

CONSTRUCTION PLANS FOR

GYP SUM CITY OHV CAMPGROUND SANITARY SEWER

DNR PROJECT #16-02-94-01

WEBSTER COUNTY, IOWA
AND
CITY OF FORT DODGE

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE
WITH THE 2016 EDITION OF THE IOWA STATEWIDE URBAN
DESIGN AND SPECIFICATIONS FOR PUBLIC IMPROVEMENTS

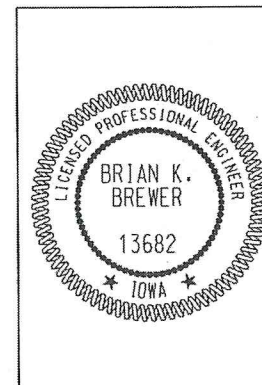
AUTHORIZATION TO BID

Bruce Trachten 6/2/16
AUTHORIZATION - OHV PROGRAM DATE

Kevin Baker 6-2-2016
ENGINEERING BUREAU CHIEF DATE

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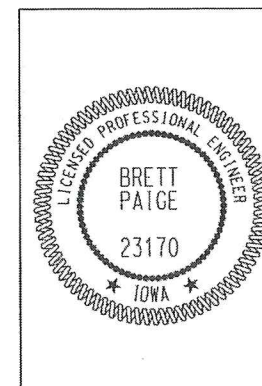
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I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Brian K. Brewer 6-1-16
Brian K. Brewer, P.E. Date

License Number 13682
My License Renewal Date is December 31, 2017
Pages or sheets covered by this seal:
E.01



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Brett Paige 6-1-16
Brett Paige, P.E. Date

License Number 23170
My License Renewal Date is December 31, 2016
Pages or sheets covered by this seal:
G.01-G.04, C.01-C.02, D.01-D.12, PR.01-PR.03

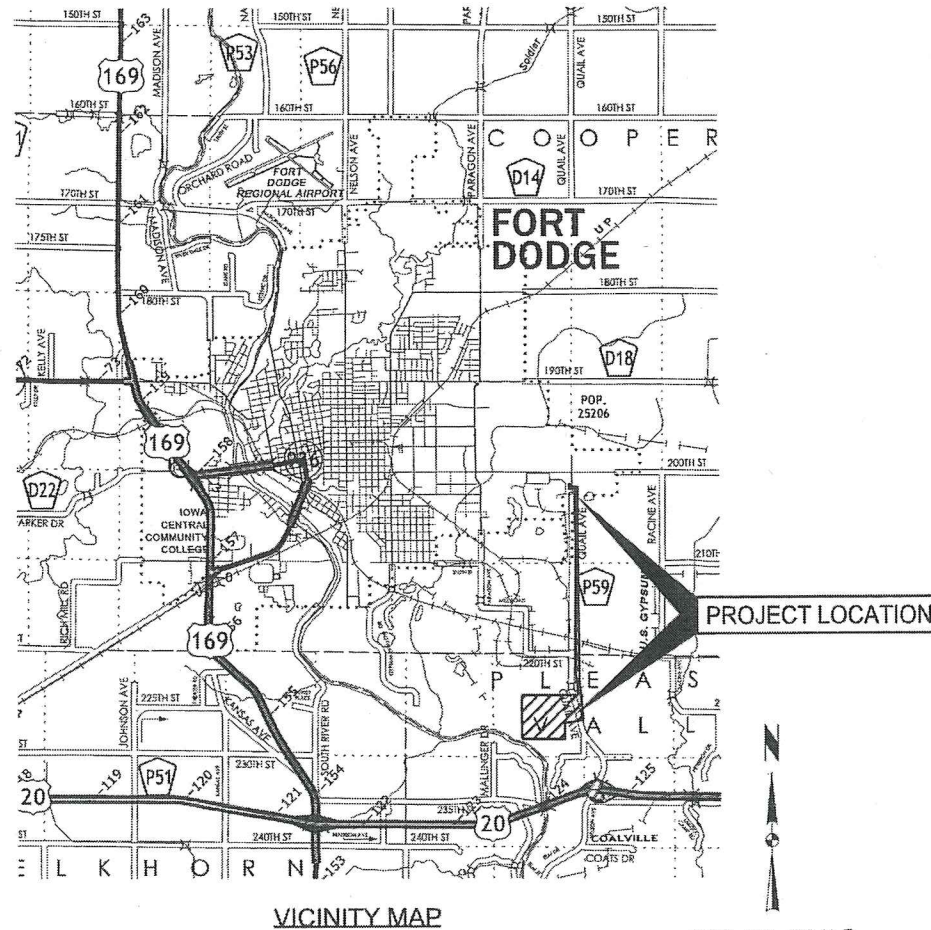
LEGEND

Survey	Found	Set
Section Corner	▲	△
1/2" Rebar, Cap # 11579 (Unless Otherwise Noted)	●	○
ROW Marker	■	□
ROW Nail	◆	◇
Control Point	●	○
Bench Mark	⊕	⊙
Plotted Distance	—	—
Measured Bearing & Distance	—	—
Recorded As	—	—
Deed Distance	—	—
Calculated Distance	—	—
Minimum Protection Elevation Centerline	—	—
Section Line	—	—
1/4 Section Line	—	—
1/4 1/4 Section Line	—	—
Easement Line	—	—

Features	Existing	Proposed
Spot Elevation	93.0	93.0
Contour Elevation	93	93
Fence (Barbed, Field, Hog)	—	—
Fence (Chain Link)	—	—
Fence (Wood)	—	—
Fence (Silt)	—	—
Tree Line	—	—
Tree Stump	—	—
Deciduous Tree or Shrub	—	—
Coniferous Tree or Shrub	—	—
Communication	—	—
Overhead Communication	—	—
Fiber Optic	—	—
Underground Electric	—	—
Overhead Electric	—	—
Gas Main with Size	—	—
High Pressure Gas Main with Size	—	—
Water Main with Size	—	—
Sanitary Sewer with Size	—	—
Duct Bank	—	—
Test Hole Location for SUE w/ID	—	—

(*) Denotes the survey quality service level for utilities

Sanitary Manhole	12" ST	12" ST
Storm Sewer with Size	—	—
Storm Manhole	—	—
Single Storm Sewer Intake	—	—
Double Storm Sewer Intake	—	—
Fire Hydrant	—	—
Water Main Valve	—	—
Water Service Valve	—	—
Well	—	—
Utility Pole	—	—
Guy Anchor	—	—
Utility Pole with Light	—	—
Utility Pole with Transformer	—	—
Street Light	—	—
Yard Light	—	—
Electric Box	—	—
Electric Transformer	—	—
Traffic Sign	—	—
Communication Pedestal	—	—
Communication Manhole	—	—
Communication Handhole	—	—
Fiber Optic Manhole	—	—
Fiber Optic Handhole	—	—
Gas Valve	—	—
Gas Manhole	—	—
Gas Apparatus	—	—
Fence Post or Guard Post	—	—
Underground Storage Tank	—	—
Above Ground Storage Tank	—	—
Sign	—	—
Satellite Dish	—	—
Mailbox	—	—
Soil Boring	—	—

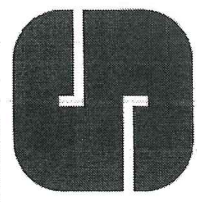


GYP SUM CITY OHV CAMPGROUND - SANITARY SEWER

WEBSTER COUNTY, IOWA

TITLE SHEET

SNYDER & ASSOCIATES, INC.



Project No: 1140397
Sheet G.01

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GENERAL NOTES

1. NOTIFY OWNER AND ENGINEER AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
2. COMPLETE ALL CONSTRUCTION IN ACCORDANCE WITH CURRENT EDITION OF IOWA STATEWIDE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS 2016 EDITION AND PLANS AND SPECIFICATIONS FOR THIS PROJECT.
3. LOCATION OF EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES SHOWN ARE FROM AVAILABLE SURVEYS AND RECORDS. THESE LOCATIONS SHOULD BE CONSIDERED AS APPROXIMATE ONLY, WITH POSSIBILITY THAT OTHER UTILITIES OR UNDERGROUND FEATURES MAY EXIST. DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS.
4. NOTIFY UTILITY COMPANIES PRIOR TO COMMENCING WORK. AVOID DAMAGE TO UTILITIES AND UNDERGROUND FEATURES DURING CONSTRUCTION. REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OPERATIONS AT CONTRACTOR'S EXPENSE.
5. COORDINATE CONSTRUCTION OPERATIONS AND COOPERATE WITH UTILITY COMPANIES WITH RESPECT TO RELOCATING ANY CONFLICTING FACILITIES. COSTS FOR LOCATING EXISTING UTILITIES, COORDINATING RELOCATION WORK, PROVIDING TEMPORARY SUPPORTS, AND STAGING CONSTRUCTION TO ACCOMMODATE THE RELOCATION OF UTILITIES IS INCIDENTAL TO CONSTRUCTION.
6. PROVIDE EROSION CONTROL MEASURES NECESSARY TO PROTECT AGAINST SILTATION, EROSION AND DUST POLLUTION WITHIN CONSTRUCTION LIMITS AND ANY OFF-SITE AREAS USED FOR THIS PROJECT. COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF IOWA CODE AND LOCAL ORDINANCES.
7. PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITY LINES THAT ARE ENCOUNTERED DURING CONSTRUCTION UNTIL BACKFILLING IS COMPLETED.
8. CONSTRUCTION LIMITS ARE THE PERMANENT EASEMENT AREAS SHOWN ON THE PLANS AND THE PROPERTY OWNED BY WEBSTER COUNTY IMPROVEMENT CORPORATION. CONFINE ALL CONSTRUCTION ACTIVITY TO WITHIN THE CONSTRUCTION LIMITS UNLESS OTHERWISE AUTHORIZED BY THE OWNER.
9. PRESERVE AS MANY TREES AS POSSIBLE, ONLY CLEAR THE MINIMUM NUMBER OF TREES NEEDED TO COMPLETE THE CONSTRUCTION.
10. CONTRACTOR RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING ALL ACCESSES TO THE CONSTRUCTION LIMITS. THE ACCESSES MUST BE ADEQUATELY SIZED AND PROPERLY SURFACED FOR UTILIZATION BY CONSTRUCTION VEHICLES AND INCLUDE PROVISIONS TO MAINTAIN POSITIVE DRAINAGE. WORK WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
11. LIMIT GRADING AND CONSTRUCTION OPERATIONS TO THE MINIMUM REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR REQUIRED TO PAY DAMAGES TO RESPECTIVE PARTIES FOR DAMAGE TO CROPLAND CAUSED BY CONSTRUCTION ACTIVITIES OUTSIDE OF THE CONSTRUCTION LIMITS IN ADDITION TO THE RESTORATION, AT NO COST TO OWNER.
12. COORDINATE THE CONSTRUCTION TO MINIMIZE THE DISRUPTIONS TO THE ADJACENT PROPERTIES. ANY AREAS DISTURBED BY CONSTRUCTION OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE REPAIRED AND RESTORED AT THE CONTRACTOR'S EXPENSE.
13. DO NOT RESTRICT DRAINAGE CHANNELS AND PROTECT ALL EXISTING DRAINAGE STRUCTURES. CONTRACTOR FULLY LIABLE FOR ALL DAMAGES TO PUBLIC OR PRIVATE PROPERTY CAUSED BY THEIR ACTION OR INACTION IN THE HANDLING OF STORM WATER FLOWS DURING CONSTRUCTION. ANY EXTRA GRADING WORK NEEDED TO MAINTAIN POSITIVE DRAINAGE WITHIN THE CONSTRUCTION LIMITS IS INCIDENTAL TO CONSTRUCTION.
14. REPAIR ALL FIELD/DRAIN TILES THAT ARE ENCOUNTERED DURING CONSTRUCTION AS SPECIFIED. RECORD THE EXISTING TYPE, SIZE, LOCATION AND DEPTH OF ALL FIELD/DRAIN TILES ENCOUNTERED AND REPAIRED DURING CONSTRUCTION. PROVIDE DATA TO THE ENGINEER FOR INCORPORATION INTO THE RECORD DRAWINGS.
15. PROTECT AND KEEP DEBRIS DEPOSITED BY THE CONSTRUCTION OFF OF ADJACENT PROPERTIES OUTSIDE THE EASEMENT AREA AND STREETS. REMOVE AND REPAIR ANY DAMAGE WITHOUT ADDITIONAL COMPENSATION.
16. PROTECT EXISTING TREES, SHRUBS, FENCES, AND LANDSCAPING UNLESS SPECIFICALLY NOTED OR DESIGNATED OTHERWISE ON THE PLANS. REPLACE ANY ITEMS DAMAGED DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE.
17. COMPLETELY REMOVE AND DISPOSE OF TREES, SHRUBS AND VEGETATION DESIGNATED FOR REMOVAL ON THE PLANS. DISPOSE OF IN ACCORDANCE WITH SPECIFICATIONS.
18. CONTRACTORS SHALL SATISFY THEMSELVES PRIOR TO SUBMISSION OF BIDS AS TO THE SOIL CONDITIONS.
19. AS NECESSARY FOR CONSTRUCTION, THE CONTRACTOR SHALL REMOVE EXISTING FEATURES WITHIN THE WORK AREA SHOWN ON THE PLAN AS "REMOVE & REPLACE" AND SHALL REPLACE THEM TO THE CONDITION EXISTING PRIOR TO CONSTRUCTION, OR BETTER, AS DETERMINED BY THE ENGINEER. THE REMOVAL AND REPLACEMENT WORK IS INCIDENTAL AND ALL ASSOCIATED COSTS SHALL BE INCLUDED IN THE BID.
20. ADJUST ALL SANITARY GRAVITY SEWER MANHOLES TO MATCH FINAL GRADES.
21. PROTECT AND SAVE ALL PROPERTY CORNER MONUMENTS. REPLACE IF REMOVED OR DAMAGED.
22. PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH CURRENT STATE OF IOWA APPROVED MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
23. CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING PERMANENT TRAFFIC SIGNS THAT ARE IN CONFLICT WITH THE CONSTRUCTION. NOTIFY THE OWNER 48 HOURS BEFORE THEIR REMOVAL. INCIDENTAL TO CONSTRUCTION.
24. DO NOT STORE EQUIPMENT AND/OR MATERIALS WITHIN PUBLIC RIGHT OF WAY ON STREETS OPEN TO TRAFFIC. PROVIDE AREAS AS NEEDED FOR STORAGE OF EQUIPMENT AND/OR MATERIALS.
25. BLADING, SHAPING OR MAINTENANCE OF TEMPORARY CONNECTIONS, CROSSINGS, DETOURS OR TEMPORARY ACCESSES SHALL BE INCIDENTAL TO CONSTRUCTION.
26. IF APPLICABLE, REMOVE THE EXISTING PAVEMENT AREAS TO THE NEAREST EXISTING JOINT OR AS DIRECTED BY THE ENGINEER.

27. REMOVE AND REPLACE, OR REPAIR ALL ROAD SURFACES AND OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO THEIR ORIGINAL CONDITION AND/OR TO THE SATISFACTION OF THE OWNER AND ENGINEER.
28. COMPACT ALL TRENCH BACKFILL, UNDER PAVED SURFACES, AND WITHIN RIGHT-OF-WAY TO 95% STANDARD PROCTOR DENSITY.
29. SLOPE ALL DRIVEWAYS, SIDEWALKS AND ROAD SURFACES 1/4 INCH PER FOOT MINIMUM, UNLESS OTHERWISE NOTED.
30. SURFACE RESTORATION INCLUDES THE REMOVAL OF ALL GRANULAR MATERIAL FROM THE TOP 6 INCHES OF TOPSOIL. THIS WORK IS INCIDENTAL TO CONSTRUCTION.
31. OWNER HAS FIRST RIGHT OF REFUSAL TO RETAIN ANY MATERIAL REMOVED FROM THE PROJECT AREA. IF DIRECTED, DELIVER ITEMS OR MATERIALS TO OWNER AT LOCATION DESIGNATED BY THE PUBLIC WORKS DEPARTMENT. DISPOSE OF NON-SALVAGEABLE MATERIALS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
32. PROVIDE WASTE AREAS OR DISPOSAL SITES FOR WASTE MATERIAL (ASPHALTIC CONCRETE, STEEL OR BROKEN CONCRETE). NO EXTRA PAYMENTS WILL BE MADE FOR MATERIAL HAULED TO THESE SITES. DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS. DO NOT PLACE WASTE MATERIAL WITHIN THE RIGHT-OF-WAY. KEEP CONSTRUCTION DEBRIS AND DIRT OFF OF THE ADJACENT PROPERTIES AND STREETS.
33. RECONSTRUCT ANY ROAD DITCHES DISTURBED, INCLUDING DITCH GRADES AND CROSS SECTIONS. REPLACE CULVERTS TO ORIGINAL GRADES UNLESS OTHERWISE NOTED. GRADE ALL DITCHES FOR PROPER DRAINAGE. PONDING OF WATER IS NOT ACCEPTABLE. RE-GRADE ANY DITCH WHICH DOES NOT PROPERLY DRAIN. ALL DITCH GRADING IS INCIDENTAL TO CONSTRUCTION.
34. STRIP, SALVAGE AND RESPREAD TOP 6 INCHES OF TOPSOIL IN ALL AREAS WITHIN THE CONSTRUCTION LIMITS AS PER SPECIFICATIONS, EXCEPT AREAS NOT DISTURBED BY CONSTRUCTION AND USED TO STOCKPILE THE TOPSOIL. MECHANICALLY LOOSEN THE 18 INCHES OF SOIL ON ALL HAUL ROADS AND OVERLY COMPACTED AREAS PRIOR TO RESPREADING OF THE TOPSOIL.
35. ASSIST ENGINEER'S FIELD REPRESENTATIVE WITH DAILY RECORD KEEPING INCLUDING ALL NECESSARY FIELD LOCATIONS AND MEASUREMENTS. CONTRACTOR REQUIRED TO ATTEND FINAL AND INTERMEDIATE INSPECTIONS OF PROJECT.
36. DIMENSIONS, STREET LOCATIONS, UTILITIES, AND GRADING ARE BASED ON AVAILABLE INFORMATION AT THE TIME OF DESIGN. DEVIATIONS MAY BE NECESSARY IN THE FIELD. REPORT ANY SUCH CHANGES OR CONFLICTS BETWEEN THE PLAN AND FIELD CONDITIONS TO PROJECT ENGINEER IMMEDIATELY.
37. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITY ESTIMATES AND THE DETAILED PLANS, THE DETAILED PLANS SHALL GOVERN.
38. MAINTAIN EMERGENCY ACCESS ON ALL STREETS AND ALL AFFECTED PROPERTIES AT ALL TIMES.
39. PROPERTY LIMITS ARE BASED ON GIS INFORMATION OBTAINED FROM WEBSTER COUNTY.
40. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND FEATURES WHICH ARE TO REMAIN. DAMAGE TO EXISTING UTILITIES OR SITE IMPROVEMENTS SHALL BE REPAIRED BY THE CONTRACTOR TO THE OWNER'S SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
41. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT VERIFICATION OF ALL IMPROVEMENTS PRIOR TO CONSTRUCTION. CONTRACTOR TO CONSTRUCT ALL IMPROVEMENTS AND UTILITIES IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
42. COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
43. CONTRACTOR TO PROVIDE ALL AS-BUILT CONTROL POINTS FOR SHEETS G.04 AND D.01.
44. ALL COMBINATION AIR VALVE VAULTS SHALL BE MARKED BY A MINIMUM 72" TALL T-POST. COLOR SAFETY GREEN.

PROCESS PIPING AND SITE PIPING NOTES

1. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED.
2. FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE CONNECTIONS TO EXISTING PIPING. VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIALS OF CONSTRUCTION. EXCAVATE TEST PITS AS REQUIRED TO LOCATE EXISTING PIPING.
3. PROTECT AND SUPPORT ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO ANY TRENCH EXCAVATION BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE WORK SHALL BE COORDINATED THROUGH THE OWNER.
4. REFER TO SPECIFICATIONS FOR PIPE AND STRUCTURE BEDDING AND BACKFILL REQUIREMENTS.
5. LENGTHS OF GRAVITY SEWER ARE DIMENSIONED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
6. SLOPE ALL PIPELINES UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN PIPING WILL BE PERMITTED. RESTRAIN ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED LINES WITH CONCRETE THRUST BLOCKS AND RETAINER GLANDS. PROVIDE ALL BENDS (HORIZONTAL AND VERTICAL) AS REQUIRED TO MEET THE ELEVATIONS AND ALIGNMENT INDICATED ON THE DRAWINGS.
7. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT PROVIDED, AND/OR EXISTING CONDITIONS.
8. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT AN DISCREPANCIES IMMEDIATELY TO ENGINEER.
9. COMPACTION TESTS WILL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS. CORRECT SETTLEMENT OCCURRING DURING THE CONTRACT WARRANTY PERIOD AT NO ADDITIONAL COST.
10. CLEAN ALL PIPING, AS PER SUDAS REQUIREMENTS, BEFORE TESTING.

11. PRESSURE TEST ALL SANITARY SEWER FORCEMAIN AFTER INSTALLATION AT 75 PSI HYDROSTATIC, IN ACCORDANCE WITH SUDAS.
12. DISPOSE OF CONTAMINATED SOILS AND WASTE MATERIAL ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
13. ALL BURIED CONNECTIONS TO STRUCTURES, INCLUDING BUT NOT LIMITED TO VALVE VAULTS, WET WELLS, TANKS, AND BUILDINGS SHALL HAVE SLEEVE TYPE FLEXIBLE CONNECTIONS WITHIN 3 TO 4 FEET FROM STRUCTURES. ALL SLEEVE TYPE COUPLINGS ON PRESSURE LINES SHALL BE RESTRAINED SOLID SLEEVE.
14. ALL PIPING INSIDE THE CAMPGROUND GRINDER PUMP STATION SHALL BE FLANGED, UNLESS APPROVED BY ENGINEER.
15. PERFORM LEAKAGE TESTS IN ACCORDANCE WITH SUDAS FOR ALL GRAVITY SEWER.
16. THE CANADIAN NATIONAL RAILROAD CROSSING PERMIT WILL BE OBTAINED BY THE OWNER. ALL OTHER ITEMS REQUIRED BY CANADIAN NATIONAL RAILROAD TO CONSTRUCT THE IMPROVEMENTS WILL BE COORDINATED BY THE CONTRACTOR AND PAID FOR AT THE CONTRACTOR'S EXPENSE.
17. ALL IMPROVEMENTS LOCATED UNDER ROADWAYS, DRIVEWAYS AND RAILROADS SHALL BE CONSTRUCTED BY THE MEANS OF TRENCHLESS CONSTRUCTION METHODS. CONTRACTOR TO DETERMINE METHOD OF PIPE INSTALLATION FOR ALL OTHER LOCATIONS (TRENCHLESS OR OPEN CUT). ALL GRADING, PAVING AND GRANULAR MATERIAL INCIDENTAL TO CONSTRUCTION FOR OPEN CUT INSTALLATION OF FORCE MAIN PIPING.
18. TELEWISE ALL GRAVITY SEWERS AFTER CONSTRUCTION IN ACCORDANCE WITH SUDAS.
19. IF ANY SECTION OF PIPE FAILS THE PRESSURE OR LEAKAGE TESTING, IT WILL NOT BE ACCEPTED. ALL WORK REQUIRED TO CORRECT THE ISSUE WILL BE PAID FOR AT THE CONTRACTOR'S EXPENSE.

UTILITY CONTACT INFORMATION

THE FOLLOWING COMPANIES MAY HAVE FACILITIES IN THE PROXIMITY TO THE PROJECT.

MIDAMERICAN ENERGY COMPANY
ATTN: BECKY FLUER
301 S 25TH STREET
FORT DODGE, IOWA 50501
PH: (515) 574-5051

CITY OF FORT DODGE ENGINEERING
ATTN: CHAD SHAEFFER
819 1ST AVE SOUTH
FORT DODGE, IOWA 50501
PH: (515) 576-3601

FRONTIER COMMUNICATIONS
ATTN: TRENT FLOCKHART
PH: (515) 573-1268

IOWA NETWORK SERVICES
ATTN: JEFF KLOCKO
PH: (515) 830-0445

MIDAMERICAN ENERGY - ELECTRIC
ATTN: NICK NATION
PH: (515) 574-5040

MIDAMERICAN ENERGY - GAS
ATTN: NICK NATION
PH: (515) 574-5040

WINSTREAM MCLEOD
ATTN: JOE GREEN
PH: (319) 790-7510

MEDIACOM
ATTN: MIKE LAWLOR
PH: (515) 571-2183

WEBSTER CALHOUN COOP TELEPHONE
ATTN: DARYL PROMES
PH: (515) 352-3151



UTILITY QUALITY SERVICE LEVELS

QUALITY LEVELS OF UTILITIES ARE SHOWN IN THE PARENTHESES WITH THE UTILITY TYPE AND WHEN APPLICABLE, SIZE. THE QUALITY LEVELS ARE BASED ON THE CI/ ASCE 38-02 STANDARD.

QUALITY LEVEL (D) INFORMATION IS DERIVED FROM EXISTING UTILITY RECORDS OR ORAL RECOLLECTIONS.

QUALITY LEVEL (C) INFORMATION IS OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION WITH QUALITY D INFORMATION.

QUALITY LEVEL (B) INFORMATION IS OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.

QUALITY LEVEL (A) IS HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES OBTAINED BY ACTUAL EXPOSURE OR VERIFICATION OF PREVIOUSLY EXPOSED SUBSURFACE UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.

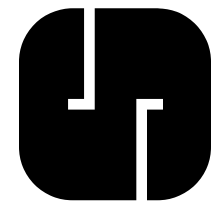
GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER

GENERAL NOTES AND INFORMATION

WEBSTER COUNTY, IOWA

SNYDER & ASSOCIATES, INC.

2727 S.W. SNYDER BLVD.
ANKENY, IOWA 50023
515-964-2020 | www.snyder-associates.com



Project No: 1140397

Sheet G.02

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Technician: DFM	Date: 5/31/2016	Field Bk:	Page:
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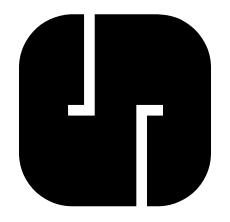
BASE BID - ESTIMATED PROJECT QUANTITIES				
ITEM	DESCRIPTION	UNIT	QUANTITY	FINAL QUANTITY
1	CLEARING AND GRUBBING	LS	1	
2	EXCAVATION, CLASS 10	CY	800	
3	COMPACTION TESTING	LS	1	
4	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8-INCH	LF	885	
5	SANITARY SEWER FORCE MAIN, TRENCHLESS, PVC, 3-INCH	LF	14,370	
6	SANITARY SEWER FORCE MAIN W/ CASING PIPE, TRENCHLESS, PVC, 3-INCH	LF	110	
7	SANITARY SEWER SERVICE STUB, PVC, 4-INCH	LF	140	
8	SANITARY SEWER SERVICE STUB, PVC, 6-INCH	LF	96	
9	SEWAGE AIR RELEASE VALVE AND PIT	EA	9	
10	RV SEWER CONNECTION	EA	1	
11	RV SEWER CONNECTION WITH PCC SPILL CONTAINMENT	EA	1	
12	MANHOLE, SANITARY TYPE SW-301, 48-INCH	EA	4	
13	DROP CONNECTION, 8-INCH	EA	1	
14	CONNECTION TO EXISTING MANHOLE	EA	1	
15	LIFT STATION IMPROVEMENTS (CAMPGROUND)	LS	1	
16	DRIVEWAY, GRANULAR	TON	170	
17	STRIP AND RESPREAD DRIVEWAY GRANULAR MATERIAL	LS	1	
18	TRAFFIC CONTROL	LS	1	
19	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING, TYPE 2	LS	1	
20	SWPPP MANAGEMENT	LS	1	
21	SWPPP QUALIFYING RAINFALL EVENT INSPECTION	EA	15	
22	TEMPORARY RECP, TYPE 2D	SY	950	
23	LEVEL SPREADERS	LF	20	
24	SILT FENCE OR SILT FENCE DITCH CHECK	LF	1,000	
25	STABILIZED CONSTRUCTION ENTRANCE	TON	65	
26	CHAIN LINK FENCE, 6 FOOT	LF	68	
27	CHAIN LINK FENCE GATES, DOUBLE, 12 FOOT WIDTH	EA	1	
28	MOBILIZATION	LS	1	
29	CONCRETE WASHOUT	LS	1	

ADD ALTERNATE 1 - ESTIMATED PROJECT QUANTITIES				
ITEM	DESCRIPTION	UNIT	QUANTITY	FINAL QUANTITY
1A	SANITARY SEWER SERVICE STUB, PVC, 4-INCH	LF	950	
1B	RV SEWER CONNECTION	EA	13	
1C	STRIP AND RESPREAD DRIVEWAY GRANULAR MATERIAL	LS	1	

ADD ALTERNATE 2 - ESTIMATED PROJECT QUANTITIES				
ITEM	DESCRIPTION	UNIT	QUANTITY	FINAL QUANTITY
2A	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8-INCH	LF	775	
2B	SANITARY SEWER SERVICE STUB, PVC, 4-INCH	LF	1350	
2C	MANHOLE, SANITARY TYPE SW-301, 48-INCH	EA	3	
2D	RV SEWER CONNECTION	EA	19	
2E	STRIP AND RESPREAD DRIVEWAY GRANULAR MATERIAL	LS	1	

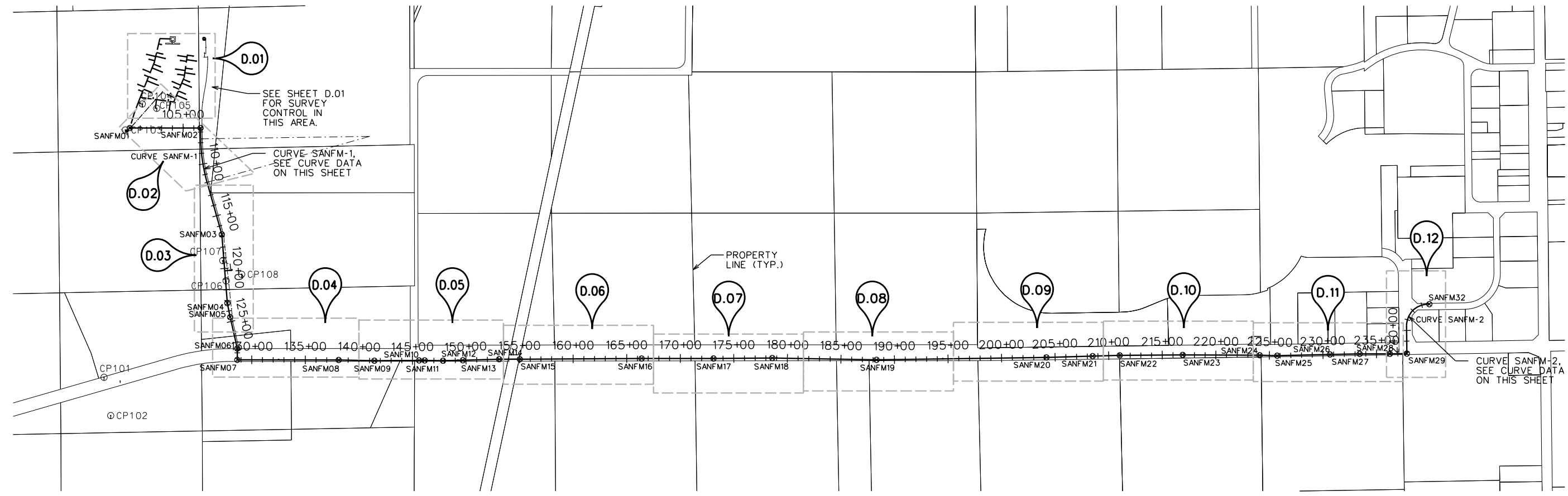
ADD ALTERNATE 3 - ESTIMATED PROJECT QUANTITIES				
ITEM	DESCRIPTION	UNIT	QUANTITY	FINAL QUANTITY
3A	SEWER SERVICE FOR EXISTING MAINTENANCE BUILDING	LS	1	

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
QUANTITIES AND TABULATIONS
SNYDER & ASSOCIATES, INC.
 WEBSTER COUNTY, IOWA
 2727 S.W. SNYDER BLVD.
 ANKENY, IOWA 50023
 515-964-2020 | www.snyder-associates.com



MARK	REVISION	DATE	BY
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Technician: DFM	Date: 5/31/2016	Field Bk:	Pg:
Project No: 1140397	Sheet: G.03		

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SURVEY NOTES

- FOR CLARITY PURPOSES, SURVEY SPOT ELEVATIONS ARE NOT SHOWN ON THIS SURVEY, BUT ARE CONTAINED WITHIN THE DIGITAL CADD FILES.
- FOR THE PURPOSE OF THIS SURVEY, STORM SEWER, SANITARY SEWER, AND WATER LINES ARE ASSUMED TO FOLLOW A STRAIGHT LINE FROM STRUCTURE TO STRUCTURE.
- BOUNDARY LINES SHOWN ON THE EXISTING SITE SURVEY ARE TO FACILITATE DESIGN OR CONCEPT NEEDS AND ENABLE CREATION OF SAID CONSTRUCTION DOCUMENTS. THESE LINES DO NOT CONSTITUTE A CERTIFIED BOUNDARY SURVEY AND MISSING MONUMENTS WILL NOT BE SET.

DATE OF SURVEY

APRIL 13, 2016

CONTROL POINTS

- IOWA REGIONAL COORDINATE SYSTEM ZONE 4 (SIOUX CITY-IOWA FALLS) NAD83(2011)(EPOCH 2010.00) IARTN DERIVED - US SURVEY FEET
 ALL CONTROL POINTS SHOWN ON SURVEY
- CP101 N=8575727.55 E=1460642.88 Z=1083.38
 1/2" REBAR WITH RED CAP, EAST OF BRIDGE, SOUTH SIDE OF GRAVEL ROAD, 5'± EAST OF SINGLE LANE TRAFFIC AHEAD SIGN.
 - CP102 N=8575665.04 E=14690285.54 Z=1091.90
 CUT 'X' ON CONCRETE WALL, SOUTHWEST CORNER OF BRIDGE AT END OF CHAIN-LINK FENCE.
 - CP103 N=8575864.26 E=14687975.69 Z=1096.50
 5/8" REBAR, ±150' EAST OF SITE 28, SIDE SLOPE.
 - CP104 N=8576022.08 E=14687732.45 Z=1108.30
 CURB STOP FOR SITE 28.
 - CP105 N=8576156.70 E=1467773.27 Z=1111.21
 CURB STOP FOR SITE 26.
 - CP106 MAINTENANCE BUILDING
 N=8576804.98 E=14689384.06 Z=1121.43
 1/2" REBAR WITH RED PLASTIC CAP, ±35' EAST OF SOUTHEAST CORNER FENCE AT TRAIL MARKER 110.
 - CP107 N=8576773.89 E=14689185.68 Z=1128.62
 1/2" REBAR WITH RED PLASTIC CAP, ±25' SOUTHWEST OF SOUTHWEST CORNER OF FENCE, ±5' WEST OF STORAGE TRAILER.
 - CP108 N=8576950.07 E=14689323.43 Z=1120.46
 1/2" REBAR WITH RED PLASTIC CAP, ±25' NORTHEAST OF NORTHEAST FENCE CORNER.

Curve Data

Curve SANFM-1

P.I. Station	109+70.66	N	8,576,570.07	E	14,688,264.87
Delta	=	15° 14' 00.35"	(LT)		
Degree	=	3° 41' 46.16"			
Tangent	=	207.29			
Length	=	412.14			
Radius	=	1,550.14			
External	=	13.80			
Long Chord	=	410.93			
Mid. Ord.	=	13.68			
P.C. Station	107+63.37	N	8,576,567.02	E	14,688,057.59
P.T. Station	111+75.51	N	8,576,627.48	E	14,688,464.05
C.C.		N	8,578,117.00	E	14,688,034.79
Back	=	N 89° 09' 26.19"	E		
Ahead	=	N 73° 55' 24.83"	E		
Chord Bear	=	N 81° 32' 25.01"	E		

Curve Data

Curve SANFM-2

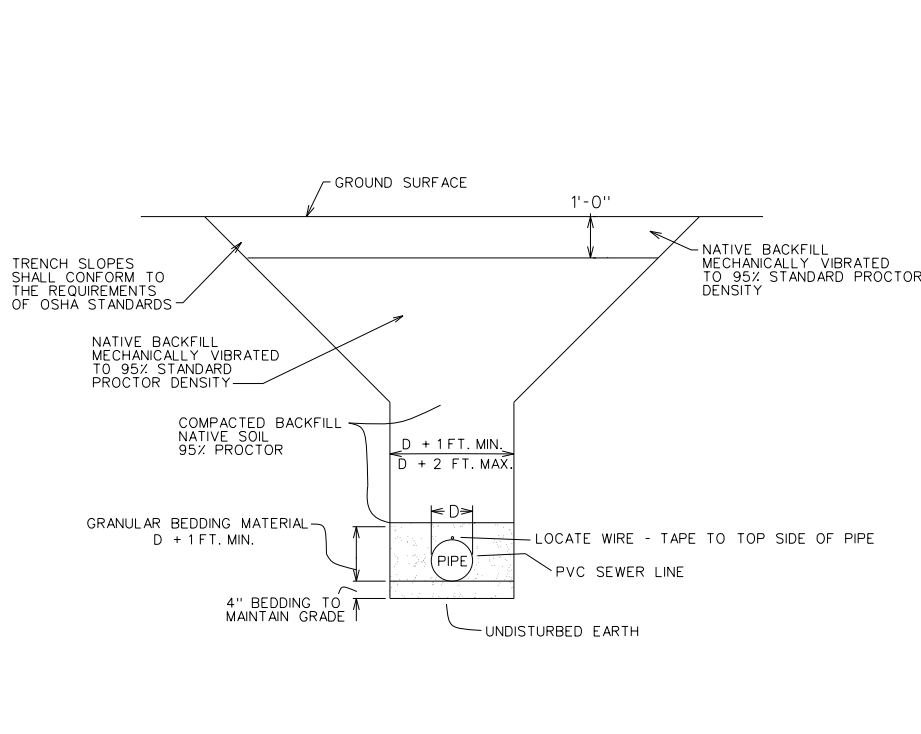
P.I. Station	242+42.67	N	8,587,822.41	E	14,689,605.06
Delta	=	89° 47' 46.31"	(RT)		
Degree	=	28° 38' 52.40"			
Tangent	=	199.29			
Length	=	313.45			
Radius	=	200.00			
External	=	82.34			
Long Chord	=	282.34			
Mid. Ord.	=	58.33			
P.C. Station	240+43.38	N	8,587,824.43	E	14,689,804.34
P.T. Station	243+56.83	N	8,588,021.68	E	14,689,602.33
C.C.		N	8,588,024.42	E	14,689,802.31
Back	=	S 89° 25' 09.66"	W		
Ahead	=	N 0° 47' 04.04"	W		
Chord Bear	=	N 45° 40' 57.19"	W		

HORIZONTAL CONTROL					AS-BUILT CONTROL POINTS	
DESCRIPTION	POINT	STATION	N	E	N	E
FORCEMAN						
CAMPGROUND GRINDER PUMP STATION	SANFM01	100+03.53	8,575,906.58	14,687,956.72		
90° BEND	SANFM02	106+62.49	8,576,565.54	14,687,956.72		
PI	SANFM03	116+80.82	8,576,765.17	14,688,950.24		
PI	SANFM04	123+25.00	8,576,815.68	14,689,592.43		
PI	SANFM05	124+58.97	8,576,841.99	14,689,723.80		
PI	SANFM06	127+59.78	8,576,908.91	14,690,017.06		
90° BEND	SANFM07	128+64.78	8,576,908.99	14,690,122.06		
PI	SANFM08	138+11.32	8,577,855.52	14,690,123.16		
PI	SANFM09	141+44.71	8,578,188.84	14,690,130.06		
PI	SANFM10	145+61.95	8,578,606.07	14,690,126.91		
PI	SANFM11	146+14.59	8,578,658.71	14,690,127.46		
PI	SANFM12	147+84.83	8,578,828.92	14,690,130.99		
PI	SANFM13	149+69.87	8,579,013.88	14,690,126.02		
PI	SANFM14	153+09.47	8,579,353.36	14,690,116.90		
PI	SANFM15	155+02.53	8,579,546.42	14,690,115.76		
PI	SANFM16	166+39.79	8,580,683.66	14,690,109.00		
PI	SANFM17	173+11.06	8,581,354.93	14,690,110.01		
PI	SANFM18	178+59.18	8,581,903.04	14,690,105.50		
PI	SANFM19	188+32.02	8,582,875.73	14,690,121.95		
PI	SANFM20	204+19.44	8,584,463.00	14,690,099.98		
PI	SANFM21	208+49.52	8,584,892.90	14,690,087.72		
PI	SANFM22	211+03.17	8,585,146.45	14,690,080.50		
PI	SANFM23	217+00.00	8,585,743.27	14,690,075.97		
PI	SANFM24	224+09.44	8,586,452.70	14,690,078.84		
PI	SANFM25	225+72.54	8,586,615.74	14,690,083.28		
PI	SANFM26	230+66.88	8,587,109.95	14,690,071.79		
PI	SANFM27	233+43.09	8,587,386.11	14,690,066.39		
PI	SANFM28	236+25.00	8,587,668.01	14,690,066.38		
90° BEND	SANFM29	237+84.07	8,587,827.06	14,690,063.64		
CONNECT TO EX. MANHOLE	SANFM32	243+71.62	8,588,036.47	14,689,602.13		
COMBINATION AIR VALVE & VAULT NO. 1		105+03.53	8,576,406.58	14,687,956.72		
COMBINATION AIR VALVE & VAULT NO. 2		118+55.00	8,576,778.83	14,689,123.89		
COMBINATION AIR VALVE & VAULT NO. 3		132+50.00	8,577,294.21	14,690,122.51		
COMBINATION AIR VALVE & VAULT NO. 4		149+25.00	8,578,969.03	14,690,127.23		
COMBINATION AIR VALVE & VAULT NO. 5		167+50.00	8,580,793.87	14,690,109.17		
COMBINATION AIR VALVE & VAULT NO. 6		179+00.00	8,581,943.65	14,690,106.19		
COMBINATION AIR VALVE & VAULT NO. 7		194+50.00	8,583,493.65	14,690,113.40		
COMBINATION AIR VALVE & VAULT NO. 8		217+00.00	8,585,743.27	14,690,075.97		
COMBINATION AIR VALVE & VAULT NO. 9		236+25.00	8,587,668.01	14,690,066.38		

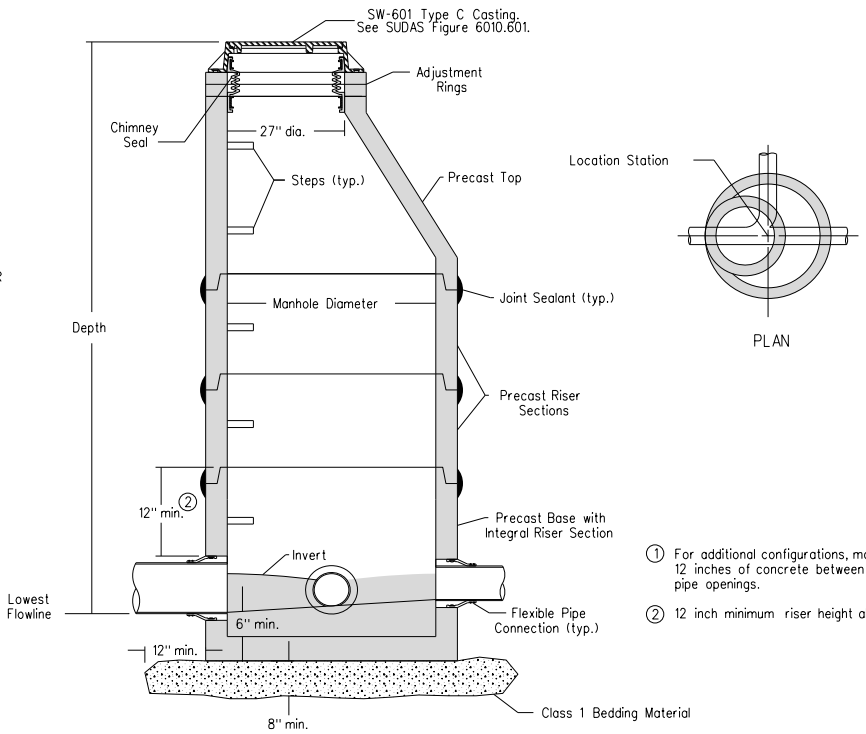
GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
 WEBSTER COUNTY, IOWA
 SURVEY CONTROL AND SHEET REFERENCE
SNYDER & ASSOCIATES, INC.
 2727 S.W. SNYDER BLVD.
 ANKENY, IOWA 50023
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Technician: DFM	Date: 5/31/2016	Field Bk:	Project No: 1140397
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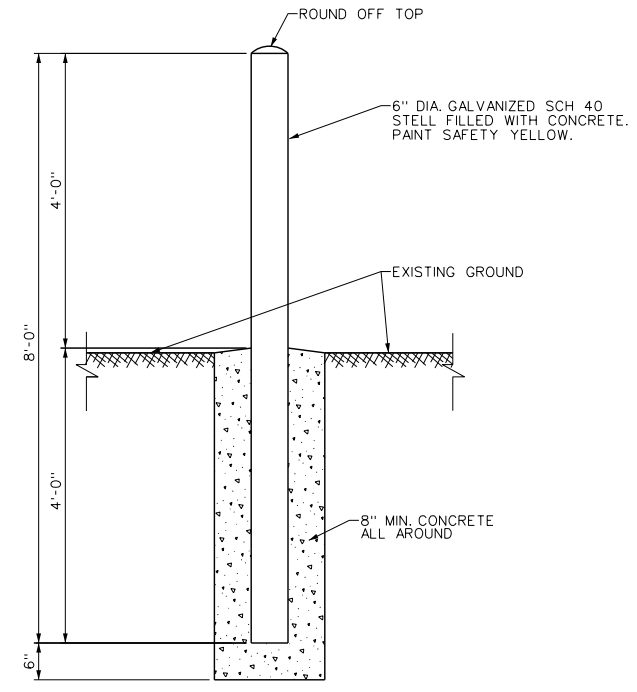
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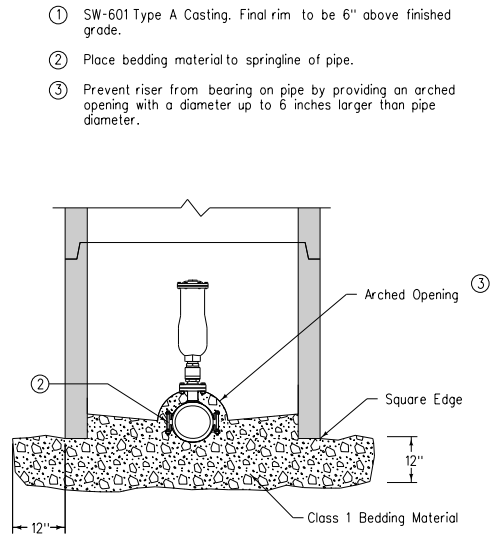
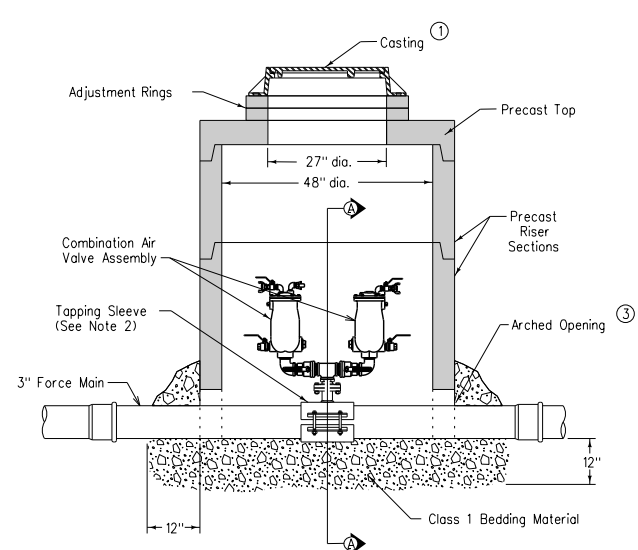
1 STANDARD PIPE TRENCH
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2 SW-301 CIRCULAR SANITARY SEWER MANHOLE
C.01 NO SCALE



3 BOLLARD DETAIL
C.01 NO SCALE

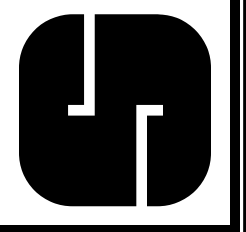


NOTES:
 1. 1" DUAL BODY COMBINATION AIR VALVE WITH BACKWASH MANUFACTURED BY VAL-MATIC OR ENGINEER APPROVED EQUAL MODEL NO. VMC-48A/301 ABW. INCLUDE LOW DUROMETER SEAT AND ORIFICE BUTTON FOR LOW PRESSURE APPLICATIONS. VALVE MUST SEAL DOWN TO MINIMUM OF 1 PSI.
 2. USE MJ TEE WITH MJ ADAPTORS WHERE FORCE MAIN IS HDPE.

4 TYPICAL SEWAGE COMBINATION AIR VALVE AND VAULT
C.01 NO SCALE

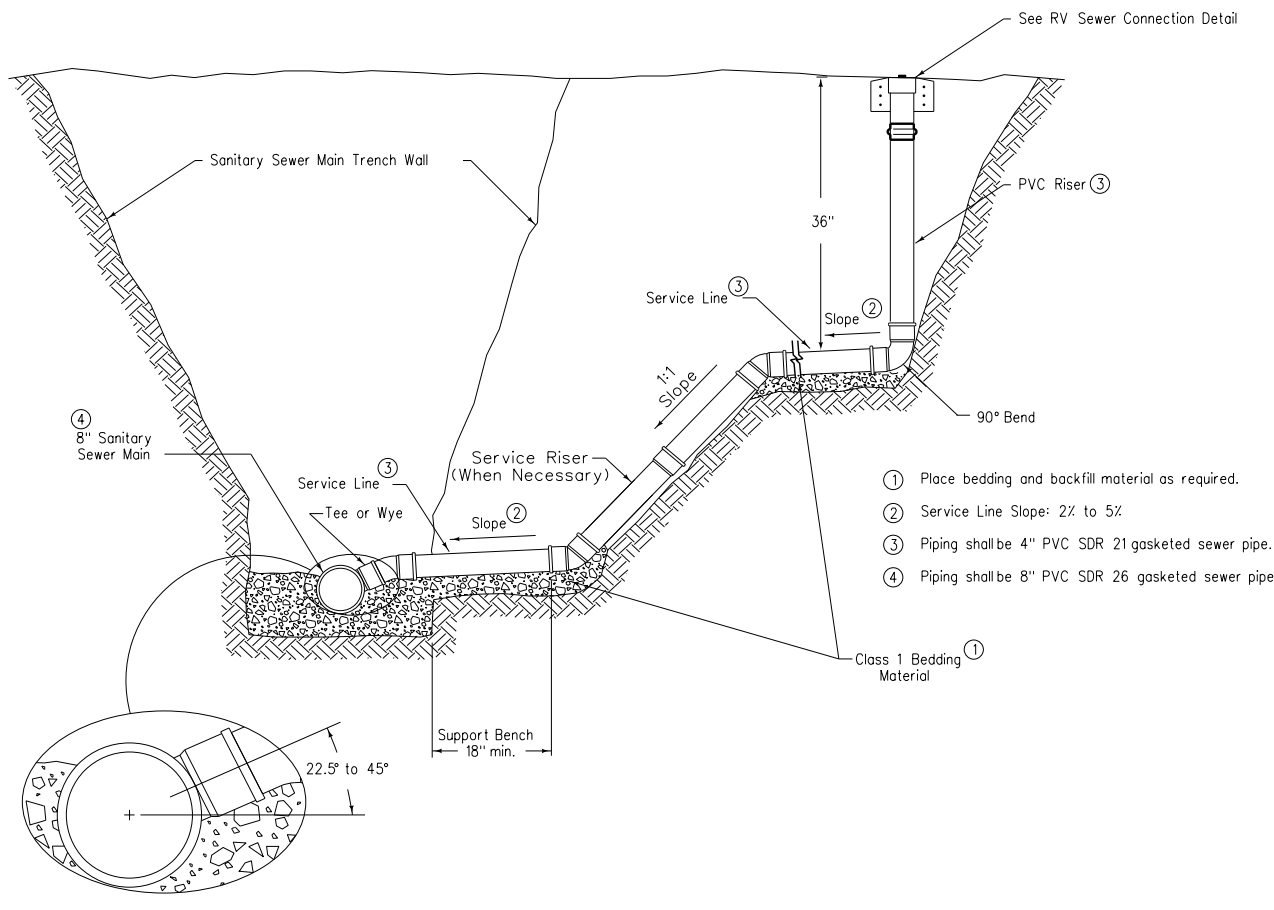
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Technician: DFM	Date: 5/31/2016	Project No: 1140397	Sheet C.01

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
CONSTRUCTION DETAILS
SNYDER & ASSOCIATES, INC.
 WEBSTER COUNTY, IOWA
 2727 S.W. SNYDER BLVD.
 ANKENY, IOWA 50023
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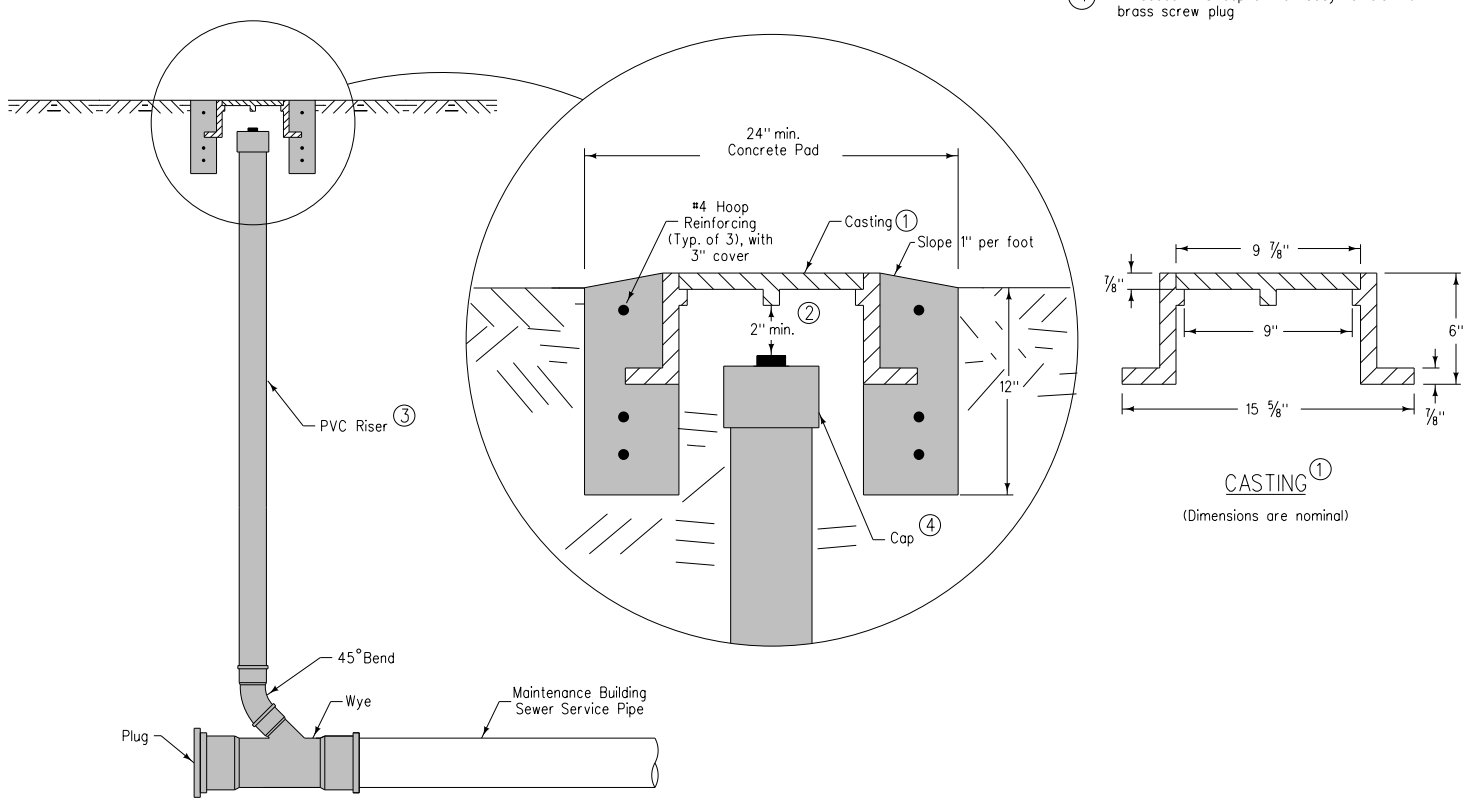
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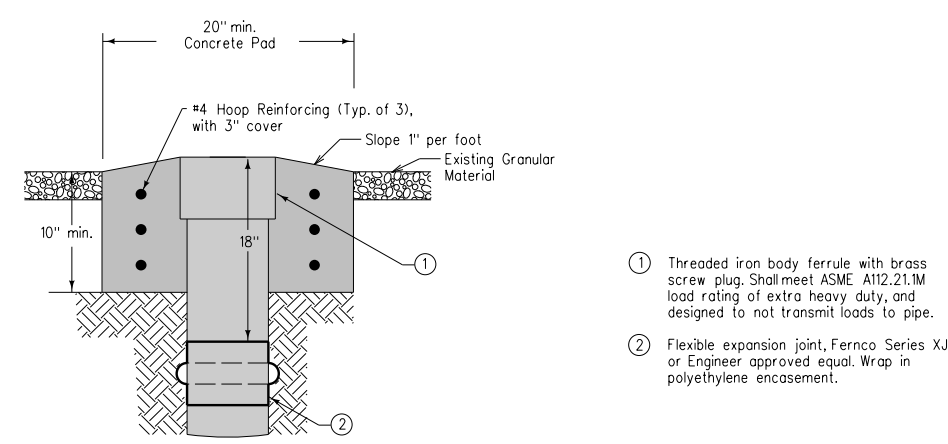
- ① Place bedding and backfill material as required.
- ② Service Line Slope: 2% to 5%
- ③ Piping shall be 4" PVC SDR 21 gasketed sewer pipe.
- ④ Piping shall be 8" PVC SDR 26 gasketed sewer pipe.

1 TYPICAL SANITARY SEWER SERVICE SECTION DETAIL
C.02 NO SCALE



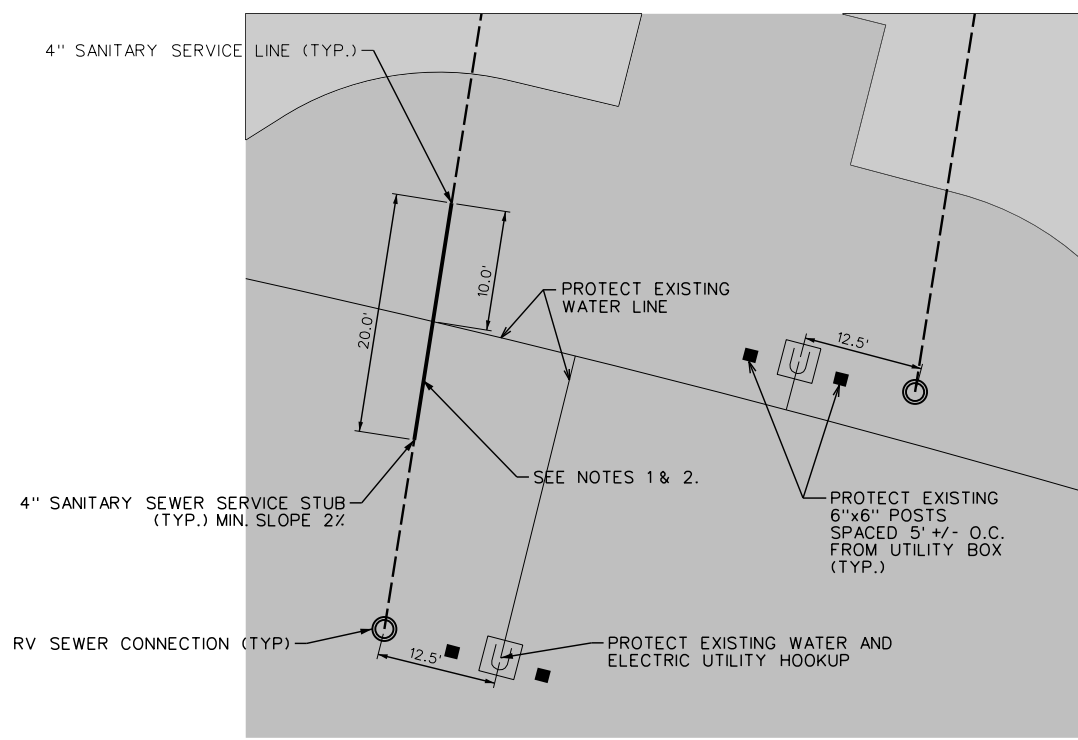
- ① Standard duty casting complying with AASHTO M 306. Mark lid with "Sanitary" or "Sanitary C.O."
- ② Do not allow casting to bear on top of riser pipe.
- ③ PVC Pipe of same size and material as service pipe.
- ④ Threaded PVC cap or iron body ferrule with brass screw plug

2 SANITARY SEWER CLEANOUT DETAIL
C.02 NO SCALE



- ① Threaded iron body ferrule with brass screw plug. Shall meet ASME A112.21.1M load rating of extra heavy duty, and designed to not transmit loads to pipe.
- ② Flexible expansion joint, Fernco Series XJ or Engineer approved equal. Wrap in polyethylene encasement.

3 RV SEWER CONNECTION DETAIL
C.02 NO SCALE



- NOTES:
- ① WHEN SEWER IS BELOW WATER LINE, PROVIDE A MINIMUM CLEARANCE OF 18" FROM TOP OF SEWER TO BOTTOM OF WATER LINE.
 - ② WHEN SEWER CROSSES OVER OR IS LESS THAN 18" BELOW A WATER LINE, CENTER ONE 20' PIPE LENGTH OF 4" SEWER PIPE ON INTERSECTION OF PROPOSED SANITARY AND EXISTING WATER LINE WITH JOINTS AS FAR FROM CROSSING AS POSSIBLE. MINIMUM CLEARANCE OF 12".
 - ③ VERIFY LOCATION OF ALL ELECTRICAL UTILITIES PRIOR TO CONSTRUCTION.

4 TYPICAL SEWER SERVICE PLAN VIEW
C.02 NO SCALE

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
CONSTRUCTION DETAILS
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 WEBSTER COUNTY, IOWA
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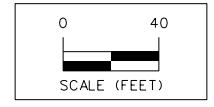
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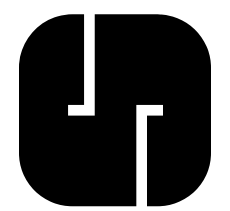


- NOTES:**
- ALL 8" GRAVITY SEWER MAIN PIPE SHALL BE PVC SDR 26. SEE DETAIL SHEETS.
 - ALL 4" AND 6" GRAVITY SEWER SERVICE PIPE SHALL BE PVC SDR 21 GASKETED SEWER PIPE UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS.
 - ALL MANHOLES SHALL HAVE GASKETED BOLT DOWN COVERS. SEE DETAIL SHEETS.
 - STRIP AND RESPREAD EXISTING GRANULAR SURFACING ON ANY AREAS DISTURBED. CONTRACTOR SHALL SALVAGE AS MUCH EXISTING GRANULAR MATERIAL AS POSSIBLE. ONCE EXISTING GRANULAR SURFACE HAS BEEN RESTORED, COVER WITH AN ADDITIONAL 2" OF CLASS A CRUSHED STONE. QUANTITY BASED ON SAVING 4" AND PROVIDING 2" OF MATERIAL. ANY ADDITIONAL GRANULAR MATERIAL NEEDED TO REACH 6" TOTAL THICKNESS WILL BE PROVIDED AT THE CONTRACTOR'S EXPENSE. IF 6" OF EXISTING IS NOT PRESENT, NOTIFY ENGINEER IMMEDIATELY AND QUANTITIES WILL BE ADJUSTED.
 - PROTECT ALL EXISTING UTILITIES.
 - BURIED EXISTING ELECTRICAL SERVICE FROM EACH CAMPSITE'S UTILITY HOOKUP TO THE EXISTING UTILITY BACKBOARD AREA ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL ELECTRICAL UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
 - SPILL CONTAINMENT WILL CONSIST OF A 6" THICK PCC SLAB WITH A 6" SLOPED CURB ON ALL FOUR SIDES. DIMENSIONS OF SPILL CONTAINMENT STRUCTURE SHALL BE 5' W x 5' L.
 - THE RV SEWER CONNECTION W/ SPILL CONTAINMENT AND ASSOCIATED 4" SANITARY SEWER SERVICE WILL NOT BE CONSTRUCTED IF BOTH ADD ALTERNATES 1 AND 2 ARE CONSTRUCTED.

DESCRIPTION	HORIZONTAL CONTROL		AS-BUILT CONTROL POINTS	
	N	E	N	E
GRAVITY SEWER				
SAN MH 1A	8,575,949.39	14,687,812.96		
SAN MH 01	8,576,003.83	14,687,671.02		
SAN MH 02	8,576,133.65	14,687,345.99		
SAN MH 03	8,576,186.75	14,687,122.14		
SAN MH 04	8,576,315.90	14,687,713.90		
SAN MH 05	8,576,413.46	14,687,483.96		
SAN MH 06	8,576,442.83	14,687,276.03		

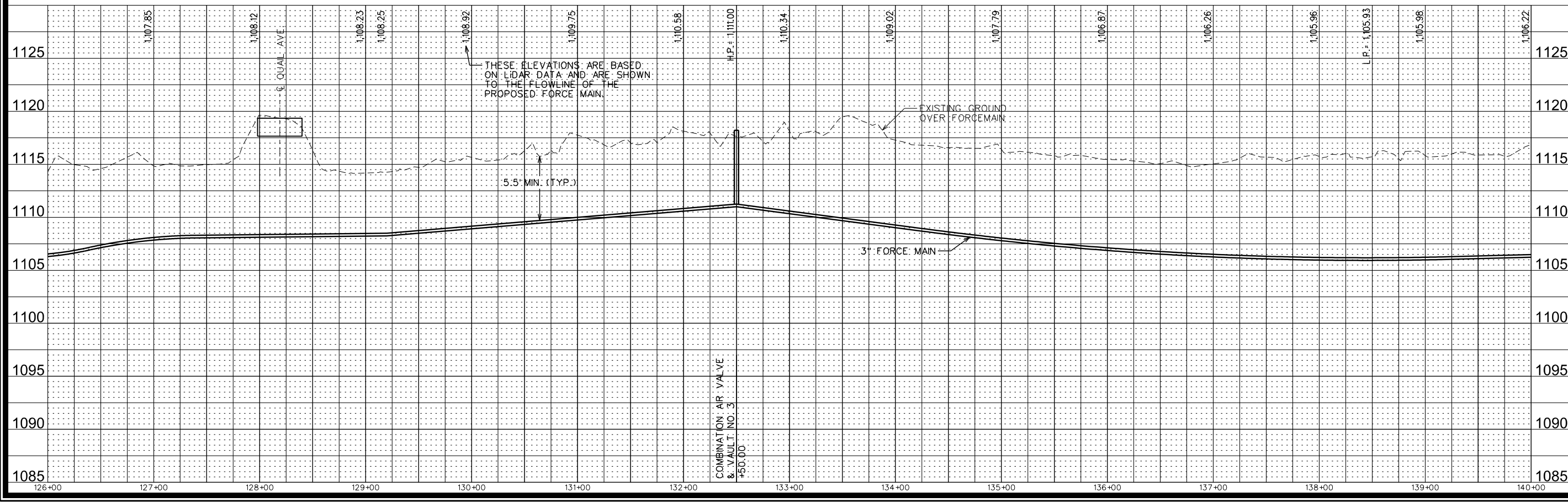
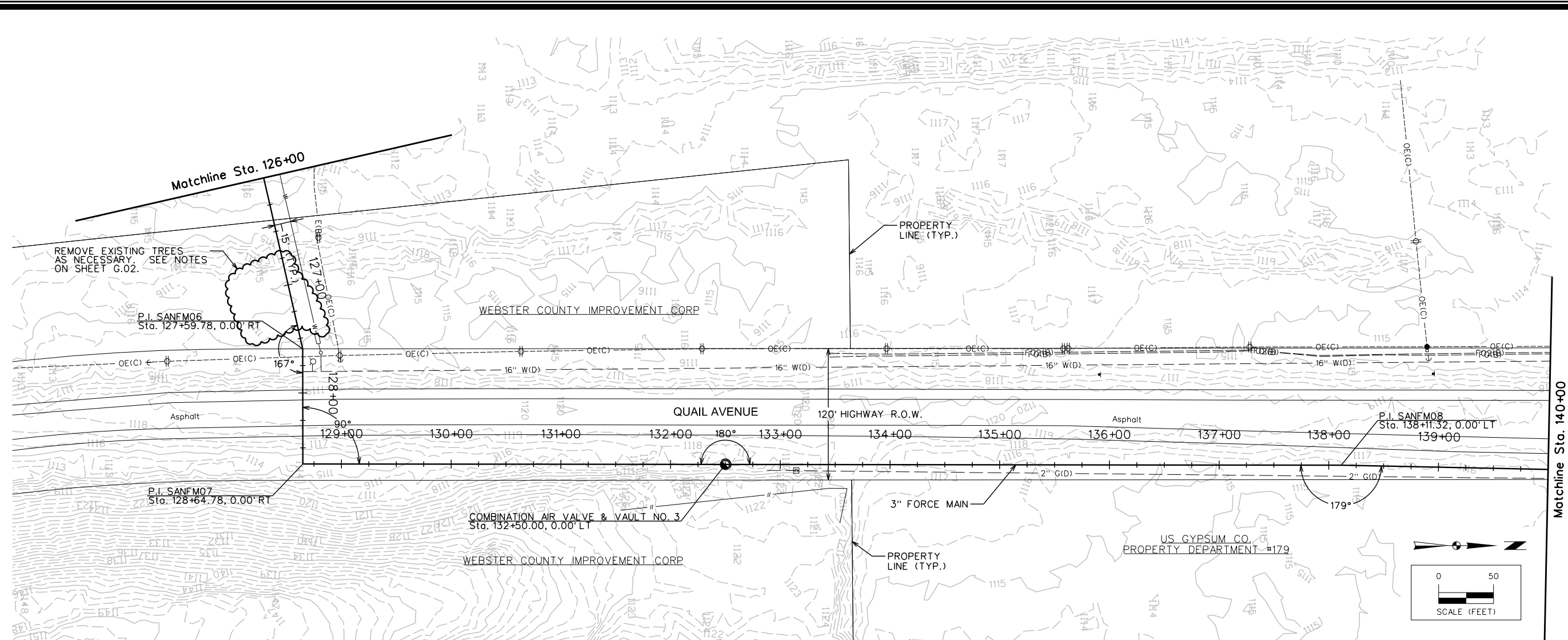


GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
SANITARY GRAVITY SEWER SITE PLAN
SNYDER & ASSOCIATES, INC.
 WEBSTER COUNTY, IOWA
 2727 S.W. SNYDER BLVD.
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 Project No: 1140397
 Sheet D.01

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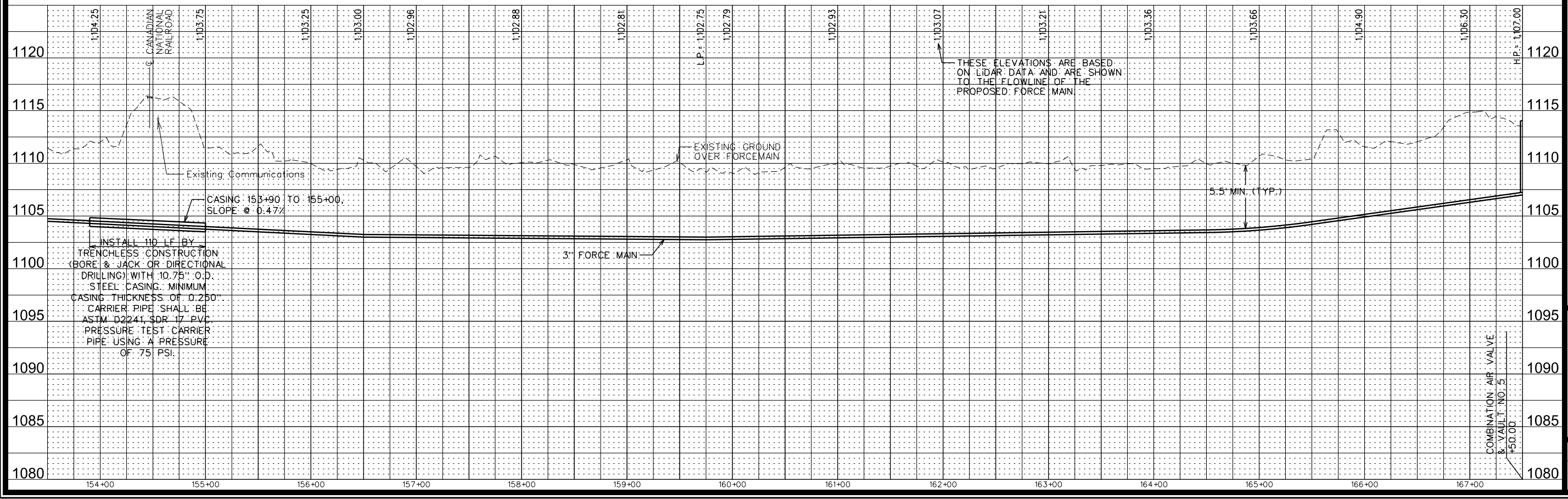
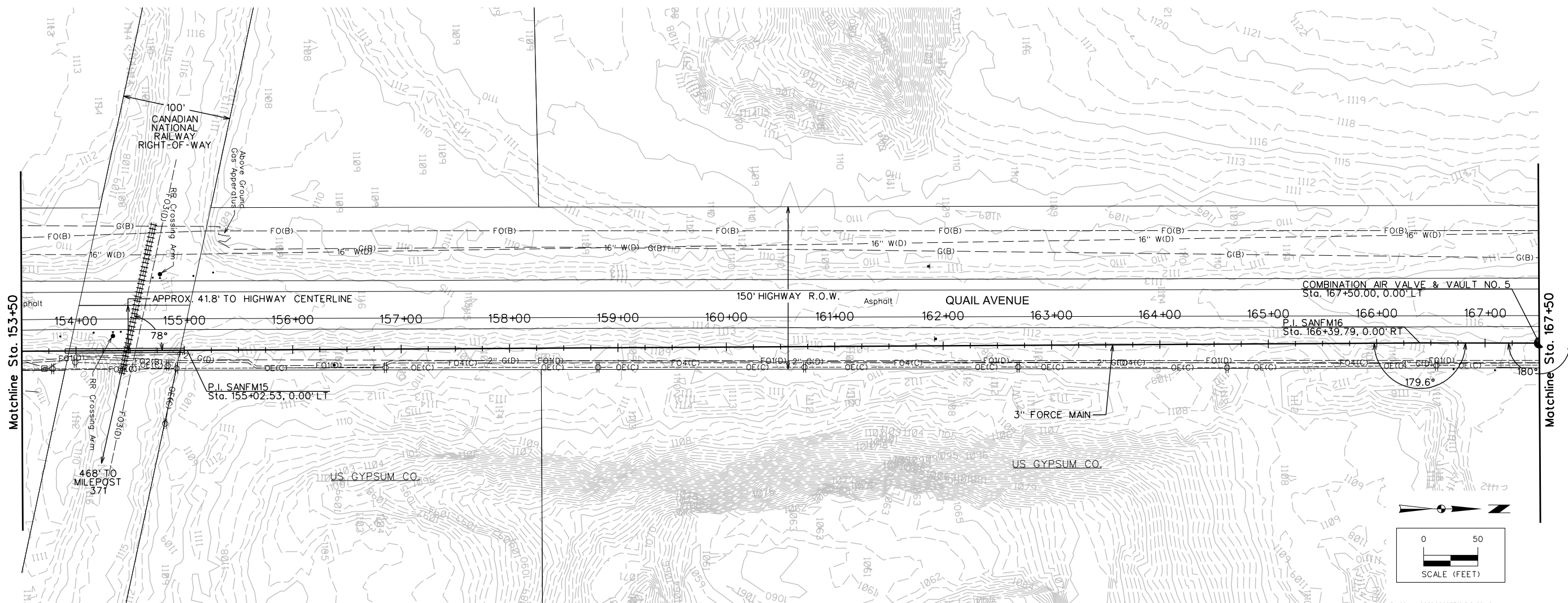
GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
SANITARY FORCE MAIN PLAN & PROFILE
WEBSTER COUNTY, IOWA
SNYDER & ASSOCIATES, INC.

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Project No: 1140397

Sheet D.04

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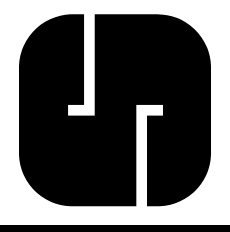
INSTALL 10 LF BY
 TRENCHLESS CONSTRUCTION
 (BORE & JACK OR DIRECTIONAL
 DRILLING) WITH 10.75" O.D.
 STEEL CASING. MINIMUM
 CASING THICKNESS OF 0.250".
 CARRIER PIPE SHALL BE
 ASTM D2241, SDR 17 PVC.
 PRESSURE TEST CARRIER
 PIPE USING A PRESSURE
 OF 75 PSI.

THESE ELEVATIONS ARE BASED
 ON LIDAR DATA AND ARE SHOWN
 TO THE FLOWLINE OF THE
 PROPOSED FORCE MAIN.

COMBINATION AIR VALVE
 & VAULT NO. 5
 Sta. 167+50.00

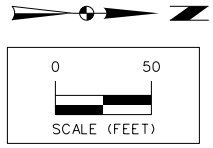
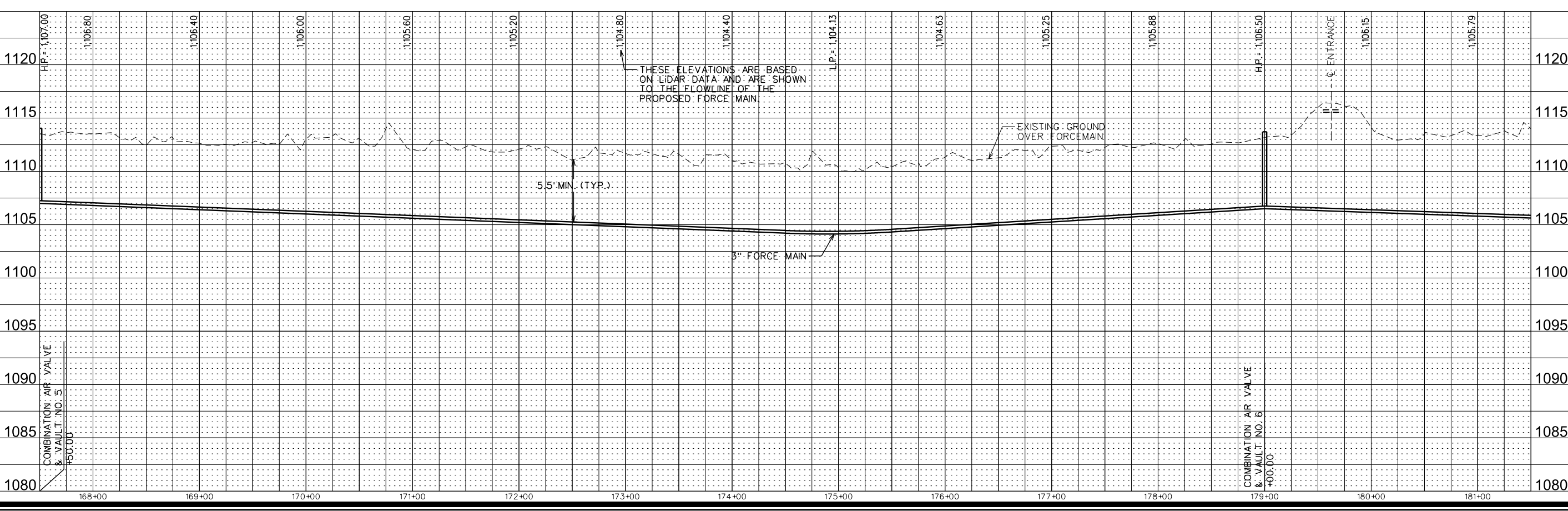
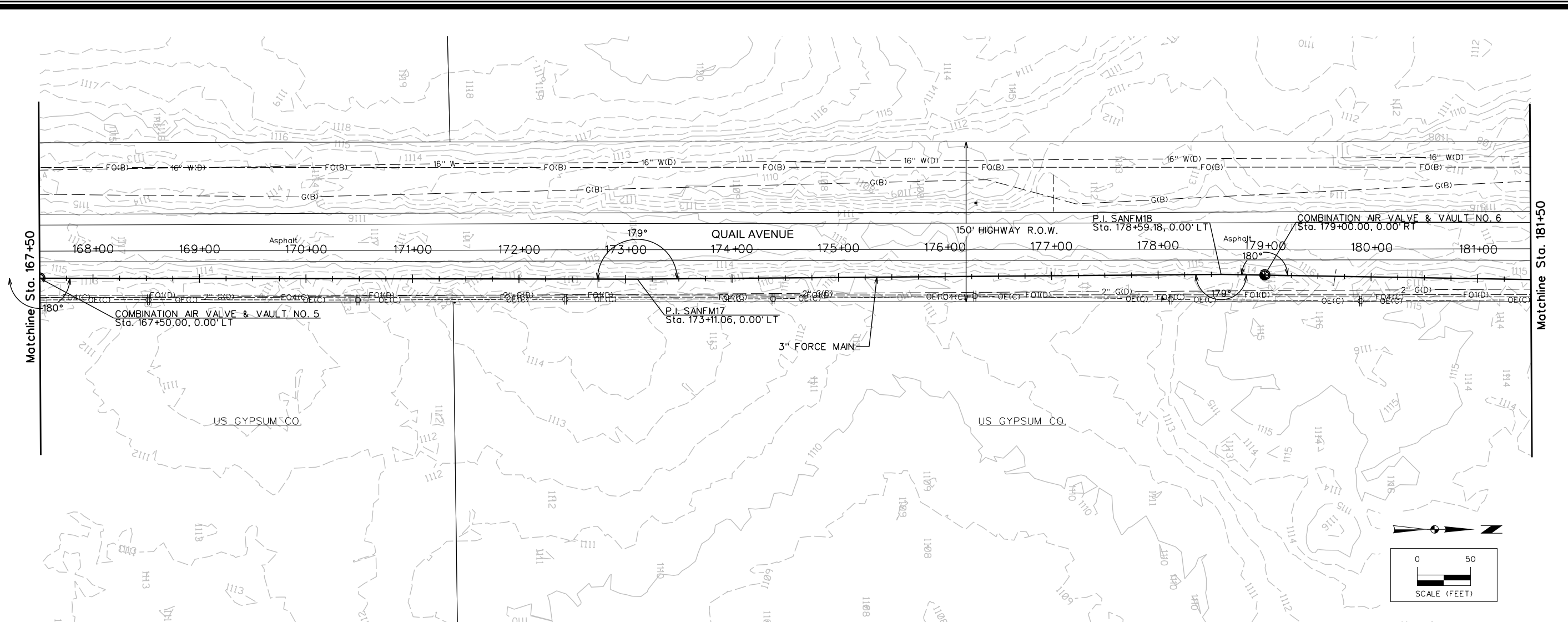
GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
SANITARY FORCE MAIN PLAN & PROFILE
SNYDER & ASSOCIATES, INC.

WEBSTER COUNTY, IOWA
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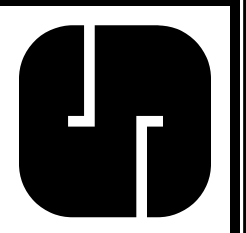
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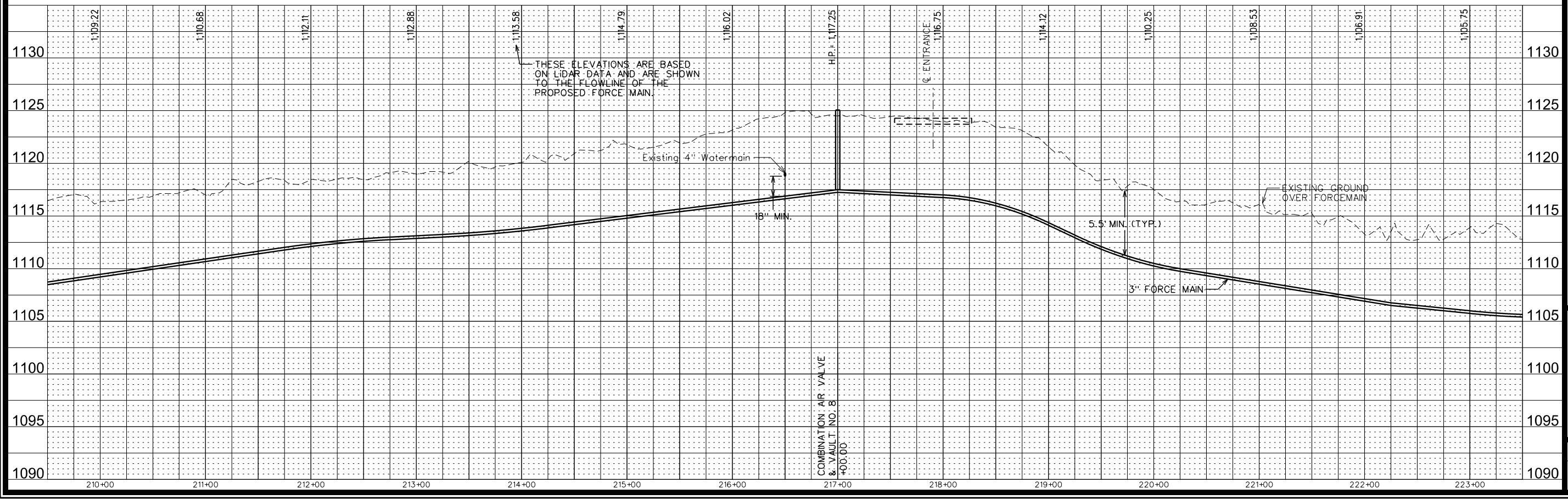
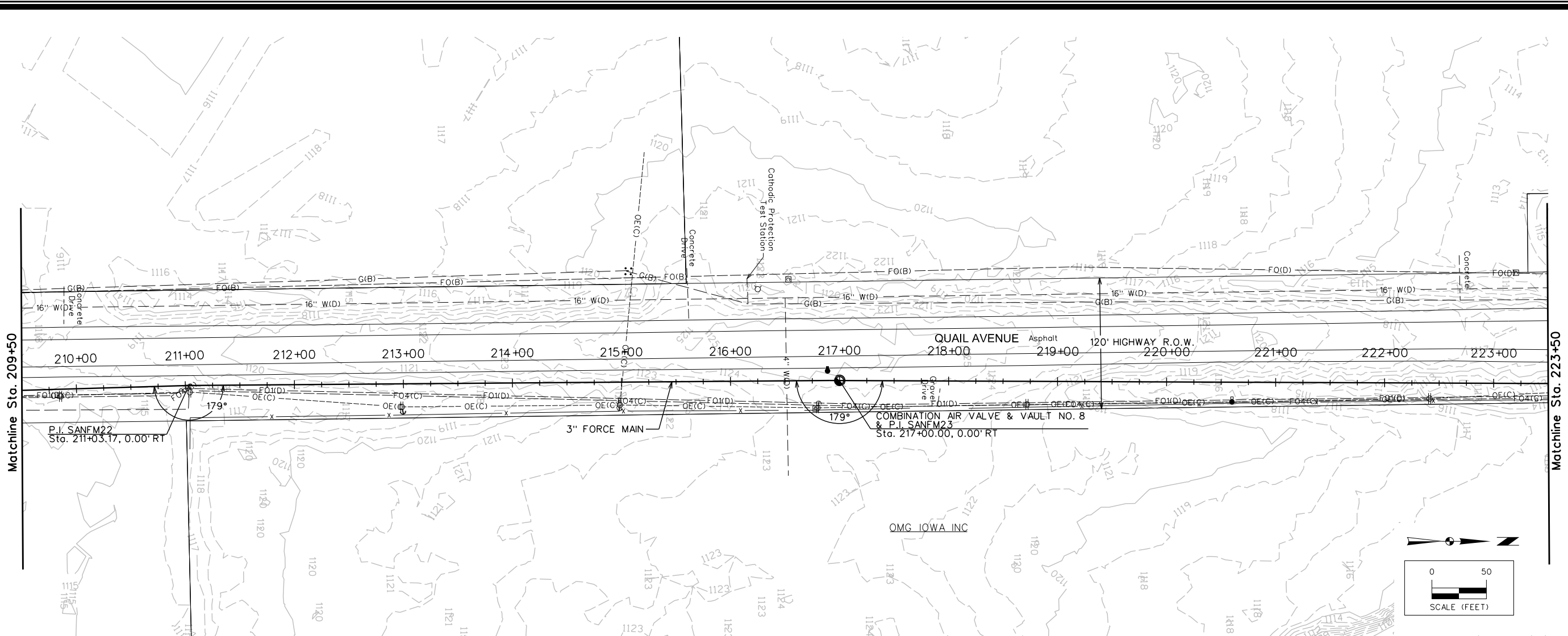
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Technician: DFM	Date: 5/31/2016	Project No: 1140397	Sheet D.07

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
SANITARY FORCE MAIN PLAN & PROFILE
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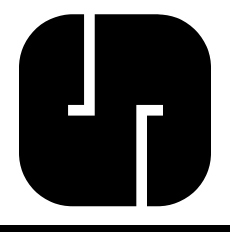


Project No: 1140397
Sheet D.07

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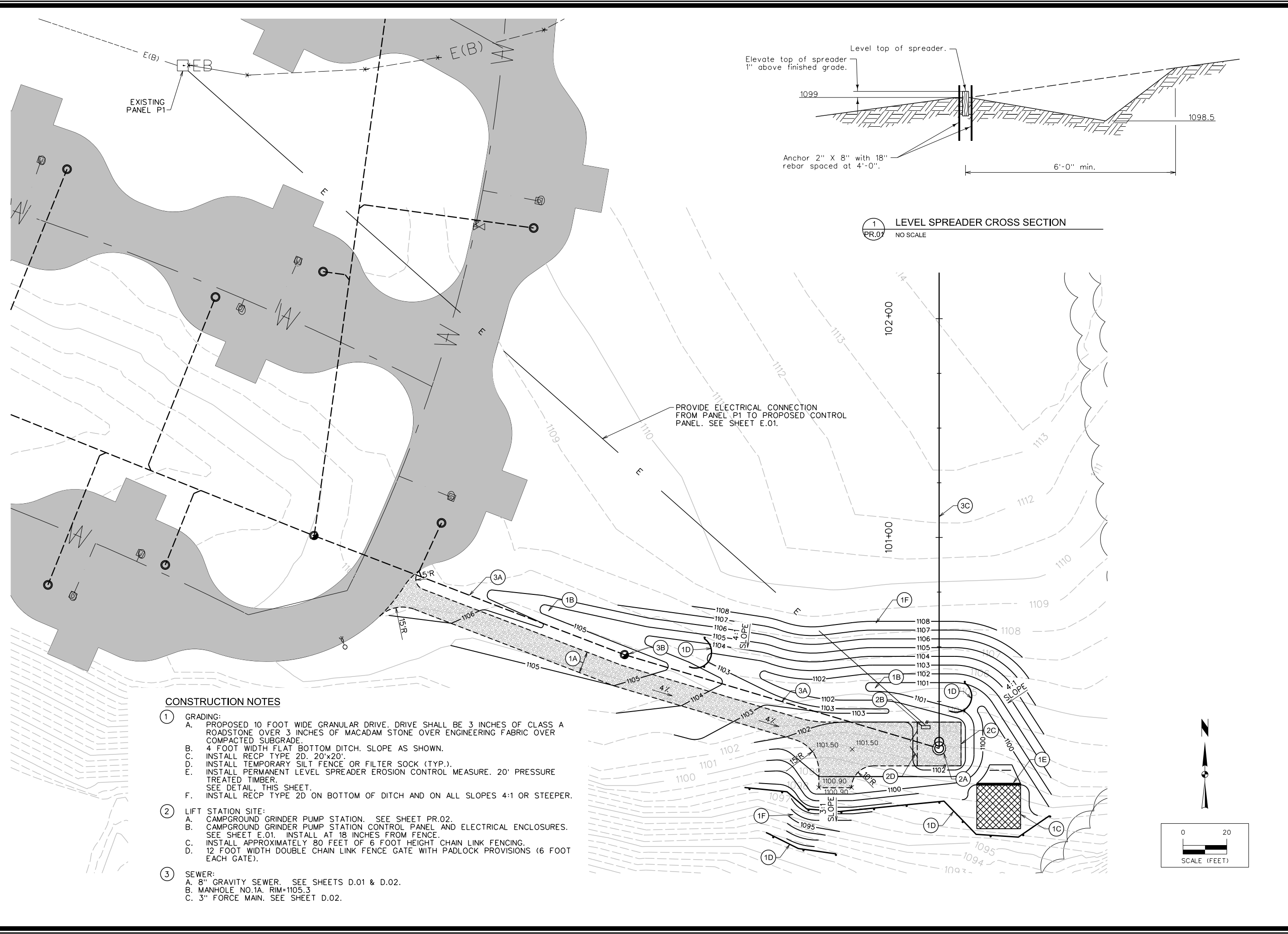
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Project No: 1140397
 Sheet D.10

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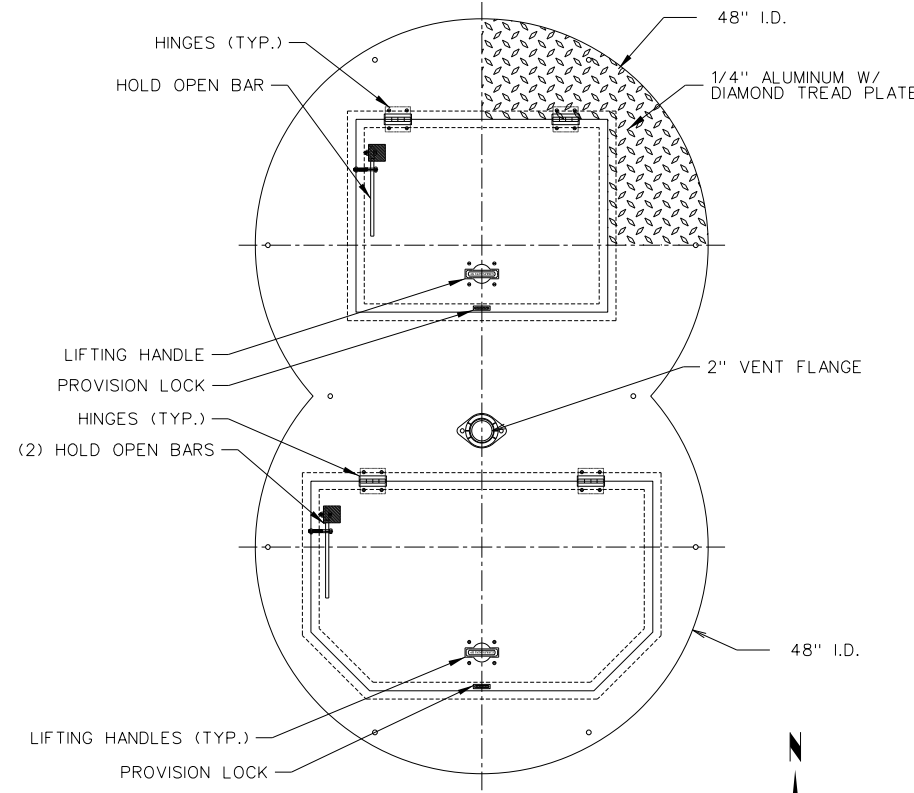


GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
PUMP STATION SITE PLAN
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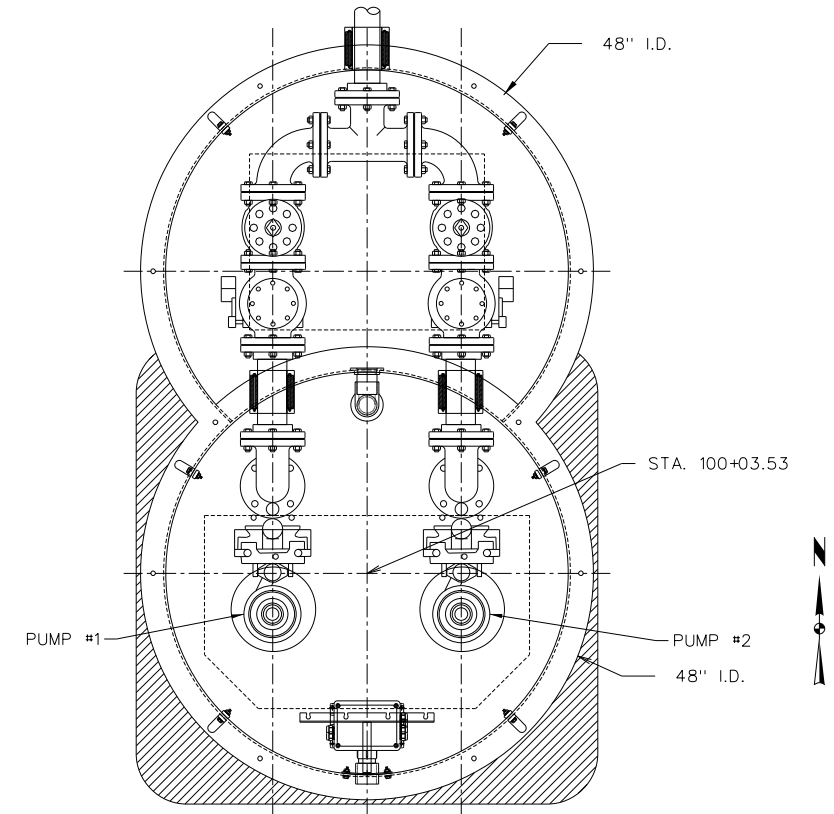
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Project No: 1140397
Sheet PR.01

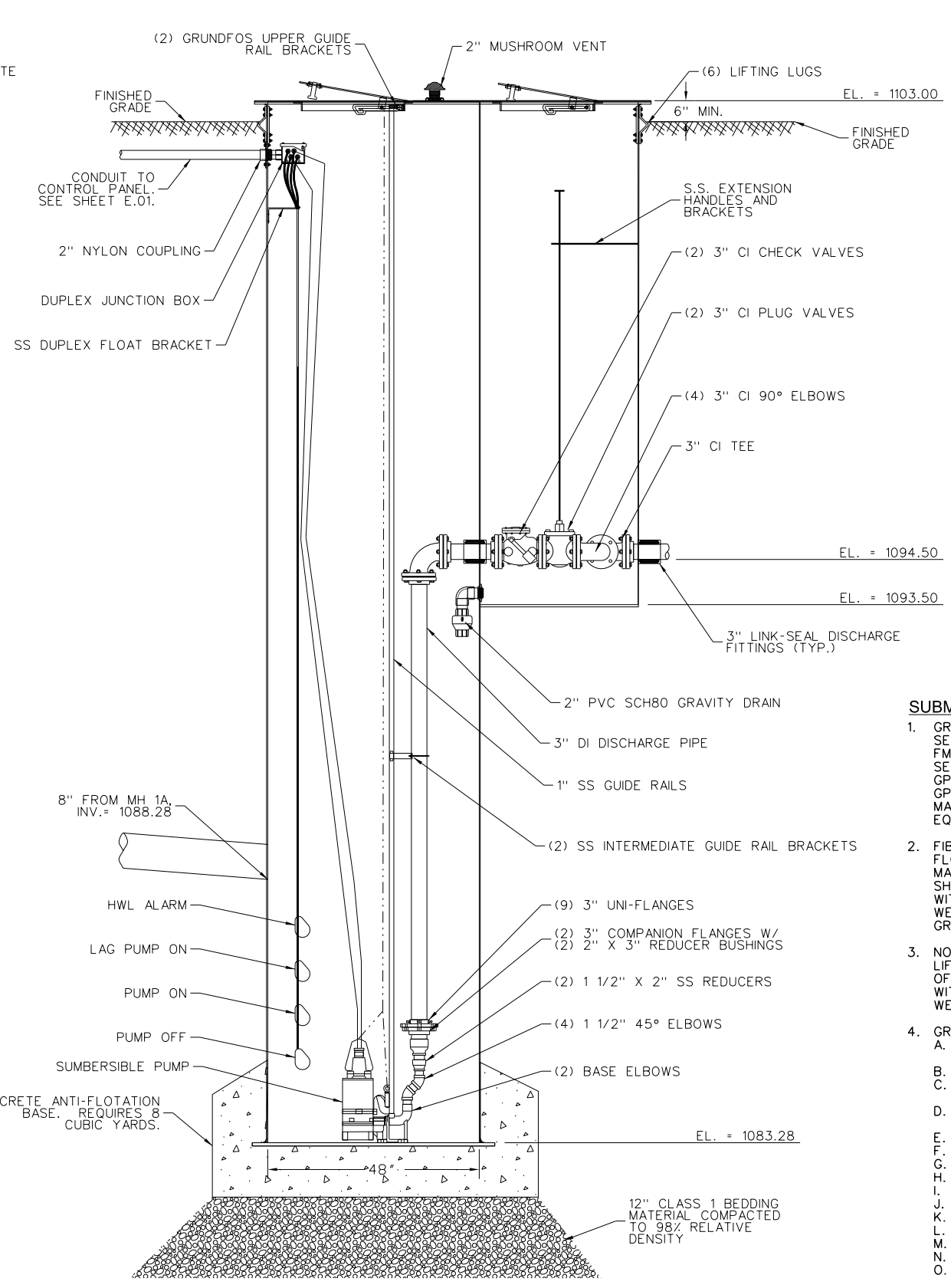
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1 CAMPGROUND GRINDER PUMP STATION - COVER PLAN
 PR.02 NOT TO SCALE



2 CAMPGROUND GRINDER PUMP STATION - PLAN VIEW
 PR.02 NOT TO SCALE



3 CAMPGROUND GRINDER PUMP STATION
 PR.02 NOT TO SCALE

SUBMERSIBLE SEWAGE GRINDER PUMP STATION

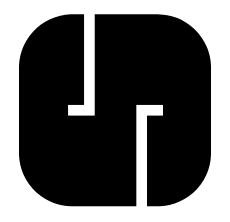
- GRUNDFOS DUPLEX SUBMERSIBLE GRINDER SYSTEM MODEL SEG.A15.55.EX.2.60M EXPLOSION PROOF 5.5 HP GRINDER PUMP, FM LISTED FOR CLASS 1, GROUP D HAZARDOUS LOCATION SERVICE, 240V/1 PHASE. PUMP CAPACITY REQUIREMENTS: 10 GPM AT 156 FEET OF HEAD, 45 GPM AT 137 FEET OF HEAD, 50 GPM AT 135 FEET OF HEAD AND 80 GPM AT 112 FEET OF HEAD. MANUFACTURED BY GRUNDFOS OR ENGINEER APPROVED EQUAL.
- FIBERGLASS WET WELL AND VALVE VAULT 48" I.D. WITH ANTI FLOATION COLLAR. INSTALL IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. FIBERGLASS WET WELL SHALL HAVE AN 8" BASIN INLET FLANGE. ALUMINUM COVER WITH HINGED ACCESS HATCH AND LOCKABLE HASP ON WET WELL AND VALVE VAULT. PROVIDE SECONDARY SAFETY GRATE OR WEB.
- NON-SPARKING LIFT OUT RAIL SYSTEM WITH STAINLESS STEEL LIFT-OUT CHAIN, NON-MERCURY FLOAT SWITCHES FOR PUMP OFF, PUMP START, LAG PUMP ON AND HIGH WATER ALARM WITH ALUMINUM EXPLOSION PROOF JUNCTION BOX IN WET WELL.
- GRUNDFOS DUPLEX CONTROL PANEL:
 - NEMA 4X STAINLESS STEEL ENCLOSURE WITH LOCKABLE LATCH
 - SWITCHES AND INDICATOR LIGHTS MOUNTED INSIDE
 - MAIN CIRCUIT BREAKER DISCONNECT, MOTOR CIRCUIT BREAKERS, CONTROL CIRCUIT BREAKERS
 - VFD'S FOR SINGLE PHASE TO THREE PHASE CONVERSION
 - H-O-A SWITCHES
 - ALARM TEST SWITCH
 - AMBER PUMP RUN LIGHTS
 - SEAL FAIL LIGHTS AND RELAYS
 - ALTERNATOR WITH OVERRIDE AND SELECTOR SWITCH
 - FLASHING RED ALARM LIGHT ON TOP
 - 115 VOLT CONTROL CIRCUIT TRANSFORMER
 - PUMP ELAPSED TIME METERS
 - INTRINSICALLY SAFE RELAYS
 - REQUIRED CONTROL RELAYS
 - NEMA 3R HEATER AND COOLING FAN WITH VENT AND THERMOSTAT
 - SENSAPHONE (OR ENGINEER APPROVED EQUAL) CELLULAR DIALER WITH 1 YEAR SERVICE PLAN AND DRY CONTACTS FOR DIALER UL508 LABELED AND LISTED.
 - LIGHTNING ARRESTOR
 - CONVENIENCE OUTLET

HWL ALARM	EL. = 1087.50
LAG PUMP ON	EL. = 1087.00
PUMP ON	EL. = 1086.50
PUMP OFF	EL. = 1084.75

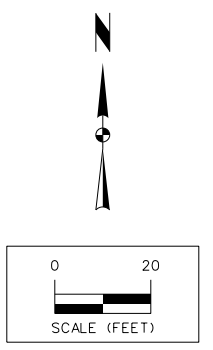
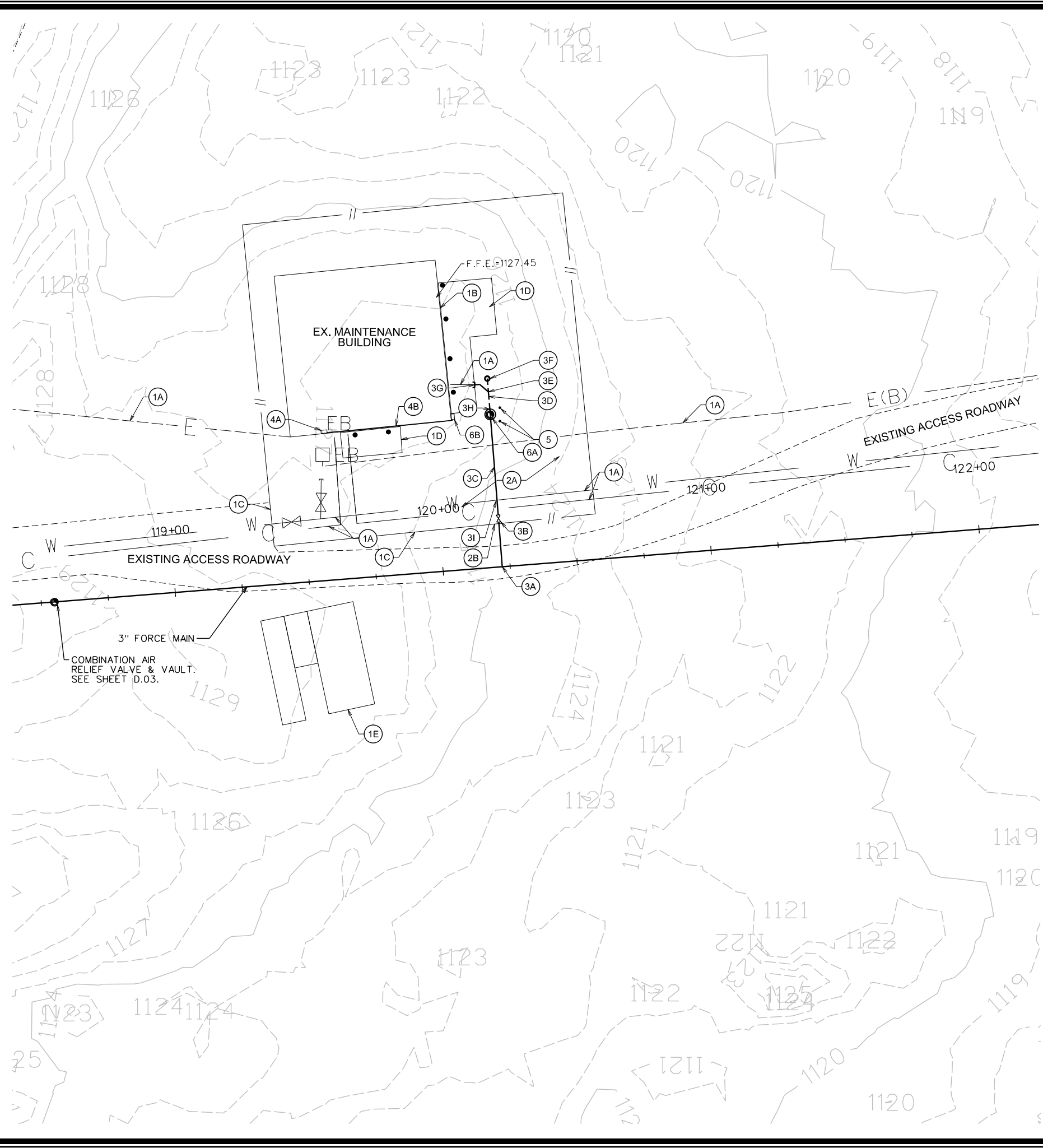
GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
PUMP STATION PLAN AND SECTION

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MARK	REVISION	DATE	BY
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Technician: DFM	Date: 5/31/2016	Field Bk:	Sheet PR.02
Project No: 1140397			



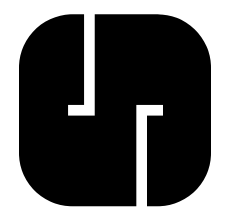
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CONSTRUCTION NOTES

- ① EXISTING FEATURES:
 - A. PROTECT EXISTING UTILITIES.
 - B. PROTECT EXISTING BUILDING
 - C. PROTECT EXISTING FENCE
 - D. PROTECT EXISTING PAVEMENT
 - E. EXISTING STORAGE CONTAINERS. COORDINATE WITH OWNER FOR RELOCATION AS NECESSARY.
- ② REMOVALS:
 - A. STRIP AND RESPREAD EXISTING SURFACING ON ANY AREAS DISTURBED (INCIDENTAL).
 - B. REMOVE AND REPLACE CHAIN LINK FENCE AS NECESSARY FOR CONSTRUCTION (INCIDENTAL).
- ③ SITE PIPING:
 - A. CONNECT TO 3" FORCE MAIN WITH 3"x3"x2" MJ TEE.
 - B. 2" GATE VALVE AND 2"x1 1/2" REDUCING COUPLING WITH 4" SCH 40 PVC RISER. INSTALL CAP AND CASTING SAME AS SANITARY SEWER CLEANOUT. SEE DETAIL ON SHEET C.02.
 - C. 57 LF OF 1.5" SCHEDULE 80 PVC. SLOPE UPWARDS FROM GRINDER PUMP STATION TO 3" FORCE MAIN. MAINTAIN MINIMUM 5.5' COVER.
 - D. 15 LF OF 4" PVC.
 - E. 4" WYE, FL=1120.00.
 - F. CLEANOUT, SEE DETAIL ON SHEET C.02.
 - G. CONNECT TO 4" PIPE. EXISTING STUB IS 10' EAST OF BUILDING, 13' NORTH OF SE CORNER, ELEVATION=1124 (FIELD VERIFY PRIOR TO CONSTRUCTION). ALL 4" GRAVITY SEWER PIPING SHALL BE PVC SDR 21 GASKETED.
 - H. CONNECT TO MAINTENANCE BUILDING GRINDER PUMP STATION INLET AT F.L. ELEV. 1119.50.
 - I. SANITARY SEWER FORCE MAIN CROSSING BELOW WATER MAIN. MAINTAIN MINIMUM OF 18" SEPARATION FROM TOP OF SANITARY FORCEMAIN TO BOTTOM OF WATER PIPE. COMMUNICATION LINE IS BURIED DIRECTLY ABOVE WATER MAIN.
- ④ ELECTRICAL:
 - A. BUILDING POWER PANEL, APPROXIMATELY 12' EAST OF SW CORNER.
 - B. PROVIDE ELECTRICAL CONNECTION TO PROPOSED GRINDER PUMP STATION CONTROL PANEL FROM BUILDING POWER PANEL. COORDINATE WITH OWNER REGARDING PENETRATIONS THROUGH BUILDING WALL.
- ⑤ BOLLARDS SPACED @ 5' O.C., SEE DETAIL ON SHEET C.01..
- ⑥ MAINTENANCE BUILDING GRINDER PUMP STATION AND CONTROL PANEL:
 - A. ENVIRONMENT ONE GRINDER PUMP SYSTEM MODEL DH071-124 WITH 1HP SEMI-POSITIVE DISPLACEMENT PUMP 120V, SINGLE PHASE OR ENGINEER APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATIONS WITH TOP ELEVATION 6" ABOVE FINISHED GRADE. ADJUST CORRUGATED RISERS TO ACCOMMODATE INLET PIPE AND TO MAINTAIN A MINIMUM DEPTH OF COVER OF 5.5' OVER THE TOP OF THE FORCE MAIN. 6" MINIMUM OF CLASS 1 BEDDING MATERIAL COMPACTED TO 98% RELATIVE DENSITY UNDERNEATH STRUCTURE. CONCRETE ANTI-FLOATATION BALLAST SHALL CONSIST OF MINIMUM 15 CUBIC FEET OF CONCRETE.
 - B. NEMA 4X CORROSION PROOF THERMOPLASTIC POLYESTER SIMPLEX BASIC CONTROL PANEL TO INCLUDE THE FOLLOWING OPTIONS: DRY CONTACTS, DEAD FRONT, HOUR METER, LOCKABLE HASP, PUMP RUN INDICATOR, RED ALARM LIGHT ON TOP AND GFCI. 120V SINGLE POLE. MANUFACTURED BY ENVIRONMENT ONE OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. SEE SHEET E.01 FOR CONTROL PANEL MOUNTING DETAIL.

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
EXISTING BUILDING SEWER CONNECTION
WEBSTER COUNTY, IOWA



Project No: 1140397
 Sheet PR.03

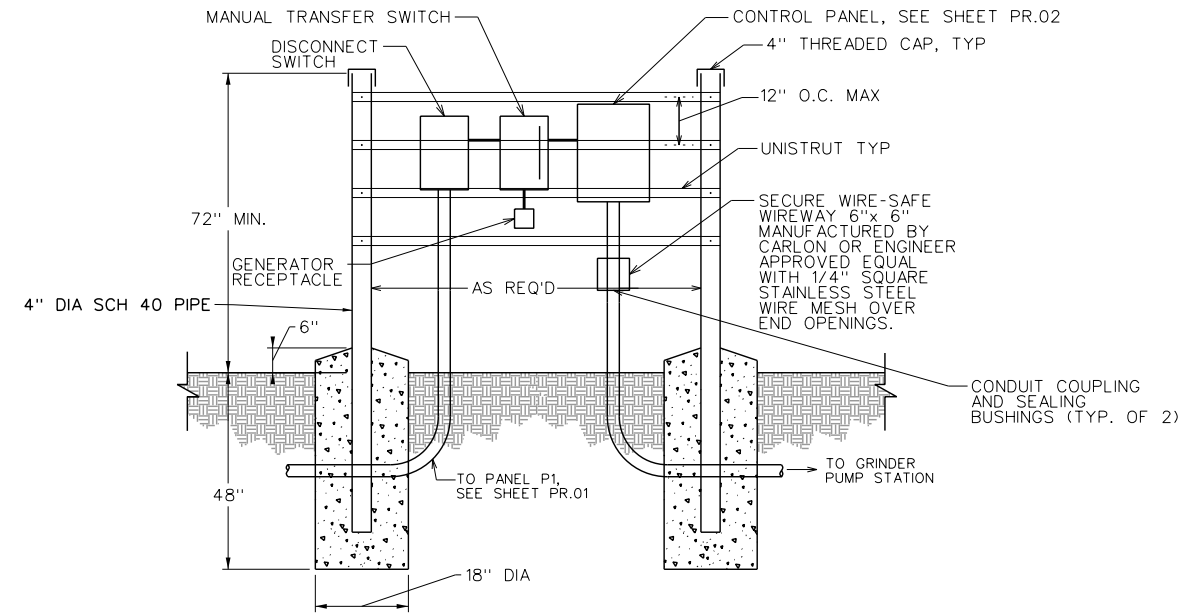
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Technician: DFM	Date: 5/31/2016	Project No: 1140397	Sheet PR.03

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ELECTRICAL NOTES:

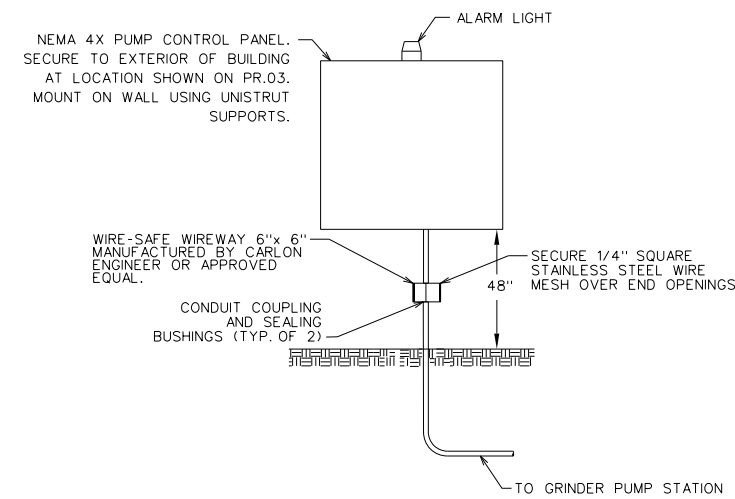
1. THE BREAKER IN THE CAMPGROUND PANEL P1 SHALL BE 100A/2 POLE. AIC RATING TO MATCH EXISTING PANEL.
2. THE ELECTRICAL CONNECTION FROM THE CAMPGROUND PANEL P1 TO THE DISCONNECT SWITCH SHALL BE (3) #2 WITH #8 GROUND IN 1.25" MINIMUM CONDUIT, COPPER CONDUCTORS.
3. DISCONNECT SWITCH SHALL BE HEAVY DUTY 100A-240V-1PH DISCONNECT WITH SWITCHED NEUTRAL.
4. TRANSFER SWITCH SHALL BE 100A, 3 POLE MANUAL TRANSFER SWITCH.
5. GENERATOR CONNECTION SHALL BE SIZED FOR A MINIMUM OF A 30KW GENERATOR. COORDINATE WITH OWNER FOR SIZING REQUIREMENTS.
6. THE ELECTRICAL CONNECTION TO THE CAMPGROUND GRINDER PUMP CONTROL PANEL SHALL BE (3) #2 WITH #8 GROUND IN 1.25" MINIMUM CONDUIT, COPPER CONDUCTORS.
7. THE ELECTRICAL CONNECTION FROM THE CAMPGROUND GRINDER PUMP CONTROL PANEL TO THE GRINDER PUMP STATION SHALL BE INSTALLED AS RECOMMENDED BY THE PUMP MANUFACTURER.
8. THE BREAKER IN THE MAINTENANCE BUILDING PANEL SHALL BE 30A/1 POLE FOR 120V.
9. THE ELECTRICAL CONNECTION FROM THE MAINTENANCE BUILDING PANEL TO THE GRINDER PUMP CONTROL PANEL SHALL BE #12 WIRES IN A MINIMUM 3/4" CONDUIT.
10. THE ELECTRICAL CONNECTION FROM THE MAINTENANCE BUILDING GRINDER PUMP CONTROL PANEL TO THE GRINDER PUMP STATION SHALL BE INSTALLED AS RECOMMENDED BY THE PUMP MANUFACTURER.
11. ALL ELECTRICAL SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.



1
E.01 CAMPGROUND ELECTRICAL EQUIPMENT RACK DETAIL
NO SCALE

NOTES:

1. ALL PIPE, UNISTRUT, AND FASTENERS SHALL BE GALVANIZED STEEL.
2. UNISTRUT ATTACHED TO PIPE WITH 3/8" BOLTS, NUTS, AND LOCK WASHERS.
3. ALL ENCLOSURES EXCEPT WIREWAY SHALL BE MINIMUM 36" ABOVE GRADE.



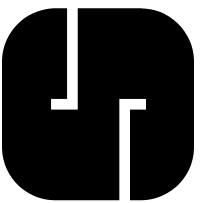
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E.01 MAINTENANCE BUILDING ELECTRICAL CONTROL PANEL INSTALLATION DETAIL
NOT TO SCALE

GYPSUM CITY OHV CAMPGROUND - SANITARY SEWER
ELECTRICAL DETAILS

WEBSTER COUNTY, IOWA

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Project No: 1140397

Sheet E.01

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			Sheet E.01