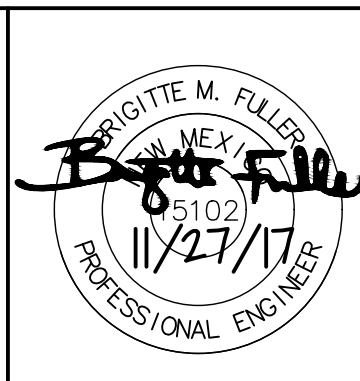
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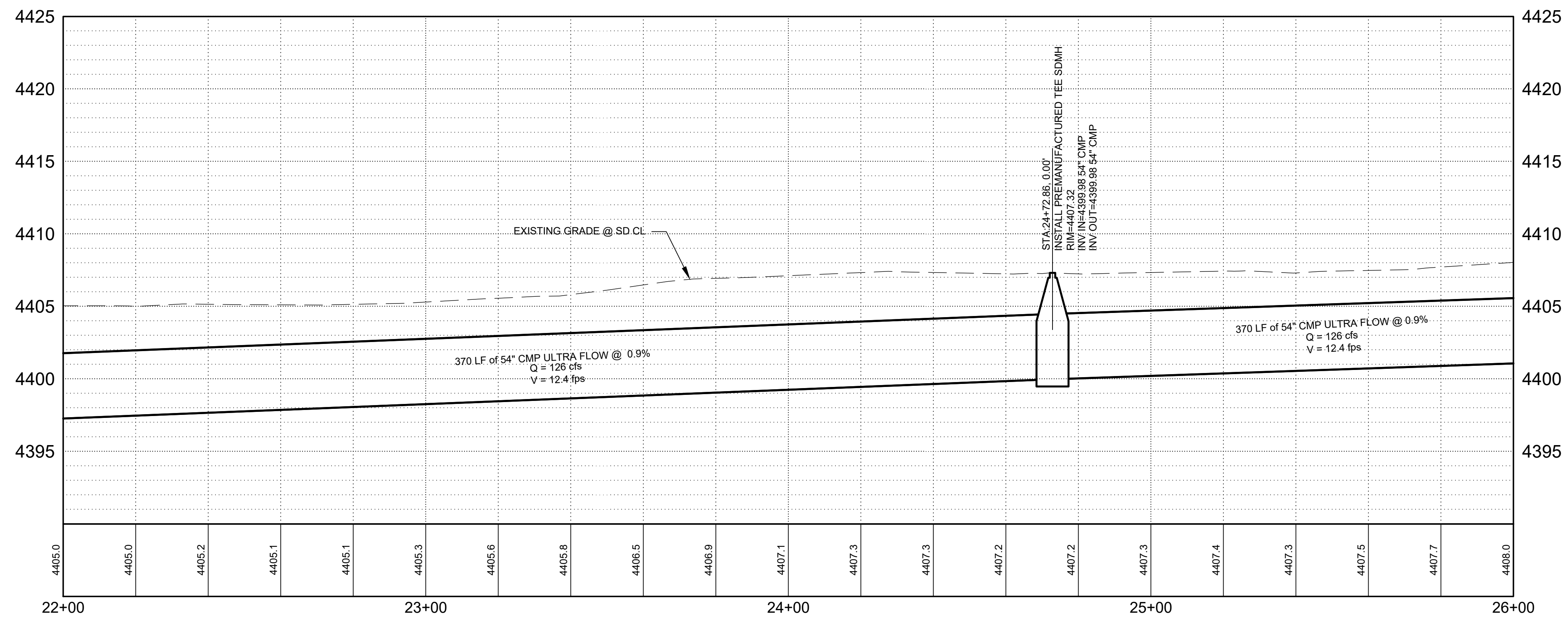
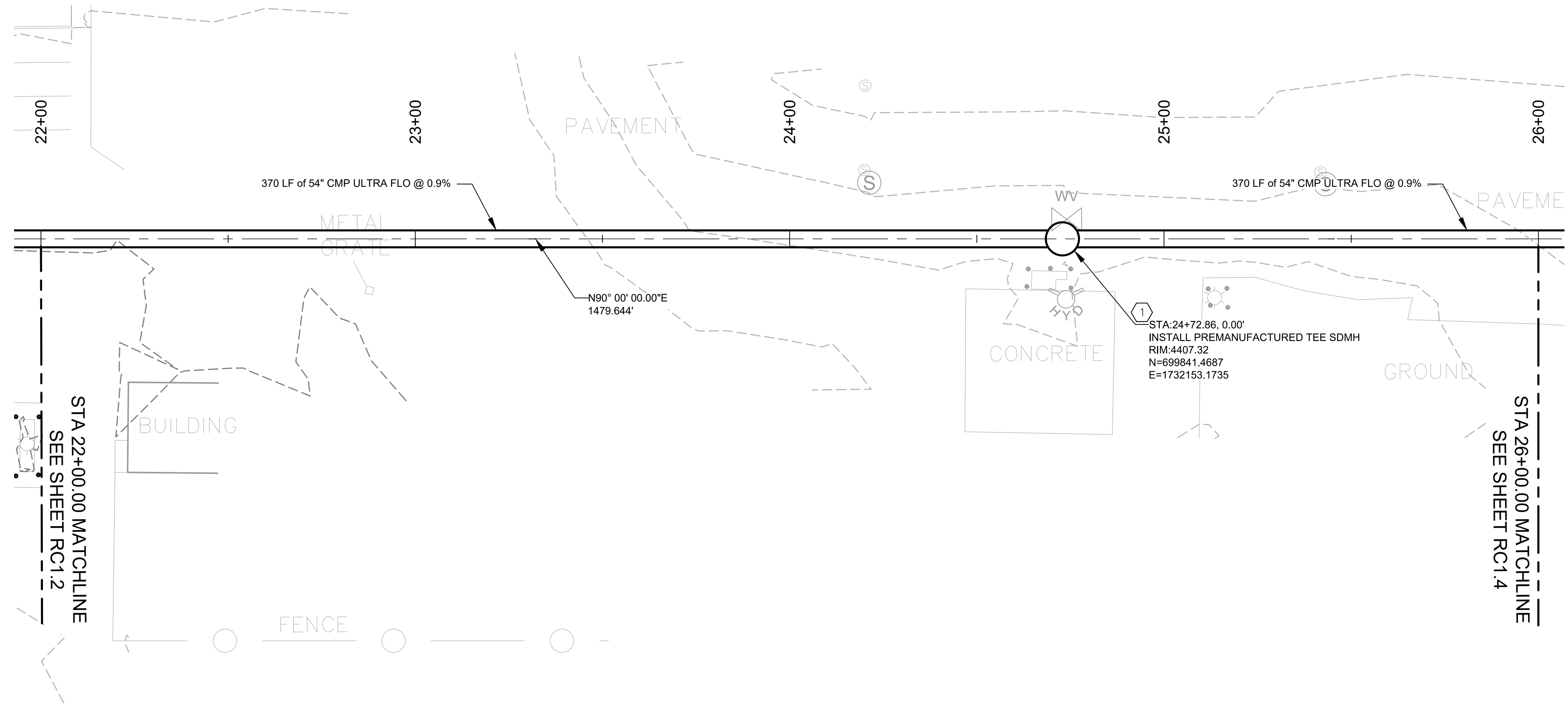


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 PLAN & PROFILE**
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 Scale: Horiz.: 1" = 20' Vert.: 1" = 5'
 Sheet 13 of 37
RC1.2



KEYNOTES

- SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- TEE MANHOLES SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL WITH LADDER, RISERS, MANHOLE RING, LID, PROTECTION SLAB AND ADJUSTING RINGS PER MANUFACTURES SPECIFICATIONS.

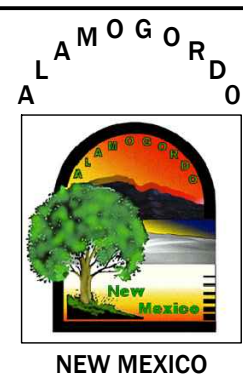
LEGEND

- 3817 PROPOSED CONTOURS MAJOR
- 3817 PROPOSED INTERMEDIATE CONTOURS
- 3817 EXISTING CONTOURS MAJOR
- EXISTING INTERMEDIATE CONTOURS
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND WATER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ELECTRIC OVERHEAD
- EXISTING SAS LINE
- EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE

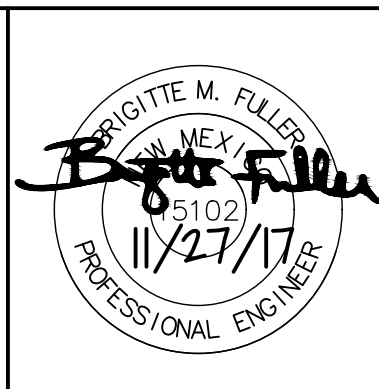
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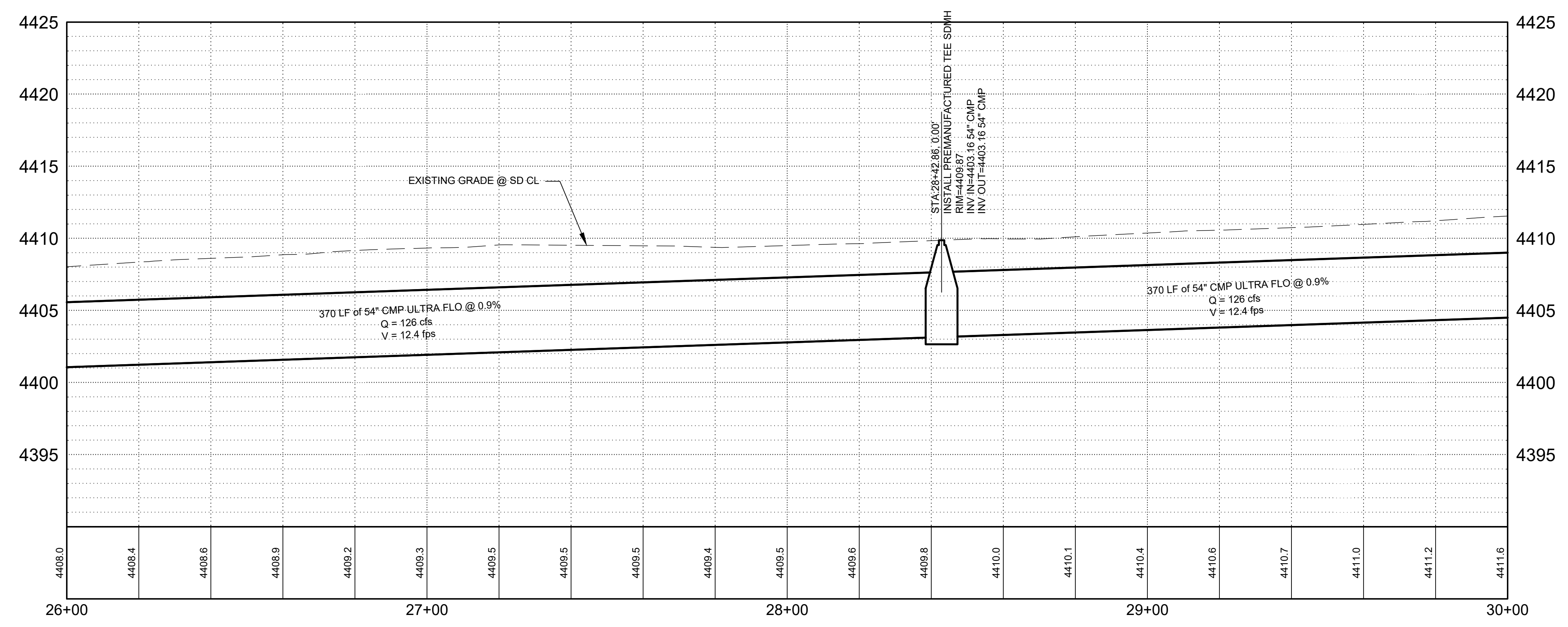
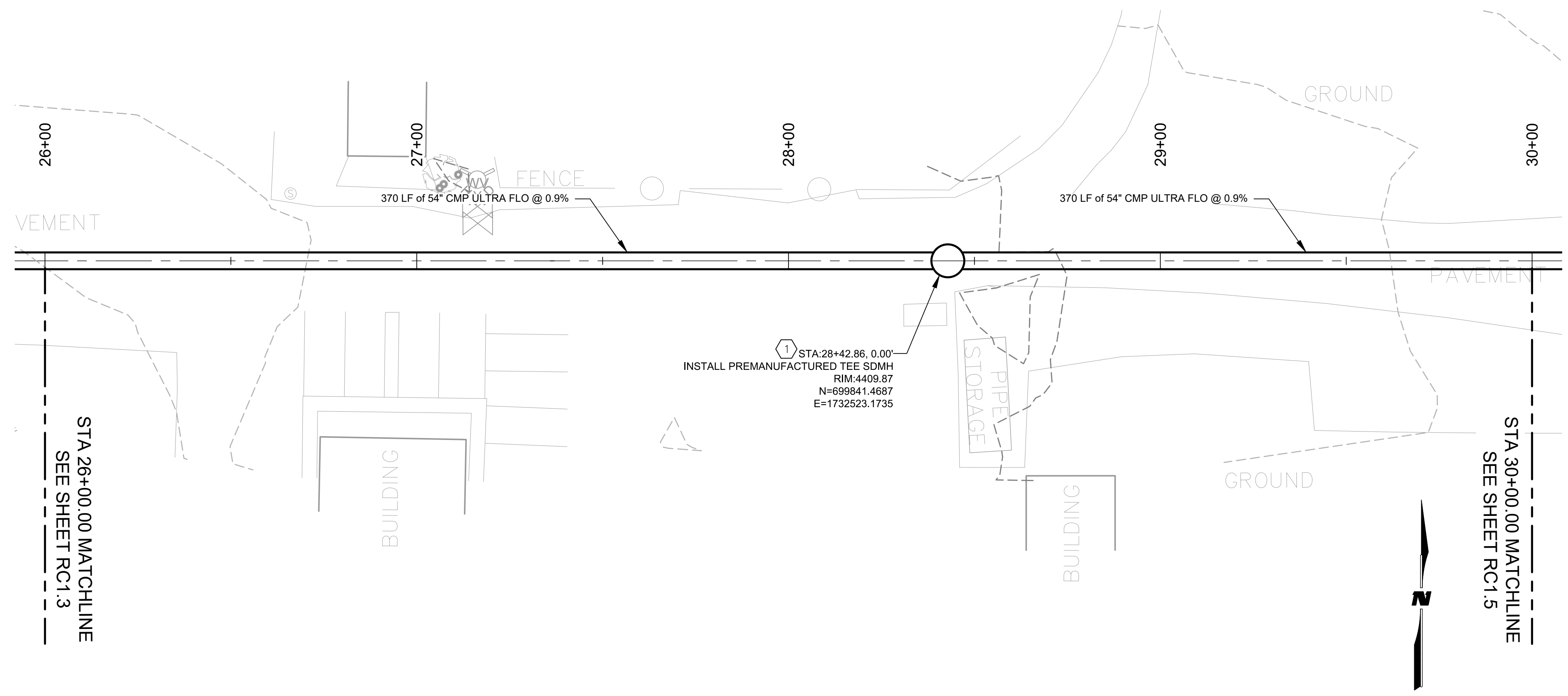
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Sheet No.: **RC1.3**
 Sheet 14 of 37



KEYNOTES

- SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- TEE MANHOLES SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL WITH LADDER, RISERS, MANHOLE, RING, LID, PROTECTION SLAB AND ADJUSTING RINGS PER MANUFACTURES SPECIFICATIONS.

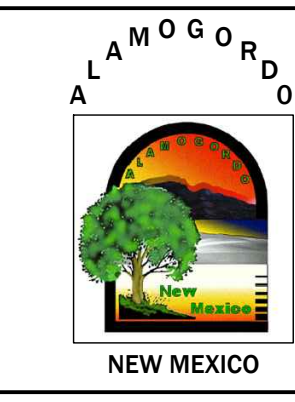
LEGEND

- 3817 PROPOSED CONTOURS MAJOR
- 3817 PROPOSED INTERMEDIATE CONTOURS
- 3817 EXISTING CONTOURS MAJOR
- EXISTING INTERMEDIATE CONTOURS
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND WATER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ELECTRIC OVERHEAD
- EXISTING SAS LINE
- EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE

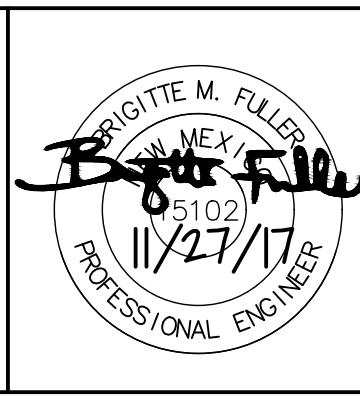
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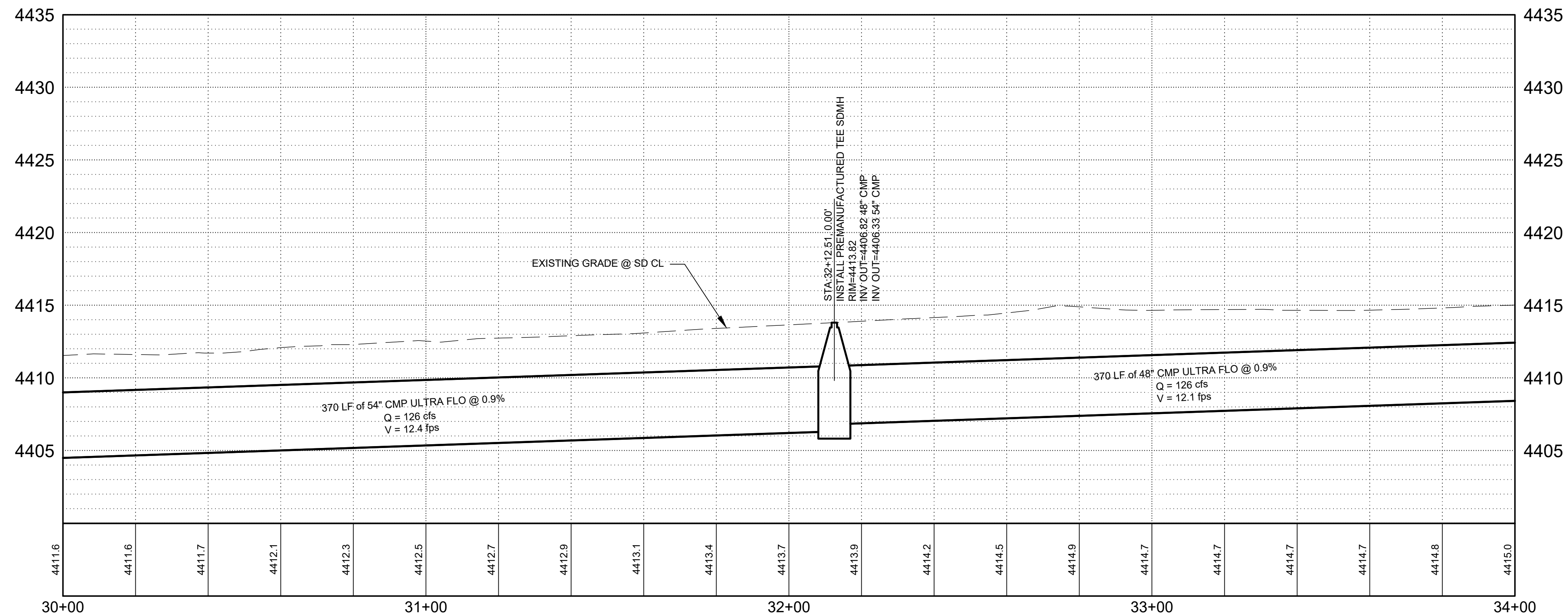
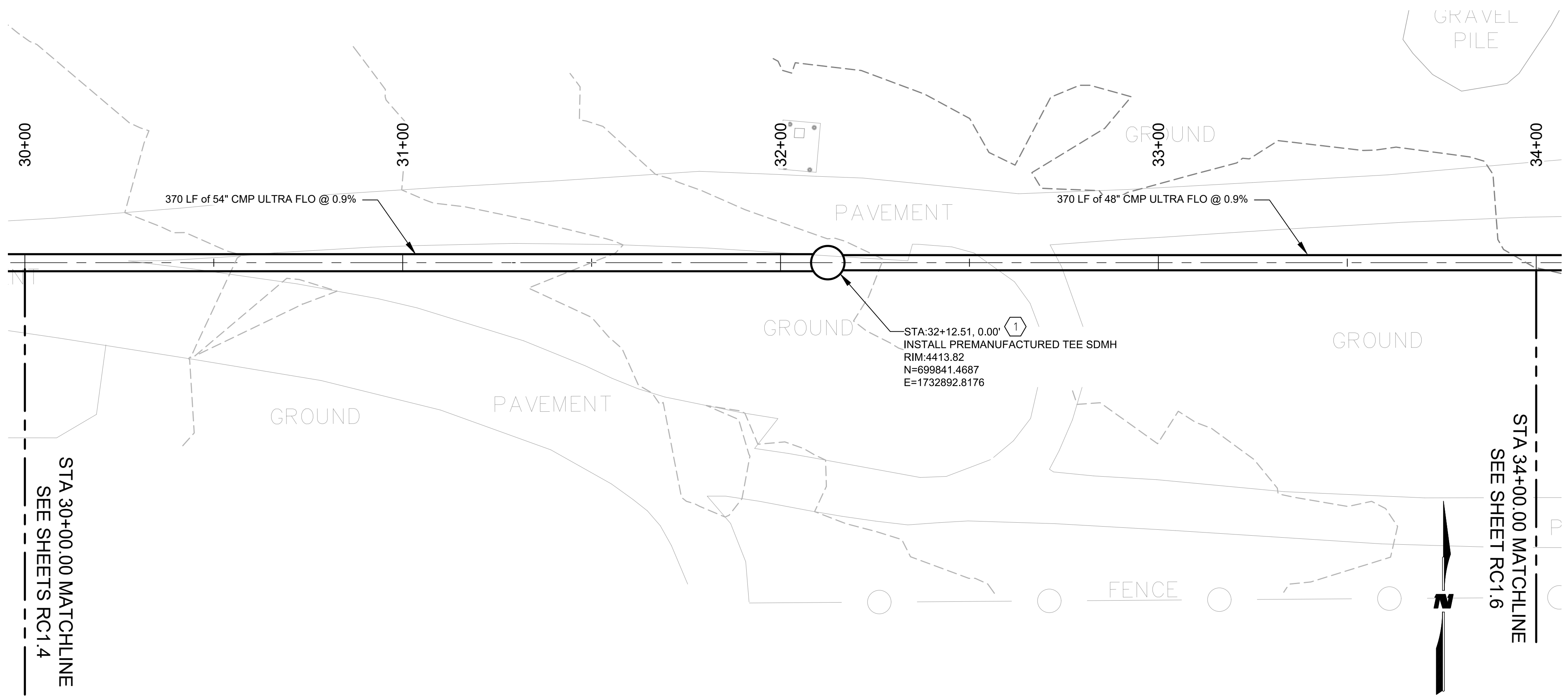
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 Sheet No.: **RC1.4**
 Sheet 15 of 37



KEYNOTES

- SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- TEE MANHOLES SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL WITH LADDER, RISERS, MANHOLE, RING, LID, PROTECTION SLAB AND ADJUSTING RINGS PER MANUFACTURES SPECIFICATIONS.

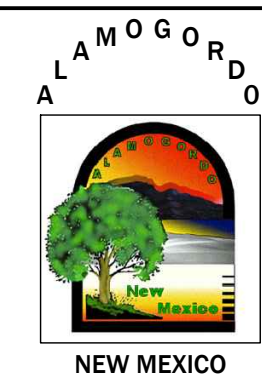
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- 3817 — PROPOSED CONTOURS MAJOR
- - - 3817 - - - PROPOSED INTERMEDIATE CONTOURS
- - - - - EXISTING CONTOURS MAJOR
- - - - - EXISTING INTERMEDIATE CONTOURS
- GAS — GAS — GAS — EXISTING UNDERGROUND GAS
- WTR — WTR — WTR — EXISTING UNDERGROUND WATER
- UE — UE — UE — EXISTING UNDERGROUND ELECTRIC
- OHE — OHE — EXISTING ELECTRIC OVERHEAD
- SS — EXISTING SAS LINE
- ○ ○ ○ ○ EXISTING FENCE
- ☼ TREE
- ☼ PINE TREE
- ☼ EXISTING LIGHT POLE
- ⊙ EXISTING SEWER MANHOLE
- ⊙ EXISTING POWER POLE
- WV EXISTING WATER VALVE
- ⊗ EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GTE GATE

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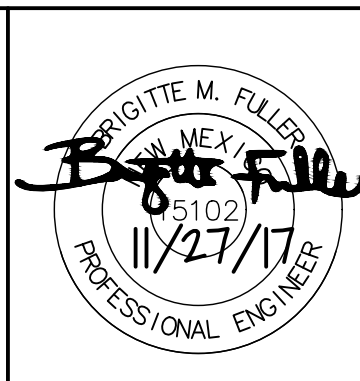
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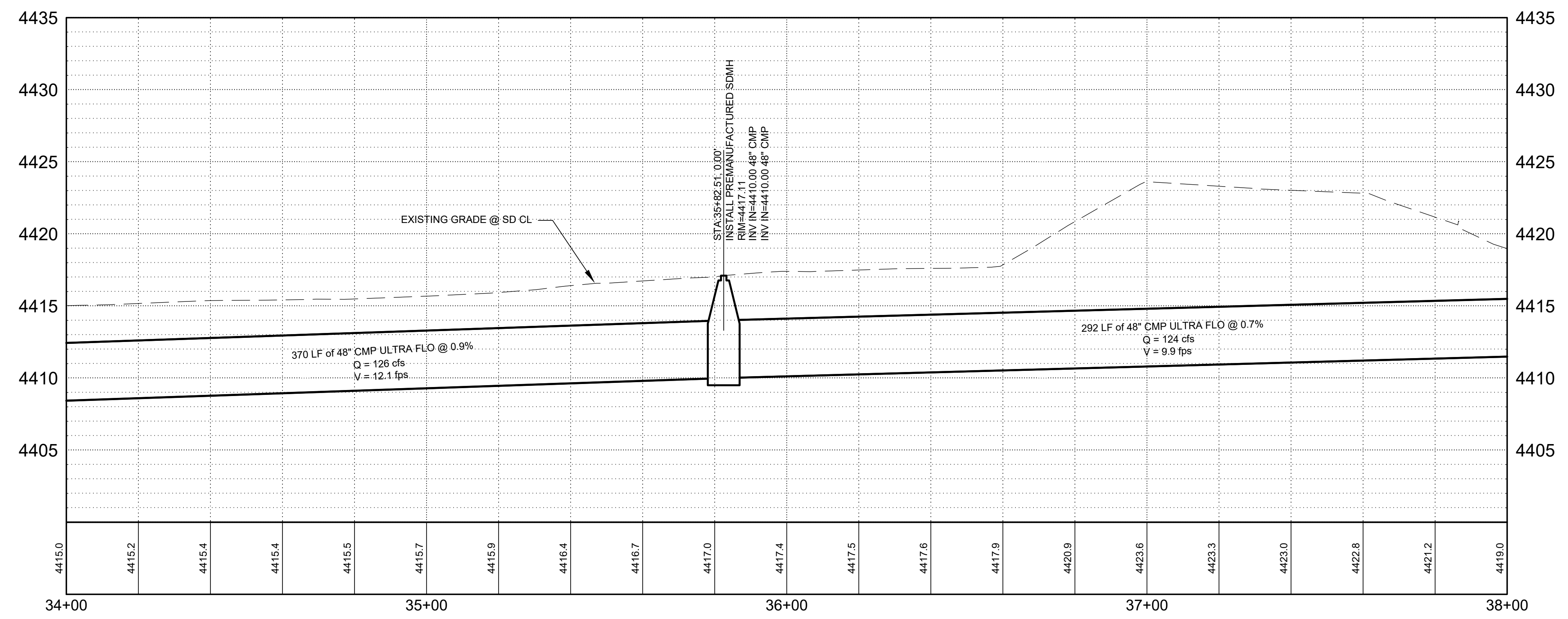
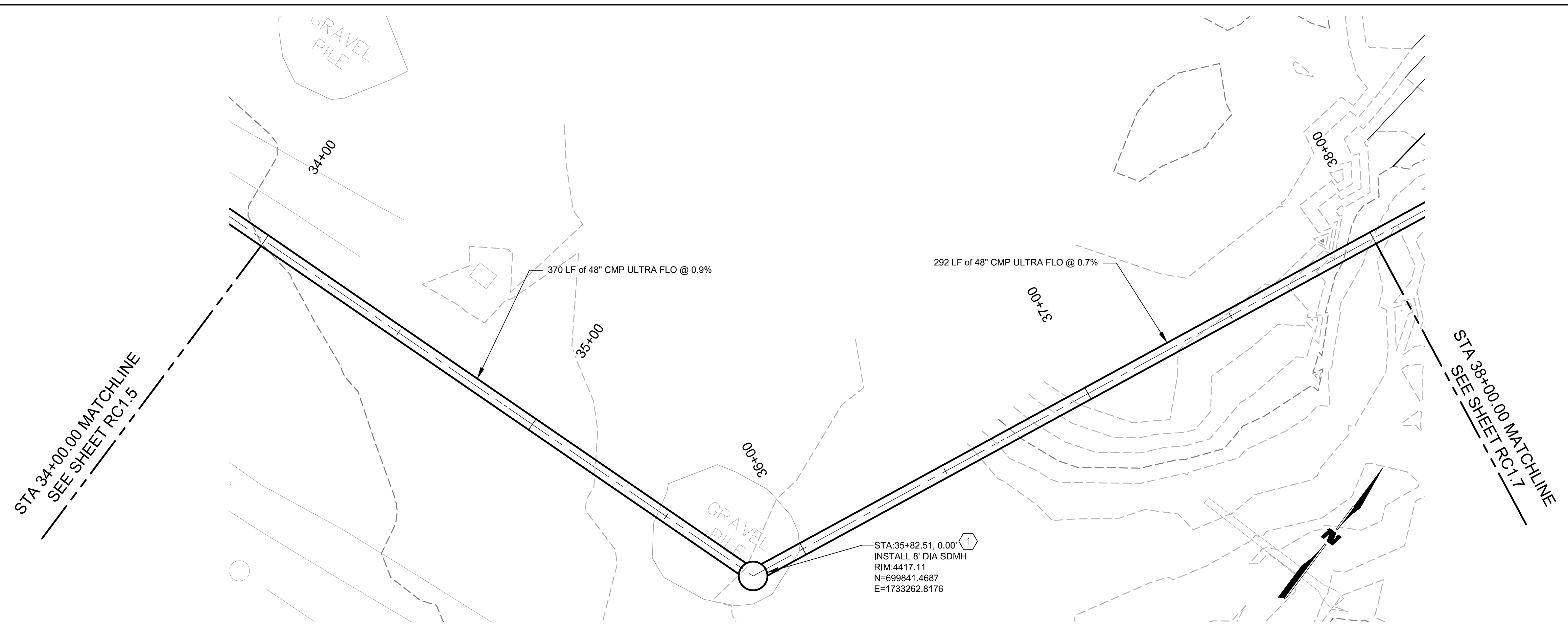
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 Scale: Horiz.: 1" = 20' Vert.: 1" = 5'

Sheet No.: **RC1.5**
 Sheet 16 of 37



KEYNOTES

- SEE SHEET D1.4 AND D1.5 FOR MANHOLE DETAILS.

GENERAL NOTES

- STORM DRAIN PIPE SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL.

LEGEND

- 3817 PROPOSED CONTOURS MAJOR
- 3817 PROPOSED INTERMEDIATE CONTOURS
- 3817 EXISTING CONTOURS MAJOR
- EXISTING INTERMEDIATE CONTOURS
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND WATER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ELECTRIC OVERHEAD
- EXISTING SAS LINE
- EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE

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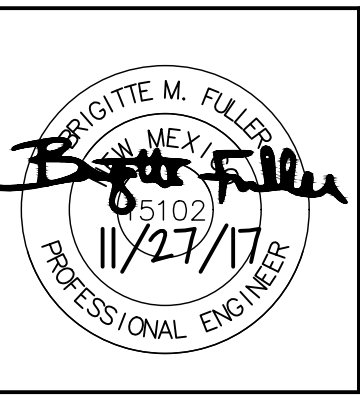
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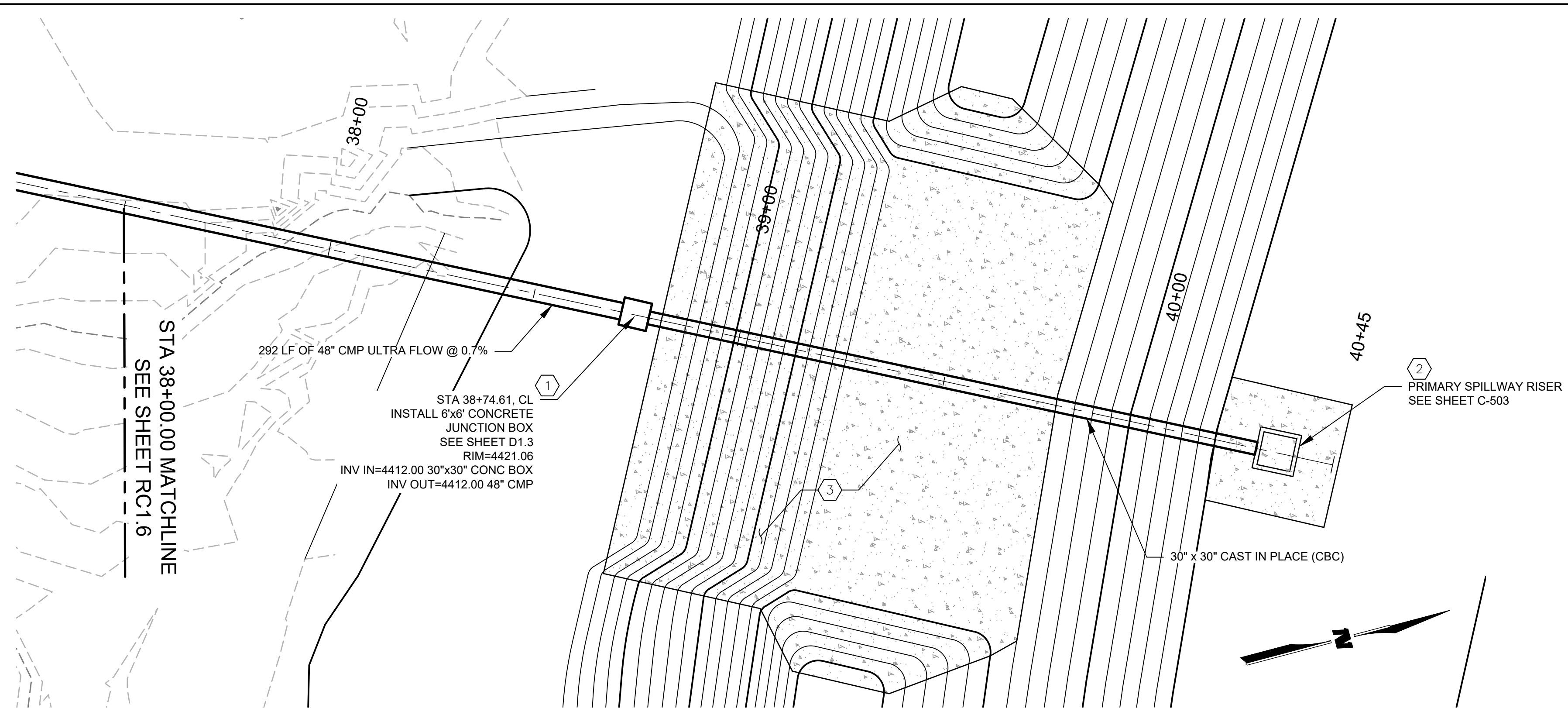
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 Scale: Horiz.: 1" = 20' Vert.: 1" = 5'

Sheet No.: **RC1.6**
 Sheet 17 of 37



KEYNOTES

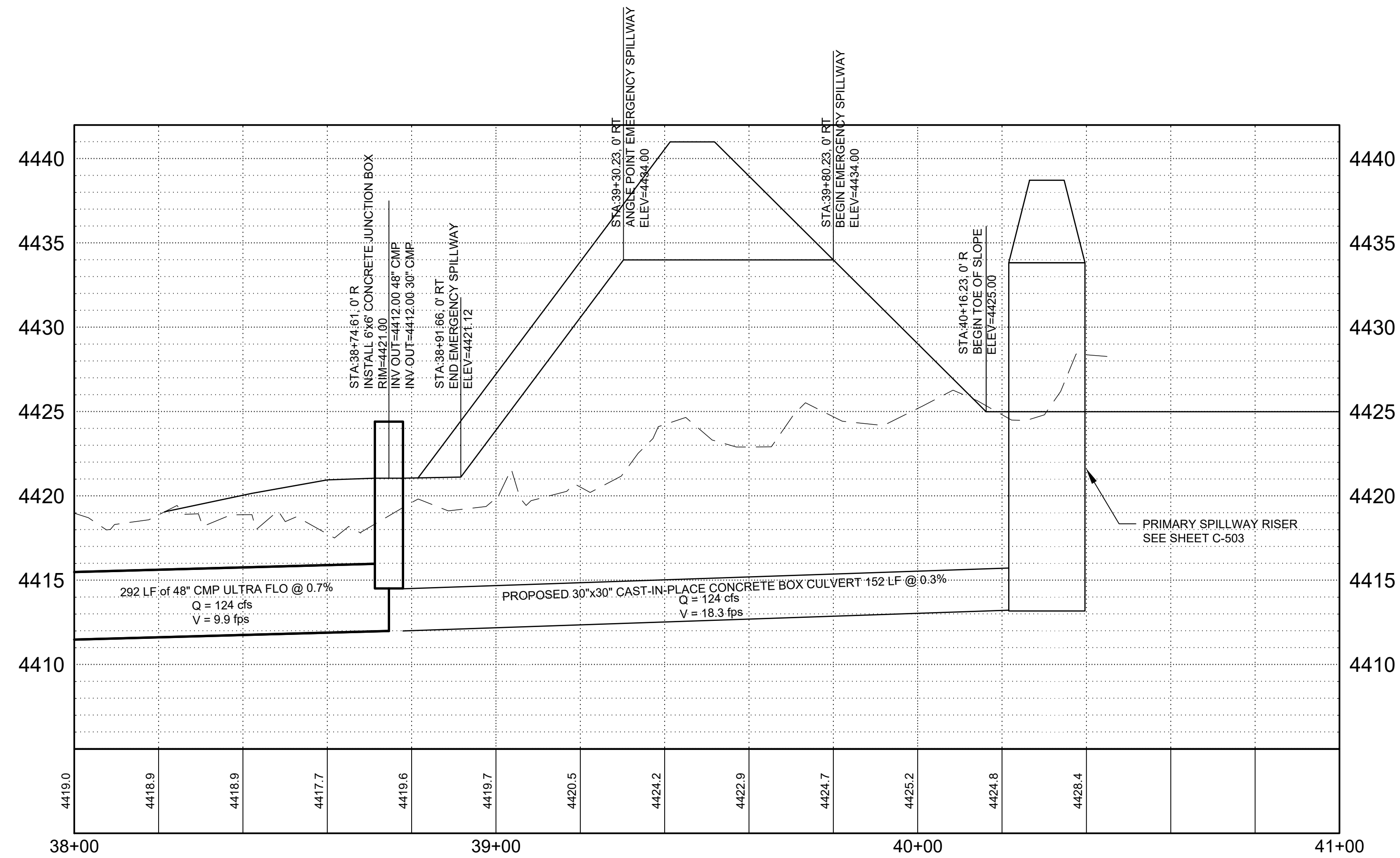
1. SEE SHEET D1.3 FOR CONCRETE JUNCTION BOX DETAIL.
2. SEE SHEET C-503 FOR DETAILS AND ELEVATIONS.
3. SEE SHEET C-101 & C-102 FOR GRADING DETAILS.

GENERAL NOTES

1. STORM DRAIN PIPE SHALL BE CMP ULTRA FLOW OR APPROVED EQUAL.

LEGEND

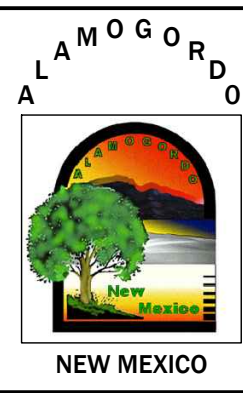
- 3817 — PROPOSED CONTOURS MAJOR
- — — 3817 — — — EXISTING CONTOURS MAJOR
- — — — — EXISTING INTERMEDIATE CONTOURS
- GAS — — — GAS — — — EXISTING UNDERGROUND GAS
- WTR — — — WTR — — — EXISTING UNDERGROUND WATER
- UE — — — UE — — — EXISTING UNDERGROUND ELECTRIC
- OHE — — — OHE — — — EXISTING ELECTRIC OVERHEAD
- SS — — — EXISTING SAS LINE
- ○ — — — EXISTING FENCE
- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE



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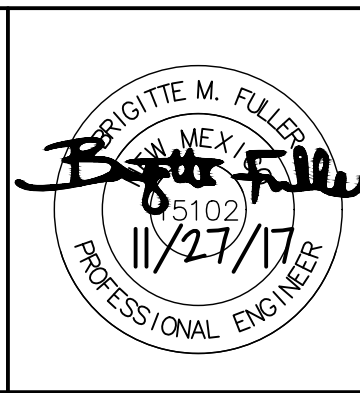
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 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 PLAN & PROFILE**

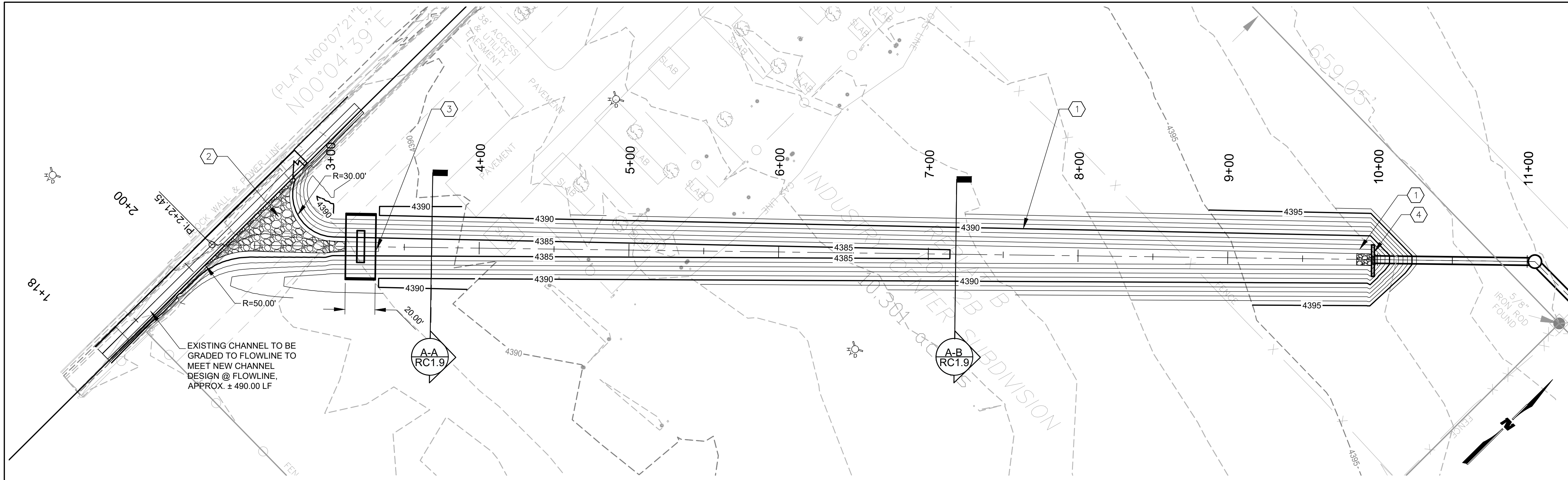
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 Checked By: BMF Approved By: _____
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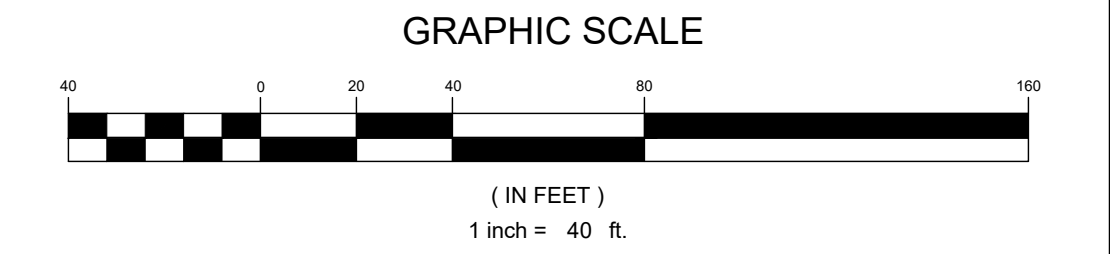
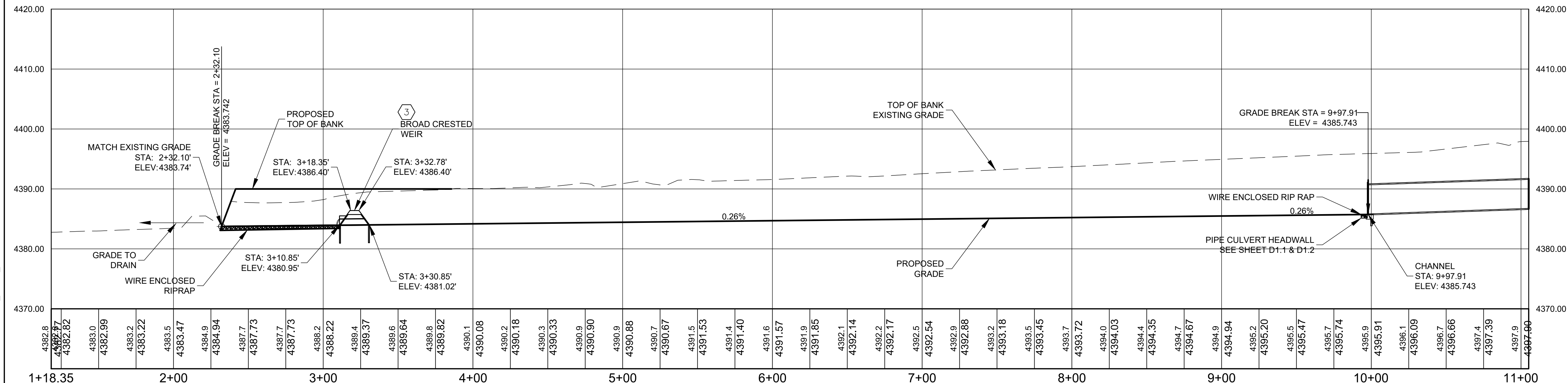
Sheet No.: **RC1.7**
 Sheet 18 of 37



- KEYNOTES**
1. CONSTRUCT EARTHEN CHANNEL. SEE SECTIONS ON SHEET RC-1.9
 2. CONSTRUCT WIRE ENCLOSED RIP-RAP. SEE SHEET C-505
 3. CONSTRUCT BROAD-CRESTED WEIR. SEE SHEET D1.7
 4. CONSTRUCT PIPE CULVERT HEADWALL. SEE SHEETS D1.1 AND D1.2

- LEGEND**
- 3817 — PROPOSED CONTOURS MAJOR
 - 3817 - - - PROPOSED INTERMEDIATE CONTOURS
 - - - 3817 - - - EXISTING CONTOURS MAJOR
 - - - - - EXISTING INTERMEDIATE CONTOURS
 - GAS - GAS - GAS EXISTING UNDERGROUND GAS
 - WTR - WTR - WTR EXISTING UNDERGROUND WATER
 - UE - UE - UE EXISTING UNDERGROUND ELECTRIC
 - OHE - OHE - OHE EXISTING ELECTRIC OVERHEAD
 - SS - SS - SS EXISTING SAS LINE
 - - - - - EXISTING FENCE

- TREE
- PINE TREE
- EXISTING LIGHT POLE
- EXISTING SEWER MANHOLE
- EXISTING POWER POLE
- EXISTING WATER VALVE
- EXISTING WATER VALVE
- ELECTRIC BOX
- GATE



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GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS GRADING AND DRAINAGE
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

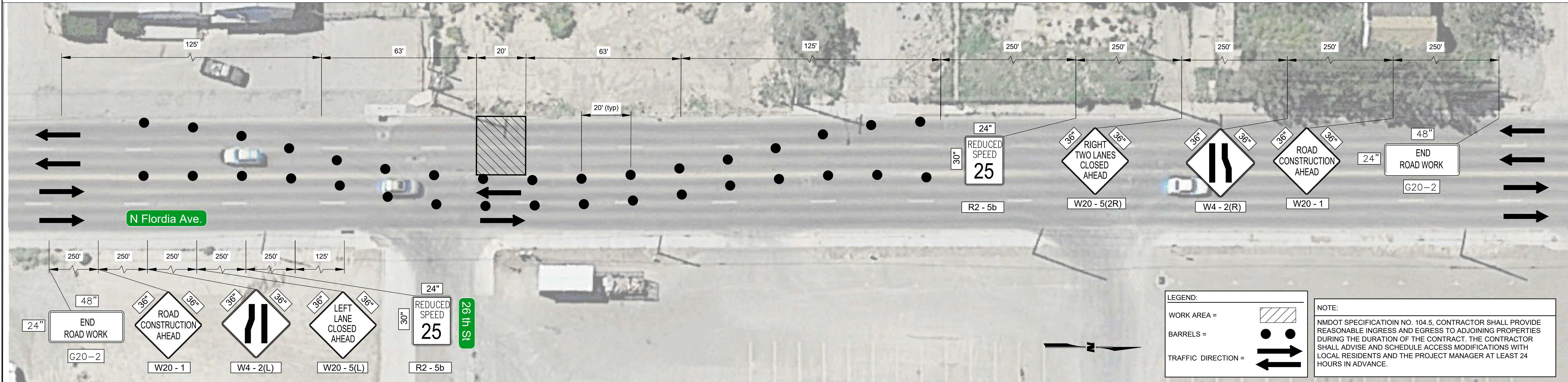
BRIGITTE M. FULLER
 NEW MEXICO
 5102
 11/27/17
 PROFESSIONAL ENGINEER

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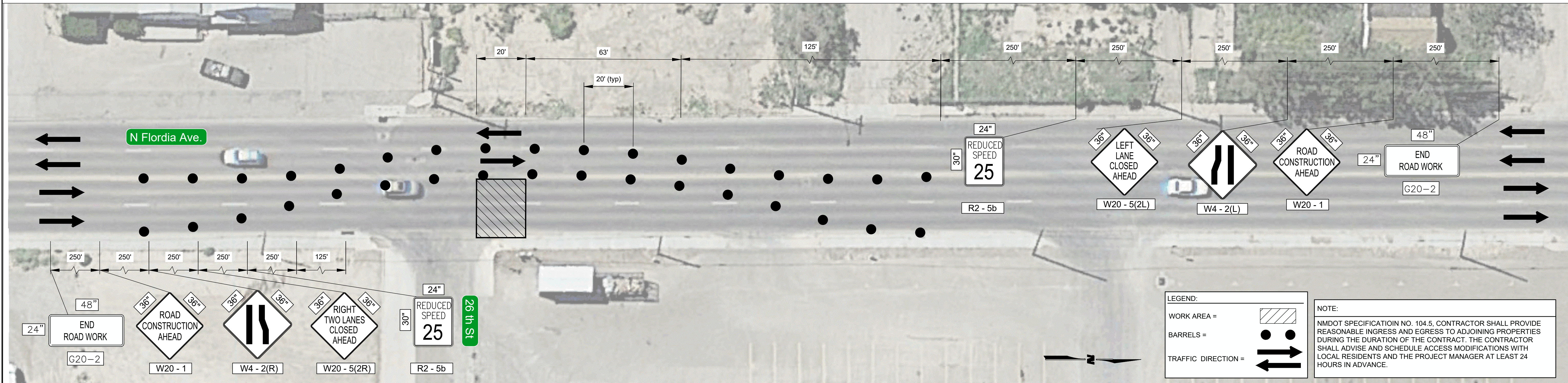
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 Scale: Horiz.: 1" = 40' Vert.: 1" = 10'

Sheet No.: **RC1.8**
 Sheet 19 of 37

PHASE 1



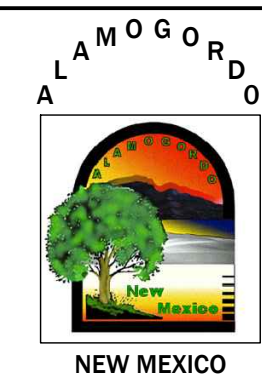
PHASE 2



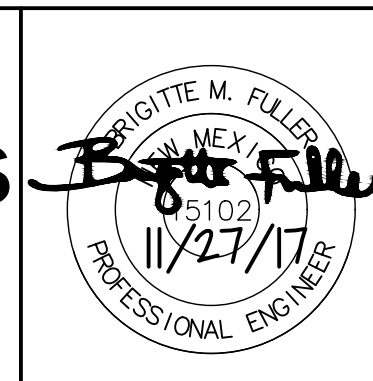
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CONSTRUCTION TRAFFIC CONTROL PLAN
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Public Works Bid No.: 2018-003	Sheet No.:
Drawn By: MTR	Designed By: EEV
Checked By: BMF	Approved By: _____
Scale: Horiz.:	Vert.:

GENERAL NOTES:

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

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

DESIGN DATA

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

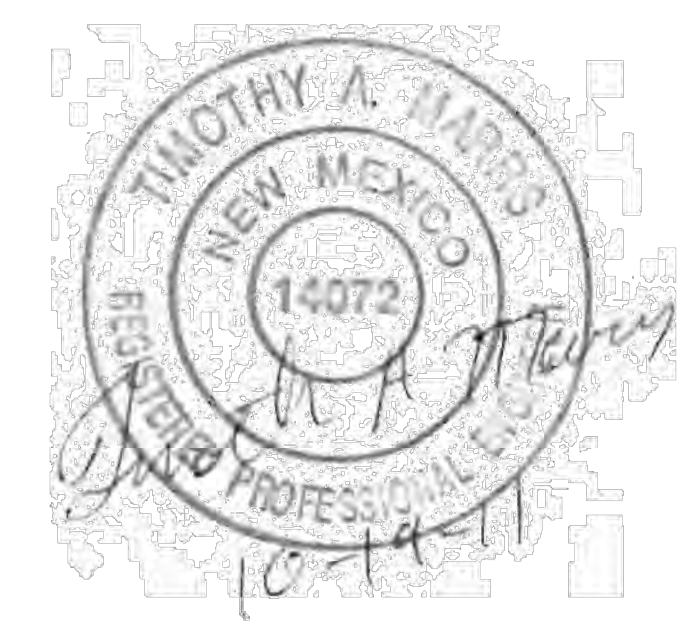
UNIT STRESSES: REINFORCED CONCRETE: $f_c' = 3000 \text{ psi}$
 $f_y = 60 \text{ Ksi}$

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

EARTH WEIGHT = 120 LBS./CU. FT.

C O N C R E T E H E A D W A L L S																												
DIMENSIONS												ADD FOR EACH ADDITIONAL PIPE																
PIPE DIAMETER	A	B	C	D	E	F	G	H	J	O ₁	#5A BARS	#4D BARS		#4E BARS		#4U BARS			#5Y BARS			#5T BARS			QUANTITIES			
												NO.	NO.	LENGTH	SPACING	NO.	LENGTH	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	NO.	LENGTH	SPACING	REINFORCING STEEL-LBS	CONCRETE RCP CU.YDS.
* 18"	3'-2"	3'-0"	3'-3"	10"	3'-6"	9"	1'-11"	12"	N/A	6'-6"	4	2	1'-0"	1'-4"	4	4'-0"	N/A	N/A	N/A	6	3'-0"	12"	6	3'-3"	12"	71	1.19	1.26
* 24"	3'-8"	4'-0"	4'-0"	10"	3'-6"	9"	1'-11"	12"	N/A	8'-0"	4	2	1'-3"	1'-7"	4	5'-0"	N/A	N/A	N/A	8	3'-0"	12"	9	3'-3"	12"	93	1.64	1.75
* 30"	4'-2"	5'-0"	4'-9"	10"	3'-6"	9"	1'-11"	12"	N/A	9'-6"	4	4	1'-9"	1'-3"	4	6'-0"	N/A	N/A	N/A	10	3'-0"	12"	10	3'-3"	12"	110	2.12	2.28
36"	4'-8"	6'-0"	5'-9"	10"	4'-6"	10"	2'-10"	12"	9"	11'-6"	6	4	2'-3"	1'-5"	4	7'-0"	12	4'-6"	12"	12	3'-11"	12"	12	4'-3"	12"	203	4.08	4.29
42"	5'-2"	7'-0"	6'-6"	10"	4'-6"	10"	2'-10"	12"	9"	13'-0"	6	4	2'-9"	1'-6"	4	8'-0"	14	4'-6"	12"	14	3'-11"	12"	14	4'-3"	12"	233	4.86	5.14
48"	5'-8"	8'-0"	7'-3"	10"	5'-6"	11"	3'-9"	12"	10"	14'-6"	8	6	3'-0"	1'-3"	4	9'-0"	16	4'-6"	12"	16	4'-10"	12"	16	5'-3"	12"	314	6.26	6.62
54"	6'-2"	9'-0"	8'-0"	10"	5'-6"	11"	3'-9"	12"	10"	16'-0"	8	6	3'-6"	1'-5"	4	10'-0"	18	4'-6"	12"	18	4'-10"	12"	18	5'-3"	12"	350	7.17	7.61
60"	6'-8"	10'-0"	8'-9"	10"	6'-6"	12"	4'-8"	13"	11"	17'-6"	12	6	3'-9"	1'-6 1/2"	4	11'-0"	20	4'-6"	12"	20	5'-9"	12"	20	6'-3"	9"	460	9.25	9.78

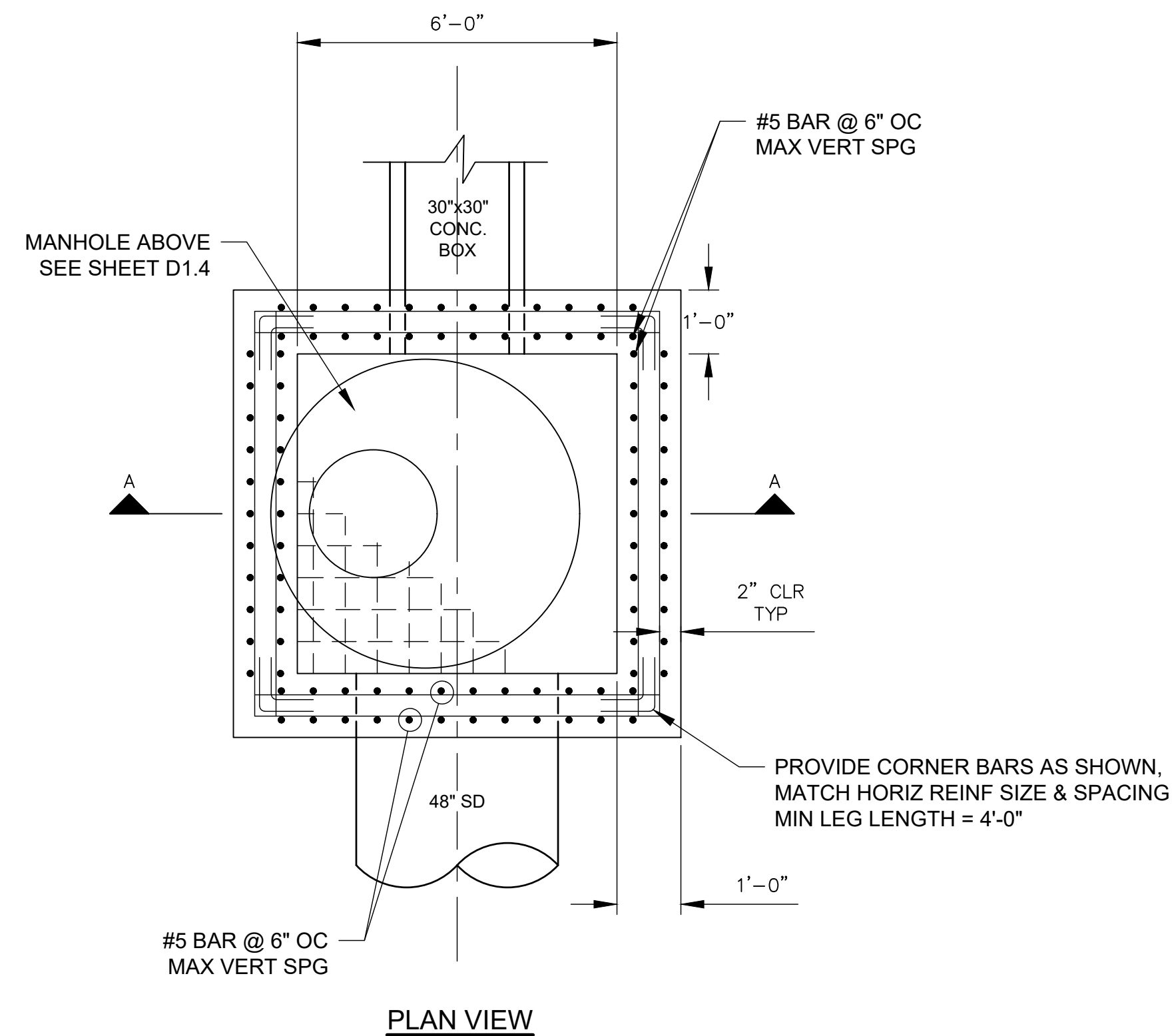
THIS PROJECT →



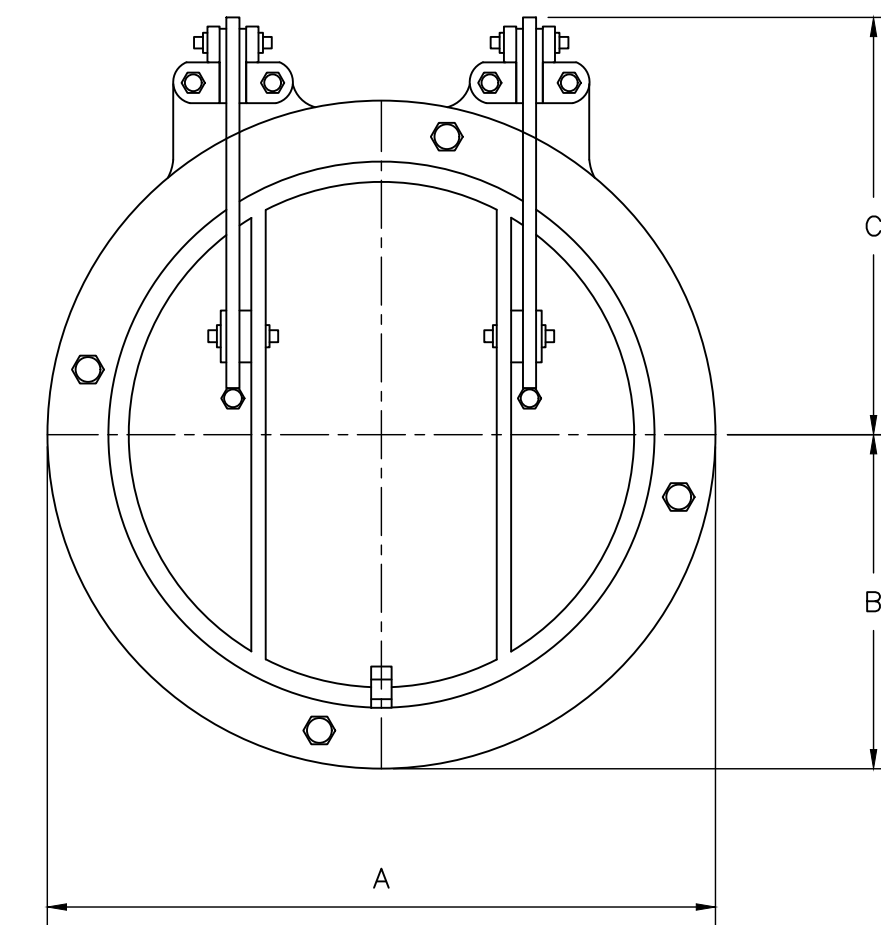
DATE	BY	DESCRIPTION
8/2011	YML	REDESIGNED BY: LRED.
REVISIONS (OR CHANGE NOTICES)		
NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING		
PIPE CULVERT HEADWALLS		
DESIGNED BY: YML DRAWN BY: SKL CHECKED BY: YML/TM		
511-03-1/2 1 of 2		

M:\MSDY\16-600-055-001\2_DISCIPLINES_SHEETS\2_SHEETS\CIVIL\166055_MISC_DTLS.DWG 2/22/2018 10:13 AM

REV. No. DATE DESCRIPTION APPROVED	New Mexico One Call, Inc. Call 2 days before you dig! NMOC Dial 811 or 1-800-321-2537 Professional Resources for Damage Prevention	ALAMOGORDO NEW MEXICO	GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS MISCELLANEOUS DETAILS CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS	BRIGITTE M. FULLER NEW MEXICO 11/27/17 PROFESSIONAL ENGINEER	WILSON & COMPANY 4900 LANG AVE. NE ALBUQUERQUE, NM 87109 PHONE: 505-348-4000 FAX: 505-348-4055 FIRST FLOOR www.wilco.com	Public Works Bid No.: 2018-003 Drawn By: MTR Designed By: EEV Checked By: BMF Approved By: Scale: Horiz.: N/A Vert.: N/A	Sheet No.: D1.1 Sheet 22 of 37
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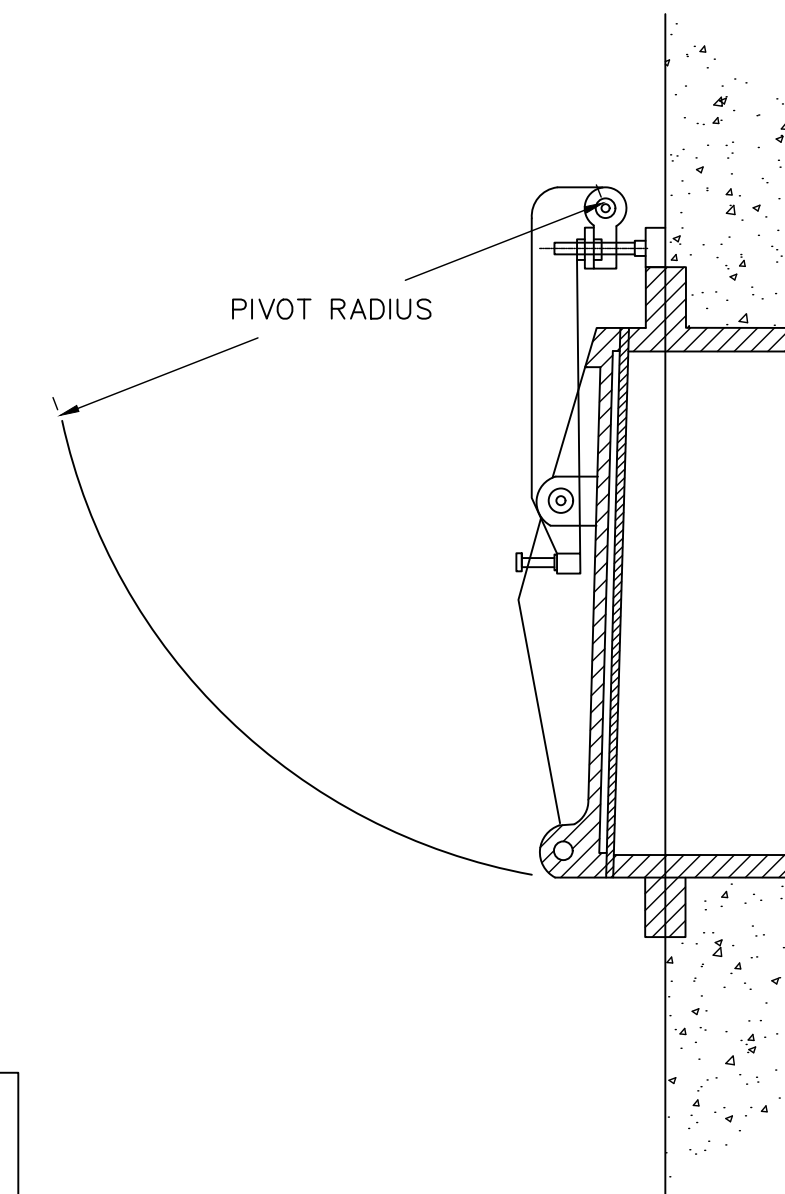
PLAN VIEW



FLAP GATE MODEL:
NEENAH MODEL R-5050SF18 FLAPGATE WITH NEOPRENE SEAT OR APPROVED EQUAL.

FLAP GATE DETAIL

NTS

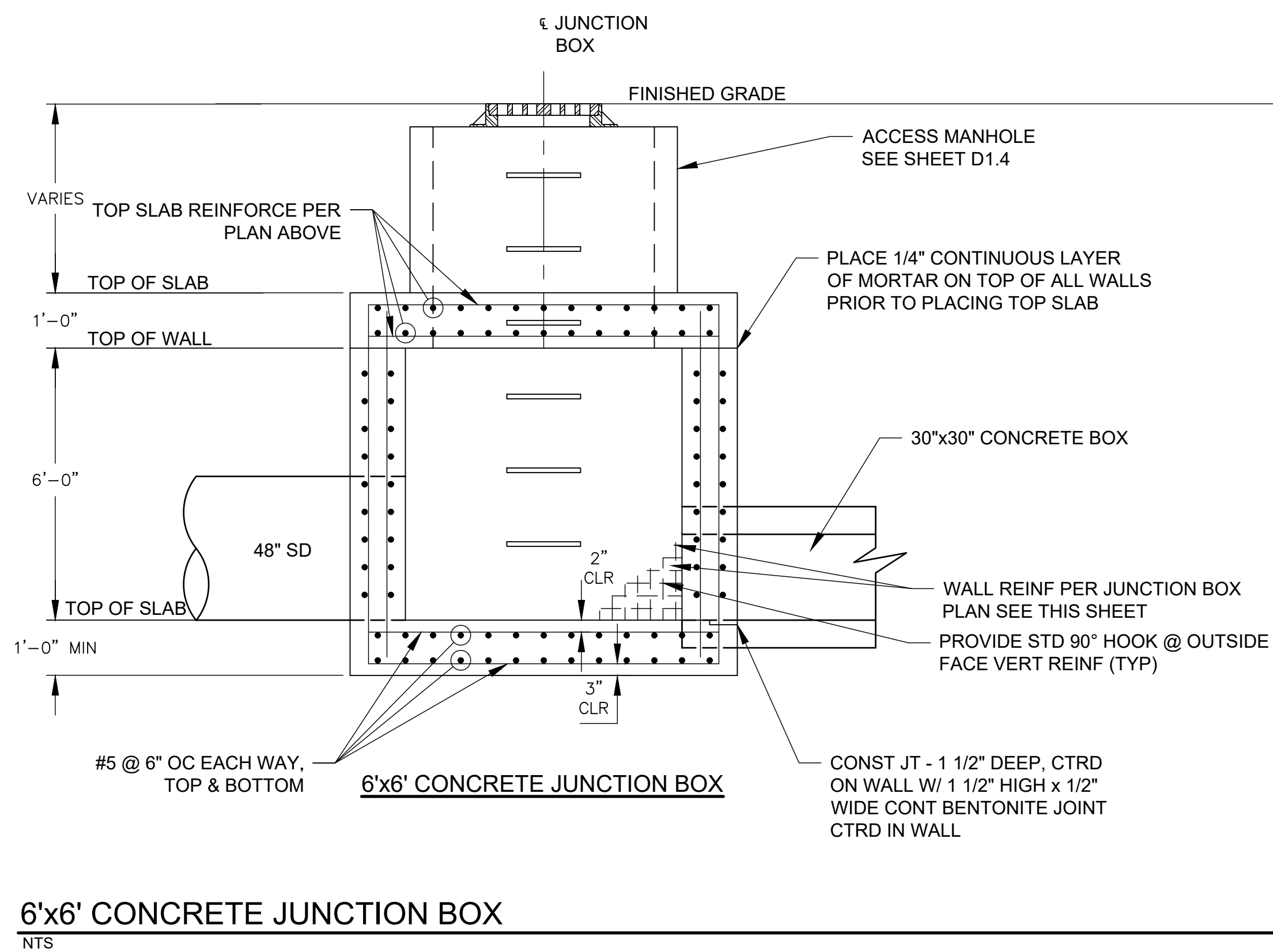


GENERAL NOTES

1. ALL IMPROVEMENTS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST EDITION, EXCEPT WHERE OTHERWISE MODIFIED IN THE PROJECT SPECIFICATIONS OR NOTED IN THE DRAWINGS. ADDITIONALLY, WHEN APPROPRIATE FOR WATER AND/OR SANITARY SEWER CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH 'NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION', LATEST ADDITION.
2. CONCRETE F'C = 4000 PSI, PER NM DOT SPEC. 509
3. STEEL REINFORCEMENT PER ASTM A615, GRADE 60. ALL DIMENSIONS SHOWN REFER TO CENTERLINE OF BARS UNLESS NOTED OTHERWISE.
4. CONCRETE TRANSITION STEEL MESH: PROVIDE 1'-6" MIN. EXTENDED STEEL MESH ON SQUARE ENDS OF TRANSITION SECTIONS FOR LAP CONNECTIONS WITH JUNCTION BOX.
5. USE HYDROCID 700B EMULSIFIED ASPHALT, OR EQUAL FOR WATERPROOFING SYSTEM ON FACES IN DIRECT CONTACT WITH RETAINED EARTH.
6. COMPACT BACKFILL ADJACENT TO STRUCTURE USING PORTABLE, HAND-OPERATED TAMPERS, OR USING LOW-STRENGTH LEAN CONCRETE (FLOWABLE FILL).
7. SCARIFY FOUNDATION SOILS TO A DEPTH OF 8", MOISTURE CONDITION TO NEAR OPTIMUM MOISTURE CONTENT (+3%), AND COMPACT TO 95% MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.
8. BENTONITE SEAL: FURNISH WATERSTOP -RX 101T, SUPPLIED BY CETCO OR AN APPROVED SUBSTITUTE. SELECTED SEAL MUST BE A BENTONITE STRIP SEAL APPROPRIATE FOR THE CONCRETE STRENGTH AND CONDITIONS SHOWN. SUBMIT FOR PROJECT ENGINEERS APPROVAL PRIOR TO CONSTRUCTION.
9. ALL REINFORCING AND MANHOLE CONSTRUCTION ARE INCIDENTAL TO JUNCTION BOX ITEM.

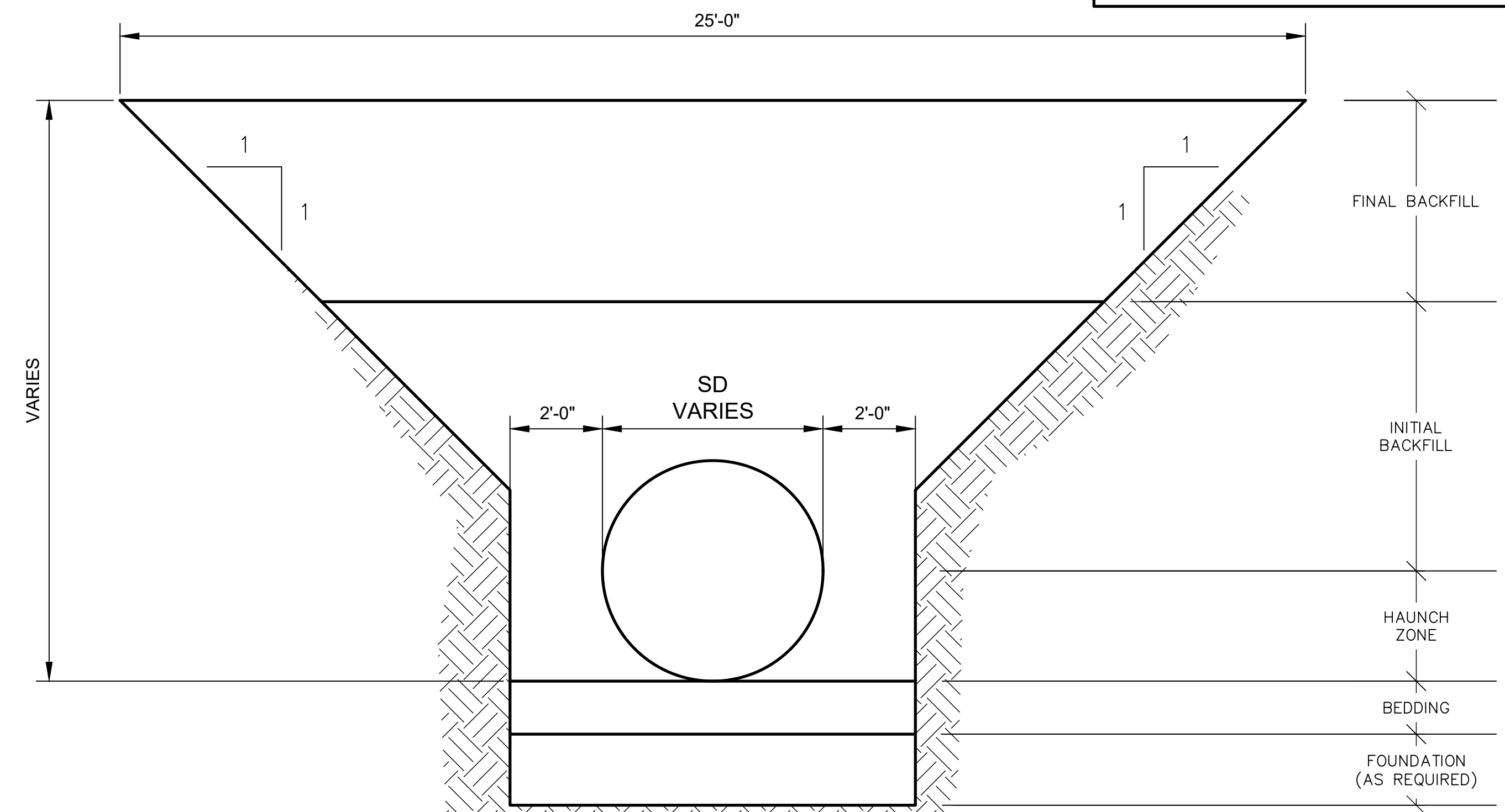
DESIGN DATA

1. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.
2. MATERIAL STRENGTHS:
CONCRETE F'C = 4000 PSI,
STEEL F_y = 60,000 PSI.
3. EARTH PRESSURE: 60 PCF EQUIVALENT FLUID PRESSURE (AT-REST), ALLOWABLE BEARING PRESSURE 2000 PSF.
4. EARTH FILL: 3.0 FT MAX.
5. LIVE LOAD: HS-20 (TOP & BOTTOM SLABS)
2' SURCHARGE (WALLS)



6'x6' CONCRETE JUNCTION BOX

NTS



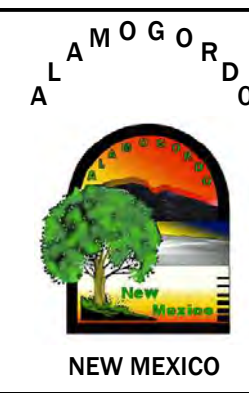
TRENCHING DETAIL

NTS

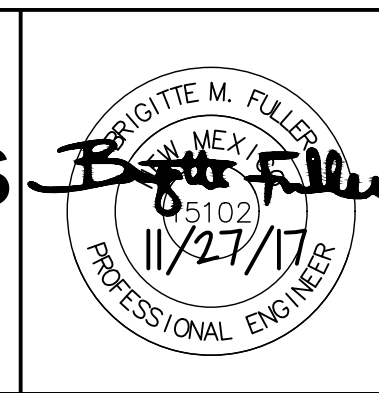
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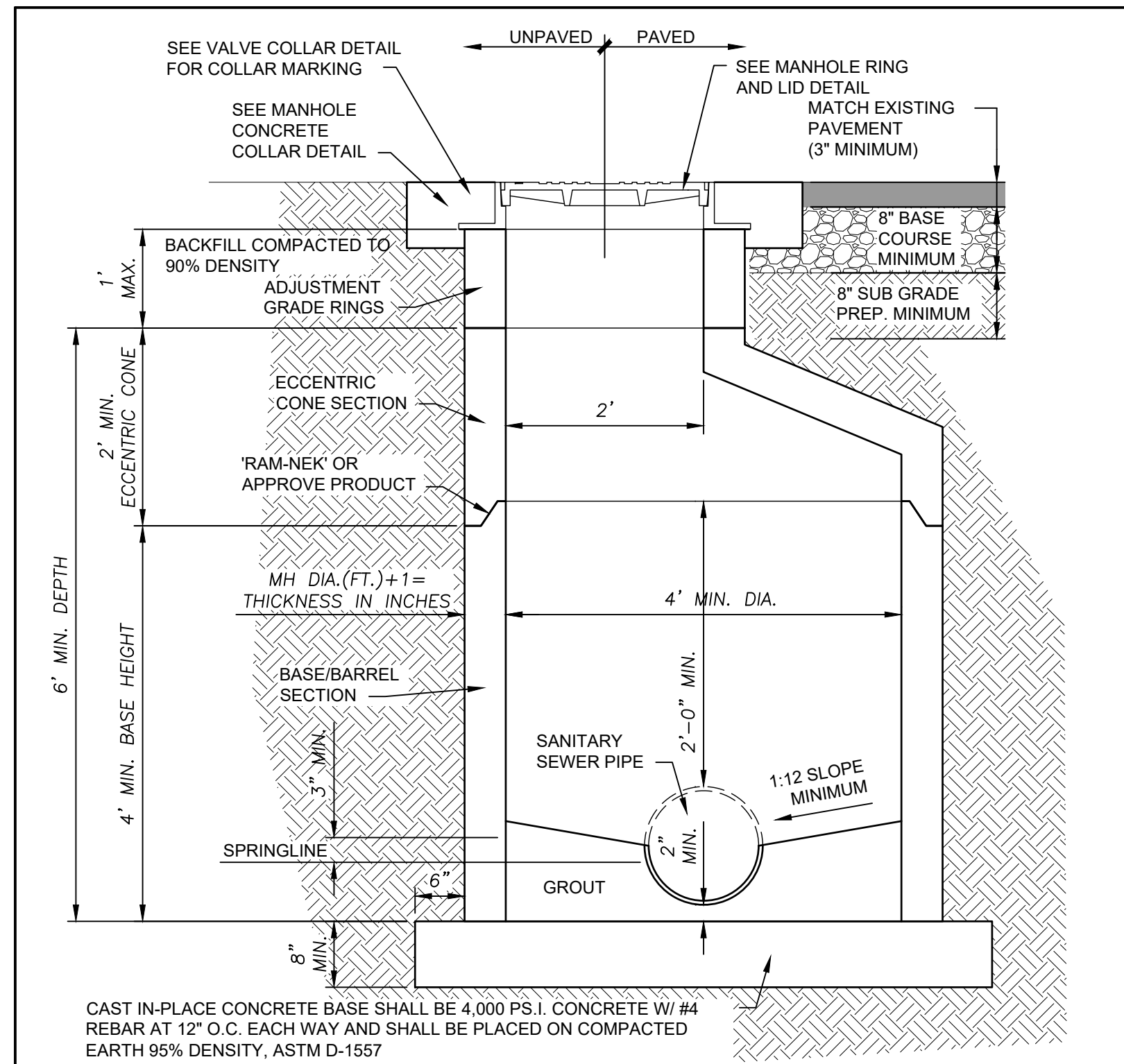
**GRIGGS RESERVOIR OUTFALL STRUCTURE
 MODIFICATIONS AND STORM DRAIN IMPROVEMENTS**
MISCELLANEOUS DETAILS
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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Checked By: BMF	Approved By: _____
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Sheet 24 of 37



CONCRETE MANHOLE ECCENTRIC CONE

REFER TO PLATE 01-2010-5.4.2 FOR CONCRETE MANHOLE GENERAL NOTES.

Rev.:	Date:		Technical Standards Detail Drawings Resolution No. 2004-17	CONCRETE MANHOLE W/ECCENTRIC CONE Plate No.: 01-2010-5.4.0
12/09				
-	-			

CONCRETE MANHOLE GENERAL NOTES:

GENERAL NOTES:

- PRE-CAST CONCRETE MANHOLE SECTIONS AND ADJUSTMENT RINGS SHALL BE 4,000 P.S.I. CONCRETE MINIMUM.
- PRE-CAST CONCRETE MANHOLE MATERIALS SHALL COMPLY WITH ASTM C-478 STANDARDS.
- PRE-CAST CONCRETE MANHOLE SECTIONS AND ADJUSTMENT RINGS SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
- ALL NOTED BASE, WALL AND TOP THICKNESS ARE A MINIMUM AND MAY BE INCREASED AS REQUIRED PER FABRICATOR'S DESIGN ENGINEER.
- PRE-CAST CONCRETE MANHOLE SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL TO THE CITY ENGINEER. ALL SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF NEW MEXICO.
- A RUBBER BOOT IS REQUIRED FOR ALL PIPE PENETRATIONS. RUBBER BOOT SHALL INCLUDE STAINLESS STEEL CLAMP AND SHALL BE CAST AS A INTEGRAL PART OF THE PRE-CAST MANHOLE BASE SECTION.

No Scale

Rev.:	Date:		Technical Standards Detail Drawings Resolution No. 2004-17	CONCRETE MANHOLE GENERAL NOTES Plate No.: 01-2010-5.4.2
12/09				
-	-			

COLLAR REINFORCEMENT DETAIL

COLLAR MARKING DETAIL

CONCRETE COLLAR TABLE		
TYPE	48"/60" MANHOLE	72" & LARGER MANHOLE
A	48" MIN.	60" MIN.
B	12" MIN.	12" MIN.

GENERAL NOTES:

- SIDES OF CONCRETE COLLAR TOP SHALL BE PARALLEL AND PERPENDICULAR TO THE NORMAL STREET TRAFFIC FLOW.
- USE 3,000 P.S.I. CONCRETE FOR CONCRETE COLLAR.
- SCRIBE CONCRETE WITH LINE DIRECTIONAL ARROWS, PIPE SIZE AND PIPE TYPE.
- TEXT SIZE SHALL BE 4-INCHES TALL AND SCORED 3/8" DEEP IN A NEAT AND CONSISTENT MANNER, TYPICAL.

No Scale

Rev.:	Date:		Technical Standards Detail Drawings Resolution No. 2004-17	MANHOLE CONCRETE COLLAR DETAIL Plate No.: 01-2010-5.5.0
12/09				
-	-			

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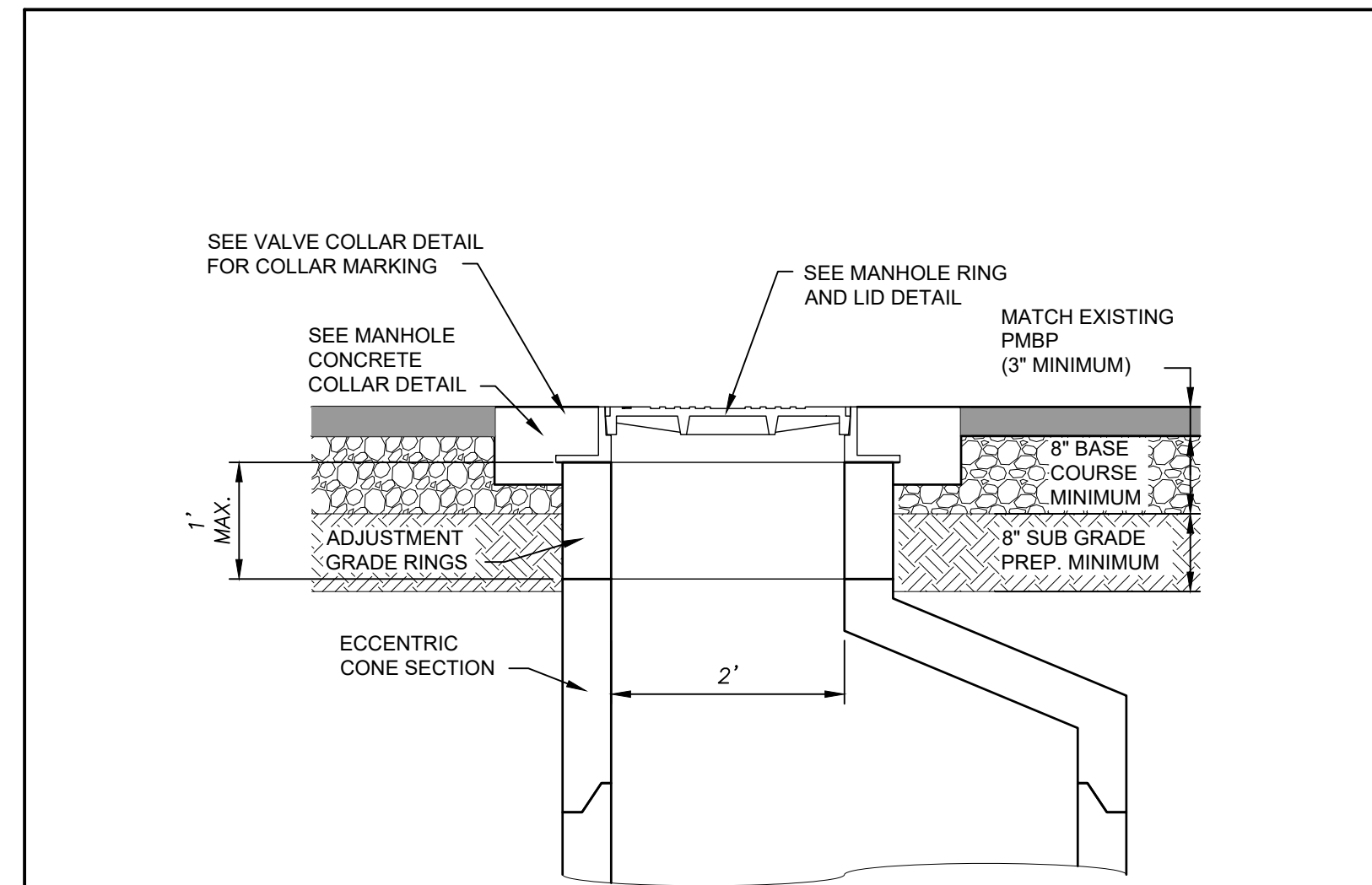
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 Professional Resources for Damage Prevention

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Sheet No.: **D1.4**
 Sheet 25 of 37

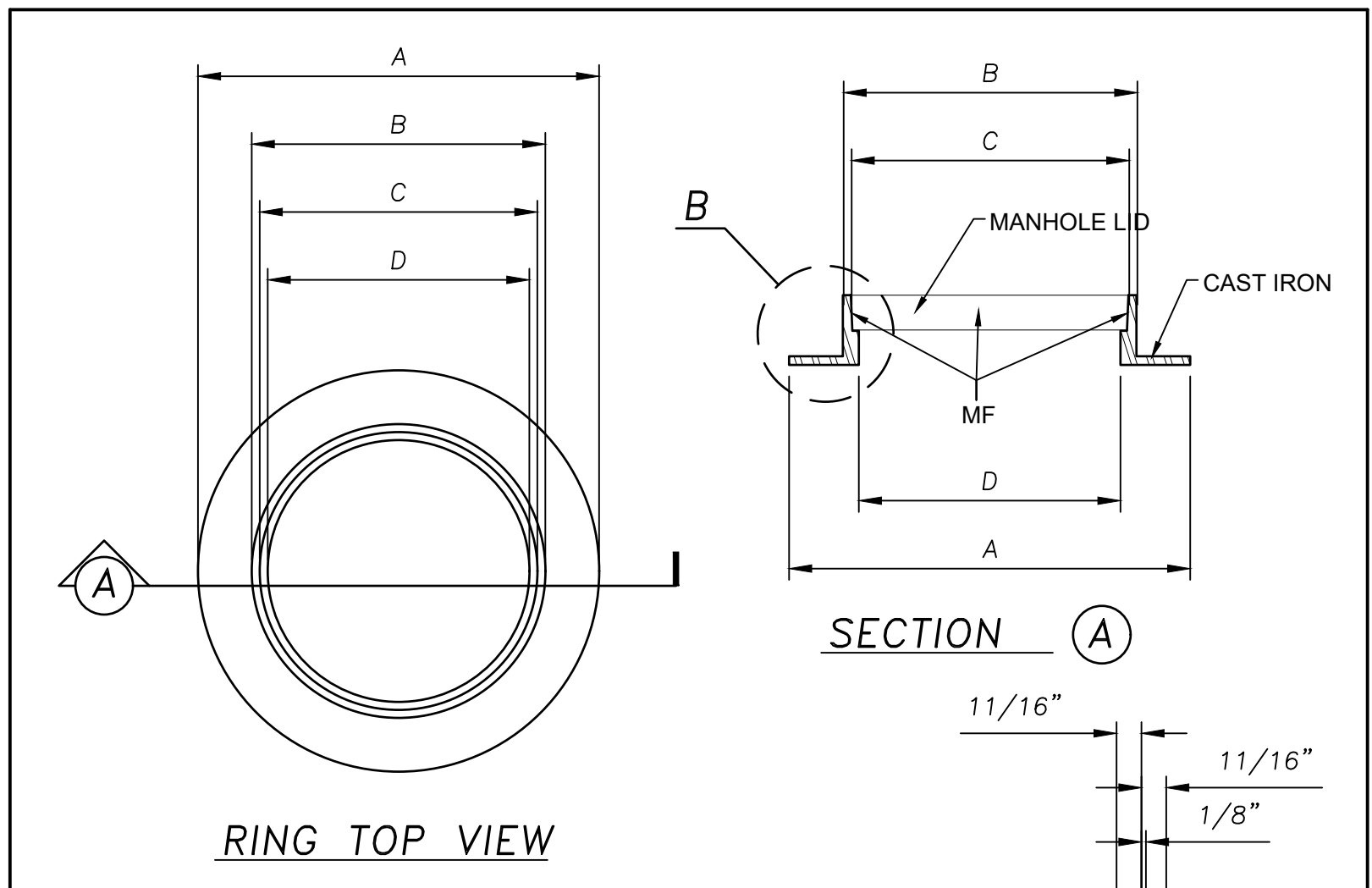


ADJUST MANHOLE RING AND LID

REFER TO PLATE 01-2010-5.4.2 FOR CONCRETE MANHOLE GENERAL NOTES.

No Scale

		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	<p>ADJUST MANHOLE RING AND LID DETAIL</p> <p>Plate No.: 01-2010-5.5.1</p>
		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
	12/09	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
Rev.:	Date:	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	



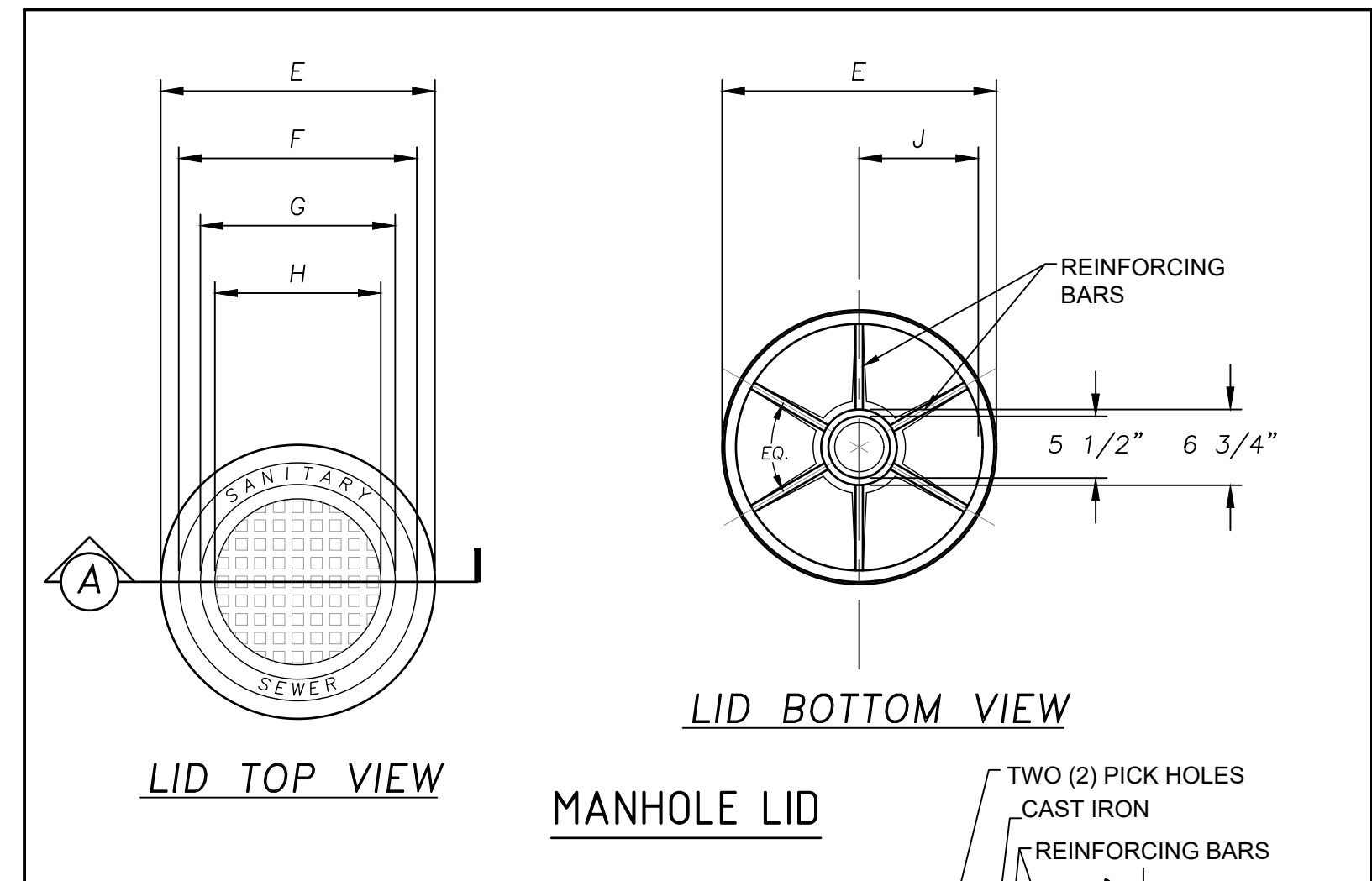
MANHOLE RING	48" / 60" MANHOLE	72" & LARGER MANHOLE
WEIGHT	165 LBS	225 LBS
A	34 1/2"	42"
B	25 1/4"	32 3/4"
C	22 1/2"	42"
D	23 7/8"	31 3/8"

GENERAL NOTES:

1. MATCHING SURFACES MARKED "MF" TO BE MACHINE FINISHED AND BE FREE OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND FREE OF AIR VOIDS.
3. MANHOLE RING AND LID SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
4. MINIMUM TOTAL WEIGHT (RING AND LID) SHALL BE 300 LBS.

No Scale

		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	<p>MANHOLE RING DETAIL</p> <p>Plate No.: 01-2010-5.6.0</p>
		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
	12/09	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
Rev.:	Date:	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	



MANHOLE LID	48" / 60" MANHOLE	72" & LARGER MANHOLE
WEIGHT	175 LBS	310 LBS
E	23 3/4"	31 1/4"
F	20 5/8"	28 1/8"
G	16 7/8"	24 3/8"
H	14 3/8"	21 7/8"
J	11 7/8"	15 3/8"

GENERAL NOTES:

1. MATCHING SURFACES MARKED "MF" TO BE MACHINE FINISHED AND BE FREE OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND FREE OF AIR VOIDS.
3. MANHOLE RING AND LID SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
4. MINIMUM TOTAL WEIGHT (RING AND LID) SHALL BE 300 LBS.
5. TOP OF LID MAY VARY FROM DETAIL SHOWN. LID SHALL BE MARKED FOR APPROPRIATE UTILITY.

No Scale

		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	<p>MANHOLE LID DETAIL</p> <p>Plate No.: 01-2010-5.6.1</p>
		<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
	12/09	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	
Rev.:	Date:	<p>Technical Standards Detail Drawings Resolution No. 2004-17</p>	

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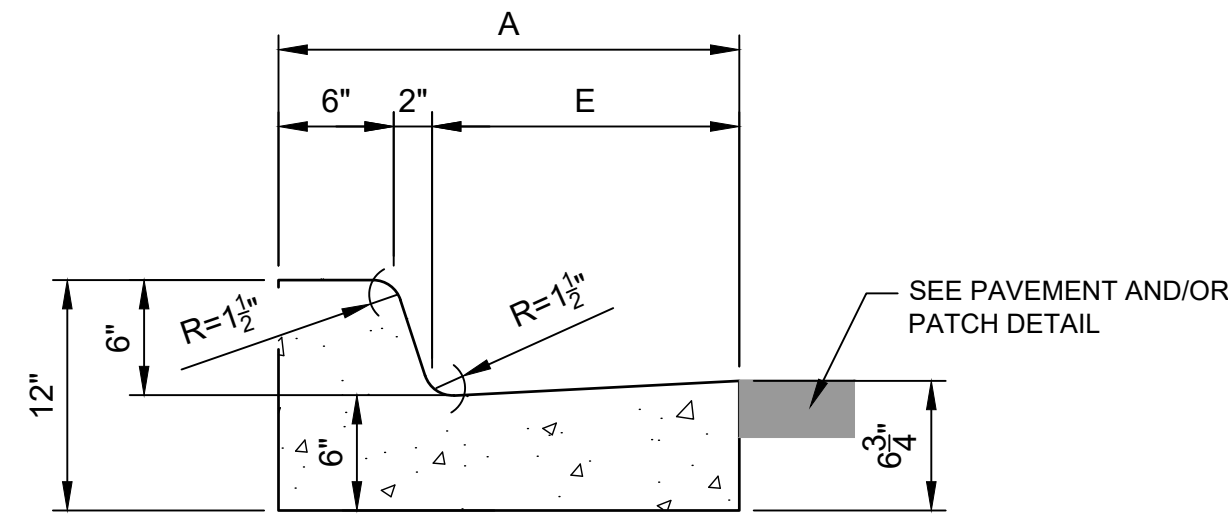
GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 ALAMOGORDO DETAILS
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

BRIGITTE M. FULLER
 NEW MEXICO
 5102
 11/27/17
 PROFESSIONAL ENGINEER

WILSON & COMPANY
 4900 LANG AVE. NE
 ALBUQUERQUE, NM 87109
 PHONE: 505-348-4000
 FAX: 505-348-4055 FIRST FLOOR
 www.wilco.com

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Sheet No.: **D1.5**
 Sheet 26 of 37



STAND-UP CURB & GUTTER

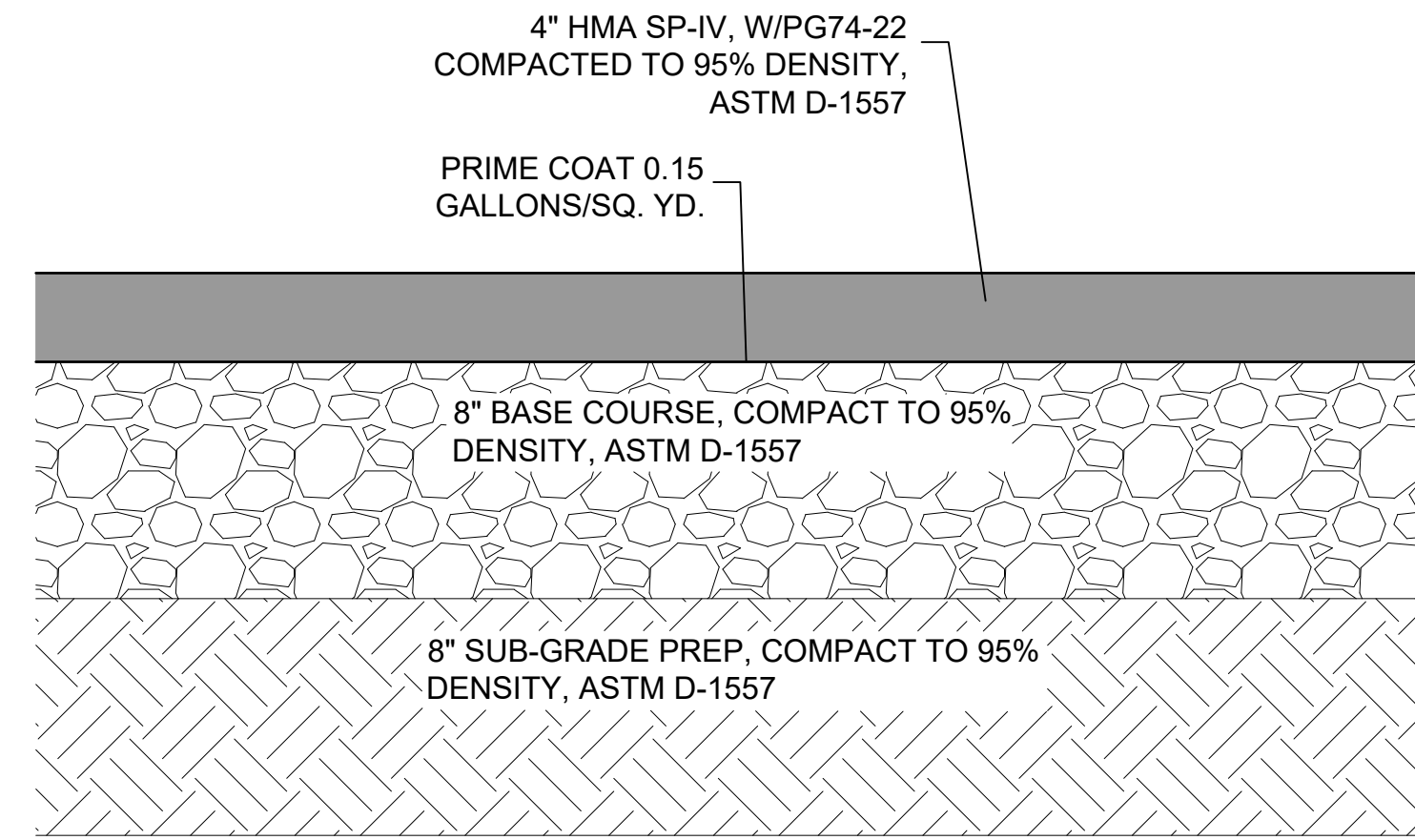
CURB & GUTTER LEGEND			
TYPE	I	II	III
A	18"	24"	30"
B	5 5/8"	5 5/8"	5 5/8"
C	5"	7"	7"
D	7 3/8"	11 3/8"	17 3/8"
E	10"	16"	22"

TYPICAL CURB AND GUTTER DETAIL

No Scale

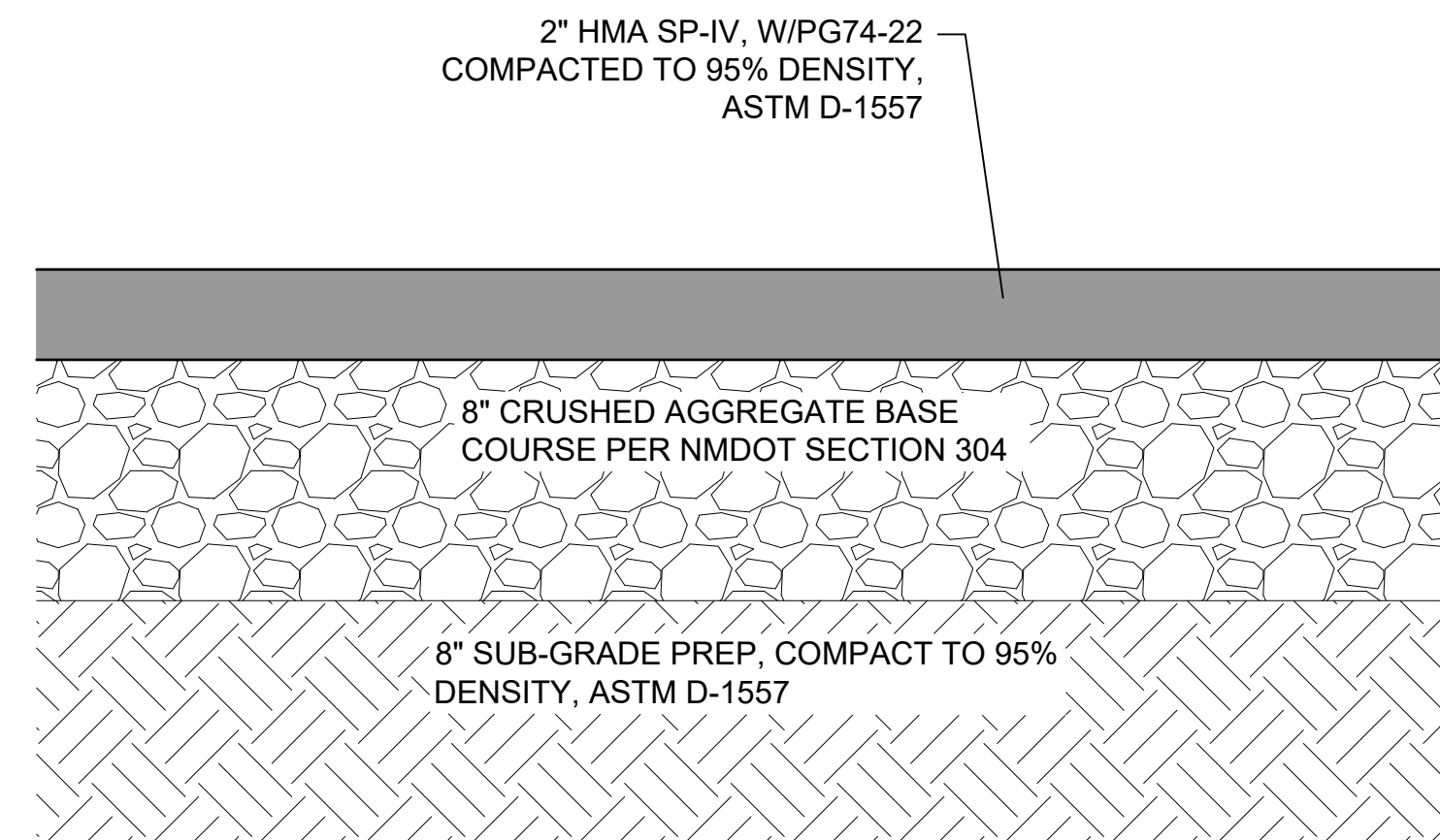
GENERAL NOTES:

1. NEW CURB AND GUTTER PROFILE SHALL MATCH EXISTING ADJACENT CURB AND GUTTER AND/OR STREET PROFILE.
2. NEW CURB AND GUTTER SHALL INCLUDE 8-INCH SUB-GRADE PREP.
3. NEW CURB AND GUTTER SHALL INCLUDE 6-INCH BASE COURSE.
4. EDGES OF CURB AND GUTTER NOT SPECIFICALLY DIMENSIONED SHALL BE EDGED WITH A 3/8" EDGING TOOL.
5. DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.
6. PROVIDE CONTROL JOINTS EVERY 5'-0". CONTROL JOINTS SHALL BE TWO JOINTED WITH TOP ROUND EDGE OF 1/8" RADIUS; DEPTH OF 1". THE FINISHED JOINT OPENING EXCLUDING RADII, SHALL NOT BE WIDER THAN 1/8".
7. PROVIDE 1/2" EXPANSION JOINTS EVERY 50'-0", ALONG CURB AND GUTTER.
8. TACK COAT EDGE OF GUTTER PRIOR TO PLACEMENT OF NEW PAVEMENT/PAVEMENT PATCH.
9. THE CONSTRUCTION OF CURB & GUTTER AND/OR PAVEMENT SHALL BE CONSTRUCTED SO THAT THE GUTTER FLOW WILL BE CONSTANT (NO PONDING AREAS WILL BE ACCEPTED).



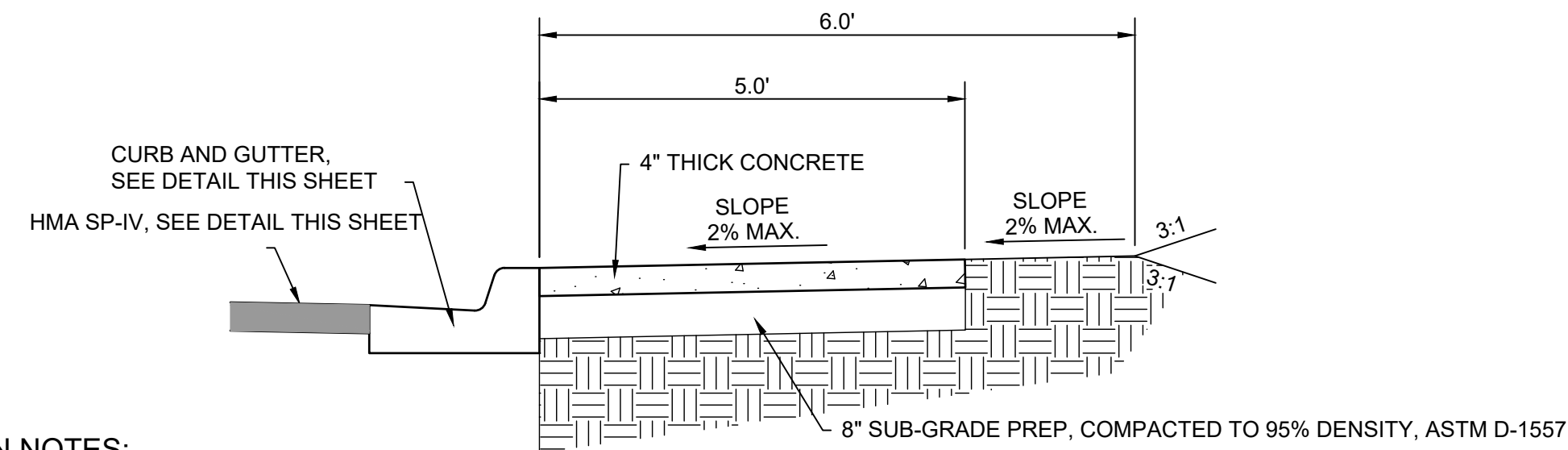
TYPICAL PAVEMENT SECTION

No Scale



TYPICAL PAVEMENT PATCH

No Scale



Typical Sidewalk Detail

No Scale

SIDEWALK/DRIVEWAY APRON NOTES:

1. CROSS SLOPE SHALL NOT EXCEED 2% MAXIMUM.
2. RAMP SLOPE SHALL NOT EXCEED 6.25% MAXIMUM.
3. CONTRACTOR SHALL FIELD VERIFY CROSS SLOPE AND RAMP SLOPE AND COORDINATE WITH ENGINEER ITEMS THAT MAY EXCEED THESE MAXIMUM REQUIREMENTS.
4. COORDINATE WITH ENGINEER LIMITS OR PAVEMENT REMOVAL.
5. COORDINATE WITH ENGINEER LIMITS OF BACKFILL REQUIREMENTS.

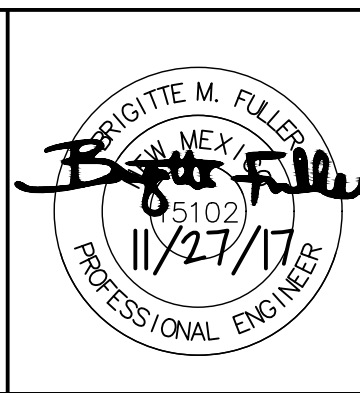
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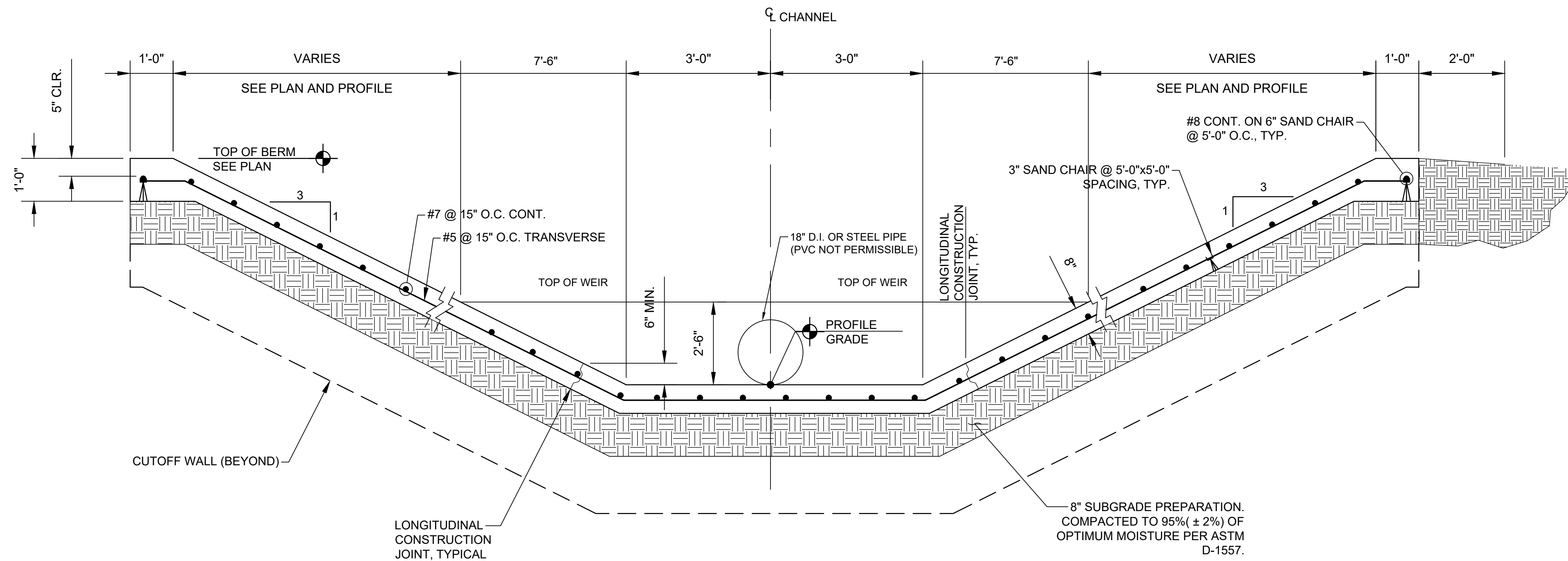
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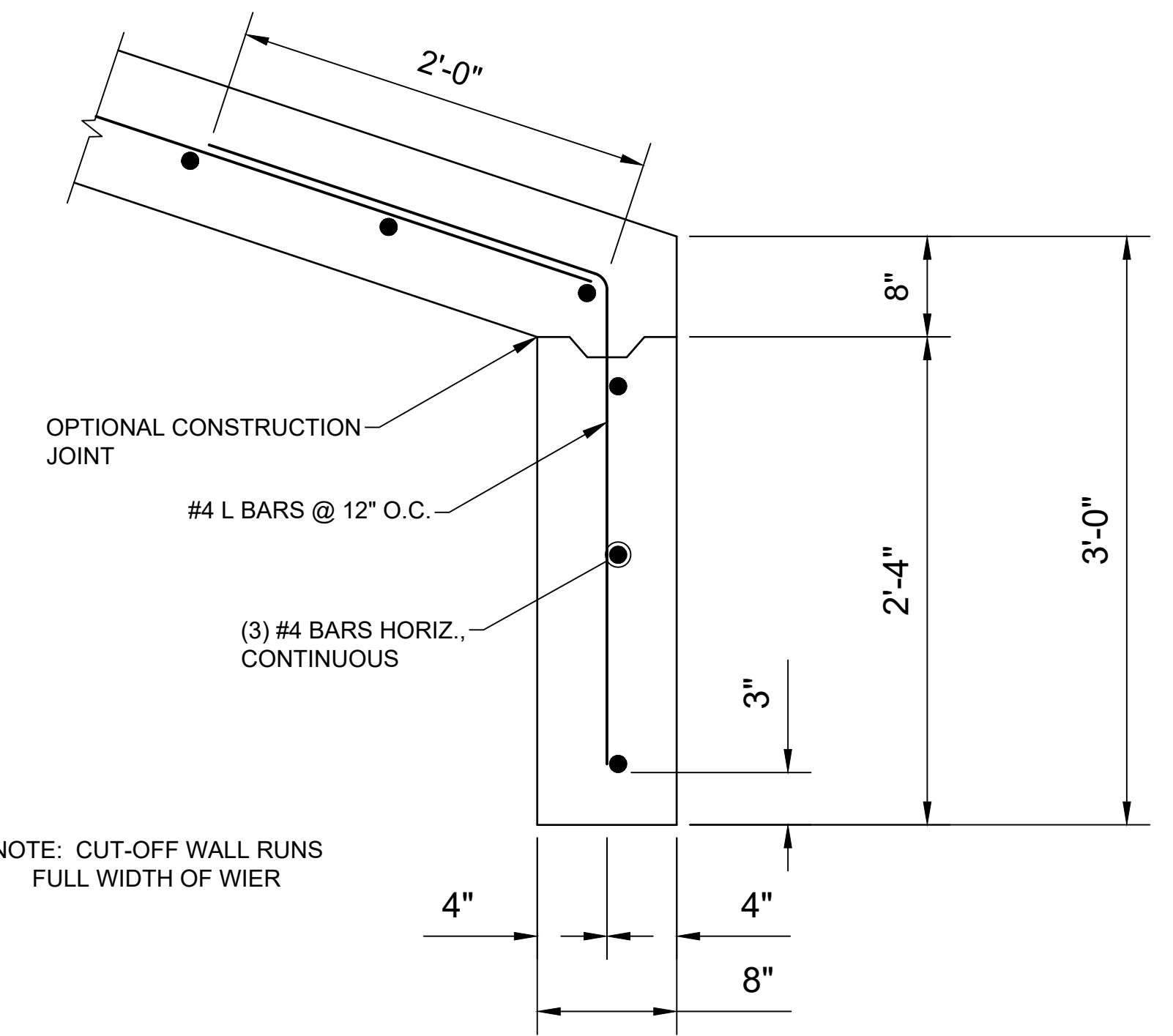
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Checked By: BMF	Approved By:	
Scale: Horiz.: N/A	Vert.: N/A	

Sheet No.: D1.6
Sheet 27 of 37



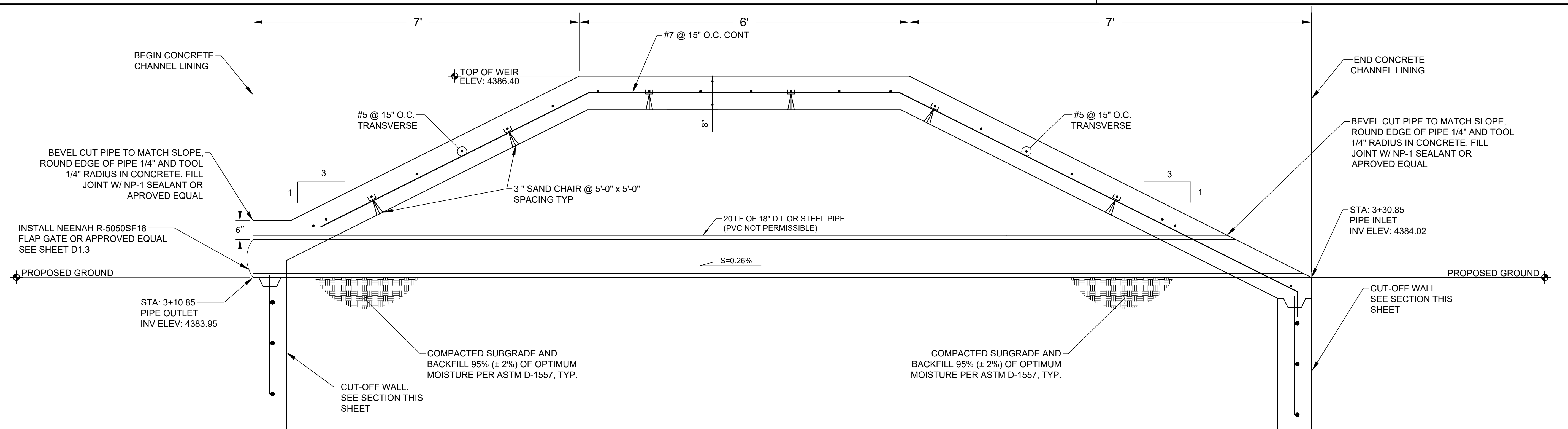
CONCRETE CHANNEL LINING

SCALE: NTS



TYPICAL CUT-OFF WALL SECTION

SCALE: NTS



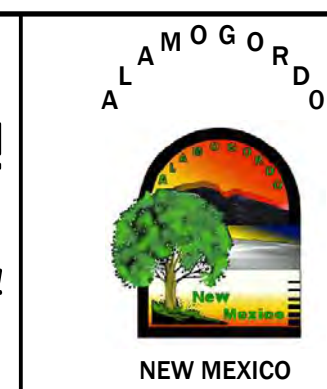
BROAD CRESTED WEIR

SCALE: NTS

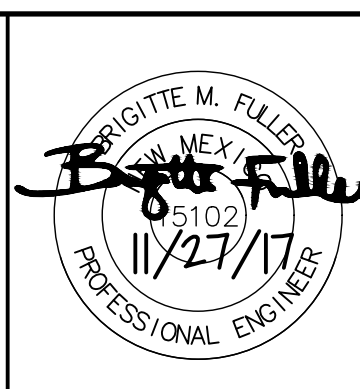
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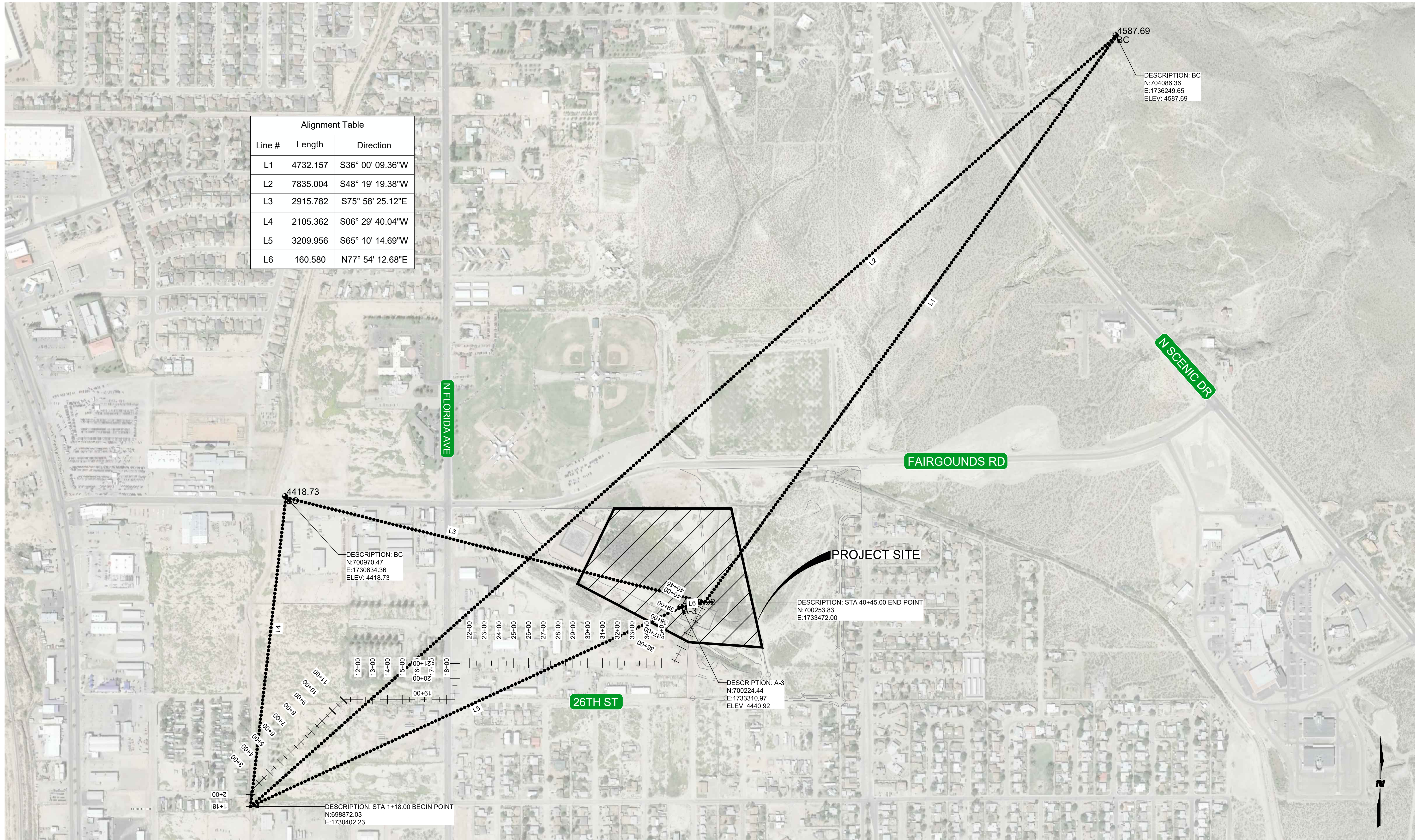
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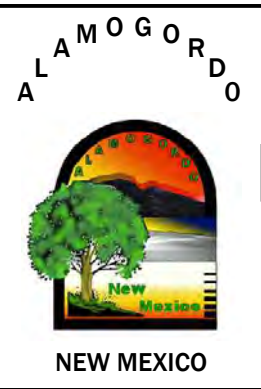
Public Works Bid No.: 2018-003	Sheet No.: D1.7
Drawn By: MTR Designed By: EEV	Checked By: BMF Approved By: _____
Scale: Horiz.: N/A Vert.: N/A	Sheet 28 of 37

M:\MSD\16-600-055-002_DISCIPLINES_SHEETS2_SHEETS_CIVIL\GRIGGS DWGS\15601822_DTLS.DWG 1/31/2018 10:33 AM



REV. No.	DATE	DESCRIPTION	APPROVED

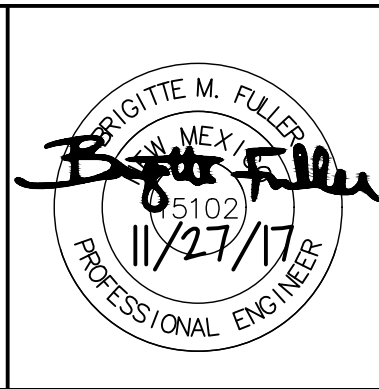
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GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS

RESERVOIR CONTROL POINTS & DATA PLAN

CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS



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GENERAL SHEET NOTES

KEYNOTES

1. CONSTRUCT 6" REINFORCED CONCRETE. SEE SHEET C-501.
2. CONSTRUCT RISER. SEE DETAIL A4/C-503.
3. SEE GEOTECHNICAL REPORT FOR SITE GRADING AND ENGINEERED FILL. FOR SPECIFICATIONS SEE PROJECT SPEC BOOK. USE SOIL FROM THIS AREA FOR ENGINEERED FILL.

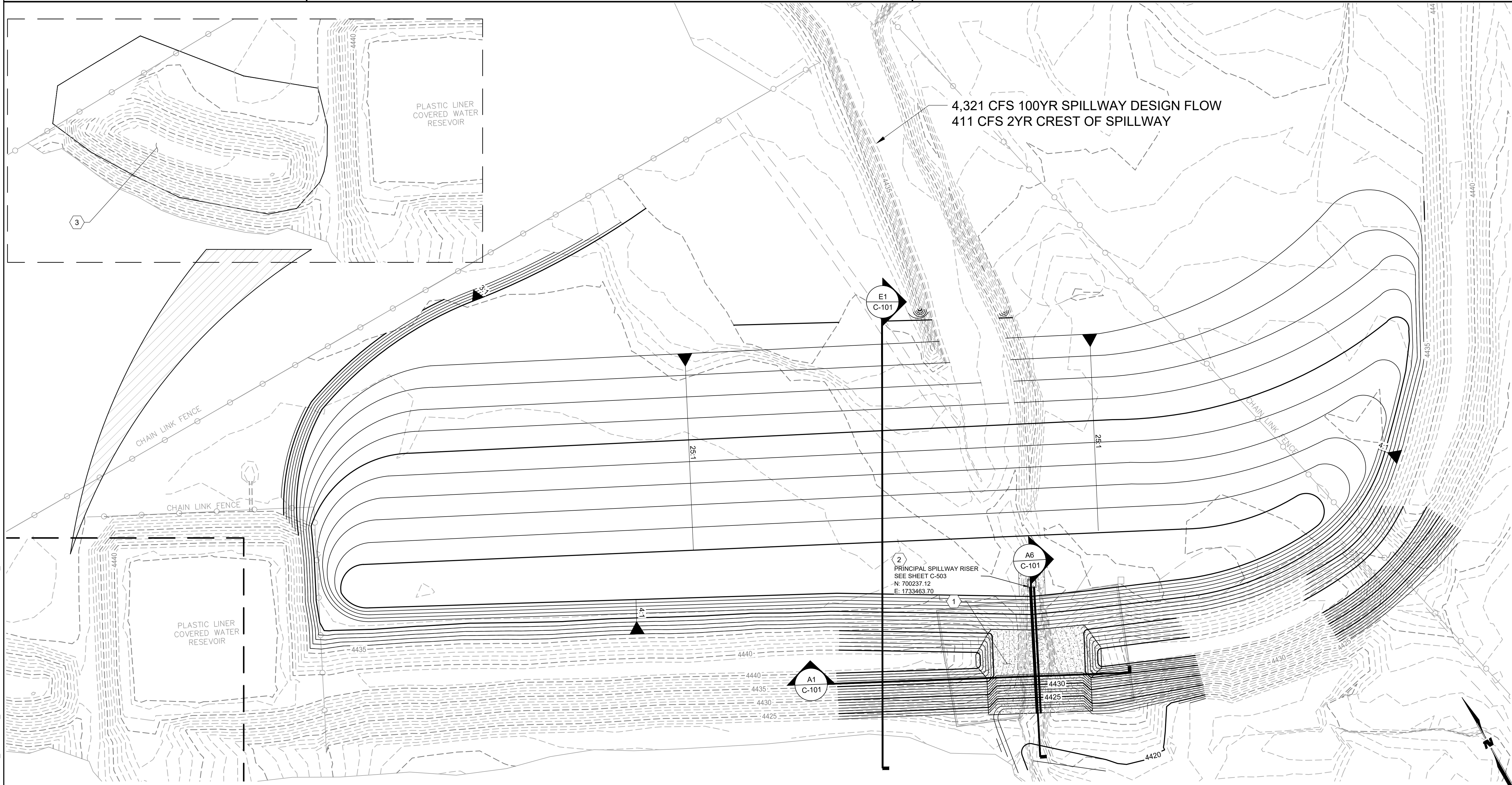
LEGEND

 6" THICK REINFORCED CONCRETE

Griggs Stage Storage Table

Contour Elevations (ft)	Contour Area (ft ²)	Area Incremental (acre-ft)	Incremental Depth (ft)	Average End Area Incremental (acre-ft)	Average End Area Cumulative (acre-ft)
4425.00	64271.7	1.48	N/A	N/A	0
4426.00	101460.63	2.33	1	1.90	1.90
4427.00	138458.29	3.18	1	2.75	4.66
4428.00	176303.68	4.05	1	3.61	8.27
4429.00	214751.84	4.93	1	4.49	12.76
4430.00	256930.11	5.90	1	5.41	18.17
4431.00	297585.5	6.83	1	6.36	24.54
4432.00	327923.6	7.53	1	7.18	31.72
4433.00	382018.61	8.77	1	8.15	39.87
4434.00	427758.47	9.82	1	9.29	49.16

*Note: Emergency Spillway Crest Elevation= 4434.00



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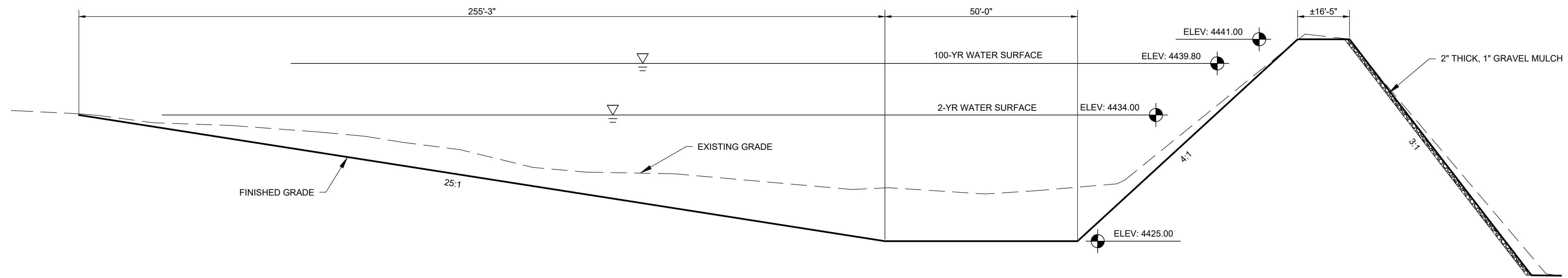
GRIGGS RESERVOIR OUTFALL STRUCTURE MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 RESERVOIR GRADING PLAN
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

BRIGITTE M. FULLER
 NEW MEXICO
 5102
 11/27/17
 PROFESSIONAL ENGINEER

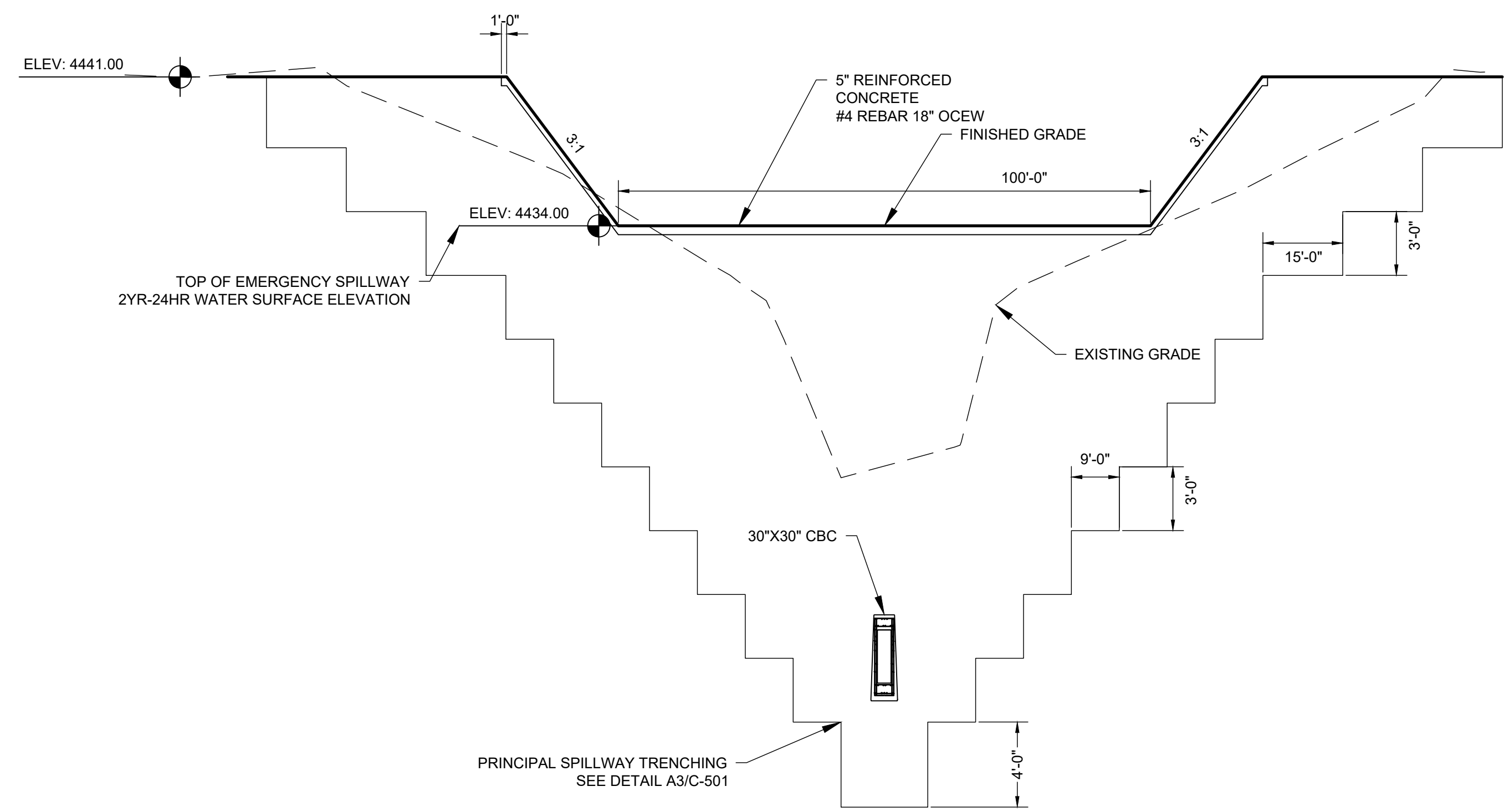
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 Scale: Horiz.: 1" = 60' Vert.: N/A


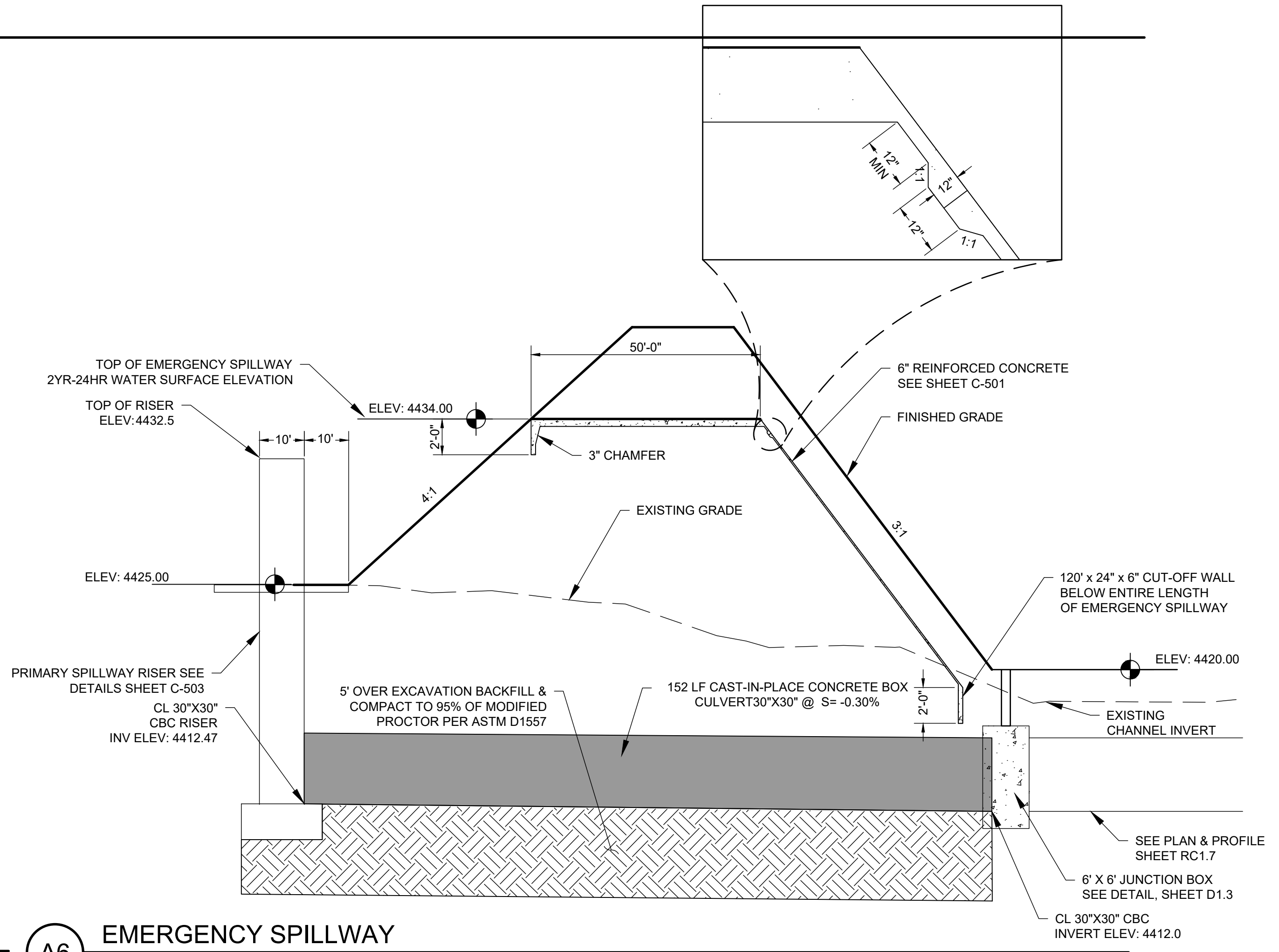
Sheet No.: **C-101**
 Sheet 30 of 37



E1 POND TYPICAL SECTION
 SCALE: 1" = 20' HORIZ
 1" = 5' VERT



A1 EMERGENCY SPILLWAY
 SCALE: 1" = 20' HORIZ
 1" = 5' VERT

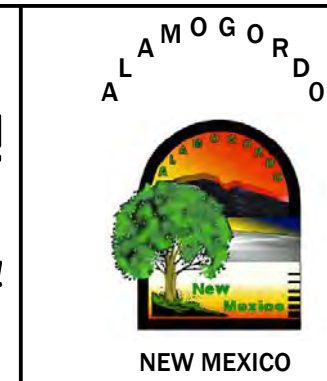


A6 EMERGENCY SPILLWAY
 SCALE: 1" = 20' HORIZ
 1" = 5' VERT

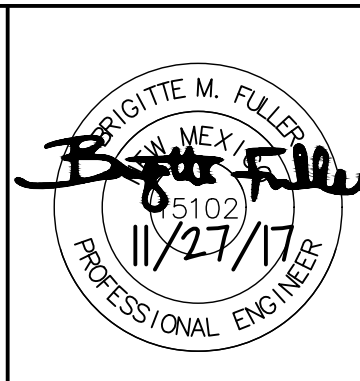
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RESERVOIR CROSS SECTIONS
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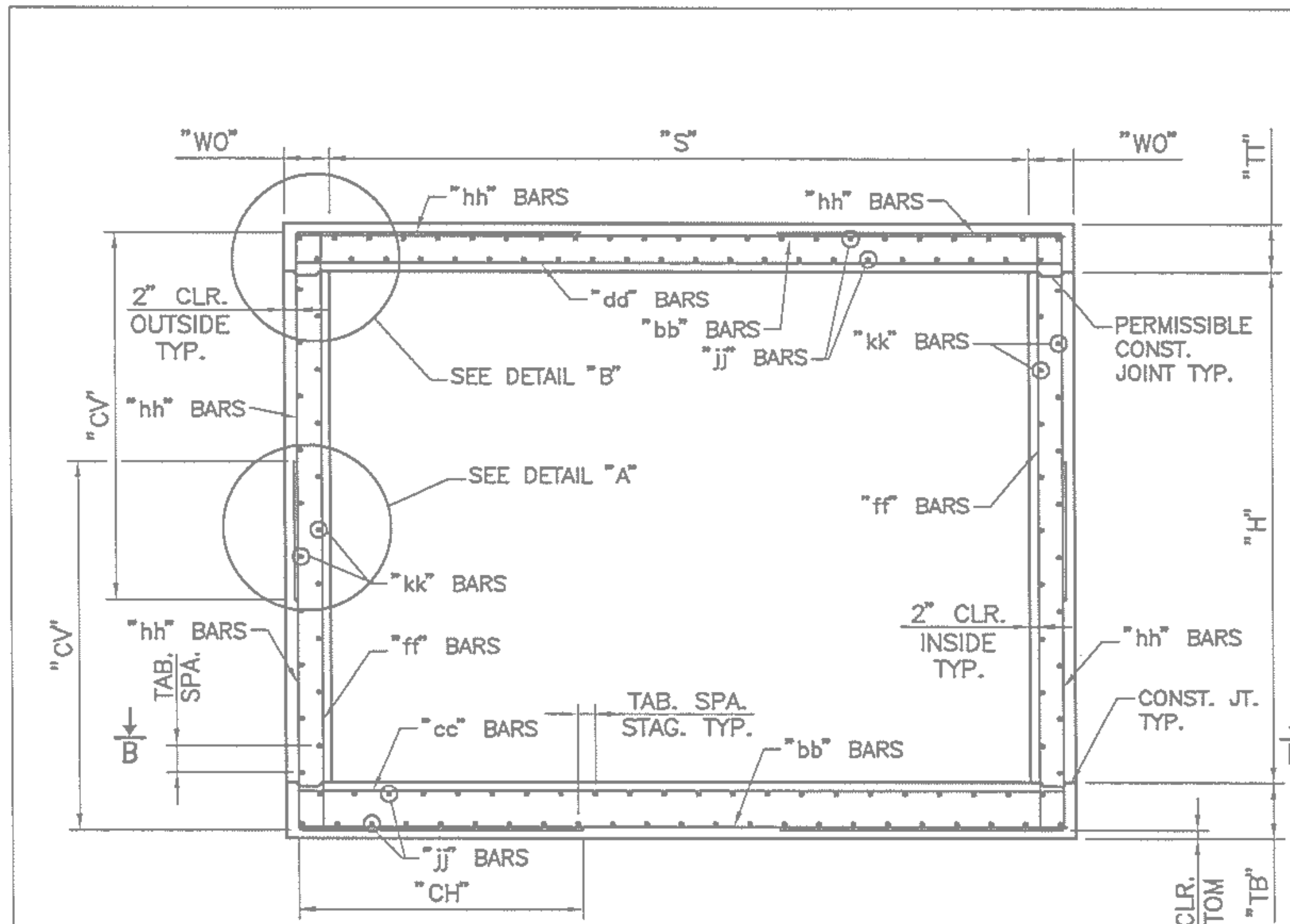


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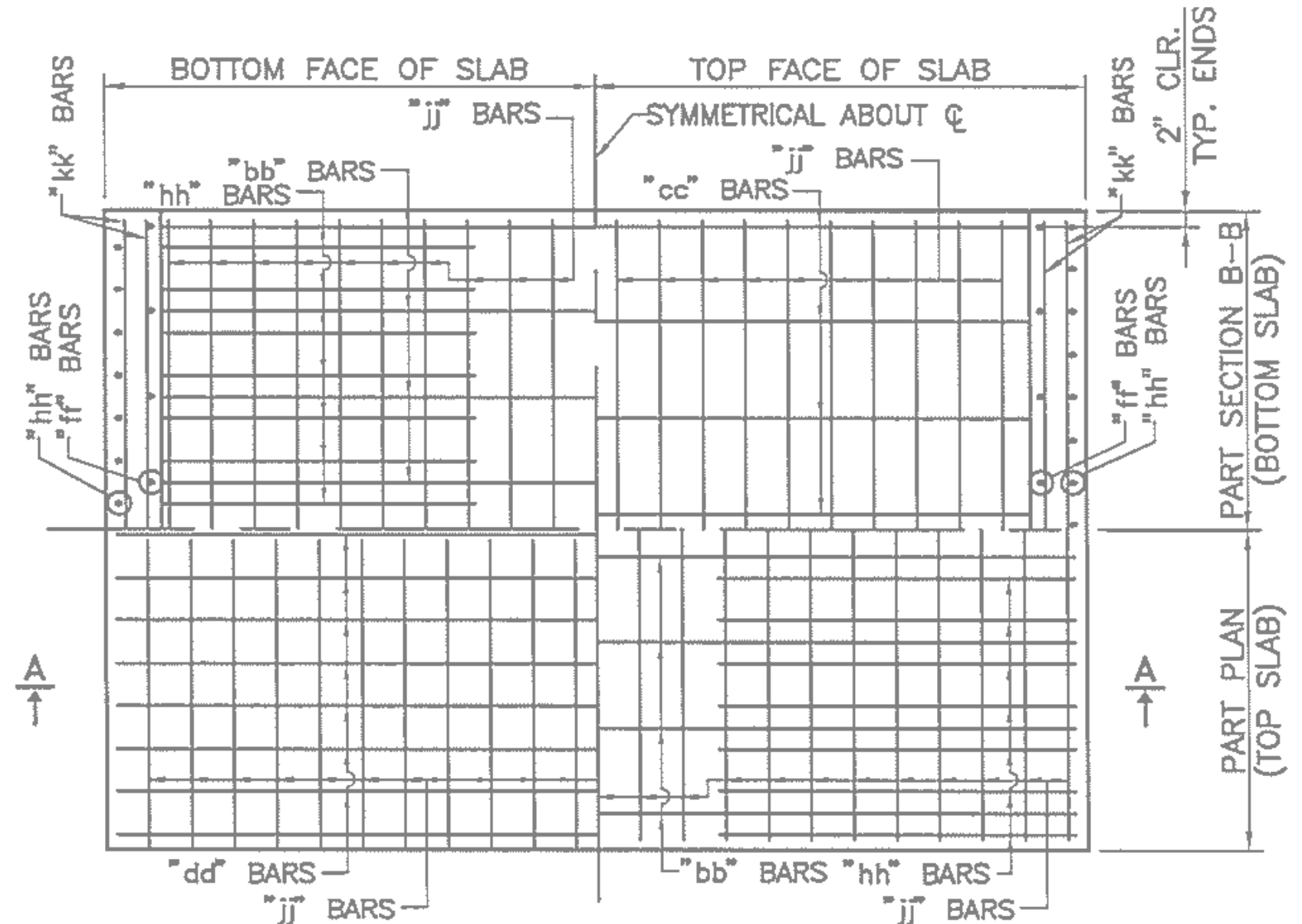
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Checked By: BMF	Approved By:	
Scale: Horiz.:	Vert.:	

Sheet No.: C-102
Sheet 31 of 37

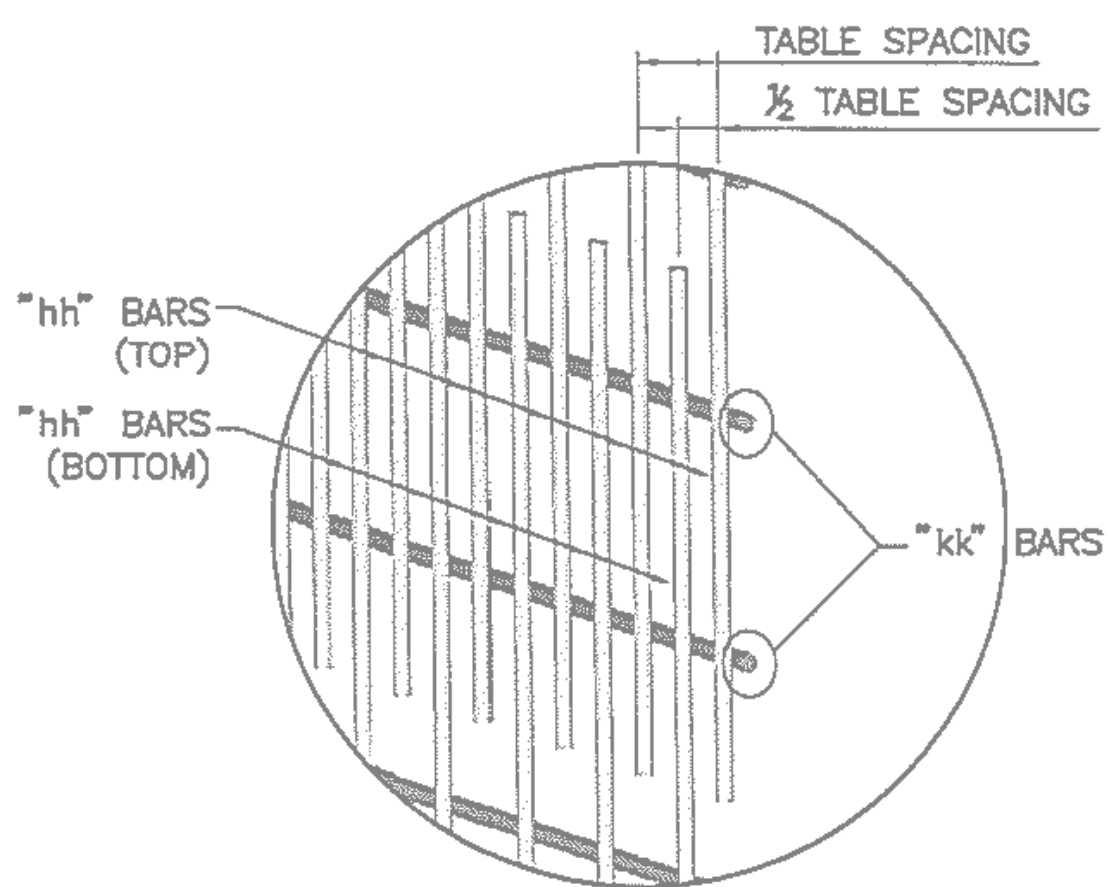
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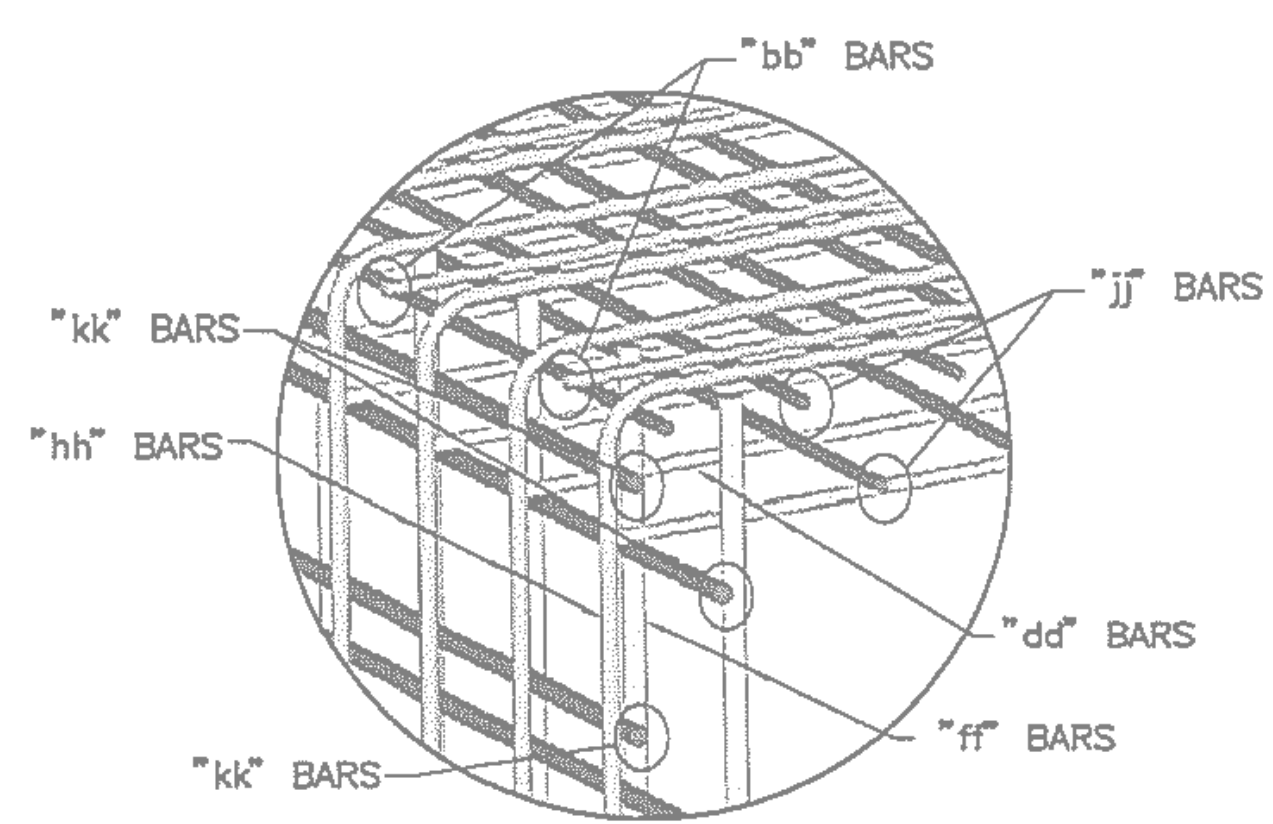
SECTION A-A



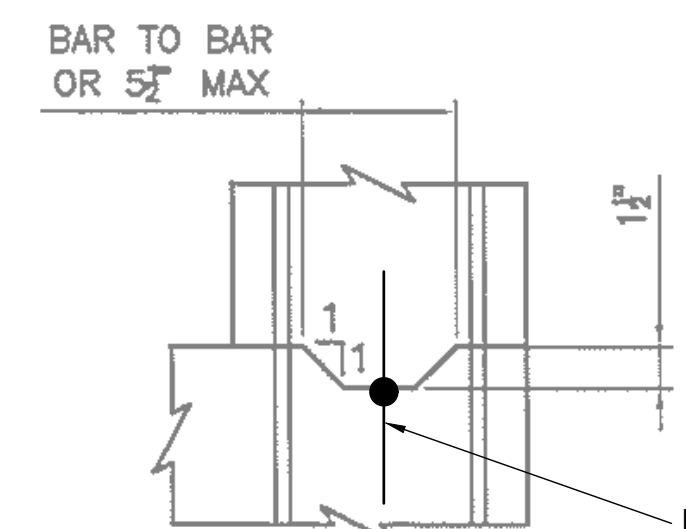
REBAR LAYOUT - PLAN VIEW



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 3/4".
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.

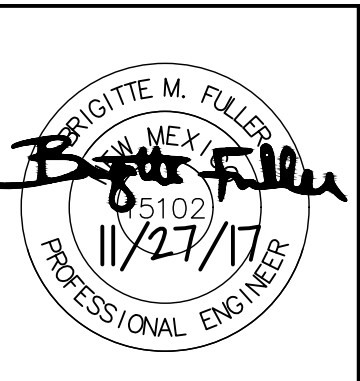
ALTERNATIVELY, A COMPLETE CONCRETE BOX CULVERT MAY BE PAID FOR UNDER CLASS "AA" CONCRETE BY "CU. YD." ITEM 511030 AND GRADE 60 REBAR BY "LBS." ITEM 540060.

NO.	DATE	REV. BY	DESCRIPTION
REVISIONS (OR CHANGE NOTICES)			
NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING			
CONCRETE BOX CULVERT SINGLE OPENING - DESIGN FILLS B, C, D, E STRUCTURAL SECTIONS AND REBAR			
APPROVED	[Signature]		APR 9, 07 DATE
DESIGNED BY TLB		DRAWN BY SGL	CHECKED BY HDR
511-61-1/2			1 OF 2

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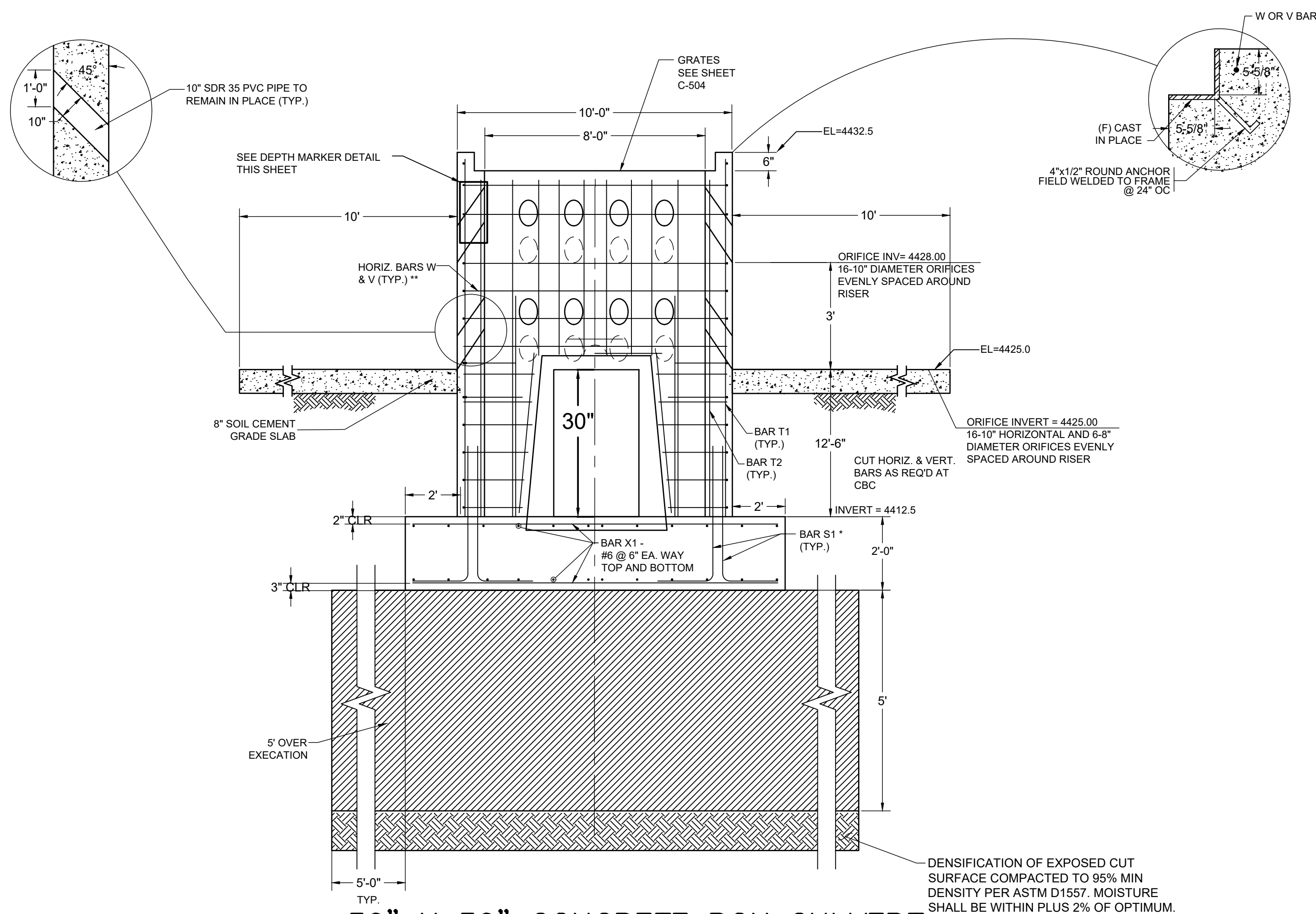
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MODIFICATIONS AND STORM DRAIN IMPROVEMENTS
 SITE DETAILS
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**30" X 30" CONCRETE BOX CULVERT
PRIMARY SPILLWAY RISER**

NTS
 * BARS S1 - MATCH VERTICAL WALL BAR SIZE AND SPACING
 ** SPACE HORIZ. BARS AT 8" MAX. O.C., EXCEPT BTN ORIFICES PLACE 3 EQUAL SPACED BARS AS SHOWN
 COVER 12" HORIZONTAL ORIFICES WITH 3" EXPANDED METAL SCREEN.

GENERAL STRUCTURAL NOTES

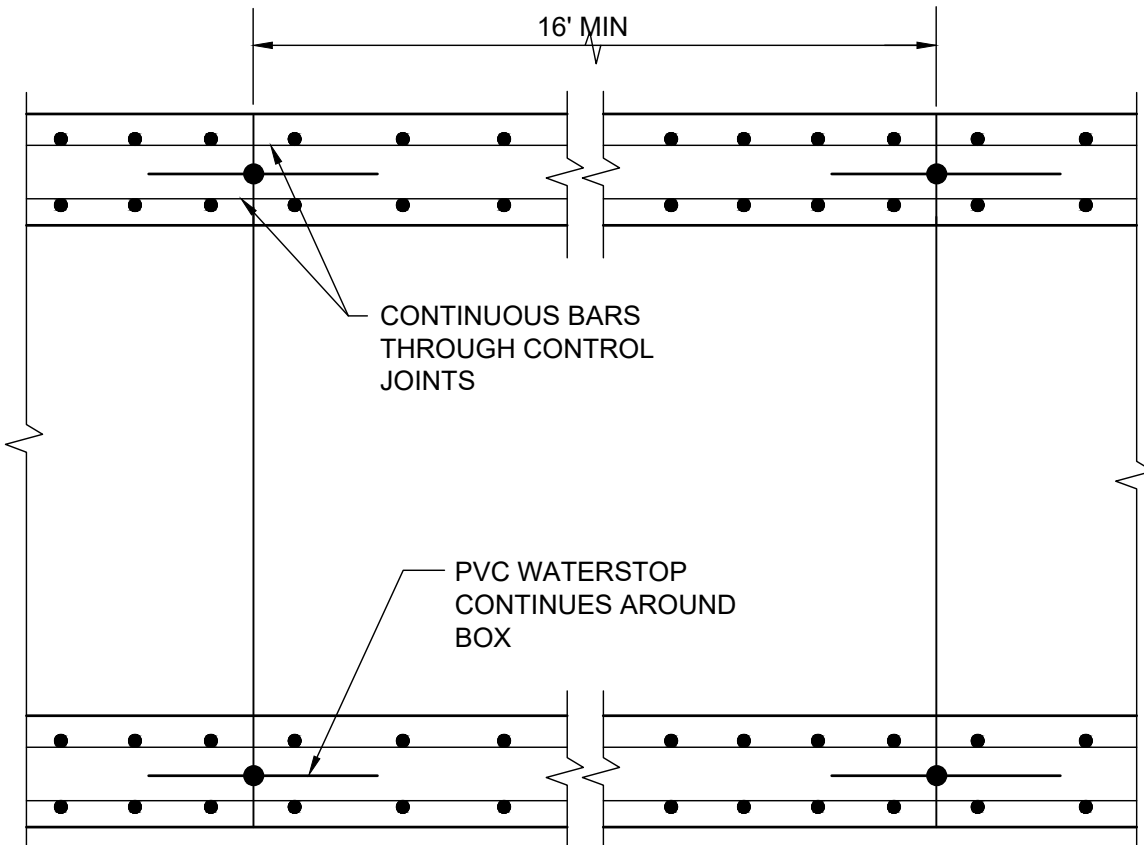
- SPECIFICATIONS FOR CONSTRUCTION:** NEW MEXICO DEPARTMENT OF TRANSPORTATION (NMDOT) 2014.
- CONCRETE:** PROVIDE 4000 PSI CONCRETE PER SECTION 509 AND APPLICABLE TECHNICAL SPECIFICATIONS. CHAMFER ALL EXPOSED EDGES OF STRUCTURES 3/4" UNLESS OTHERWISE NOTED.
- FINISHING CONCRETE SURFACES:** PAINT ALL EXPOSED CONCRETE SURFACES WITH TEXTURED THOROCCOAT OR APPROVED EQUAL. OBTAIN ENGINEER'S APPROVAL OF COLOR PRIOR TO APPLICATION.
- REINFORCING BARS:** ASTM A615, GRADE 60. DIMENSIONS SHOWN REFER TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.
 UNLESS OTHERWISE INDICATED, USE THE FOLLOWING MINIMUM LAP LENGTHS:

#4 BARS	1'-9"
#5 BARS	2'-2"
#6 BARS	2'-7"
- STRUCTURAL STEEL:**
 STEEL SECTIONS AND BARS: ASTM A 36
 BOLTS, NUTS, & WASHERS: ASTM A 307
 PLATES: ASTM A 283
 RODS: ASTM A 36
- WELDING:** CONFORM TO AWS D1.1 WITH ELECTRODES CONFORMING TO AWS A5.1, E-70 SERIES. PROVIDE CERTIFIED WELDERS FOR ALL WELDING.
- SPILLWAY RISER ORIFICES:** SCHEDULE 40 PVC PIPE.
- JUNCTION BOX SAFETY LADDER:** PROVIDE LADDER USING GALVANIZED ASTM A36 STEEL AND CONFORMING TO OSHA REQUIREMENTS.
- RISER FOUNDATION PREPARATION:** OVER-EXCAVATE TO A DEPTH OF 5 FEET AND FOR A DISTANCE OF 5 FEET LATERALLY BEYOND THE FOOTING PERIMETER AND DENSIFY THE EXPOSED SURFACES OF THE NATIVE SOILS. REPLACE OVER-EXCAVATED VOLUME WITH STRUCTURAL FILL IN ACCORDANCE WITH THE SPECIFICATIONS.
- SPECIAL INSPECTIONS:** PROVIDE ACCESS FOR OWNER OR OWNER'S REPRESENTATIVE TO MAKE SPECIAL INSPECTIONS OF CONCRETE AND REINFORCEMENT PLACEMENT, FIELD WELDING, AND EARTHWORK IN ACCORDANCE WITH SECTION 17 OF THE BUILDING CODE.
- 10" ORIFICES SHALL BE FORMED USING SDR 35 PVC PIPE.

DESIGN DATA

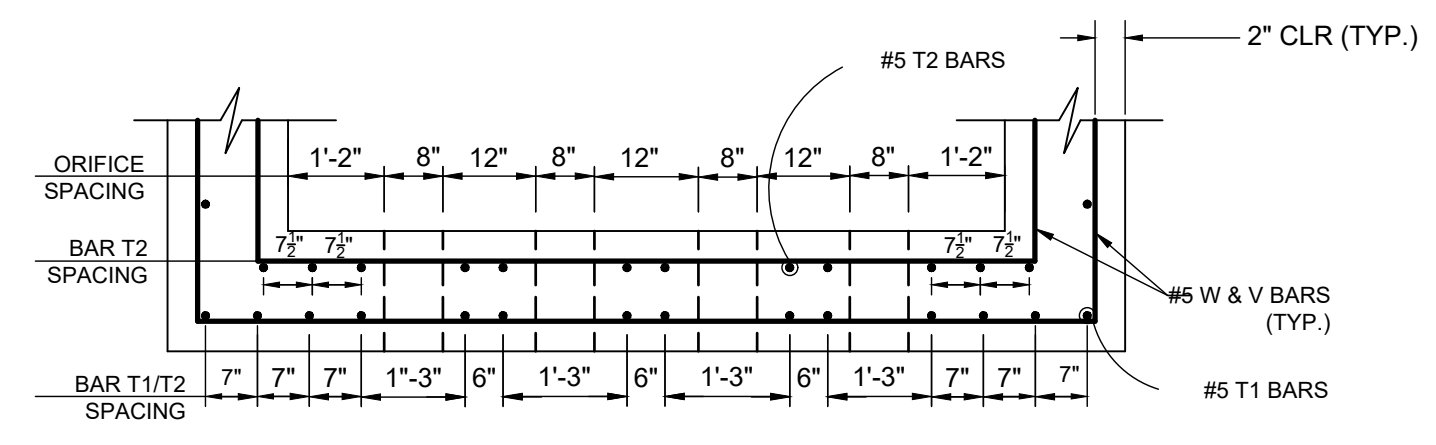
DESIGN SPECIFICATIONS: 2003 STATE OF NEW MEXICO COMMERCIAL BUILDING CODE (2003 INTERNATIONAL BUILDING CODE AS AMENDED).
 LIVE LOAD: 10,000 LB VEHICLE LOAD.
 WIND: BASIC WIND SPEED = 90 MPH, $I_w = 1.00$, BLDG CATEGORY II, EXPOSURE C, DESIGN WIND PRES. = 18 PSF.
 SEISMIC: $I_e = 1.00$, SEISMIC USE GROUP I, $S_s = 0.60$, $S_i = 0.15$, SITE CLASS D, $S_{ds} = 0.53$, $S_{d1} = 0.22$, SEISMIC DESIGN CATEGORY D.
 DESIGN STRESSES:
 REINFORCED CONCRETE: $f_c = 4000$ PSI (28 DAYS) REINFORCING STEEL: $f_y = 60000$ PSI
 ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF (DL + LL), 2000 PSF (DL + LAT LOAD)

NOTE:
 STEEL DETAILS:
 SEE SHEET C-504 FOR REINFORCING DETAILS

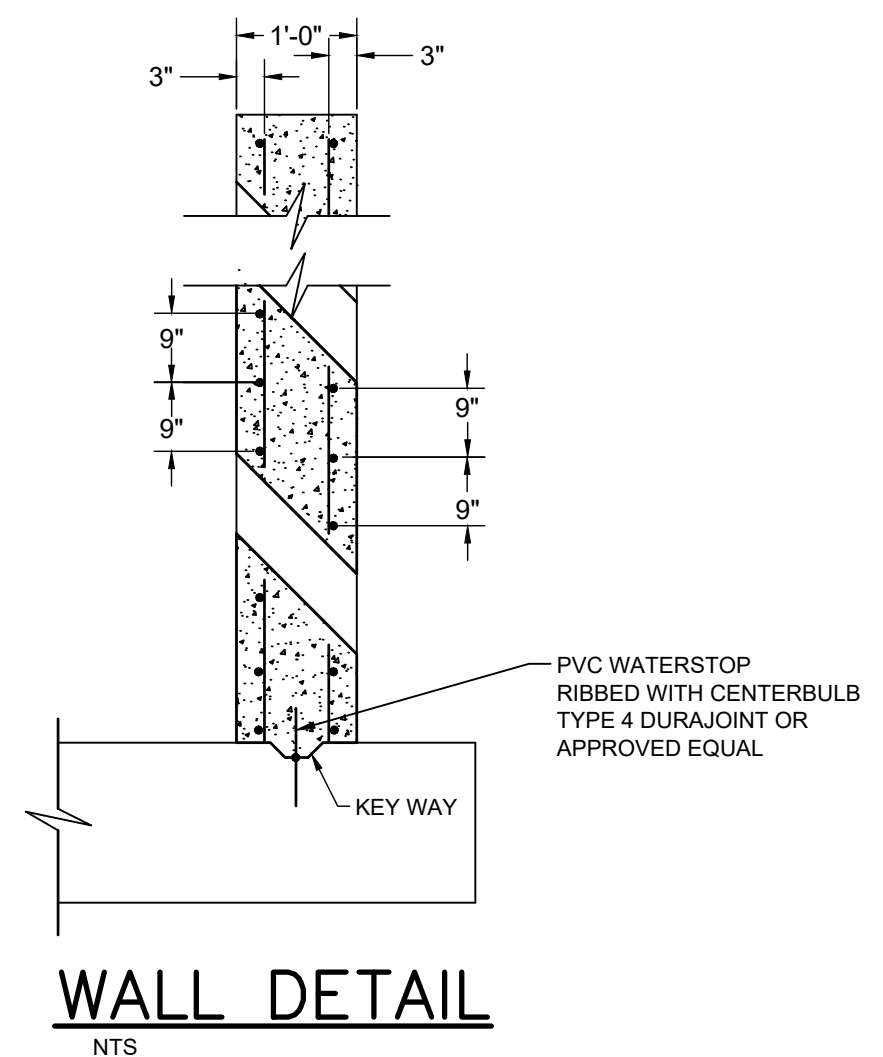


VERTICAL CONTROL JOINTS

NOTE:
 BOX SHALL INCLUDE VERTICAL CONTROL JOINTS AT 16' SPACING MINIMUM. ALL PVC WATERSTOPS SHALL BE RIBBED TYPE WITH CENTER BULB TYPE 4 DURAJOINT OR APPROVED EQUAL.

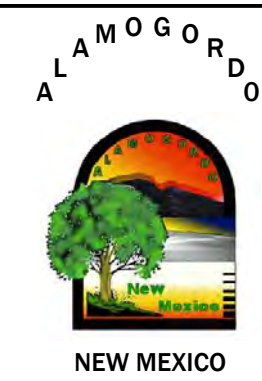


(A) RISER SECTION
NTS

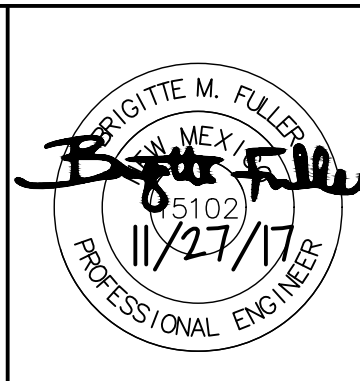


WALL DETAIL
NTS

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**GRIGGS RESERVOIR OUTFALL STRUCTURE
MODIFICATIONS AND STORM DRAIN IMPROVEMENTS**
 SITE DETAILS
 CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

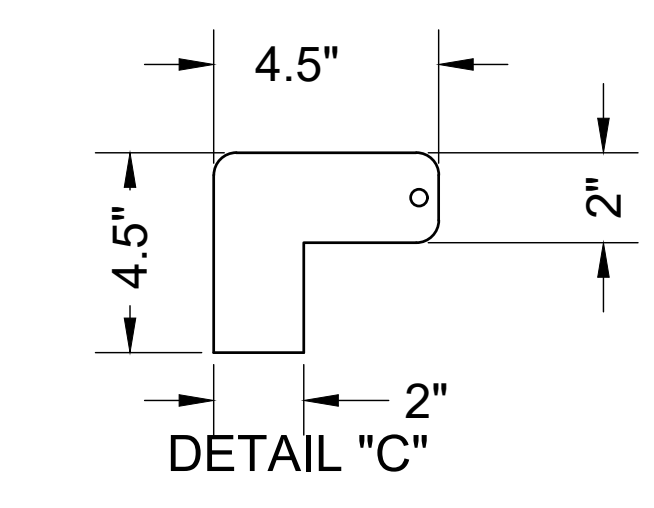
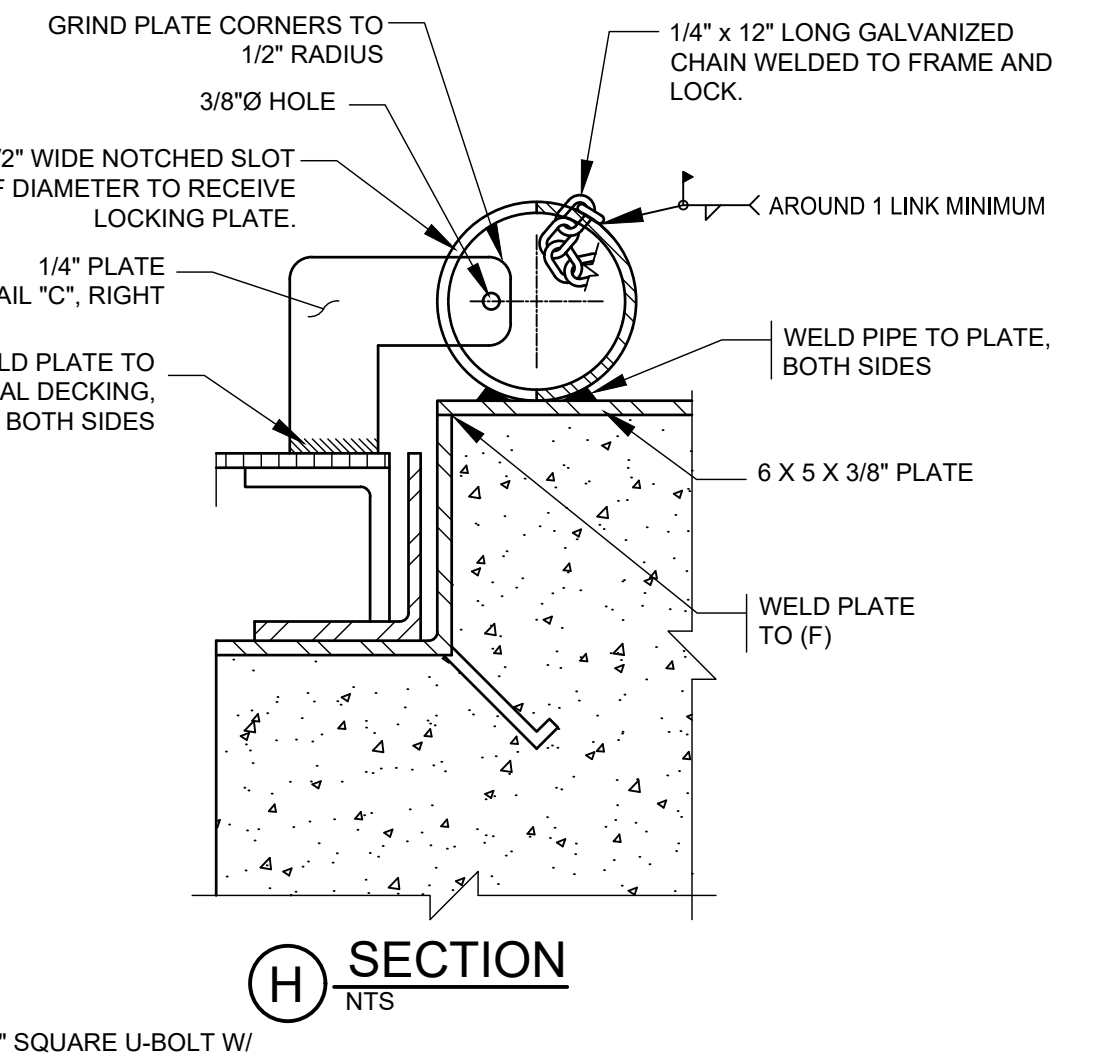
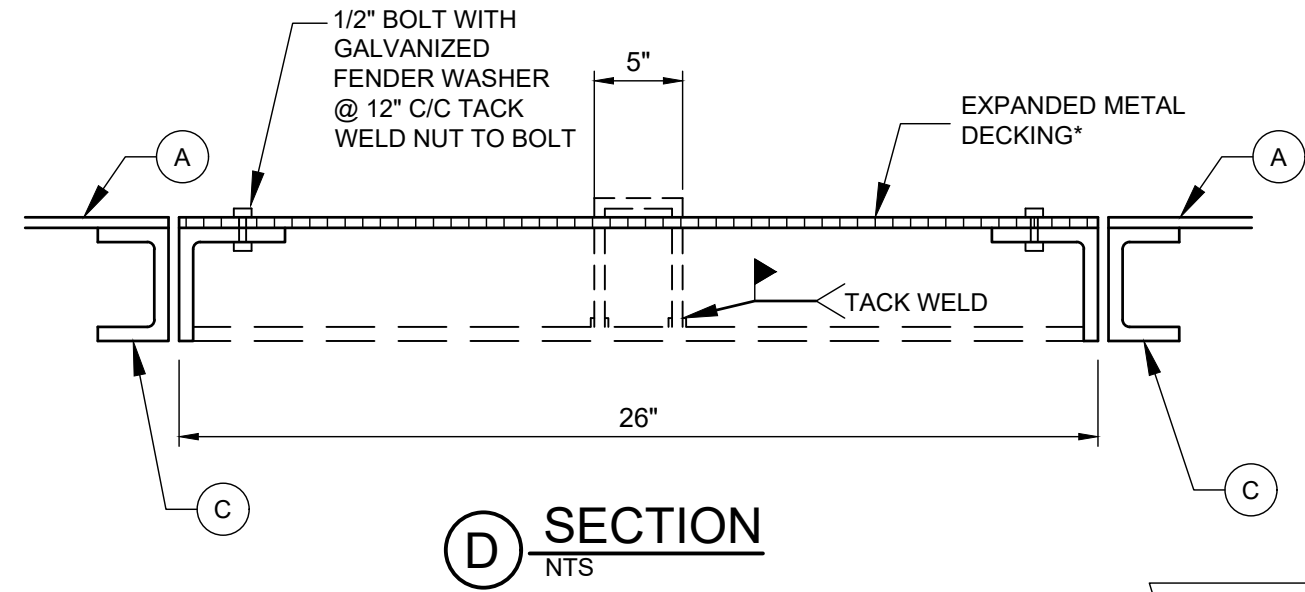
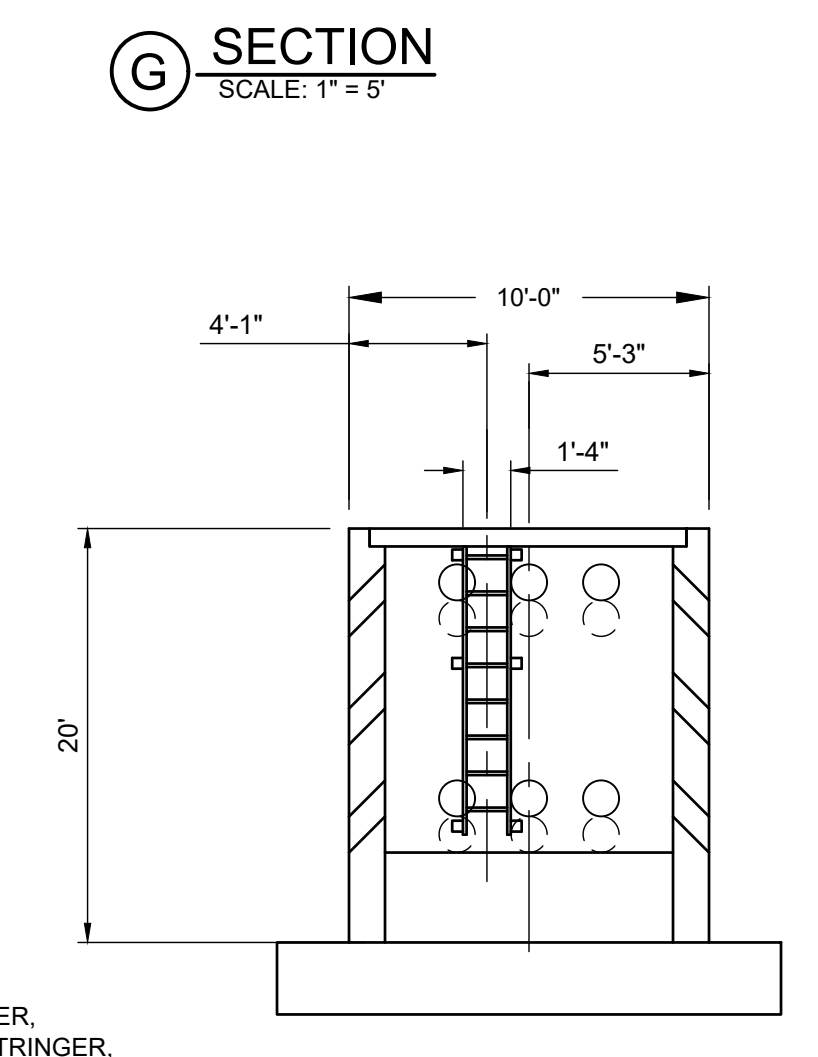
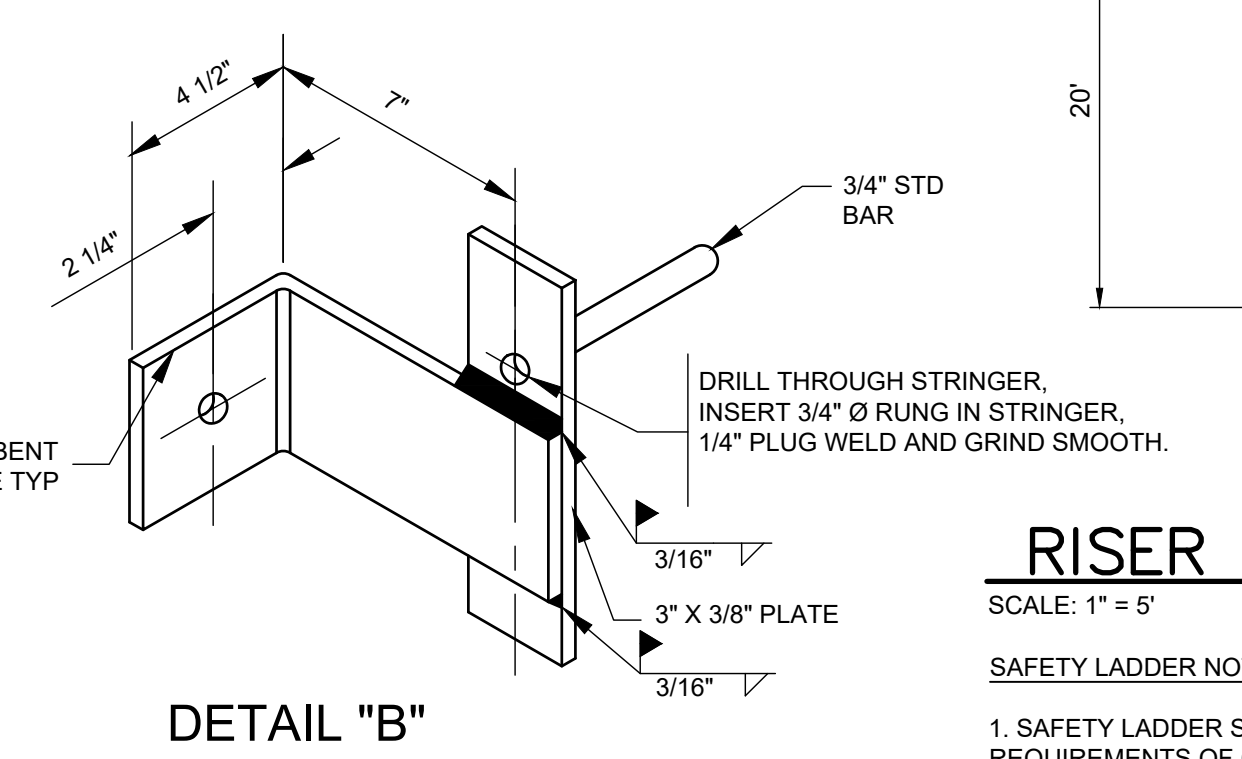
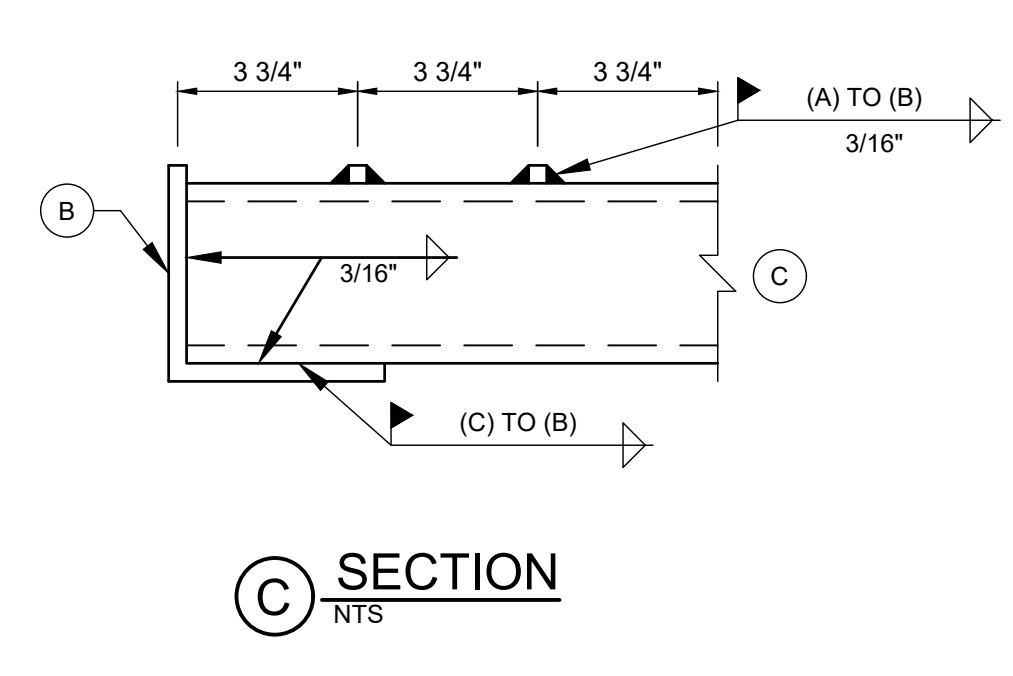
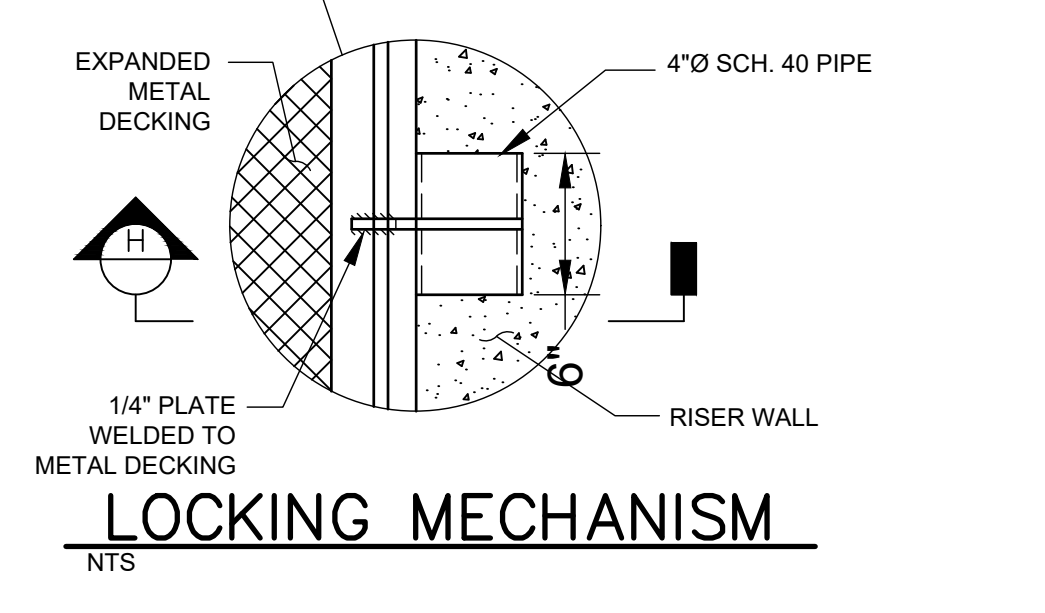
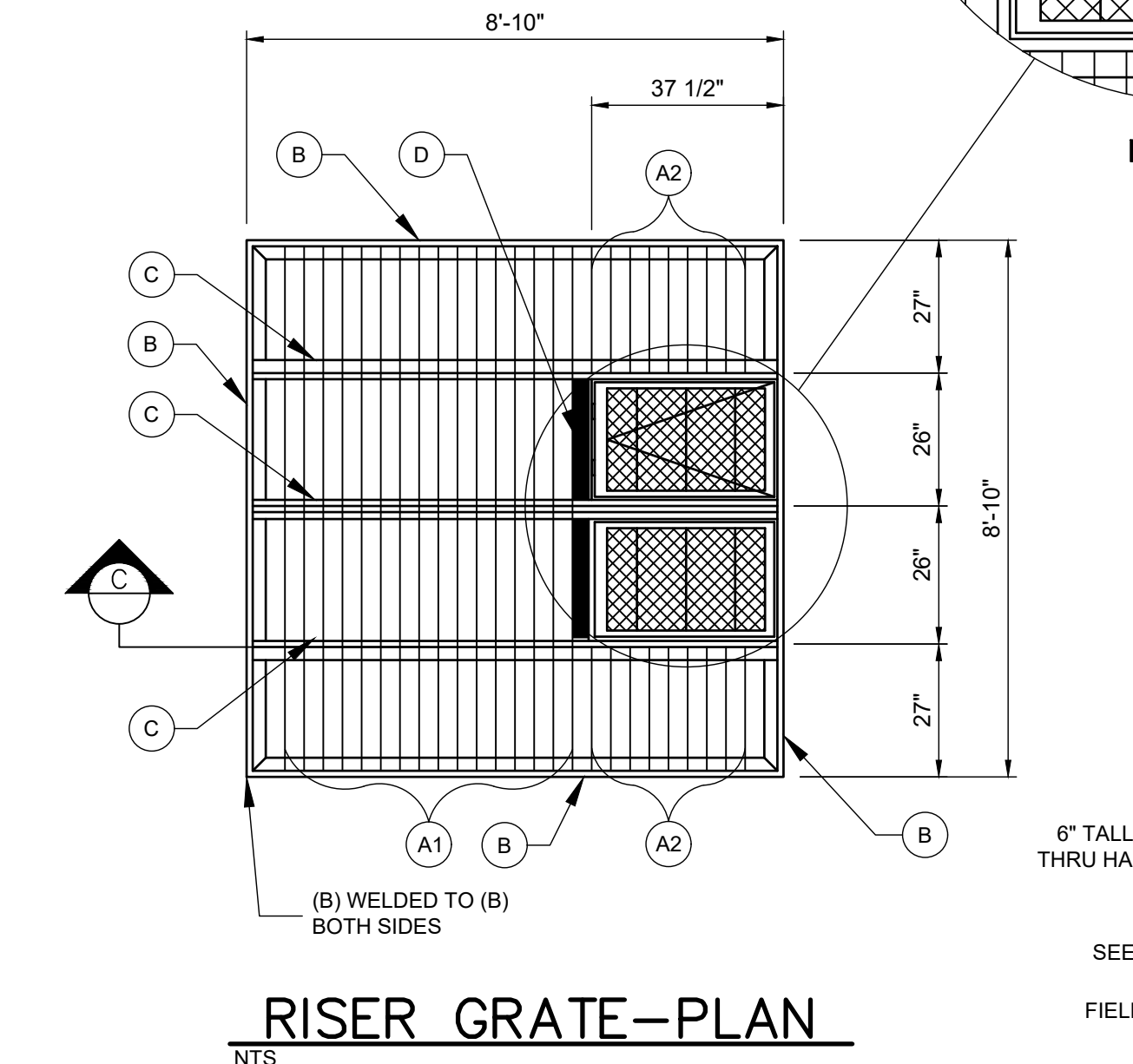
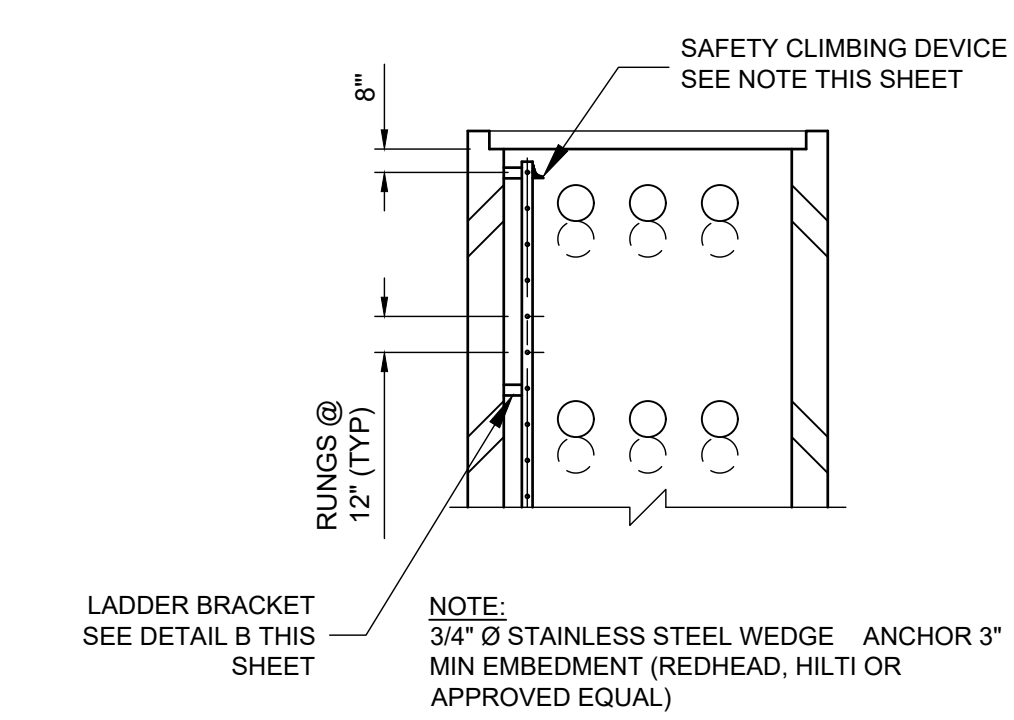
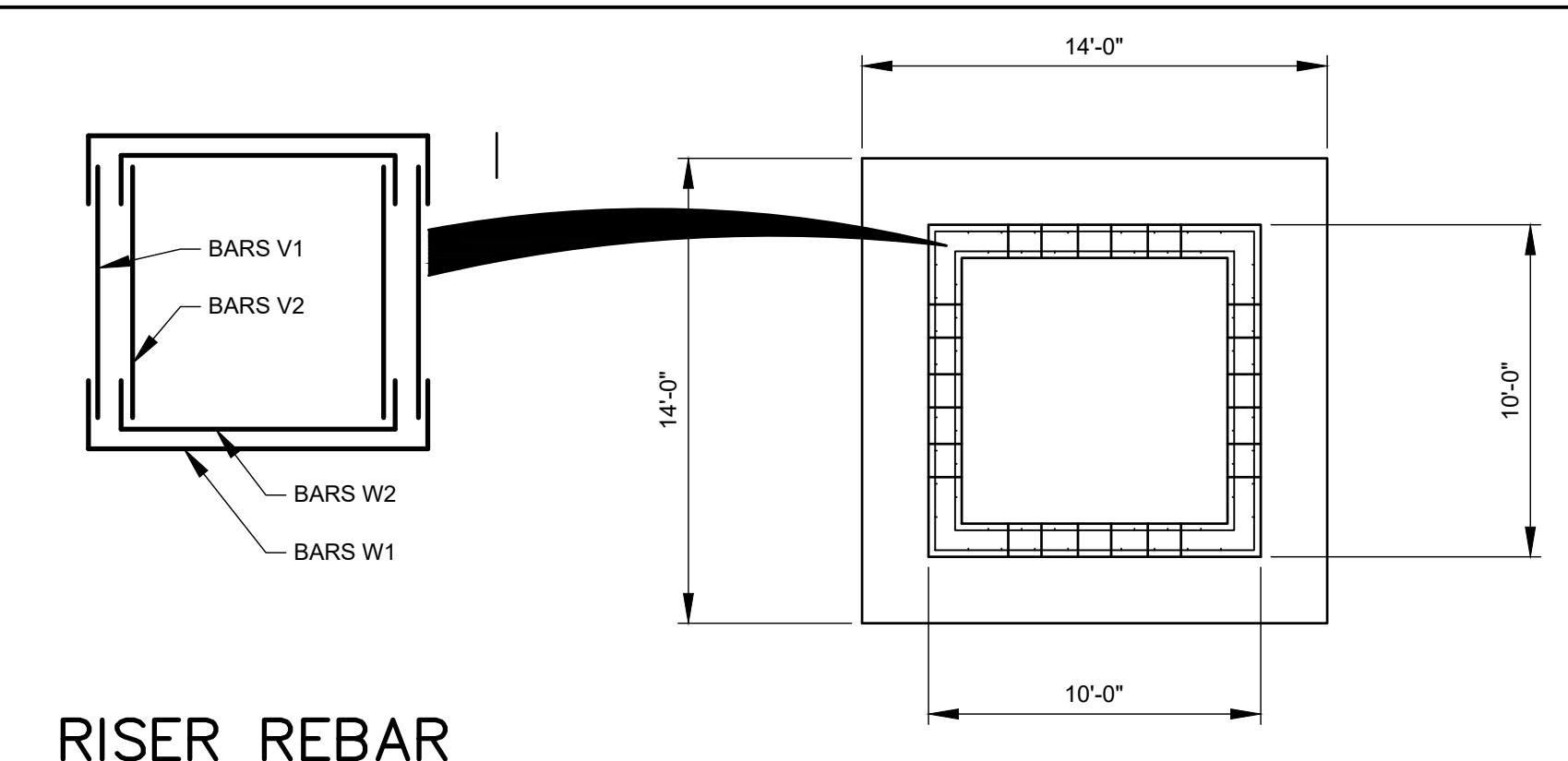
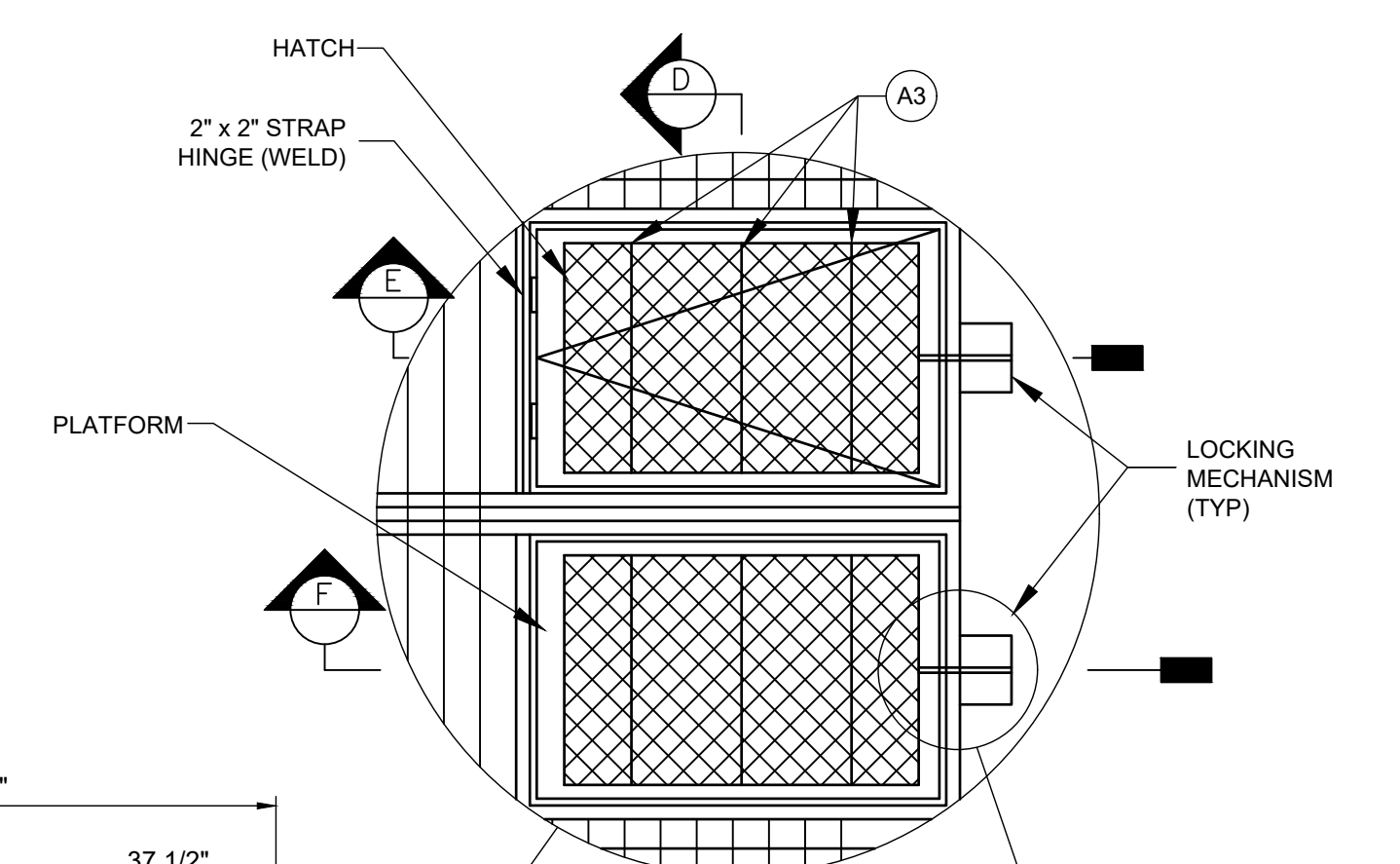


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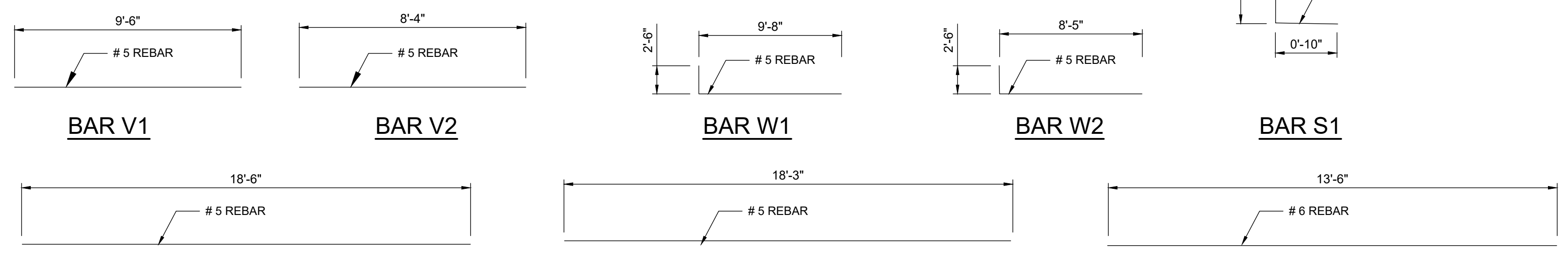
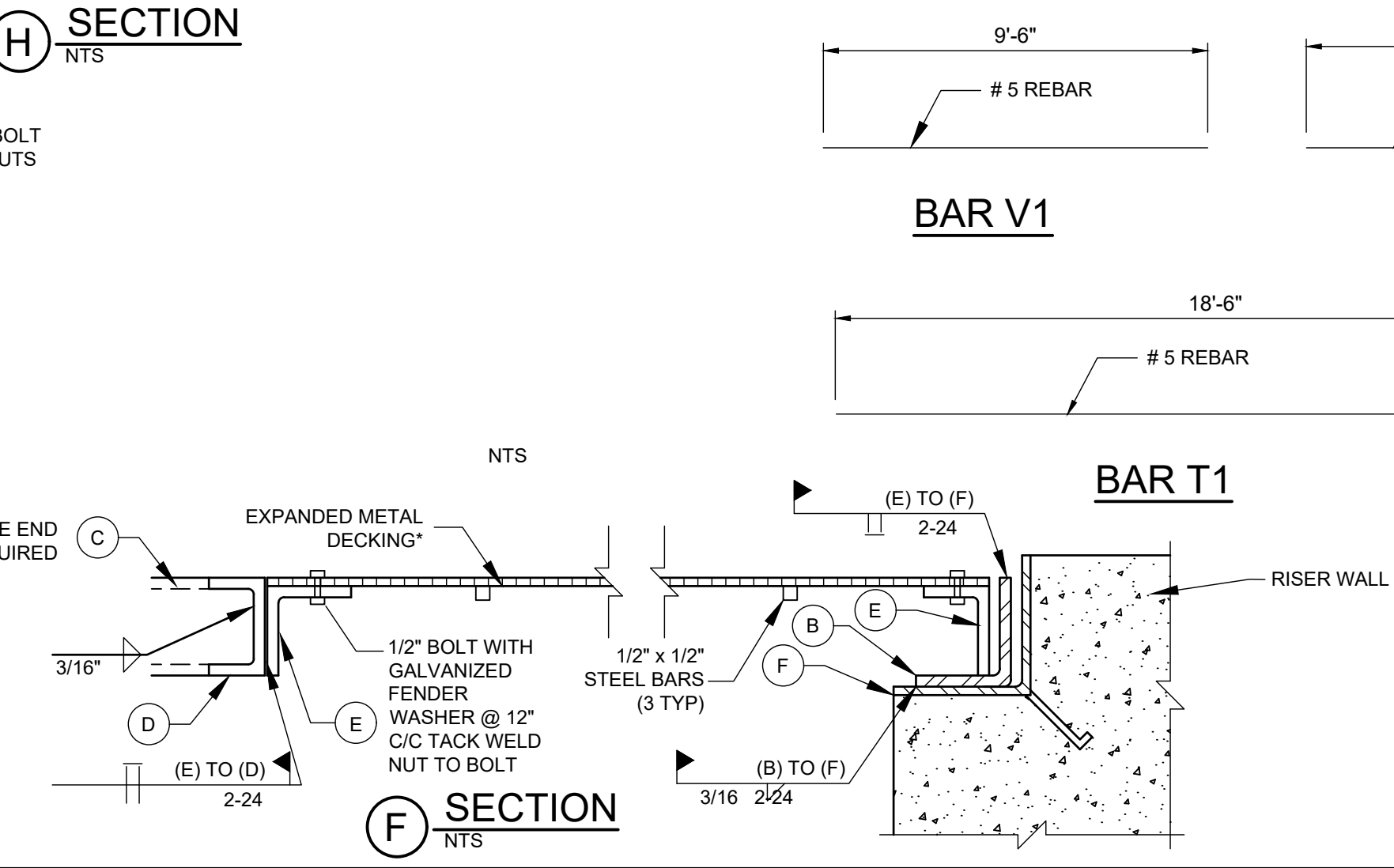
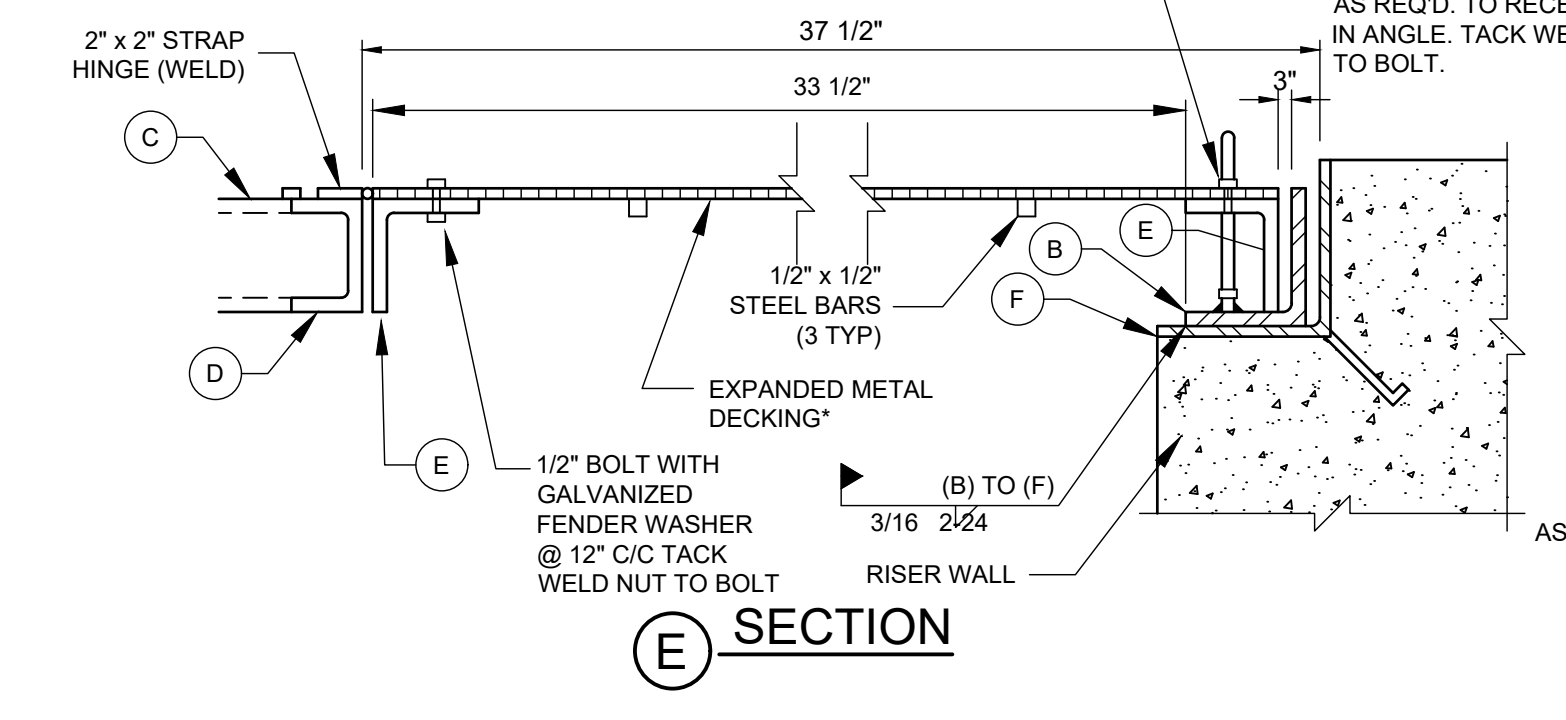
C-503
 Sheet 35 of 37

M:\MSD\16-600-053-002_DISCIPLINES_SHEETS-CIVIL\GRIGGS DWGS\15601822_DTLS.DWG 1/31/2018 10:33 AM

KEY TABLE
A 1/2" x 1/2" STEEL BARS
B L 4 x 4 x 3/8
C 3 x 6
D C 3 x 6
E L 3 x 3 x 3/8
F L 5 x 5 x 3/8



SAFETY LADDER NOTES:
1. SAFETY LADDER SHALL BE GALVANIZED A-36 STEEL AND SHALL MEET ALL REQUIREMENTS OF OSHA REGARDLESS OF DETAILS SHOWN.



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NMOC

GRIGGS RESERVOIR OUTFALL STRUCTURE
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CITY OF ALAMOGORDO, NEW MEXICO, DEPARTMENT OF PUBLIC WORKS

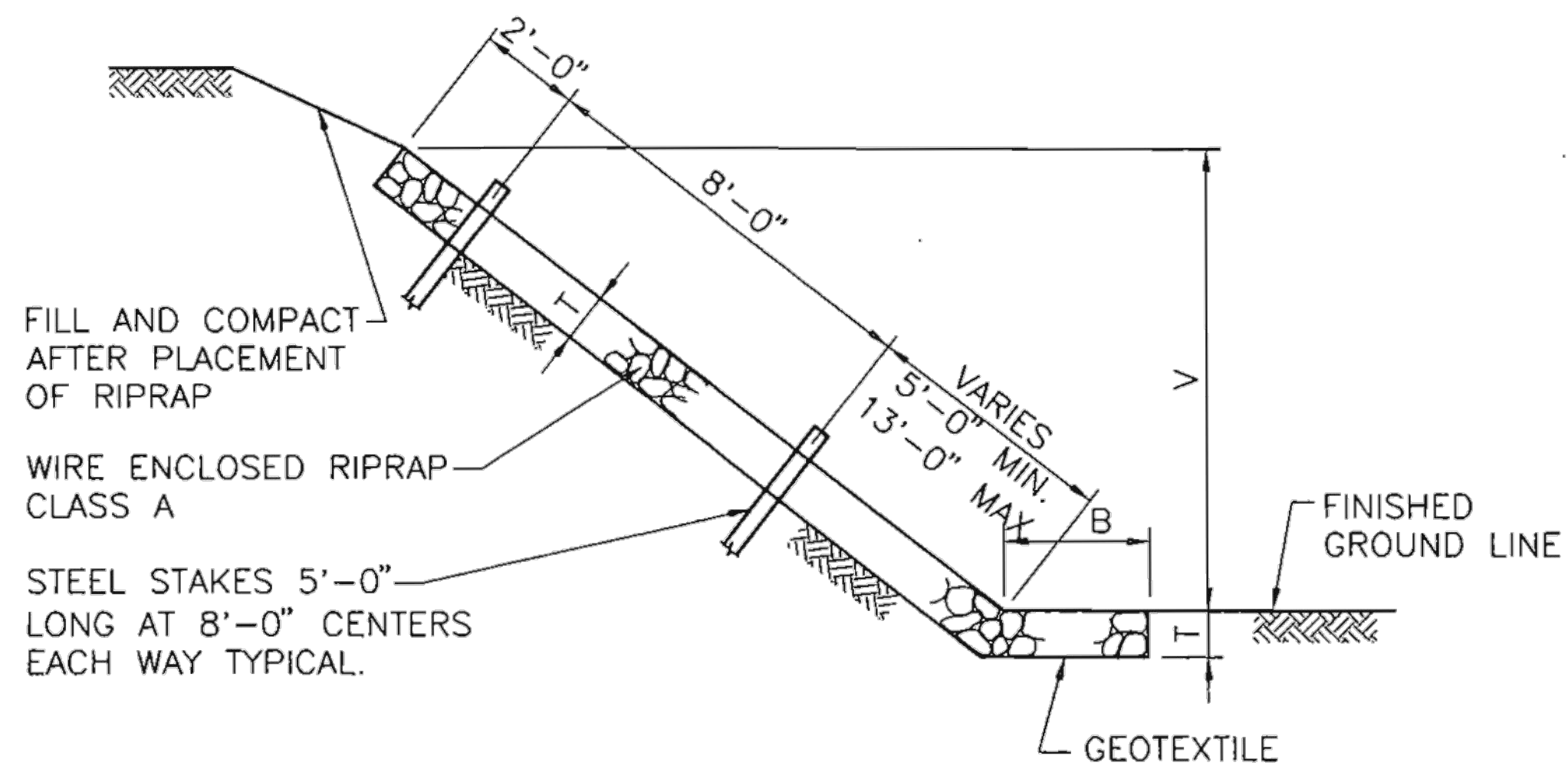
BRIGITTE M. FULLER
REGISTERED PROFESSIONAL ENGINEER
11/27/17

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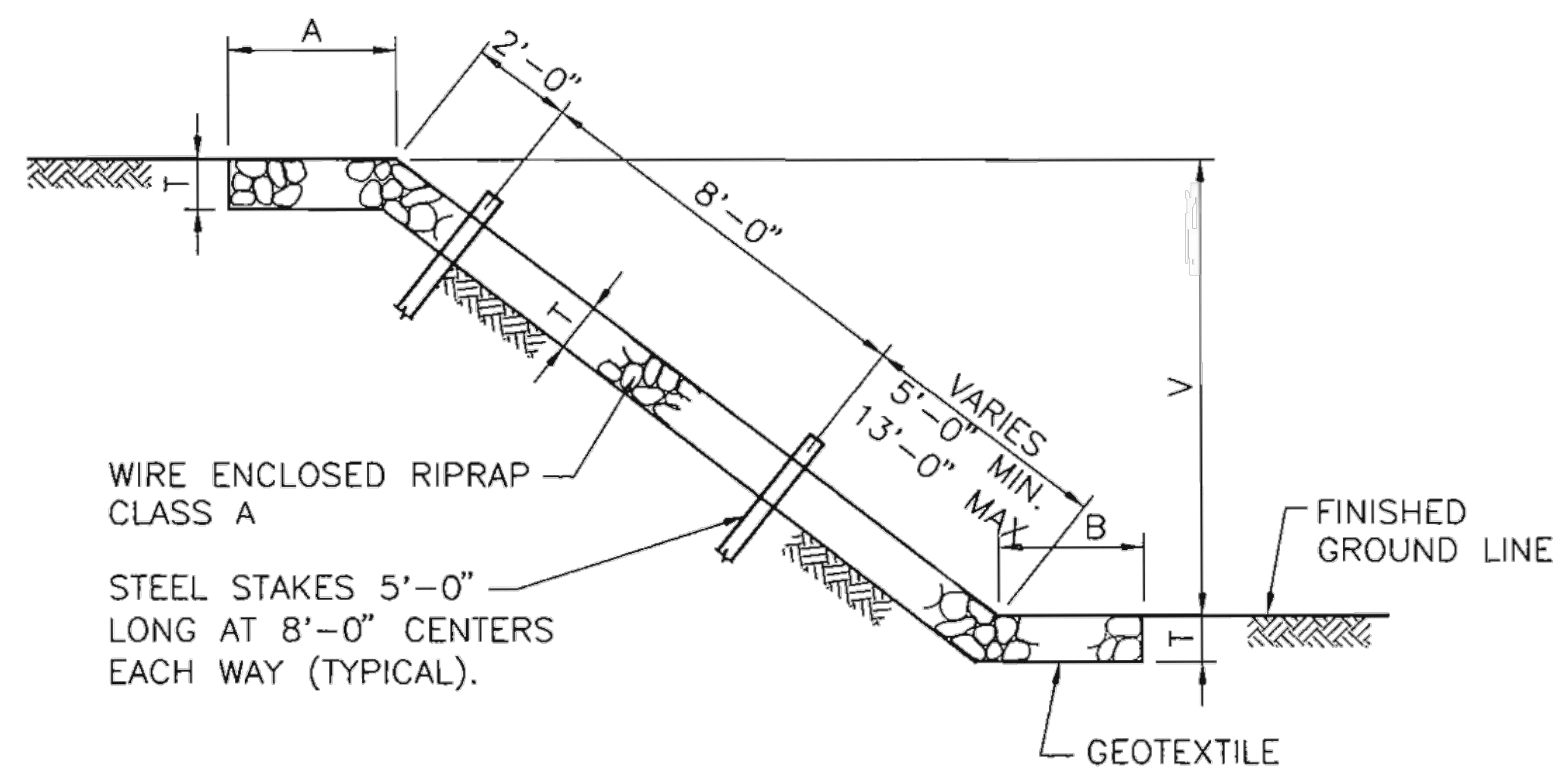
Sheet No.: **C-504**
Sheet 36 of 37

REV. No.	DATE	DESCRIPTION	APPROVED
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SECTION TYPE I

QUANTITIES PER LINEAR FOOT	
SLOPE	RIPRAP (CU. YDS.)
1.5 : 1	$\frac{T}{27} (B + 1.803 V + 0.303 T)$
1.75 : 1	$\frac{T}{27} (B + 2.016 V + 0.266 T)$
2 : 1	$\frac{T}{27} (B + 2.236 V + 0.236 T)$
3 : 1	$\frac{T}{27} (B + 3.162 V + 0.162 T)$
4 : 1	$\frac{T}{27} (B + 4.123 V + 0.123 T)$

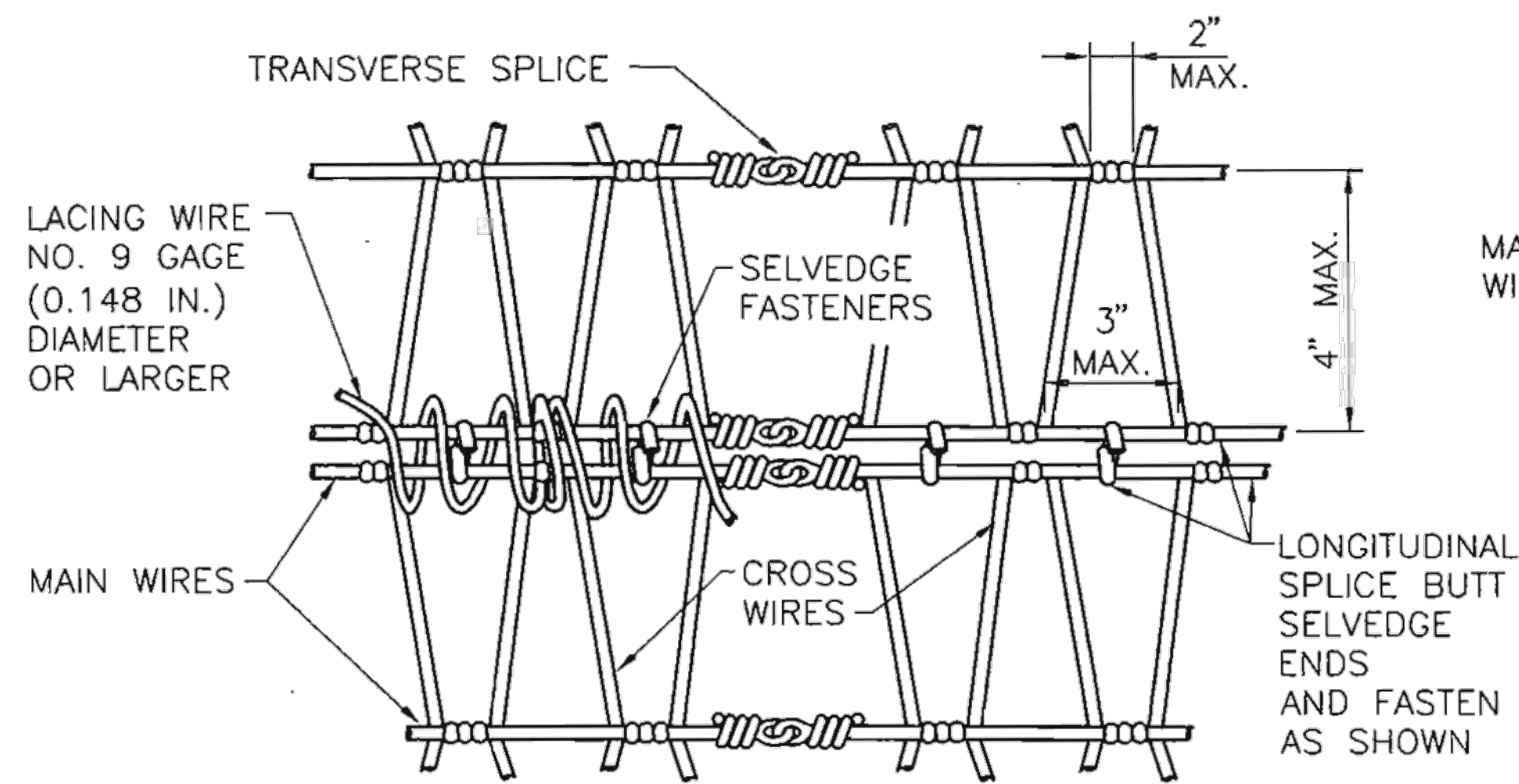


SECTION TYPE II

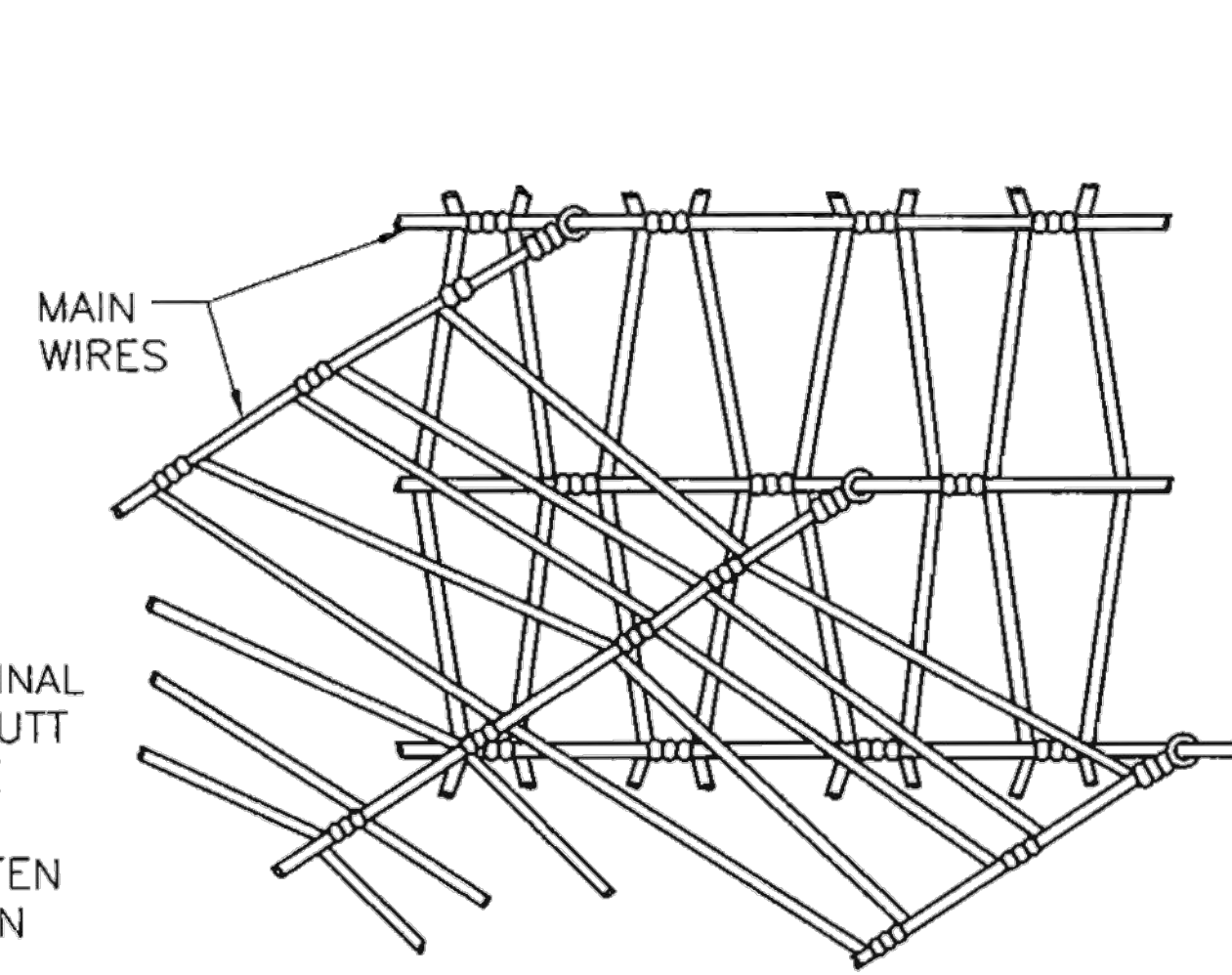
QUANTITIES PER LINEAR FOOT	
SLOPE	RIPRAP (CU. YDS.)
1 : 1	$\frac{T}{27} (A + B + 1.414V)$
1.5 : 1	$\frac{T}{27} (A + B + 1.803V)$
1.75 : 1	$\frac{T}{27} (A + B + 2.016V)$
2 : 1	$\frac{T}{27} (A + B + 2.236V)$
3 : 1	$\frac{T}{27} (A + B + 3.162V)$
4 : 1	$\frac{T}{27} (A + B + 4.123V)$

GENERAL NOTES

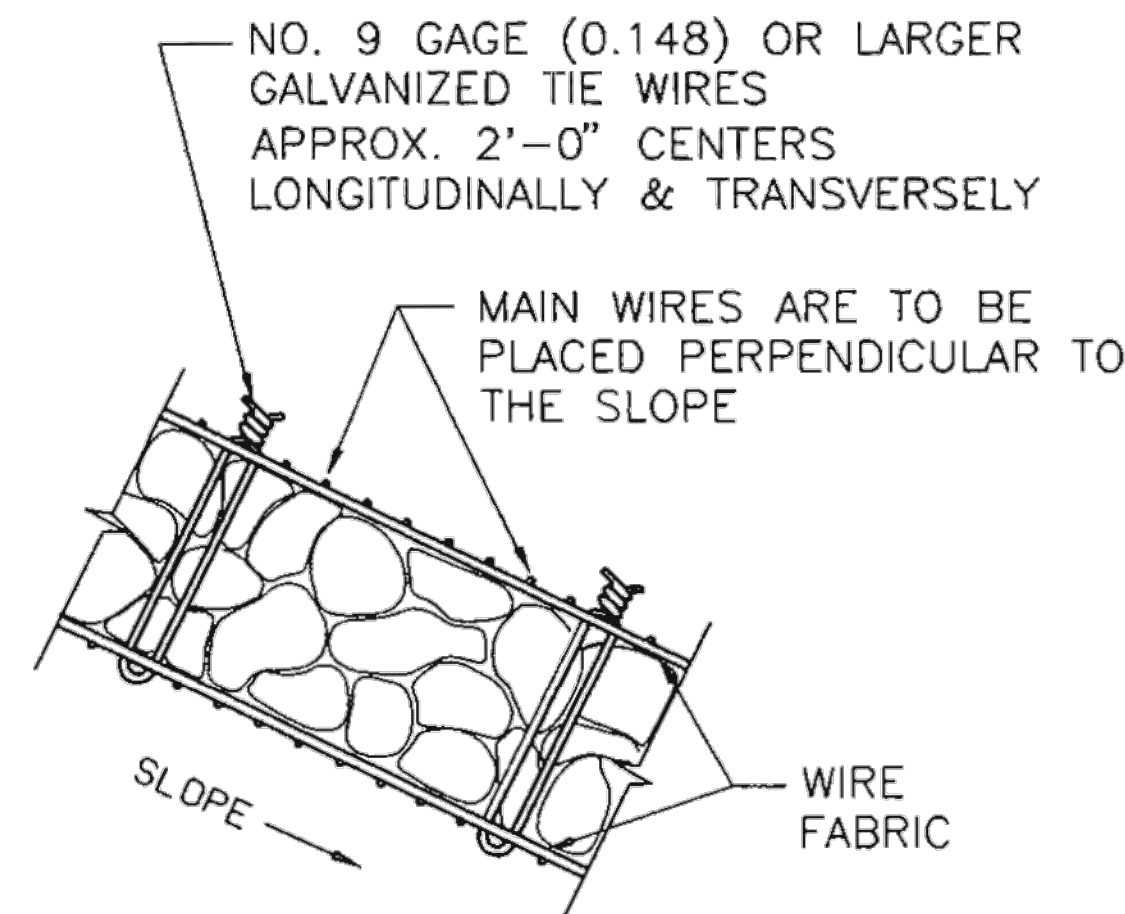
1. WIRE FABRIC FOR RIP RAP SHALL BE "W" OR HEXAGONAL MESH AND MEET THE REQUIREMENTS LISTED IN SECTION 602 OF THE NMDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. STEEL STAKES MAY BE RAILROAD RAILS WEIGHING NOT LESS THAN 30 LBS. PER YARD, 4" NOMINAL DIAMETER STANDARD STRENGTH GALVANIZED STEEL PIPE, OR L 4" x 4" x 3/8" STEEL ANGLES. STEEL STAKES SHALL PROJECT 6" ABOVE TOP OF RIPRAP. STEEL STAKES ARE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE WORK AND NO DIRECT MEASUREMENT OR PAYMENT WILL BE MADE THEREFORE.
3. IF LENGTH OF SLOPE IS 15 FEET OR LESS, ONLY ONE ROW OF STEEL STAKES 2 FEET FROM THE TOP EDGE OF RIPRAP WILL BE REQUIRED UNLESS OTHERWISE NOTED ON PLANS.
4. FOR DIMENSIONS A, B, V, & T. SEE BRIDGE OR ROADWAY PLANS.
5. T=12" UNLESS OTHERWISE SHOWN ON PLANS; T=18" AT BRIDGES.
6. FASTENERS FOR SPLICES AND/OR SELVEDGE END CONNECTORS MAY BE WIRE TIES, INTERLOCKING WIRE CLIPS, HOG RINGS, OR LACING WIRE. ONLY FASTENERS WHICH APPEAR ON THE DEPARTMENT'S "APPROVED PRODUCTS LIST" MAY BE USED.
7. LACING SHALL BE CONTINUOUS AS FAR AS IS PRACTICAL AND SHALL PASS THROUGH EACH MESH OPENING.
8. WHERE SPLICING IS NECESSARY, AN OVERLAP OF LACING OF AT LEAST 1 FOOT SHALL BE PROVIDED.



NORMAL INTERSECTION SPLICES

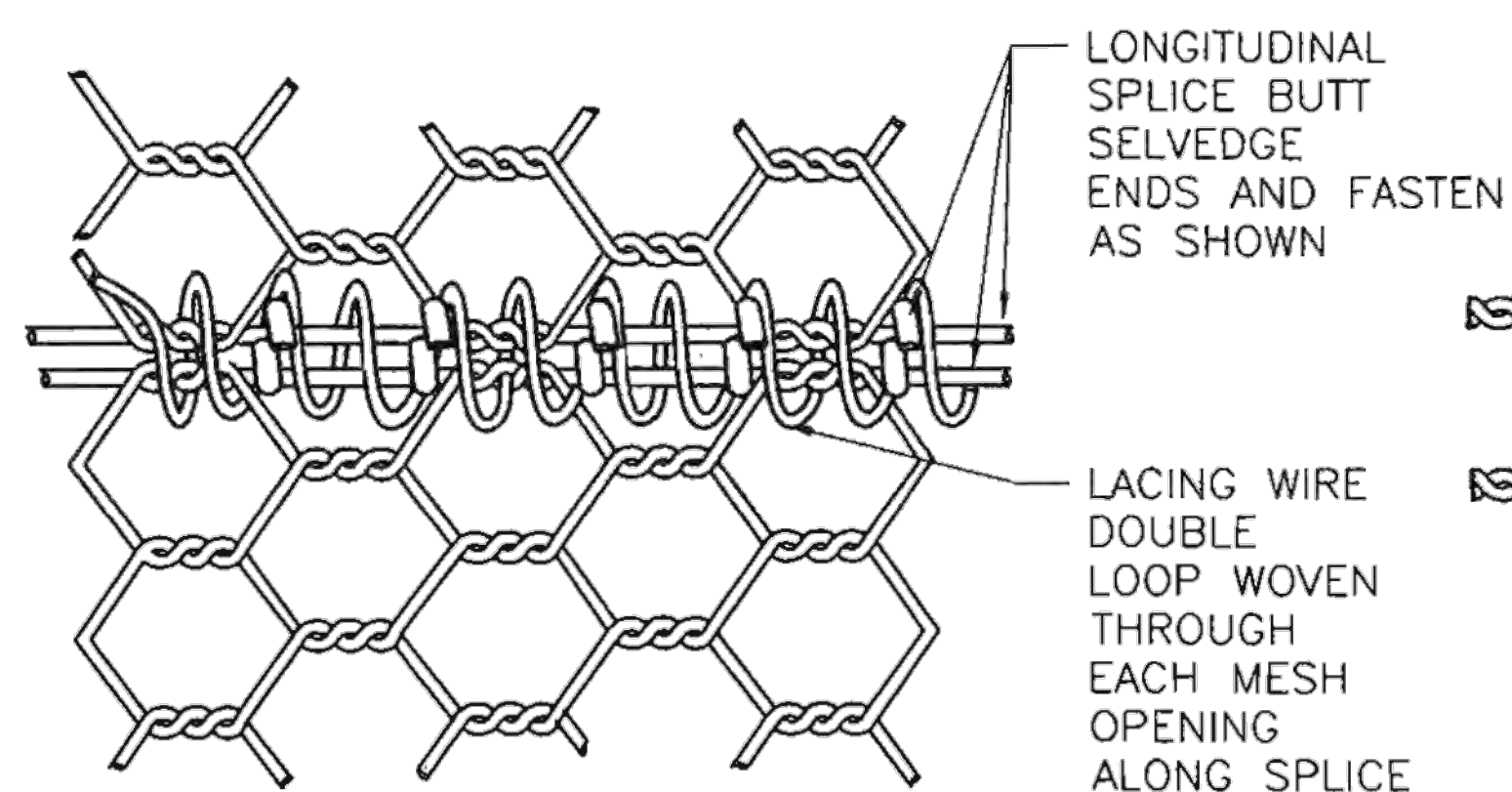


SKEWED INTERSECTION SPLICE

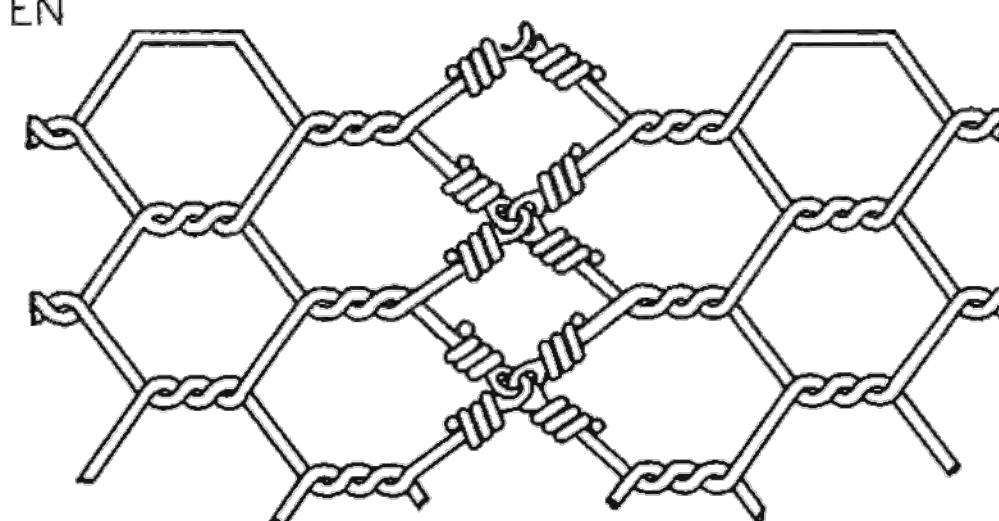


TYPICAL SECTION

"W" MESH

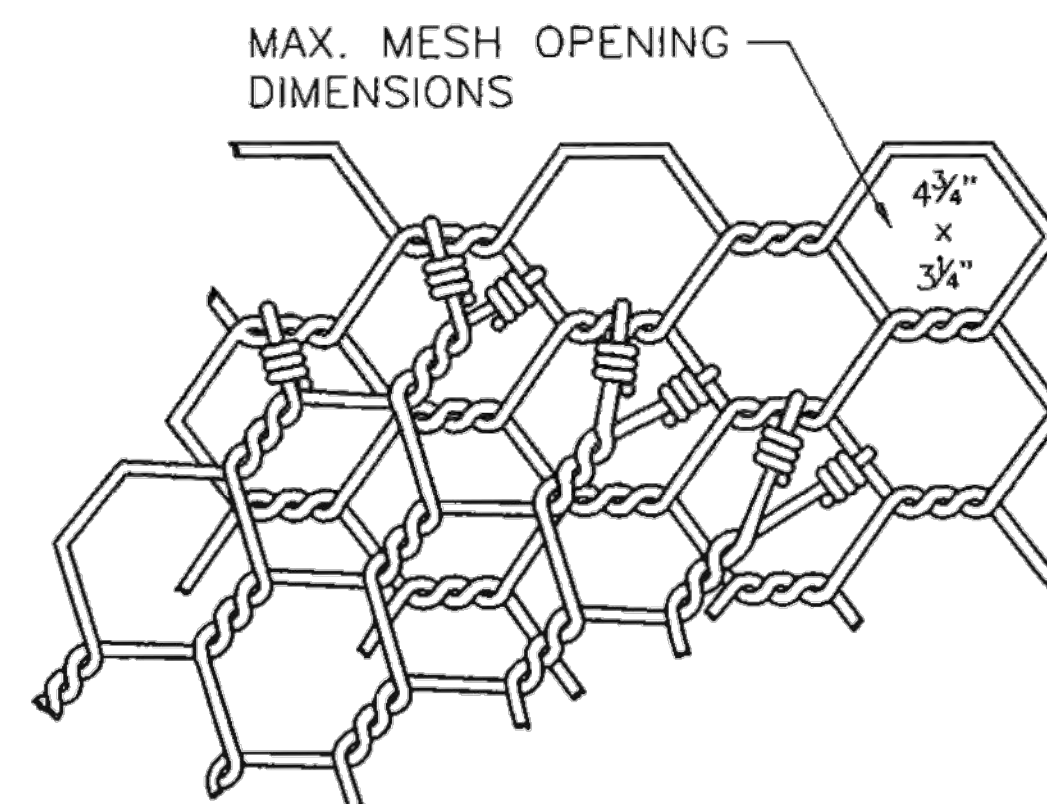


NORMAL INTERSECTION SPLICE



TRANSVERSE SPLICE

HEXAGONAL MESH



SKEWED INTERSECTION SPLICE



NO.	DATE	REV. BY	DESCRIPTION
REVISIONS (OR CHANGE NOTICES)			
NEW MEXICO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING			
WIRE ENCLOSE RIPRAP CLASS "A"			
DESIGNED BY _____ DRAWN BY SKL CHECKED BY YML			
602-01-1/1			