PROJECT TEAM

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BID SCHEDULES

THE FOLLOWING BID SCHEDULE WORK IS REFLECTED ON THESE DRAWINGS:
- BID SCHEDULE A: RECYCLED WATER DISTRIBUTION
- BID SCHEDULE B: BOLTED STAINLESS STEEL RESERVOIR, FOUNDATION AND APPURTENANCES - 250,000 GALLON
- BID SCHEDULE C: FRIENDSHIP PARK IRRIGATION SYSTEM
- BID SCHEDULE E: SEWER MAIN REPLACEMENT
- BID SCHEDULE I: BOLTED GLASS-FUSED STEEL-TO-STEEL RESERVOIR, FOUNDATION AND APPURTENANCES - 250,000 GALLON

APPROVALS

PLANS AND SPECIFICATIONS APPROVED BY THE MENDOCINO CITY COMMUNITY SERVICES DISTRICT.

MENDOCINO CITY COMMUNITY SERVICES DISTRICT
RYAN RHOADES, SUPERINTENDENT

SIGNED

ENGINEER: GHD Inc.
MATTHEW G. KENNEDY, PE

SIGNED

SCOPE OF WORK

GENERALLY, THE PROJECT CONSISTS OF THE FOLLOWING:

DISCIPLINE	SUMMARY OF SCOPE
CIVIL	CONSTRUCTION OF NEW RECYCLED WATER MAINS AND IRRIGATION SERVICES FOR MUSD OWNED PROPERTY. ALSO INCLUDES CONSTRUCTION OF A NEW IRRIGATION SYSTEM FOR FRIENDSHIP PARK AND CONSTRUCTION OF A 250,000 GALLON BOLTED STEEL RECYCLED WATER STORAGE TANK. APPURTENANCES INCLUDE VALVES, FIRE HYDRANTS, FLOW METERS, BACKFLOW DEVICES, CHECK VALVES, AND PRESSURE REDUCING VALVES. REPLACEMENT OF AND EXISTING SANITARY SEWER MAIN AND MANHOLES.
STRUCTURAL	CONSTRUCTION OF A NEW 250,000 GALLON BOLTED STEEL RECYCLED WATER STORAGE TANK ON A REINFORCED CONCRETE FOUNDATION, INCLUDING VALVES, PIPING, AND APPURTENANCES.
ELECTRICAL	ROUTING OF UNDERGROUND ELECTRICAL AND TELECOMMUNICATION UTILITIES AROUND THE NEW RECYCLED WATER TANK FOR TANK LEVEL CONTROL.

PARTIAL LIST OF APPLICABLE CODES

THE 2019 TRIENNIAL EDITION OF CCR, TITLE 24:
PART 1 - CALIFORNIA BUILDING STANDARDS ADMIN. CODE
PART 2 - CALIFORNIA BUILDING CODE
PART 3 - CALIFORNIA ELECTRICAL CODE
PART 4 - CALIFORNIA MECHANICAL CODE
PART 5 - CALIFORNIA PLUMBING CODE
PART 6 - CALIFORNIA ENERGY CODE
PART 9 - CALIFORNIA FIRE CODE
PART 10 - CALIFORNIA EXISTING BUILDING CODE
PART 11 - CALIFORNIA GREEN BUILDING STANDARDS CODE
PART 12 - CALIFORNIA REFERENCE STANDARDS CODE

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

NATIONAL REFERENCE STANDARDS:

AWWA C110-12	DUCTILE-IRON FITTINGS
AWWA C115-20	FLANGED DUCTILE-IRON PIPE WITH DUCTILE-IRON THREADED FLANGES
AWWA C508-09	SWING CHECK VALVES FOR WATERWORKS
AWWA C509-09	RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
AWWA C512-07	COMBINATION AIR VALVES FOR WATERWORKS SERVICE
AWWA C900-22	POLYVINYL CHLORIDE PRESSURE PIPE AND FITTINGS FOR WATER DISTRIBUTION AND TRANSMISSION
AWWA C906-15	POLYETHYLENE PRESSURE PIPE AND FITTINGS FOR WATER DISTRIBUTION AND TRANSMISSION
AWWA D103-19	FACTORY-COATED BOLTED CARBON STEEL TANKS FOR WATER STORAGE
NFPA 24-19	INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMENDED)
NFPA 25-23	INSPECTION, TESTING AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEM (CA AMENDED)
NFPA 14-19	STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED)
NFPA 72-22	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)
UL 464 (2003)	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES
UL 1971 (2002, R2010)	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED)

FOR A COMPETE LIST OF APPLICABLE NFPA STANDARDS REFER TO CBC (SFM) CHAPTER 35 AND CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

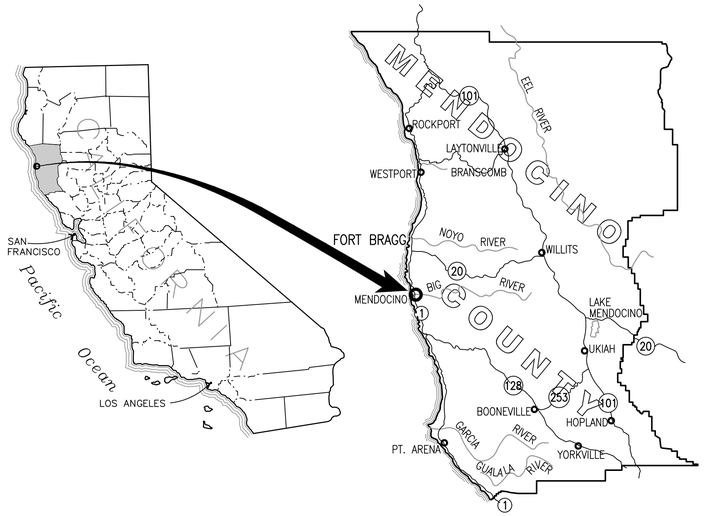
SEE CALIFORNIA BUILDING CODE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

MENDOCINO CITY COMMUNITY SERVICES DISTRICT
RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

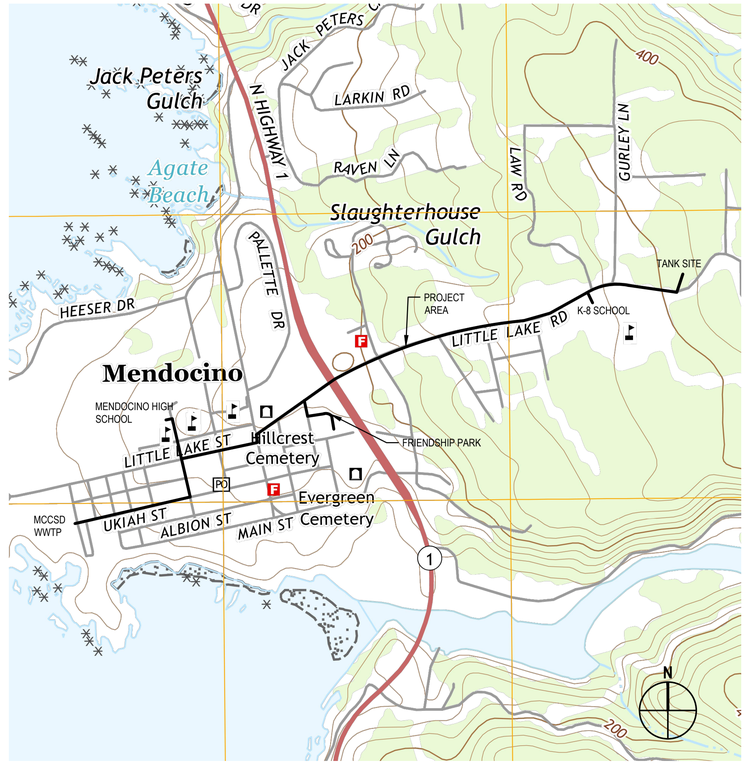
MARCH 2026

GHD

AREA MAP



LOCATION MAP



SOURCE: USGS QUADRANGLE MAP

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — 28304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: TITLE SHEET, VICINITY MAP, AND LOCATION MAP

Project No. 12619547
Original Size: ANSI D
Drawing No. G-001
Sheet 01 of 53

Plot Date: 24 March 2026 - 2:16 PM
Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-GN-001.dwg

ABBREVIATIONS

@	AT
AB	AGGREGATE BASE
ABD	ABANDONED
AC	ASPHALT
ACP	ASBESTOS CEMENT PIPE
APN	ASSESSORS PARCEL NUMBER
ARV	AIR RELEASE VALVE/VACUUM VALVE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BEGIN CURVE
BFP	BACKFLOW PREVENTER
BFPCV	BACKFLOW PREVENTION CHECK VALVE
BIR	BIRCH
BO	BLOW-OFF
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BSW	BACK OF SIDEWALK
C	COLD WATER
CATV	CABLE TELEVISION
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CI	CAST IRON
CL	CENTERLINE
CLR	CLEARANCE
CMLC	CEMENT MORTAR LINED AND COATED
CMP	CORREGATED METAL PIPE
CO	CLEANOUT
COM, COMM	COMMUNICATION
CONC	CONCRETE
COND	CONDUIT
COR	CORNER
CP	CONTROL POINT
DCV	DETECTOR CHECK VALVE
DEPT	DEPARTMENT
DI	DRAIN INLET
DN	DOCUMENT NUMBER
DR	DRIVE, DRAIN
DWG	DRAWING
DW, DWY	DRIVEWAY
E	EAST
(E)	EXISTING
EB	ELECTRICAL BOX
EC	END CURVE
EG	EXISTING GRADE
ELEC	ELECTRIC
ELEV	ELEVATION
EOR	ENGINEER OF RECORD
EP	EDGE OF PAVEMENT, END POINT
ER	EDGE OF ROAD
ETW	EDGE OF TRAVELED WAY
EUC	EUCALYPTUS
EXIST	EXISTING
FCA	FLANGE COUPLING ADAPTER
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE, FLANGE
FLG	FLANGE
FND	FOUND
FM	FLOW METER
FNL	FENCE LINE
FPVC	FUSIBLE PVC
FS	FINISH SURFACE
G	GAS
GALV	GALVANIZED
GB	GRADE BREAK
GV	GAS VALVE
H	HORIZONTAL, HOT WATER
HDD	HORIZONTAL DIRECTIONAL DRILL
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HV	HIGH VOLTAGE
ID	INSIDE DIAMETER
INV, IE	INVERT ELEVATION
IT	INFORMATION TECHNOLOGY
IRR	IRRIGATION
(ITEM NO)	TITLE REPORT ITEM NUMBER
JB	JUNCTION BOX
KV	KILOVOLT
L	LENGTH
LA	LIQUID AMBER
LAT	LATERAL
LF	LINEAR FEET
LO	LIVE OAK
LT	LEFT OFFSET FROM CENTERLINE
MAX	MAXIMUM
MB	MAILBOX
MCCSD	MENDOCINO CITY COMMUNITY SERVICES DISTRICT
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
MUSD	MENDOCINO UNIFIED SCHOOL DISTRICT
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
(N)	NEW
NE	NORTHEAST
NW	NORTHWEST
NAVD	NORTH AMERICAN VERTICAL DATUM
No.	NUMBER
NG	NATURAL GROUND
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OR	OFFICIAL RECORDS
ORN	ORNAMENTAL
PCC	PORTLAND CEMENT CONCRETE
PE	PLAIN END
PED	PEDESTRIAN
PGE	PACIFIC GAS AND ELECTRIC
PL	PLASTIC, PROPERTY LINE
POC	POINT OF CONNECTION
PP	POWERPOLE
PSI	POUNDS PER SQUARE INCH
PT	POINT
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
R	RADIUS
RC	RELATIVE COMPACTION
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RE	RIM ELEVATION
ROW, R/W	ROGHT-OF-WAY
RT	RIGHT OFFSET FROM CENTERLINE
RW	RECYCLED WATER
RWB	RETAINING WALL BOTTOM
RWT	RETAINING WALL TOP
RWD	REDWOOD
S	SOUTH, SLOPE
SE	SOUTHEAST
SW	SOUTHWEST
SCH	SCHEDULE
SCP	SEDIMENT CONTROL PLAN
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SLB	STREET LIGHT BOX
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
SVC	SERVICE (LATERAL)
S/W	SIDEWALK
TB	TELEPHONE BOX, TOP OF BANK
TC	TOP OF CURB
T, TEL, TELE	TELEPHONE
TF	TOP OF FOUNDATION
TG	TOP OF GRATE
T&G	TONGUE AND GROOVE
TMH	TOP OF MANHOLE
TOE	TOE OF BANK
TOF	TOP OF FOUNDATION
TW	TOP OF WALL
TYP	TYPICAL
UNGD, UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V, VT, VERT	VERTICAL
VAR	VARIES
VCP	VITRIFIED CLAY PIPE
W	WATER, WEST
W/	WITH
WB	WATER BOX
WM	WATER METER
WV	WATER VALVE

NOTE:
SOME ABBREVIATIONS MAY BE USED IN COMBINATION

LEGEND

EXISTING

- (E) SURVEY CONTROL POINT
- BORING LOCATION
- RIGHT OF WAY / BOUNDARY LINE
- EASEMENT LINE
- CENTERLINE
- (E) CONTOUR LINE & ELEVATION
- (E) SPOT ELEVATION
- (E) DRIVEWAY
- (E) EDGE OF PAVEMENT
- (E) UNDERGROUND ELECTRIC LINE
- (E) OVERHEAD LINE
- (E) ABANDONED WATER LINE
- (E) WATER LINE
- (E) SANITARY SEWER LINE
- (E) STORM DRAIN LINE
- (E) TELEPHONE LINE
- (E) AT&T COMM LINE
- (E) WATER VALVE
- (E) DOUBLE CHECK BACKFLOW PREVENTER
- (E) FIRE HYDRANT
- (E) TRAFFIC SIGN
- (E) SANITARY SEWER MANHOLE
- (E) SANITARY SEWER CLEANOUT
- (E) DROP INLET
- (E) TREE
- (E) TRANSFORMER
- (E) BOLLARD
- (E) WATER VAULT
- (E) ELECTRICAL VAULT
- (E) UTILITY POLE
- (E) STREET LIGHT
- (E) BUILDING
- (E) FENCE LINE

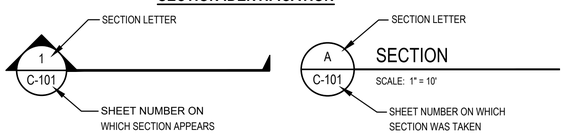
NEW

- REMOVE OR ABANDON (E) UTILITY
- (N) UNDERGROUND ELECTRIC LINE
- (N) RECYCLED WATER LINE
- (N) SANITARY SEWER LINE
- (N) UNDERGROUND DRAIN LINE
- (N) RECYCLED WATER VALVE
- (N) FIRE HYDRANT
- (N) WATER METER
- (N) DOUBLE CHECK BACKFLOW PREVENTER
- TEMPORARY SILT FENCE
- TEMPORARY FIBER ROLL
- (N) FLOW LINE
- (N) CONTOUR LINE & ELEVATION
- (N) TREE
- CLEAR AND GRUB AREA
- (N) GRAVEL SURFACE
- (N) HYDROSEED
- (N) CROSS
- (N) TEE
- (N) ELBOW (90-DEGREE SHOWN)
- (N) BLIND FLANGE OR RESTRAINED MECHANICAL PLUG (SHOWN ON ONE LEG OF TEE)
- (N) REDUCER
- (N) DROP INLET
- (N) SANITARY SEWER MANHOLE
- (N) BOLLARD

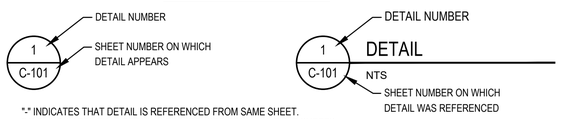
SHEET INDEX

SYMBOLS

SECTION IDENTIFICATION



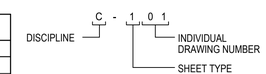
DETAIL IDENTIFICATION



"-" INDICATES THAT DETAIL IS REFERENCED FROM SAME SHEET.
"VAR" INDICATES THAT DETAIL IS REFERENCED FROM MULTIPLE SHEETS.

DRAWING DESIGNATION

LETTER	DISCIPLINE
G	GENERAL
C	CIVIL
E	ELECTRICAL



NUMBER	SHEET TYPE
0	GENERAL
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
7	CODE COMPLIANCE FORMS

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA
3/25/2026

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Drawn	**D. AGUAS, C. BACH**	Designer	**L. HALONEN**
Drafting Check	**L. HALONEN, M. KENNEDY**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
This document shall not be used for construction unless signed and sealed for construction.		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **SHEET INDEX, ABBREVIATIONS, AND LEGENDS**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **G-002**
Sheet **02** of **53**

Plot Date: 24 March 2026 - 2:29 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-GN-002.dwg

GENERAL SITE NOTES

1. ALL WORKMANSHIP, MATERIALS, AND CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS, LATEST EDITION, THE COUNTY OF MENDOCINO STANDARD PLANS, AND THE 2022 CALIFORNIA BUILDING CODE (CBC).
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK. ANY DISCREPANCY DISCOVERED BY CONTRACTOR IN THESE PLANS OR ANY FIELD CONDITIONS DISCOVERED BY CONTRACTOR THAT MAY DELAY OR OBSTRUCT THE PROPER COMPLETION OF THE WORK PER THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY UPON DISCOVERY. SAID NOTIFICATION SHALL BE IN WRITING.
3. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO HOLD HARMLESS, INDEMNIFY AND DEFEND THE ENGINEER AND THEIR CONSULTANTS, AND THE DISTRICT, AND EACH OF THEIR OFFICERS, EMPLOYEES AND AGENTS.
3. CONTRACTOR SHALL COMPLY WITH CURRENT COUNTY OF MENDOCINO HEALTH ORDER. THE CURRENT HEALTH ORDER CAN BE FOUND ONLINE AT HTTPS://WWW.MENDOCINOCOUNTY.ORG/COMMUNITY/NOVEL-CORONAVIRUS/HEALTH-ORDER. CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE "CONSTRUCTION PROJECT SAFETY PROTOCOL COVID-19 PREVENTION" INCLUDED AS APPENDIX B OF THE HEALTH ORDER.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. MAIL AND GARBAGE SERVICE SHALL BE MAINTAINED THROUGHOUT THE COURSE OF THIS PROJECT. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AT LEAST 72 HOURS IN ADVANCE OF DRIVEWAY CLOSURES. DRIVEWAY CLOSURES ARE LIMITED TO 48 HRS MAXIMUM. CONTRACTOR SHALL CLOSE ONLY ONE DRIVEWAY AT A TIME FOR PROPERTIES WITH MORE THAN ONE DRIVEWAY ACCESS, AND SHALL PROVIDE ALTERNATE ACCESS WHERE POSSIBLE FOR SINGLE DRIVEWAY PROPERTIES.
5. UNDERGROUND OBSTRUCTIONS, NOT SHOWN ON THESE PLANS, MAY BE ENCOUNTERED. THOSE SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AND THE CONTRACTOR IS CAUTIONED THAT THE OWNER, THE ENGINEERS, AND DISTRICT ASSUME NO RESPONSIBILITY FOR ANY OBSTRUCTIONS EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY COMPANIES WORKING WITHIN THE LIMITS OF THIS PROJECT.
6. ALL UNDERGROUND IMPROVEMENTS SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO BACKFILLING TRENCHES AND EXCAVATIONS.
7. CONTRACTOR SHALL ONLY REMOVE EXISTING TREES OR SHRUBS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE DISTRICT OR ENGINEER.
8. CONTRACTOR SHALL EXERCISE CAUTION WHEN DIGGING WITHIN THE DRIPLINE OF TREES DESIGNATED TO REMAIN. ROOTS LARGER THAN 2 INCHES SHALL NOT BE CUT WITHOUT PERMISSION FROM THE ENGINEER. IN THE EVENT THAT A ROOT LARGER THAN 2 INCHES NEEDS TO BE REMOVED, THE ROOT SHALL BE CUT CLEAN WITH A SAW APPROPRIATE FOR THE SIZE OF THE ROOT TO BE CUT. AFTER THE CUT THERE SHALL BE NO TORN BARK OR SPLINTERED WOOD REMAINING ON THE ROOT. ACTUAL CUTTING OF ROOTS SHALL BE DONE WITH A HAND SAW, RECIPROCATING SAW, CUT-OFF SAW OR OTHER SUITABLE HAND OR POWER EQUIPMENT TO OBTAIN A CLEAN CUT. ANY PRUNED ROOTS THAT ARE TO REMAIN EXPOSED TO AIR FOR MORE THAN 24 HOURS MUST BE TEMPORARILY PROTECTED FROM DESICCATION UNTIL BACKFILLING OCCURS AND ROOTS ARE COVERED. ROOTS MUST BE COVERED WITH FABRIC WHILE EXPOSED, AND FABRIC MUST REMAIN WET AT ALL TIMES. REMOVE FABRIC PRIOR TO BACKFILLING.
9. ALL LANDSCAPING AND UTILITIES OR OTHER DISTRICT OWNED OR PRIVATE IMPROVEMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED IN KIND OR AS DIRECTED BY THE DISTRICT OR ENGINEER.
10. AN INITIAL STUDY / MITIGATED NEGATIVE DECLARATION FOR THE RECYCLED WATER SYSTEM RECONSTRUCTION PROJECT DATED FEBRUARY 2022 WAS PREPARED BY GHD INC. COPIES ARE AVAILABLE FOR VIEWING AT THE DISTRICT OFFICE AND A COPY OF THE MITIGATION MONITORING AND REPORTING PROGRAM IS PROVIDED AS AN APPENDIX TO THE PROJECT SPECIFICATIONS.
11. A GEOTECHNICAL INVESTIGATION REPORT FOR THE TANK SITE, DATED JANUARY 14, 2026, WAS PREPARED BY SHN CONSULTING ENGINEERS AND GEOLOGISTS, INC. THIS REPORT IS AVAILABLE AS A REFERENCE DOCUMENT. THE SOIL BORINGS LOGS ARE INCLUDED AS PART OF THE CONSTRUCTION CONTRACT DOCUMENTS.
12. A GEOTECHNICAL INVESTIGATION REPORT FOR THE TRENCHLESS PIPELINE CROSSING UNDER STATE ROUTE 1, DATED SEPTEMBER 29, 2021, HAS BEEN PREPARED BY CRAWFORD AND ASSOCIATES, INC. THIS REPORT IS AVAILABLE AS A REFERENCE DOCUMENT. THE SOIL BORINGS LOGS ARE INCLUDED AS PART OF THE CONSTRUCTION CONTRACT DOCUMENTS.
13. ACCESS TO THE RECYCLED WATER TANK SITE IS THROUGH AN EASEMENT ACROSS LANDS OWNED BY THE MUSD.
14. ONLY AUTHORIZED DISTRICT PERSONNEL SHALL OPERATE VALVES ON THE EXISTING WATER AND RECYCLED WATER SYSTEM. SHUTDOWNS REQUIRE A MINIMUM 48 HOUR NOTICE SENT TO THE DISTRICT. A COPY OF THE NOTICE MUST BE SUBMITTED TO THE DISTRICT FOR APPROVAL PRIOR TO ISSUING.
15. ALL DISTANCES SHOWN ON THE DRAWINGS ARE BASED ON HORIZONTAL AND VERTICAL MEASUREMENTS.
16. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
17. CONTRACTOR SHALL PREPARE AN EROSION AND SEDIMENT CONTROL PLAN (SCP) FOLLOWING THE PROCEDURES OUTLINED BY THE COUNTY OF MENDOCINO STORMWATER POLLUTION PREVENTION PROGRAM FOR WORK WITHIN THE COUNTY R/W. SUBMIT SCP TO THE ENGINEER AND COUNTY OF MENDOCINO FOR APPROVAL WITH THE ENCROACHMENT PERMIT APPLICATION.
18. EROSION CONTROL MEASURE SHOWN HERE AND SPECIFIED ARE THE MINIMUM RECOMMENDED. THE CONTRACTOR SHALL ADHERE TO THE QSD/QSP SPECIFIC PLAN OF BMP'S (BEST MANAGEMENT PRACTICES) FOR THE PROJECT SITE APPROPRIATE TO THE PHASE OF CONSTRUCTION AND THE TIME OF YEAR.
19. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE PHOTO AND VIDEO DOCUMENTATION OF THE EXISTING CONDITION OF LITTLE LAKE ROAD AND OTHER ROADWAYS AFFECTED BY THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONSTRUCTION RELATED DAMAGE, AND SHALL RESTORE ROADS TO PRE-CONSTRUCTION CONDITIONS IN ACCORDANCE WITH COUNTY OF MENDOCINO STANDARDS. SEE PROJECT SPECIFICATIONS FOR MORE DETAILS.
20. CONTRACTOR SHALL PROPERLY ADJUST THE VOLUMETRIC QUANTITIES OF CONCRETE DELIVERIES TO AVOID SPILLAGE ON STEEP SLOPES. ALL SPILLS SHALL BE REMOVED AND CLEANED IMMEDIATELY.
21. IF CONTAMINATED SOIL IS ENCOUNTERED DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY MUSD. AFTER CONTAMINATED SOIL IS ENCOUNTERED (OIL, PETROLEUM, HYDROCARBONS, SMELLS OR ODORS, OIL SHEET AT THE SURFACE). ALL CONTAMINATED SOILS WILL BE STOCKPILED ON AND COVERED WITH 10 MIL PLASTIC SHEETING.
22. ALL EXCESS MATERIAL FROM THE PROJECT INCLUDING BUT NOT LIMITED TO SOILS/CUTTINGS FROM WELL WORK SHALL BE DISPOSED OF AT A LOCATION APPROVED BY THE DISTRICT IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
23. CONSTRUCTION WATER TO BE SURFACED DISPOSED ON SITE. WATER SHALL BE DIRECTED AWAY FROM EXISTING WATER COURSES, PONDS AND SPRINGS.
24. CONTRACTOR SHALL RESTORE OR REPLACE ANY DAMAGED COUNTY OF MENDOCINO SURVEY MONUMENTS RESULTING FROM THEIR OPERATION AND SHALL BEAR ALL COSTS OF SUCH REPLACEMENT. REPLACE DAMAGED SURVEY MONUMENTS IN ACCORDANCE WITH COUNTY STANDARD NO. A30.
25. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.
26. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT AN ENCROACHMENT PERMIT APPLICATION AND A TRAFFIC CONTROL PLAN TO THE COUNTY OF MENDOCINO FOR APPROVAL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. SUBMIT THE TRAFFIC CONTROL PLAN AND ENCROACHMENT PERMIT APPLICATION TO ENGINEER.
27. REMOVE AND REPLACE ALL SIGNS AS REQUIRED FOR TRENCHING.

CONSTRUCTION SEQUENCING

1. CONTRACTOR IS ADVISED THAT THE PROJECT TANK SITE IS AN ACTIVE PUBLIC WATER SUPPLY AND STORAGE SYSTEM WHICH MUST REMAIN IN OPERATION DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WORK ACTIVITIES WITH THE MUSD TO ENSURE A CONTINUOUS POTABLE WATER SUPPLY.
2. ACTIVE CONSTRUCTION OF MUSD'S WATER SUPPLY AND STORAGE PROJECT IS ANTICIPATED TO BE COMPLETED BY JUNE 30, 2026. CONTRACTOR'S SHALL HAVE ACCESS TO MUSD'S TANK SITE FOR THE CONSTRUCTION OF THE RECYCLED WATER TANK AND ASSOCIATED IMPROVEMENTS FOLLOWING COMPLETION OF MUSD'S WATER SUPPLY AND STORAGE PROJECT.

GRADING NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFIRMATION TO DESIGN PRIOR TO CONSTRUCTION.
3. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS.
4. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS.
5. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
6. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
7. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.

UTILITY NOTES

1. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
2. CONTRACTOR SHALL NOT BEGIN EXCAVATION UNTIL ALL EXISTING UTILITIES HAVE BEEN MARKED IN THE FIELD BY THE UTILITY OWNER RESPONSIBLE FOR THAT PARTICULAR UTILITY. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER AT LEAST 48 HOURS BEFORE STARTING WORK.
3. UNDERGROUND SERVICE ALERT: CALL TOLL FREE (800) 642-2444 OR 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. EXISTING UTILITIES SHOWN ARE BASED UPON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL POTHOLE AND VERIFY THE EXACT LOCATION, SIZE, TYPE, AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. THE ENGINEER MAY ADJUST THE GRADE OF RECYCLED WATER SYSTEM IMPROVEMENTS ACCORDINGLY.
5. IF AN UNMARKED UTILITY IS ENCOUNTERED, OR IF CONTRACTOR IS UNABLE TO LOCATE A MARKED UTILITY AFTER EXCAVATING TO THE LIMITS SPECIFIED BY U.S.A. LAWS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THAT UTILITY AND THE DISTRICT.
6. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR POTHOLING ALONG THE ALIGNMENTS OF ALL NEW UTILITIES TO IDENTIFY POTENTIAL UTILITY CONFLICTS, SOILS CONDITIONS, AND TIE-IN POINTS. CONTRACTOR SHALL INCLUDE IN THEIR BID ADJUSTMENTS UP TO FOUR FEET HORIZONTALLY AND TWO FEET VERTICALLY IN THE RECYCLED WATER PIPELINE TO ACCOMMODATE ACTUAL FIELD CONDITIONS.
8. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
9. CONFIRM FIRE HYDRANT TYPE, NOZZLE SIZES, AND THREAD CONFIGURATIONS WITH FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
10. ALL UNDERGROUND BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION.
11. INSIDE THE COUNTY OF MENDOCINO RIGHT-OF-WAY, INSTALL NEW UNDERGROUND UTILITIES IN TRENCHES WHERE SHOWN ON DRAWINGS WITH BEDDING IN ACCORDANCE WITH DETAIL 2 ON DRAWING C-501, AND TRENCH BACKFILL, COMPACTION AND RESURFACING IN ACCORDANCE WITH COUNTY OF MENDOCINO STANDARD DRAWINGS A60A, A60B AND A60C, WHICH ARE DETAIL 1 ON DRAWING C-501. OUTSIDE THE COUNTY OF MENDOCINO RIGHT-OF-WAY, INSTALL NEW UNDERGROUND UTILITIES IN TRENCHES WHERE SHOWN ON THE DRAWINGS WITH BEDDING, BACKFILL AND RESURFACING IN ACCORDANCE WITH DETAIL 2 ON DRAWING C-501.
12. ADJUSTMENTS TO THE PIPELINE ALIGNMENT THAT RESULT IN LESS PAVEMENT REPAIR ARE ACCEPTABLE WITH ENGINEER AND COUNTY APPROVAL.
13. PRIOR TO BACKFILLING, VERIFY THAT THE PIPE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
14. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AND POLYETHYLENE WRAPPED.
15. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
16. PROVIDE CONCRETE THRUST BLOCKS AS SHOWN IN DETAIL 3 ON DRAWING C-501.
17. HDD PITS ARE SHOWN TO DEMONSTRATE CONCEPT ONLY. CONTRACTOR SHALL FIELD ADJUST PIT LOCATION, ORIENTATION AND DIMENSIONS AS NEEDED FOR SAFE OPERATION.

FIRE SERVICE NOTES (RECYCLED WATER TANK SITE)

1. CONTRACTOR TO MAINTAIN A FUNCTIONING WATER SUPPLY AND FIRE PROTECTION SYSTEM AT ALL TIMES.
2. A VALVE SHALL BE INSTALLED IN THE HYDRANT CONNECTIONS; ALL VALVES SHALL BE INSTALLED WITHIN 20 FEET OF THE HYDRANT. EXCEPTIONS SHOWN ON PLANS ARE APPROVED BY LOCAL FIRE CHIEF.
3. FIRE HYDRANTS SHALL BE LOCATED NOT LESS THAN 40 FEET FROM THE BUILDINGS TO BE PROTECTED. A KEYED GATE VALVE SHALL BE PROVIDED FOR EACH HYDRANT IN AN ACCESSIBLE LOCATION. VALVES SHALL NOT BE LOCATED IN PARKING STALLS.
4. HYDRANTS SHALL BE PROTECTED IF SUBJECT TO MECHANICAL DAMAGE. THE MEANS OF PROTECTION SHALL BE ARRANGED IN A MANNER THAT DOES NOT INTERFERE WITH CONNECTION TO OR OPERATION OF HYDRANTS.
5. ALL BURIED FITTINGS SHALL BE OF AN APPROVED TYPE WITH JOINTS AND PRESSURE CLASS RATINGS COMPATIBLE WITH THE PIPE USED.
6. NOT USED
7. ALL UNDERGROUND BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION.
8. IN THOSE LOCATIONS WHERE FROST IS NOT A FACTOR, THE DEPTH OF COVER SHALL NOT BE LESS THAN 2 ½ FT, UNO. TO PREVENT MECHANICAL DAMAGE. WHEN SURFACE LOADS ARE EXPECTED, A MINIMUM OF 3 FT. COVER SHALL BE PROVIDED, UNO.
9. ALL TEES, PLUGS, CAPS BENDS, REDUCERS, VALVES AND HYDRANT BRANCHES SHALL BE RESTRAINED AGAINST MOVEMENT IN ACCORDANCE WITH 2019 NFPA 24 §10.8.2 OR §10.8.3
10. THRUST BLOCKS, OR OTHER APPROVED METHOD OF THRUST RESTRAINT, SHALL BE PROVIDED WHEREVER PIPE CHANGES DIRECTION.
11. THE TRENCH SHALL BE EXCAVATED FOR THRUST BLOCKS AND INSPECTED PRIOR TO POUR. THRUST BLOCKS SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE RESTRAINED AND SHALL BE CAPABLE OF RESISTING THE CALCULATED THRUST FORCE.
12. THRUST BLOCKS SHALL BE PLACED SO THAT THE JOINTS ARE ACCESSIBLE FOR REPAIR.
13. A HYDROSTATIC TEST (250 PSI FOR TWO HOURS OR 50 PSI OVER MAXIMUM OPERATING PRESSURE, WHICHEVER IS GREATER) SHALL BE WITNESSED BY THE DISTRICT ENGINEER. THE TRENCH SHALL BE BACK-FILLED BETWEEN THE JOINTS TO PREVENT MOVEMENT OF THE PIPE.
14. THE SYSTEM SHALL BE THOROUGHLY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD PIPING. FLOW SHALL BE THROUGH A MINIMUM OF A 4" HOSE OR PIPE UNLESS OTHERWISE APPROVED BY THE DISTRICT ENGINEER.
15. CONTROL VALVES SHALL BE SUPERVISED BY ONE OF THE 4 ACCEPTABLE METHODS LISTED IN 2019 NFPA 24 §6.7.2.
16. ALL UNDERGROUND FIRE UTILITIES SHALL BE INSTALLED TO MEET 2019 NFPA 24 AND CSFM REQUIREMENTS.
17. FIRE SAFETY DURING CONSTRUCTION WILL BE ENFORCED IN ACCORDANCE WITH CBC/CFC CHAPTER 33.
18. ALL FIRE HYDRANTS SHOWN ON THE PLANS HAVE BEEN REVIEWED AND APPROVED BY THE MENDOCINO FIRE CHIEF.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — GLEN KENNEDY — 83304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drafting Check	**L. HALONEN, M. KENNEDY**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
This document shall not be used for construction unless signed and sealed for construction.		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **GENERAL NOTES**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **G-003**
Sheet **03** of **53**

SHEET GENERAL NOTES

1. FIELD TOPOGRAPHIC SURVEY WAS COMPLETED BY GHD IN JUNE 2021.
2. ALL ELEVATION INFORMATION IS IN FEET OR DECIMAL THEREOF.
3. UNAUTHORIZED CHANGES AND USES: THE PROFESSIONAL PREPARING THIS MAP WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THIS MAP. CHANGES TO THIS MAP MUST BE REQUESTED IN WRITING AND MUST BE APPROVED BY THE PROFESSIONAL.
4. THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND BASED ON OBSERVED SURFACE FEATURES AND AVAILABLE INFORMATION. THE PROFESSIONAL PREPARING THIS MAP ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE FACILITIES OR FOR THE INADVERTENT OMISSION OF RELATED INFORMATION.
5. BEARINGS AND DISTANCES DESCRIBING MUSD PARCEL ARE BASED ON SURVEY.
6. THE PROJECT AREA IS LOCATED WITHIN A WILDLAND URBAN INTERFACE AREA.

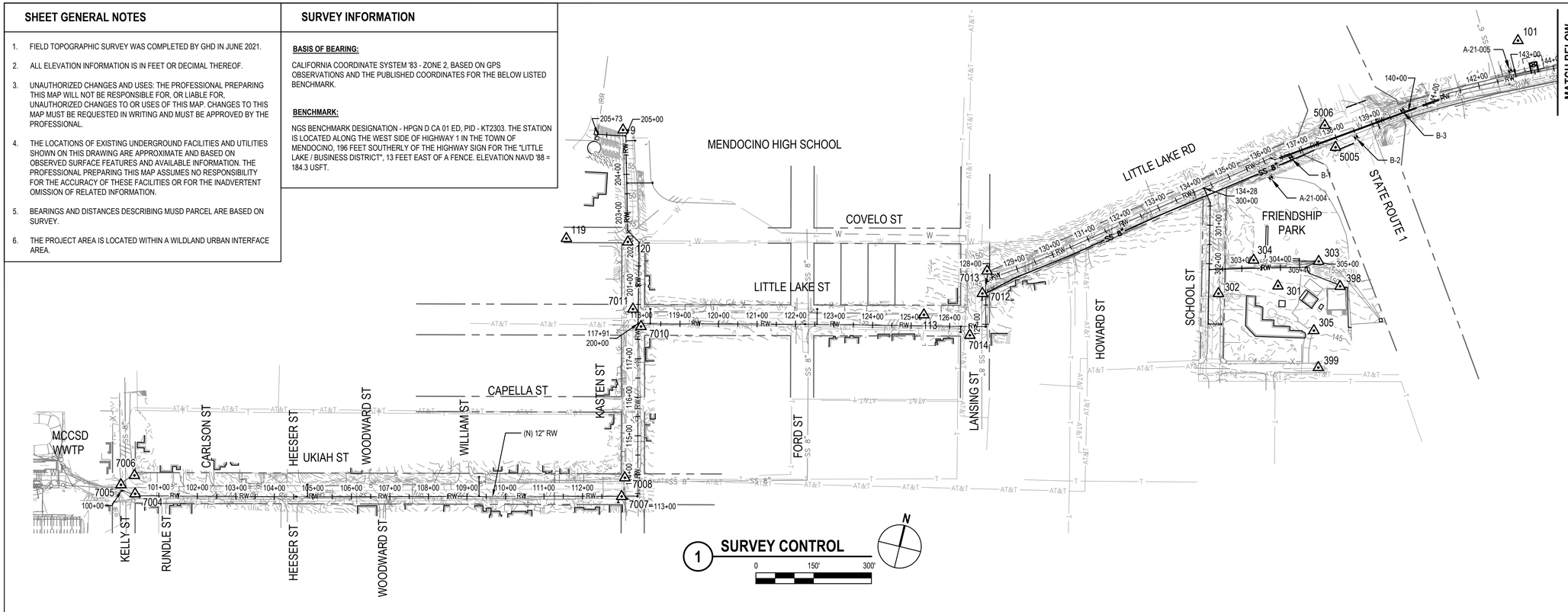
SURVEY INFORMATION

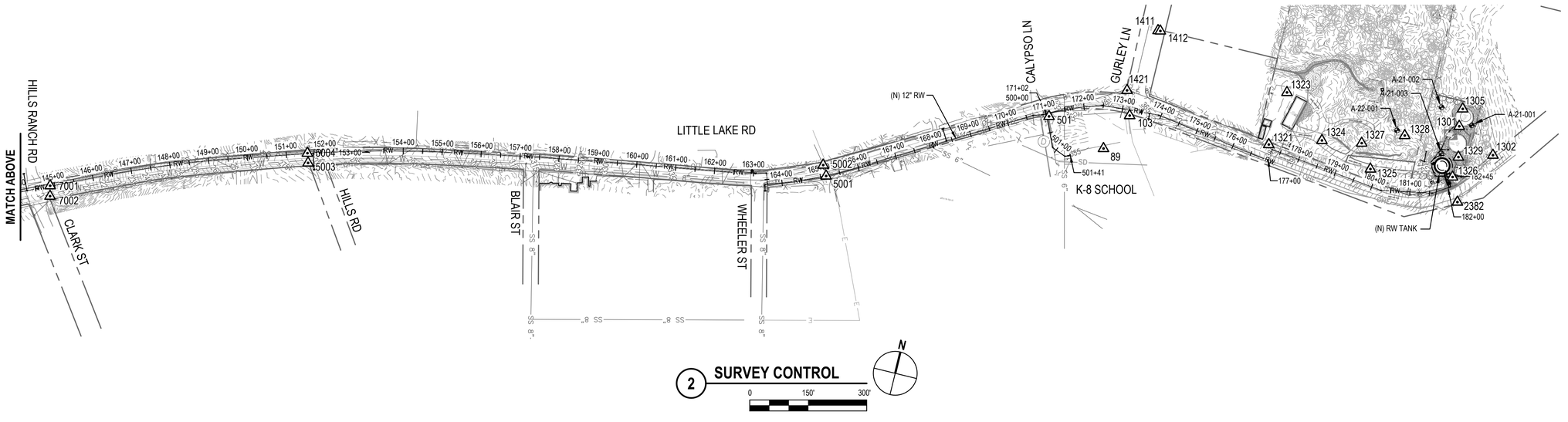
BASIS OF BEARING:

CALIFORNIA COORDINATE SYSTEM '83 - ZONE 2, BASED ON GPS OBSERVATIONS AND THE PUBLISHED COORDINATES FOR THE BELOW LISTED BENCHMARK.

BENCHMARK:

NGS BENCHMARK DESIGNATION - HPGN D CA 01 ED, PID - KT2303. THE STATION IS LOCATED ALONG THE WEST SIDE OF HIGHWAY 1 IN THE TOWN OF MENDOCINO, 196 FEET SOUTHERLY OF THE HIGHWAY SIGN FOR THE "LITTLE LAKE / BUSINESS DISTRICT", 13 FEET EAST OF A FENCE. ELEVATION NAVD '88 = 184.3 USFT.





SURVEY CONTROL TABLE

POINT #	NORTHING	EASTING	ELEV	DESCRIPTION
9	2243335.20	6051712.27	157.09	FND NAIL
89	2244636.11	6056758.26	355.33	MAG
101	2244023.77	6053943.22	199.04	CP MAG&WASH
103	2244732.19	6056807.26	362.13	CP MAG
113	2243019.54	6052573.10	136.36	CP MAG
119	2243029.62	6051624.16	132.01	CP MAG
120	6051624.16	6051782.22	140.79	EX MAG CP
301	2243275.39	6053459.23	148.73	SET MAG
302	2243225.43	6053311.60	146.93	SET MAG
303	2243358.93	6053550.14	156.59	SET MAG
304	2243328.60	6053383.91	156.50	SET X
305	2243180.24	6053573.54	145.56	SET MAG
398	2243306.40	6053617.44	149.62	SET 60 d
399	2243088.51	6053603.83	143.12	SET MAG
501	2244689.07	6056605.01	353.46	SET MAG
1301	2244873.16	6057641.06	430.94	SET 60 d
1302	2244820.13	6057740.46	437.76	SET 60 d + SHNR
1305	2244918.64	6057641.03	431.60	SET 60 d
1321	2244730.23	6057171.64	384.08	SET 60 d
1323	2244870.46	6057190.84	385.41	SET 60 d
1324	2244767.72	6057303.15	394.88	SET 60 d
1325	2244720.44	6057439.54	406.53	SET 60 d
1326	2244742.25	6057650.11	428.52	FND 60 d
1327	2244781.15	6057404.53	403.84	SET 60 d
1328	2244822.13	6057508.81	412.41	SET 60 d
1329	2244795.33	6057654.67	430.12	SET 60 d
1411	2244960.39	6056835.27	362.25	FND 3/4 IP RCE PLUG O/S 12
1412	2244960.62	6056841.21	362.14	FND 3/4 IP RCE PLUG O/S 18
1421	2244794.38	6056787.78	362.98	FND 3/4 IP NOTAG
2382	2244681.62	6057675.08	429.22	SET 60 d + SHNR
5001	2244425.83	6056075.00	337.99	FX
5002	2244451.71	6056062.20	336.95	SET 60 d
5003	2244194.93	6054766.37	278.43	FX
5004	2244219.05	6054759.76	279.02	FX
5005	2243658.17	6053534.09	176.10	FX
5006	2243708.39	6053495.50	177.37	FX
7001	2244006.23	6054129.79	211.34	FX
7002	2243980.01	6054134.81	210.93	FX
7004	2242157.38	6050658.46	70.70	FX
7005	2242173.20	6050617.83	70.60	MAG
7006	2242203.86	6050647.32	71.42	FX
7007	2242401.30	6051897.66	112.56	FX
7008	2242450.52	6051896.37	113.63	FX
7010	2242843.96	6051859.42	128.31	FX
7011	2242884.18	6051829.98	130.92	FX
7012	2243103.98	6052710.89	142.53	FX
7013	2243163.50	6052711.28	145.44	FX
7014	2242991.18	6052700.62	137.73	FX

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

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0 1"

REGISTERED PROFESSIONAL ENGINEER — RYAN GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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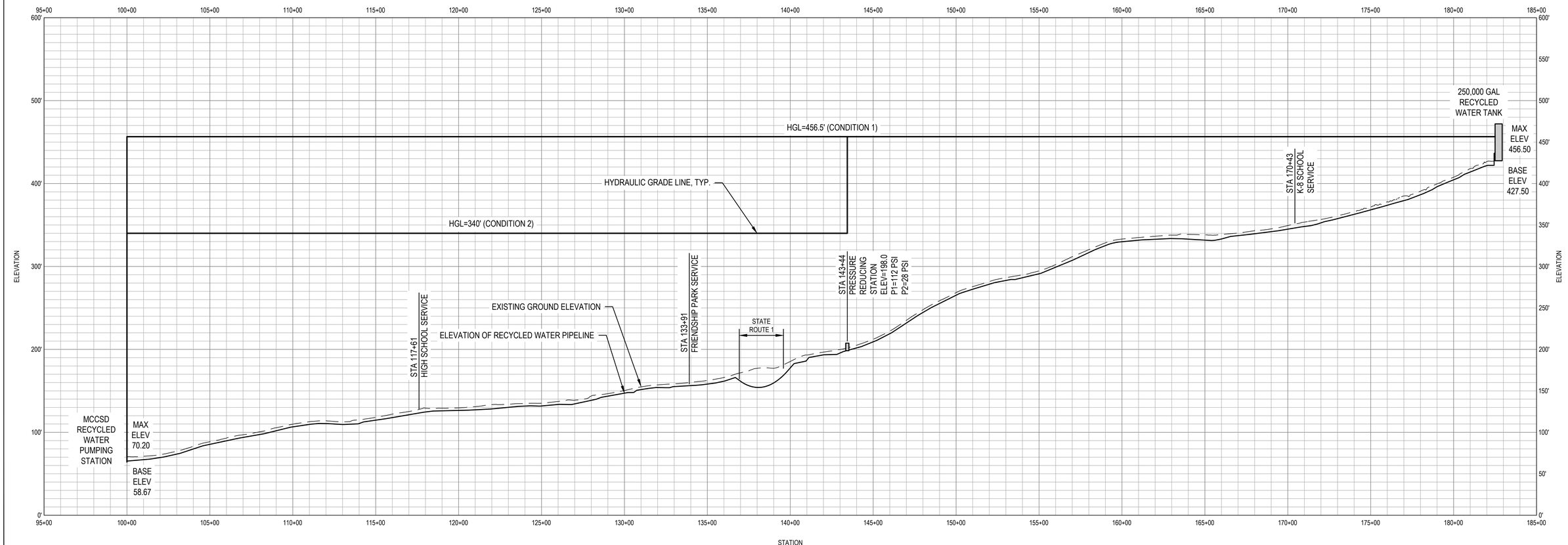
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: **SURVEY CONTROL PLAN**
Project No. **12619547**
Original Size: **ANSI D**
Drawing No. **G-004**
Sheet **04** of **53**

Plot Date: 24 March 2026 - 2:30 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-GN-004.dwg

SHEET GENERAL NOTES

1. HYDRAULIC PROFILE BASED ON HYDRAULIC ANALYSIS OF RECYCLED WATER SYSTEM UNDER THE FOLLOWING CONDITIONS:
   CONDITION 1: PUMP ON AT MCCSD WWTP, Q = 250 GPM, TDH = 400 FT.
   CONDITION 2: GRAVITY FEED FROM RECYCLED WATER TANK, DEMAND = 250 GPM
2. MAXIMUM SUSTAINED SYSTEM OPERATING PRESSURE = 168 PSI.



1 HYDRAULIC PROFILE

0 30' 60' 120' VERTICAL
0 150' 300' 600' HORIZONTAL

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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0 1"

REGISTERED PROFESSIONAL ENGINEER GLEN KENNEDY 63304 CIVIL STATE OF CALIFORNIA 3/25/2026

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Drawn	D.AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title HYRAULIC PROFILE
Project No. 12619547
Original Size ANSI D
Drawing No. G-005
Sheet 05 of 53

Plot Date: 24 March 2026 - 2:31 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-GN-005.dwg

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names	Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly graded SAND Poorly graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL		
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435)
CL	Collapse Potential (ASTM D 4546)
CP	Compaction Curve (CTM 216)
CR	Corrosion, Sulfates, Chlorides (CTM 643, CTM 417, CTM 422)
CU	Consolidated Undrained Triaxial (ASTM D 4767)
DR	Drained Residual Shear Strength (ASTM D 6467)
DS	Direct Shear (ASTM D 3080)
EI	Expansion Index (ASTM D 4829)
M	Moisture Content (ASTM D 2216)
OC	Organic Content (ASTM D 2974)
P	Permeability (CTM 220)
PA	Particle Size Analysis (ASTM D 422)
PI	Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89, AASHTO T 90)
PL	Point Load Index (ASTM D 5731)
PM	Pressure Meter
R	R-Value (CTM 301)
SE	Sand Equivalent (CTM 217)
SG	Specific Gravity (AASHTO T 100)
SW	Swell Potential (ASTM D 4546)
UC	Unconfined Compression - Soil (ASTM D 2166) Unconfined Compression - Rock (ASTM D 7012-C)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850)
UW	Unit Weight (ASTM D 7263)

SAMPLER GRAPHIC SYMBOLS

- ☒ Standard Penetration Test (SPT)
- Standard California Sampler (ID 2.0 in.)
- Modified California Sampler (ID 2.5 in.)
- Shelby Tube
- Piston Sampler
- NX Rock Core
- HQ Rock Core
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- ▽ First Water Level Reading (during drilling)
- ▼ Static Water Level Reading (short-term)
- ▼ Static Water Level Reading (long-term)

REFERENCE: Caltrans Soil and Rock Logging, Classification, and Presentation Manual (2010) with Errata Sheet (2015).

Boring Record Legend
Soil Legend
Sheet 1 of 2

CONSISTENCY OF COHESIVE SOILS

Descriptor	Unconfined Compressive Strength (tsf)	Pocket Penetrometer (tsf)	Torvane (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS

Descriptor	SPT N_{60} (blows / 12 inches)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	> 50

MOISTURE

Descriptor	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

Descriptor	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE

Descriptor		Size
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS

Descriptor	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION

Descriptor	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

REFERENCE: Caltrans Soil and Rock Logging, Classification, and Presentation Manual (2010).

Boring Record Legend
Soil Legend
Sheet 2 of 2

ROCK GRAPHIC SYMBOLS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

BEDDING SPACING

Descriptor	Thickness or Spacing
Massive	> 10 ft
Very thickly bedded	3 ft - 10 ft
Thickly bedded	1 ft - 3 ft
Moderately bedded	4 in - 1 ft
Thinly bedded	1 in - 4 in
Very thinly bedded	1/4 in - 1 in
Laminated	< 1/4 in

WEATHERING DESCRIPTORS FOR INTACT ROCK

	Diagnostic Features					
	Chemical Weathering-Discoloration-Oxidation		Mechanical Weathering and Grain Boundary Conditions	Texture and Solutioning		
Descriptor	Body of Rock	Fracture Surfaces		Texture	Solutioning	General Characteristics
Fresh	No discoloration, not oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No solutioning	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty"; feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation (refer to grain boundary conditions)	All fracture surfaces are discolored or oxidized; surfaces are friable	Partial separation, rock is friable; in semi-arid conditions, granitics are disaggregated	Altered by chemical disintegration such as via hydration or argillation	Leaching of soluble minerals may be complete	Dull sound when struck with hammer; usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures or veinlets. Rock is significantly weakened.
Decomposed	Discolored of oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil; partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes".

Note: Combination descriptors (such as "slightly weathered to fresh") are used where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant identifiable zones can be delineated. Only two adjacent descriptors shall be combined. "Very intensely weathered" is the combination descriptor for "decomposed to intensely weathered".

PERCENT CORE RECOVERY (REC)

$$\frac{\Sigma \text{ Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100$$

ROCK QUALITY DESIGNATION (RQD)

$$\frac{\Sigma \text{ Length of intact core pieces} > 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100$$

Note: RQD* indicates soundness criteria not met

ROCK HARDNESS

Descriptor	Criteria
Extremely Hard	Specimen cannot be scratched with pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows
Very hard	Specimen cannot be scratched with pocket knife or sharp pick; breaks with repeated heavy hammer blows
Hard	Specimen can be scratched with pocket knife or sharp pick with heavy pressure; heavy hammer blows required to break specimen
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure; breaks with moderate hammer blows
Moderately Soft	Specimen can be grooved 1/16 in. with pocket knife or sharp pick with moderate or heavy pressure; breaks with light hammer blow or heavy hand pressure
Soft	Specimen can be grooved or gouged with pocket knife or sharp pick with light pressure, breaks with light to moderate hand pressure
Very Soft	Specimen can be readily indented, grooved, or gouged with fingernail, or carved with pocket knife; breaks with light manual pressure.

FRACTURE DENSITY

Descriptor	Criteria
Unfractured	No fractures
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 ft. to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 in. to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

REFERENCE: Caltrans Soil and Rock Logging, Classification, and Presentation Manual (2010).

Boring Record Legend
Rock Legend
Sheet 1 of 1

LOG OF BORING A-21-004

PROJECT NO: 20-656.2
PROJECT: MUSD Recycled Water Pipeline
LOCATION: Mendocino, CA
COUNTY: Mendocino
CLIENT: GHD
LOGGED BY: YYG
DEPTH OF BORING: 45.10 (ft)
BEGIN DATE: 08/20/2021
COMPLETION DATE: 08/20/2021
SURFACE ELEVATION: 155.0 (ft)
SURFACE CONDITION: Soil
WATER DEPTH: 17.6 ft
READING TAKEN: 08/20/21
HAMMER EFFICIENCY: 80 (%)
DRILLING CONTRACTOR: Clear Heart Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL RIG: DR10K
HAMMER TYPE: Automatic; 140 lbs; 30 in. drop
SAMPLER TYPE & SIZE: MCAL (2.4" ID), SPT (1.4" ID)
BOREHOLE DIAMETER: 7.0 in.
BACKFILL METHOD: Tremie Grout

ELEVATION (ft)	DEPTH (ft)	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTIC LIMIT	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	REMARKS
154	1					Poorly-graded SAND with SILT (SP-SM); medium dense; brown; moist; mostly fine SAND; few low plasticity fines.								Easy drilling 0-25 ft
152	3	1	19 23 28	51			100				7.6	107.4	9	
151	4	2	5 5 7	12		coarse to fine SAND	100							
150	5					Clayey SAND (SC); medium dense; brown; moist; mostly coarse to fine SAND; little fines.								
149	6	3	6 8 14	22			100				16.0	115.4	29	
147	8	4	4 5 6	11		loose	100							
145	10	5	4 6 10	16			100				18.2	108.6		
142	13					Poorly-graded SAND with SILT (SP-SM); medium dense; brown; moist; mostly fine SAND; few fines.								
140	15	6	7 9 11	20			100						9	
135	20	7	5 3 5	8		coarse to fine SAND	17							
132	23					Fat CLAY (CH); very stiff; brown; moist; mostly high plasticity fines; trace coarse to fine SAND.								
130	25	8	7 14 17	31	2.00		100		27	54				
127	28					SEDIMENTARY ROCK (Siltstone); brown; intensely to moderately weathered; soft to moderately soft; intensely fractured.								Hard drilling reported at 29 ft
125	30	9	18 44 50/3"	94/9"		SEDIMENTARY ROCK(Siltstone)(Continue);	100							____CR___ Soil pH: 6.14 Min. Res: 2,680 ohm-cm Chloride: 19.8 ppm Sulfate: 4.9 ppm
120	35	10	28 47 50/3"	97/9"			80							
116	39					SEDIMENTARY ROCK (Shale); gray; hard.								
115	40	11		REF			100							
113	42													Hard drilling and rig chattering reported at 42 ft.
110	45	12		REF		Bottom of borehole at 45.1 ft bgs	100							

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1100 Corporate Way, Suite 230
Sacramento, CA 95831
(916) 455-4225

PROJECT NO: 20-656.2
PROJECT: MUSD Recycled Water Pipeline BORING: A-21-004
ENTRY BY: YYG
CHECKED BY: ETT
SHEET # 1 of 2 / SHEET # 2 of 2

LOG OF BORING A-21-005

PROJECT NO: 20-656.2
PROJECT: MUSD Recycled Water Pipeline
LOCATION: Mendocino, CA
COUNTY: Mendocino
CLIENT: GHD
LOGGED BY: YYG
DEPTH OF BORING: 35.25 (ft)
BEGIN DATE: 08/20/2021
COMPLETION DATE: 08/20/2021
SURFACE ELEVATION: 199.0 (ft)
SURFACE CONDITION: Soil
WATER DEPTH: 24.3 ft
READING TAKEN: 08/20/21
HAMMER EFFICIENCY: 80 (%)
DRILLING CONTRACTOR: Clear Heart Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL RIG: DR10K
HAMMER TYPE: Automatic; 140 lbs; 30 in. drop
SAMPLER TYPE & SIZE: MCAL (2.4" ID), SPT (1.4" ID)
BOREHOLE DIAMETER: 7.0 in.
BACKFILL METHOD: Tremie Grout

ELEVATION (ft)	DEPTH (ft)	SAMPLE NO	BLOWS PER 6 IN.	BLOWS PER FOOT	POCKET PEN. (TSF)	DESCRIPTION	RECOVERY(%)	RQD (%)	PLASTIC LIMIT	LIQUID LIMIT	MOISTURE (%)	D. DENSITY (PCF)	% PASSING 200 SIEVE	REMARKS
199	0					CLAYEY SAND (SC); loose; brown; moist; mostly medium to fine SAND; some fines.								Easy drilling 0-15 ft
196	3	1	4 7 9	16			89				13.4	111.5	48	
195	4	2	4 6 10	16		medium dense	100							
193	6	3	6 10 18	28		coarse to fine SAND	100				18.9	110.6	48	____CR___ Soil pH: 4.75 Min. Res: 4,310 ohm-cm Chloride: 7.2 ppm Sulfate: 13.4 ppm
191	8	4	7 14 21	35			100							
189	10	5	7 12 18	30		little fines	89				14.0	111.1	16	
184	15	6	6 8 12	20		coarse SAND	100							
181	18					SEDIMENTARY ROCK (Siltstone); brown; intensely weathered; soft.								Hard drilling reported at 18 ft
179	20	7	50/5"	REF			100							
175	24					SEDIMENTARY ROCK (Shale); gray; hard.								
174	25	8	31 50/3"	REF			100							
170	29					SEDIMENTARY ROCK (Shale)(Continue);								
169	30	9	50/4"	REF			100							
164	35	10	50/3"	REF		Bottom of borehole at 35.2 ft bgs	100							

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(916) 455-4225

PROJECT NO: 20-656.2
PROJECT: MUSD Recycled Water Pipeline BORING: A-21-005
ENTRY BY: YYG
CHECKED BY: ETT
SHEET # 1 of 2 / SHEET # 2 of 2

Log of Boring B-1

Equipment: Mobile B-53
Date: 10/24/07
Logged By: SL
Elevation: 164.0 feet **

Laboratory Tests	Moisture Content (%)	Dry Density (pcf)	Blows/foot	Depth (ft.)
DS 900 (576) 40% Passing #200 97% Passing #4	20.4	101	15*	2
			42/9"*	5
Tx 2178 (864)	27.4	94		5.5
Tx 4146 (1152)	24.4	98	58/10"*	8
			85	13

GREENISH-GRAY SILTY SANDY GRAVEL (GM)
medium dense, damp, (aggregate base)
DARK BROWN SILTY SAND (SM)
loose to medium dense, damp
BROWN CLAYEY SILTY SAND (SM)
loose to medium dense, moist, rounded sands
ORANGE-GRAY SILTSTONE
intense fracturing to crushed, hard, deep weathering, black staining on fractures

Notes:
1.) No free water encountered
2.) No caving
3.) Total depth 14.0 feet
4.) Backfilled with lean cement mix

* Equivalent "Standard Penetration" Blow Counts.
** Elevations determined using hand level in the field, in reference to survyed points by Brelje & Race, see Plate 2.
Scale: 1" = 3'

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Job No.: 11415.4
Appr.: EEO
Date: 01/03/08
LOG OF BORING B-1
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 5

Log of Boring B-2

Equipment: Mobile B-53
Date: 10/24/07
Logged By: SL
Elevation: 172.1 feet **

Laboratory Tests	Moisture Content (%)	Dry Density (pcf)	Blows/foot	Depth (ft.)
			32/3"*	1
9% Passing #200 92% Passing #4 Tx 2240 (576)	12.2 18.3	107 109	36/9"*	3
			48/3.5"*	6
			66	9
			95	14
			50/2"	19.5
			50/1"	24

ASPHALT, 11-inches
BROWNISH-GRAY SILTY SANDY GRAVEL (GM)
dense, dry to damp. (aggregate base)
DARK BROWN GRAVELLY SILTY SAND (SW-SM)
medium dense, damp; rounded sands
BROWN-ORANGE CLAYEY SILTY SAND (SM)
medium dense to dense, dry to damp, with entrained pieces of weathered sandstone, sands are rounded
BROWNISH-ORANGE SANDSTONE
intense fracturing, hard, moderate to deep weathering, black staining on fractures, medium grained sands
ORANGE-GRAY SILTSTONE
intense fracturing, hard, deep weathering; weathered to dark red along fractures
DARK GRAY SHALE
crushed, hard, little weathered, saturated

Notes:
1.) Water encountered at 11.6 feet
2.) No caving
3.) Total depth 24.1 feet
4.) Backfilled per California Department of Transportation specifications (Encroachment Permit No. 0107-6-SV-0447)

* Equivalent "Standard Penetration" Blow Counts.
** Elevations determined using hand level in the field, in reference to survyed points by Brelje & Race, see Plate 2.
Scale: 1" = 4'

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Job No.: 11415.4
Appr.: EEO
Date: 01/03/08
LOG OF BORING B-2
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 6

GENERAL NOTES

1. A GEOTECHNICAL INVESTIGATION REPORT FOR THE TANK SITE, DATED JANUARY 14, 2026, WAS PREPARED BY SHN CONSULTING ENGINEERS AND GEOLOGISTS, INC. THIS REPORT IS AVAILABLE AS A REFERENCE DOCUMENT.
2. GEOTECHNICAL INVESTIGATION REPORT FOR THE TRENCHLESS PIPELINE CROSSING UNDER STATE ROUTE 1 WAS PREPARED BY CRAWFORD AND ASSOCIATES, INC, DATED SEPTEMBER 29, 2021. A COPY OF THIS REPORT IS INCLUDED WITH THE TECHNICAL SPECIFICATIONS
3. THE GEOTECHNICAL BORING LOGS AND OTHER INFORMATION INCLUDED ON THIS DRAWING ARE PART OF THE CONSTRUCTION CONTRACT DOCUMENTS.
4. SEE CIVIL DRAWINGS FOR APPROXIMATE SOIL BORING LOCATIONS.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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Drawn	D.AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **GEOTECHNICAL LEGENDS AND BORING LOGS**
Project No. 12619547
Original Size ANSI D
Drawing No. G-006
Sheet 06 of 53

Plot Date: 24 March 2026 - 2:31 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-GN-006.dwg

GENERAL NOTES

1. A GEOTECHNICAL INVESTIGATION REPORT FOR THE TANK SITE, DATED JANUARY 14, 2026, WAS PREPARED BY SHN CONSULTING ENGINEERS AND GEOLOGISTS, INC. THIS REPORT IS AVAILABLE AS A REFERENCE DOCUMENT.
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3. THE GEOTECHNICAL BORING LOGS AND OTHER INFORMATION INCLUDED ON THIS DRAWING ARE PART OF THE CONSTRUCTION CONTRACT DOCUMENTS.
4. SEE CIVIL DRAWINGS FOR APPROXIMATE SOIL BORING LOCATIONS.

Log of Boring B-3

Equipment: Mobile B-53
Date: 10/24/07
Logged By: SL Elevation: 180.0 feet **

Laboratory Tests	Moisture Content (%)	Dry Density (pcf)	Blows/foot	Depth (ft.)	Description
				0	ASPHALT, 5-inches
				0–1.5	GRAYISH-BROWN SILTY SANDY GRAVEL (GM) dense, dry to damp (baserock)
DS 993 (576)	10.8	104	42*	2	BROWN SILTY SAND (SW-SM) medium dense to dense, moist; some concretions
9% Passing #200; 97% Passing #4; DS 807 (648)	12.1	103		3	
5% Passing #200	12.5	102	44*	4	
92% Passing #4; 12% Passing #200; 98% Passing #4; DS 1206 (864)	15.0	108		4.5	DARK GRAY WELL GRADED SILTY SAND (SW-SM) medium dense to dense, damp to moist
				6	BROWN-ORANGE SILTY SAND (SM) medium dense to dense, moist; with entrained pieces of weathered siltstone
Tx 2304 (1008)	18.3	102	36*	7	
Tx 2938 (1440)	20.6	103	52/8"*	10	GRAY SILTSTONE crushed, hard, deeply weathered; red straining on fractures
				14	GRAY SILTSTONE crushed, hard, moderate weathering, orange staining/weathering along fractures
	20.2	107	75	15	
				17	▽
				17.5	harder drilling at 17.5 feet DARK GRAY SHALE intense fracturing, hard, moderate weathering
	24.1	103	50/3"	20	

Notes:
1.) Water encountered at 17.0 feet
2.) No caving
3.) Total depth 20.3 feet
4.) Backfilled per California Department of Transportation specifications (Encroachment Permit No. 0107-6-SV-0447)

* Equivalent "Standard Penetration" Blow Counts.
** Elevations determined using hand level in the field, in reference to survyed points by Brelje & Race, see Plate 2.

Scale: 1" = 3'

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LOG OF BORING B-3
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 7

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS				SYMBOLS (GRAPH)	SYMBOLS (LETTER)	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS; MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS AND GRAVELLY SOILS; MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (Little or no fines)			GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
					GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (Appreciable amount of fines)			GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS; 50% OR MORE OF COARSE FRACTION PASSING THROUGH NO. 4 SIEVE	CLEAN SANDS (Little or no fines)			SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
					SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (Appreciable amount of fines)			SM	SILTY SANDS, SAND-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS; MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
					CH	INORGANIC CLAYS OF HIGH PLASTICITY
					OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS					PT	PEAT, HUMOUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

KEY TO TEST DATA

Consol - Consolidation
LL - Liquid Limit
PI - Plasticity Index
EI - Expansion Index
SA - Sieve Analysis
■ Sample Retained
▨ Sample Recovered, Not Retained
☒ Bulk Sample
◻ Sample Not Recovered
▽ Ground Water Level During Exploration
▼ Stabilized Ground Water Level

Shear Strength, psf / Confining Pressure, psf

	Shear Strength (Confining Pressure)	
Tx	320 (2600)	- Unconsolidated Undrained Triaxial
TxCU	320 (2600)	- Consolidated Undrained Triaxial
DS	2750 (2600)	- Consolidated Drained Direct Shear
FVS	470	- Field Vane Shear
UC	2000	- Unconfined Compression
PP	2000	- Field Pocket Penetrometer
Sat		- Sample saturated prior to test

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SOIL CLASSIFICATION CHART & KEY TO TEST DATA
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 8

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	Standard Penetration Test Blow Count (blows per foot)
Very loose	4 or less
Loose	5 to 10
Medium dense	11 to 30
Dense	31 to 50
Very dense	More than 50

CONSISTENCY OF FINE-GRAINED SOILS

Consistency	Identification Procedure	Approximate Shear Strength (psf)
Very soft	Easily penetrated several inches with fist	Less than 250
Soft	Easily penetrated several inches with thumb	250 to 500
Medium stiff	Penetrated several inches by thumb with moderate effort	500 to 1000
Stiff	Readily indented by thumb, but penetrated only with great effort	1000 to 2000
Very stiff	Readily indented by thumb nail	2000 to 4000
Hard	indented with difficulty by thumb nail	More than 4000

NATURAL MOISTURE CONTENT

Dry No noticeable moisture content. Requires considerable moisture to obtain optimum moisture content* for compaction.

Damp Contains some moisture, but is on the dry side of optimum.

Moist Near optimum moisture content for compaction.

Wet Requires drying to obtain optimum moisture content for compaction.

Saturated Near or below the water table, from capillarity, or from perched or ponded water. All void spaces filled with water.

* Optimum moisture content as determined in accordance with ASTM Test Method D1557, latest edition.

Where laboratory test data are not available, the above field classifications provide a general indication of material properties; the classifications may require modification based upon laboratory tests.

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SOIL DESCRIPTIVE PROPERTIES
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 9

Generalized Graphic Rock Symbols

Claystone | Siltstone | Tuff (Volcanic Ash)
Shale | Chert | Andesite
Sandstone | Serpentine | Basalt
Conglomerate | Metamorphic Rock | Granite

Stratification

Bedding of Sedimentary Rocks	Thickness of Beds
Massive	No apparent bedding
Very thick bedded	Greater than 4 feet
Thick bedded	2 feet to 4 feet
Thin bedded	2 inches to 2 feet
Very thin bedded	0.5 inches to 2 inches
Laminated	0.125 inches to 0.5 inches
Thinly laminated	less than 0.125 inches

Fracturing

Fracturing Intensity	Thickness of Beds
Little	Greater than 4 feet
Occasional	1 foot to 4 feet
Moderate	6 inches to 1 foot
Close	1 inch to 6 inches
Intense	0.5 inches to 1 inch
Crushed	less than 0.5 inches

Strength

Soft	Plastic or very low strength.
Friable	Crumbles by hand.
Low hardness	Crumbles under light hammer blows.
Moderate hardness	Crumbles under a few heavy hammer blows.
Hard	Breaks into large pieces under heavy, ringing hammer blows.
Very hard	Resists heavy, ringing hammer blows and will yield with difficulty only dust and small flying fragments.

Weathering

Deep Moderate to complete mineral decomposition, extensive disintegration, deep and thorough discoloration, many extensively coated fractures.

Moderate Slight decomposition of minerals, little disintegration, moderate discoloration, moderately coated fractures.

Little No megascopic decomposition of minerals, slight to no effect on cementation, slight and intermittent, or localized discoloration, few stains on fracture surfaces.

Fresh Unaffected by weathering agents, no disintegration or discoloration, fractures usually less numerous than joints.

BACE GEOTECHNICAL a division of Brunsing Associates, Inc. (707) 528-6108 | Job No.: 11415.4 | Appr.: EEO | Date: 01/03/08
ROCK DESCRIPTIVE PROPERTIES
HIGHWAY ONE DIRECTIONAL BORE
Highway One at Little Lake Road
Mendocino, California
PLATE 10

BORING NUMBER B-1
PAGE 1 OF 2

CLIENT GHD
PROJECT NAME MCCSD Geotech
PROJECT NUMBER 425006.020
PROJECT LOCATION 44141 Little Lake Rd., Mendocino 95460
DATE STARTED 12/22/25 COMPLETED 12/22/25
GROUND ELEVATION 434 ft 434 ft HOLE SIZE 4"
DRILLING CONTRACTOR Taber Drilling
GROUNDWATER DEPTH
DRILLING METHOD Solid Flight Augers/ Mud Rotary
▽ AT TIME OF DRILLING 18.00 ft / Elev 416.00 ft
LOGGED BY T. McBroom CHECKED BY C. Tipp
NOTES

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	FINES CONTENT (%)
0	(GW) WELL GRADED GRAVEL, dense, dark gray, coarse angular gravel up to 3/4". (FILL)										
2	(SC) CLAYEY SAND, medium dense, moist, reddish brown, low plasticity, moderately cemented. (MARINE TERRACE)										
		MCS		4-11-15 (26)		102	20				49
5	(CL) SANDY LEAN CLAY, stiff to very stiff, moist, reddish brown, mottled, low plasticity, moderately cemented. (MARINE TERRACE)										
		MCS		8-8-7 (15)		104	22				53
		MCS		5-7-10 (17)		104	20				52
	(SC) CLAYEY SAND, medium dense, moist, gray, low plasticity, weakly cemented, mottled. (MARINE TERRACE)										
10		MCS		13-16-28 (44)		111	18				45
15	(SP-SM) POORLY GRADED SAND WITH SILT, medium dense, wet to moist, gray to reddish brown, becoming coarser grained, weakly cemented, mottled. (MARINE TERRACE)	MCS		7-7-15 (22)		96	24				32
18	▽										
20	(SP) POORLY GRADED SAND, medium dense, wet to moist, gray to dark gray, weakly cemented, mottled. (MARINE TERRACE)	MCS		15-19-25 (44)		104	18				4

(Continued Next Page)

GEOTECH BH COLUMNS - DATA TEMPLATE FOR TESTING.GDT - 1/12/26 15:51 - \\EUREKA\GEOGROUP\GINT\LIBRARY\BENTLEY\GINTCL\PROJECTS\PROJECT_FILES\2025\425006-MCCSD-WWTP.GPJ

BORING NUMBER B-1
PAGE 2 OF 2

CLIENT GHD
PROJECT NAME MCCSD Geotech
PROJECT NUMBER 425006.020
PROJECT LOCATION 44141 Little Lake Rd., Mendocino 95460

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	FINES CONTENT (%)
	(SP) POORLY GRADED SAND, medium dense, wet to moist, gray to dark gray, weakly cemented, mottled. (MARINE TERRACE) *(continued)*										
25	Becomes coarser grained.	MCS		7-9-16 (25)		106	19				20
30		MCS		9-16-28 (44)							
35	SANDSTONE, completely weathered, very closely fractured, very weak, mottled, light brown to brown, trace caliche veins. (FRANCISCAN COMPLEX)	MCS		10-23-28 (51)							
40	Increased caliche veins.	MCS		22-38-50 (88)							

Bottom of borehole at 40.5 feet.

BORING NUMBER B-2
PAGE 1 OF 2

CLIENT GHD
PROJECT NAME MCCSD Geotech
PROJECT NUMBER 425006.020
PROJECT LOCATION 44141 Little Lake Rd., Mendocino 95460
DATE STARTED 12/23/25 COMPLETED 12/23/25
GROUND ELEVATION 434 ft 434 ft HOLE SIZE 4"
DRILLING CONTRACTOR Taber Drilling
GROUNDWATER DEPTH
DRILLING METHOD Mud rotary
▽ AT TIME OF DRILLING 2.00 ft / Elev 432.00 ft Raining day of drilling.
LOGGED BY T. McBroom CHECKED BY C. Tipp
NOTES

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	FINES CONTENT (%)
0	(GW) WELL GRADED GRAVEL, dense, dark gray, coarse angular gravel up to 3/4". (FILL)										
2	▽ (SC) CLAYEY SAND, medium dense, moist to wet, reddish brown, low plasticity, weakly cemented, mottled. (MARINE TERRACE)	MCS		6-10-14 (24)		107	19				50
5	Becomes reddish brown, increased mottling.	MCS		10-12-12 (24)		108	19				42
	(CL) SANDY LEAN CLAY, stiff, moist to wet, reddish brown to gray, low plasticity, weakly cemented, trace roots. (MARINE TERRACE)	MCS		5-8-13 (21)	3.25	97	24				54
10											
	(CH) SANDY FAT CLAY, very stiff, moist to wet, reddish brown to gray, high plasticity, weakly cemented, trace roots. (MARINE TERRACE)	MCS		13-18-20 (38)	4.5	98	27	62	26	36	65
15	(SP) POORLY GRADED SAND, medium dense to dense, moist to wet, gray to reddish brown, trace rounded fine gravel, nonplastic, moderately cemented. (MARINE TERRACE)	MCS		15-18-24 (42)	4.5	107	18				10
20	Increased mottling.	MCS		22-30-26 (56)		107	17				7

(Continued Next Page)

BORING NUMBER B-2
PAGE 2 OF 2

CLIENT GHD
PROJECT NAME MCCSD Geotech
PROJECT NUMBER 425006.020
PROJECT LOCATION 44141 Little Lake Rd., Mendocino 95460

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	FINES CONTENT (%)
	(SP) POORLY GRADED SAND, medium dense to dense, moist to wet, gray to reddish brown, trace rounded fine gravel, nonplastic, moderately cemented. (MARINE TERRACE) *(continued)*										
25	(SP-SM) POORLY GRADED SAND WITH SILT, medium dense, moist, dark brown, low plasticity fines, weakly cemented. (MARINE TERRACE)	MCS		9-13-15 (28)		109	19				19
30	SANDSTONE, completely weathered, very closely fractured, very weak, mottled, light brown to brown, trace caliche veins. (FRANCISCAN COMPLEX)	MCS		8-10-17 (27)							
35	Increased caliche veins.	MCS		22-43-40 (83)							
40	Caliche present throughout sample.	MCS		18-27-50 (77)							

Bottom of borehole at 40.5 feet.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 — 1"

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REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — No. C68304 — CIVIL — STATE OF CALIFORNIA
3/25/2026

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
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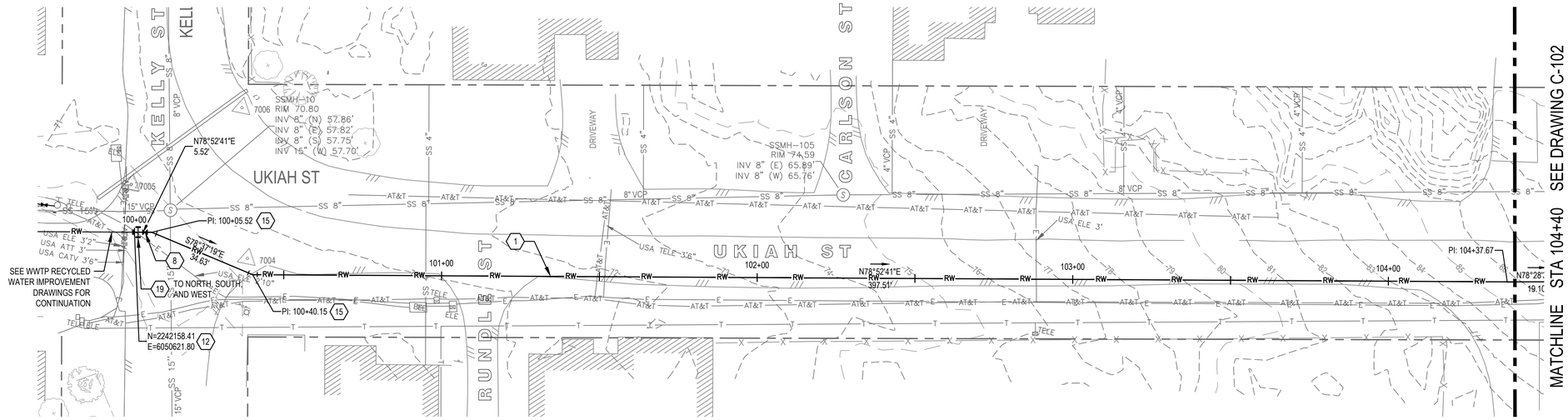
Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **GEOTECHNICAL BORING LOGS AND SOIL DESCRIPTIONS**

Project No. 12619547
Original Size ANSI D
Drawing No. G-007
Sheet 07 of 53



1 PLAN VIEW

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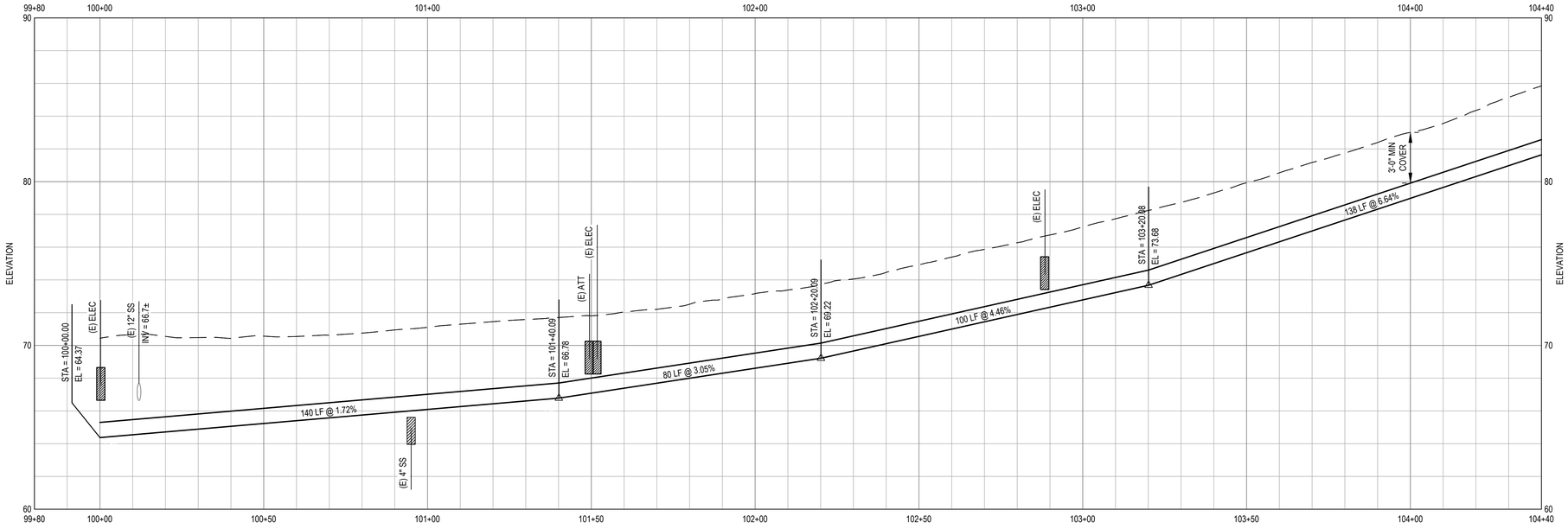

2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER
SEAN GLEN KENNEDY
No. 68304
CIVIL
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3/25/2026

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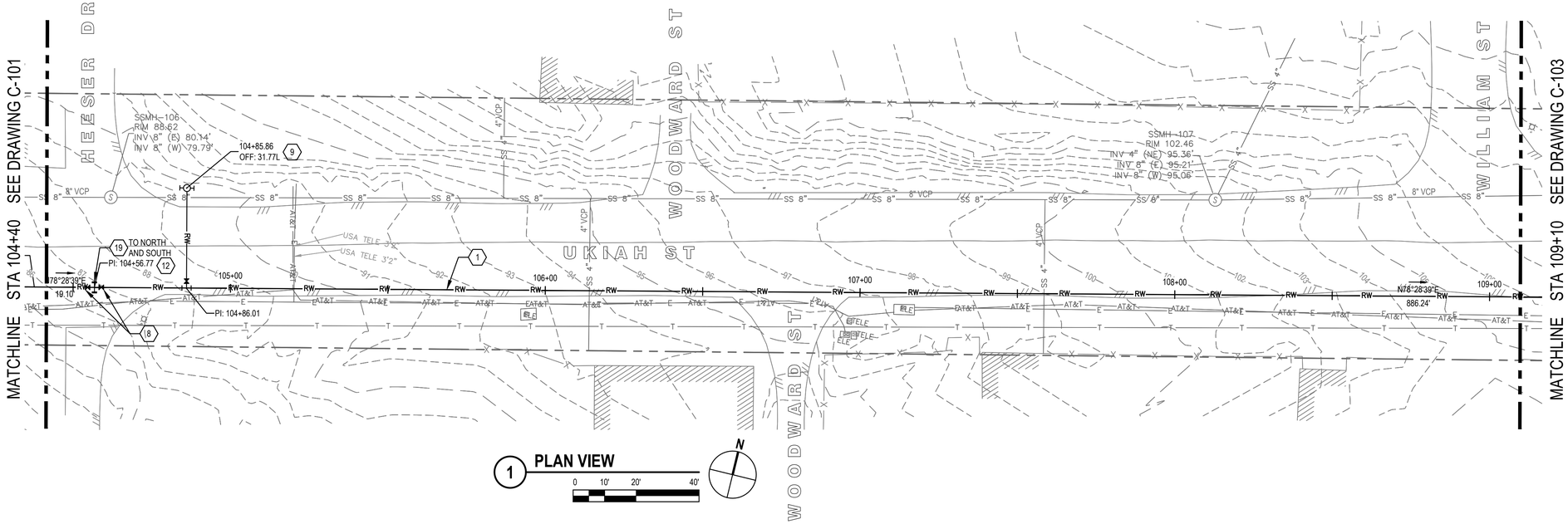
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 100+00 TO 104+40
Project No. 12619547
Original Size ANSI D
Drawing No. C-101
Sheet 08 of 53

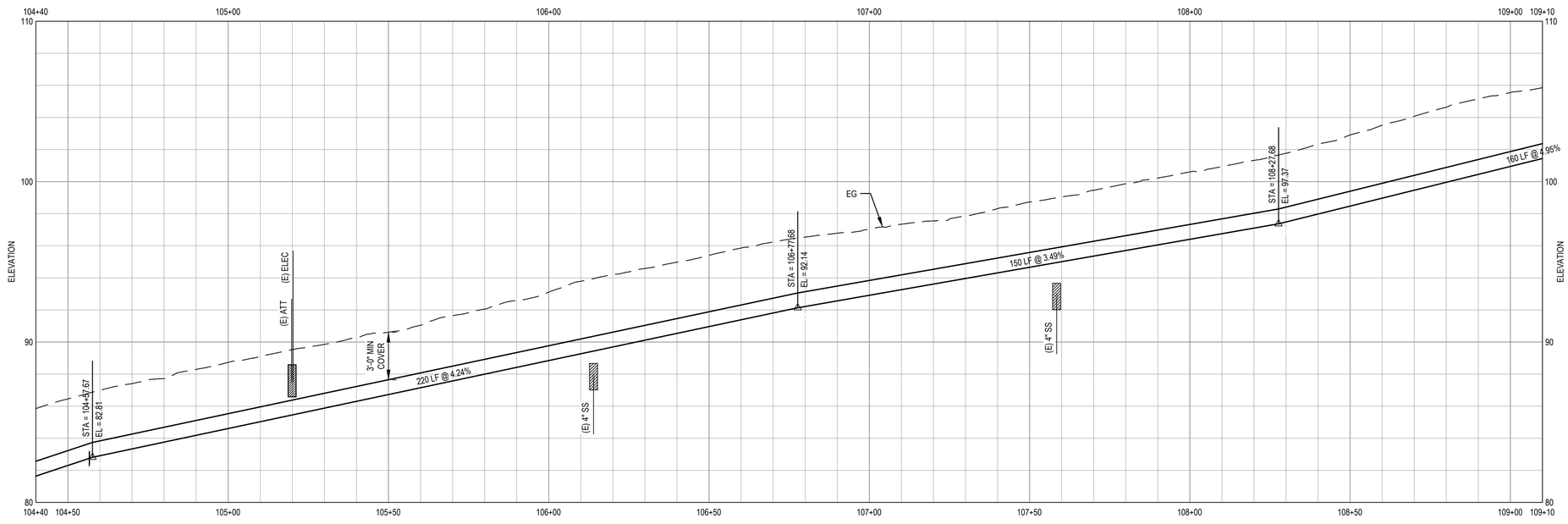
Plot Date: 24 March 2026 - 1:58 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-101.dwg



1 **PLAN VIEW**

0 10' 20' 40'

N



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
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13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
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17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — HUGH GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA

3/25/2026

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **RECYCLED WATER LINE - STA 104+40 TO 109+10**

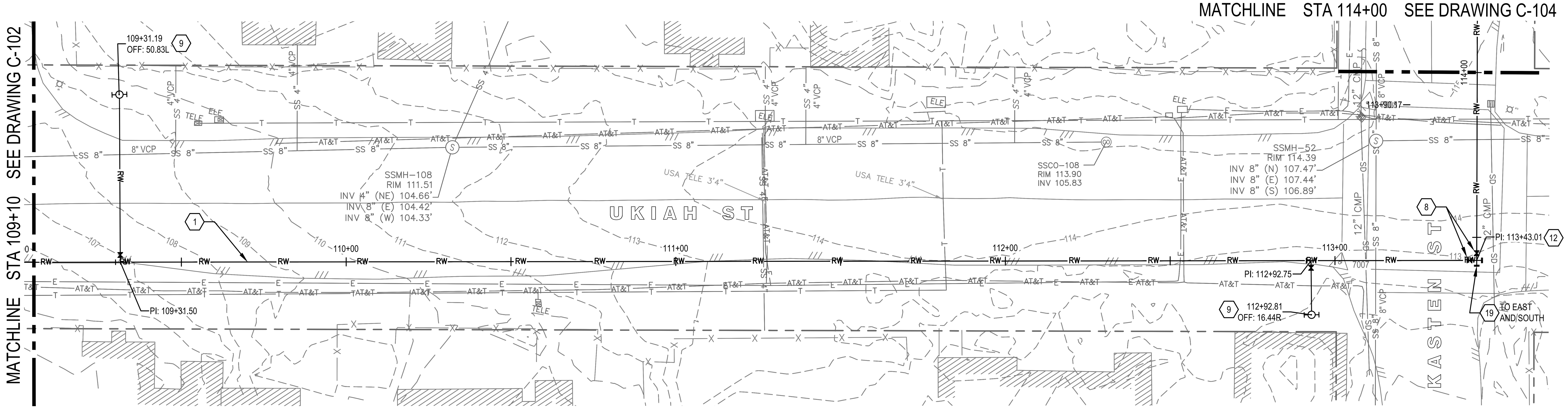
Project No. 12619547

Original Size ANSI D

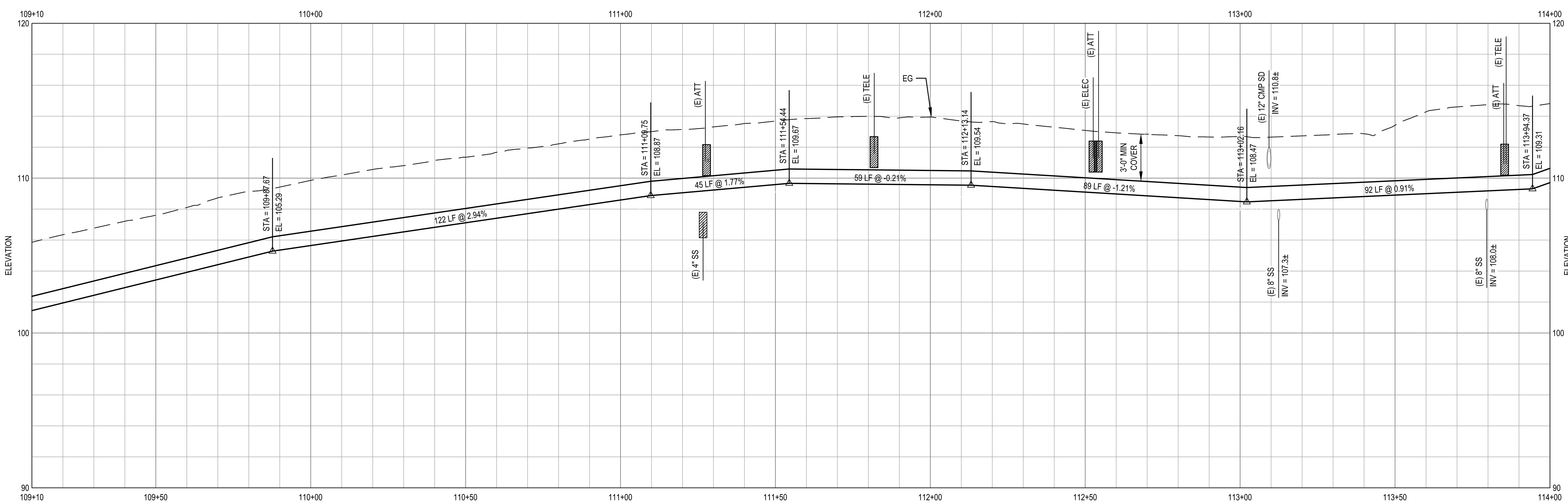
Drawing No. **C-102**

Sheet 09 of 53

Plot Date: 24 March 2026 - 1:59 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-102.dwg



1 PLAN VIEW



2 PROFILE VIEW

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
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8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

3/25/2026

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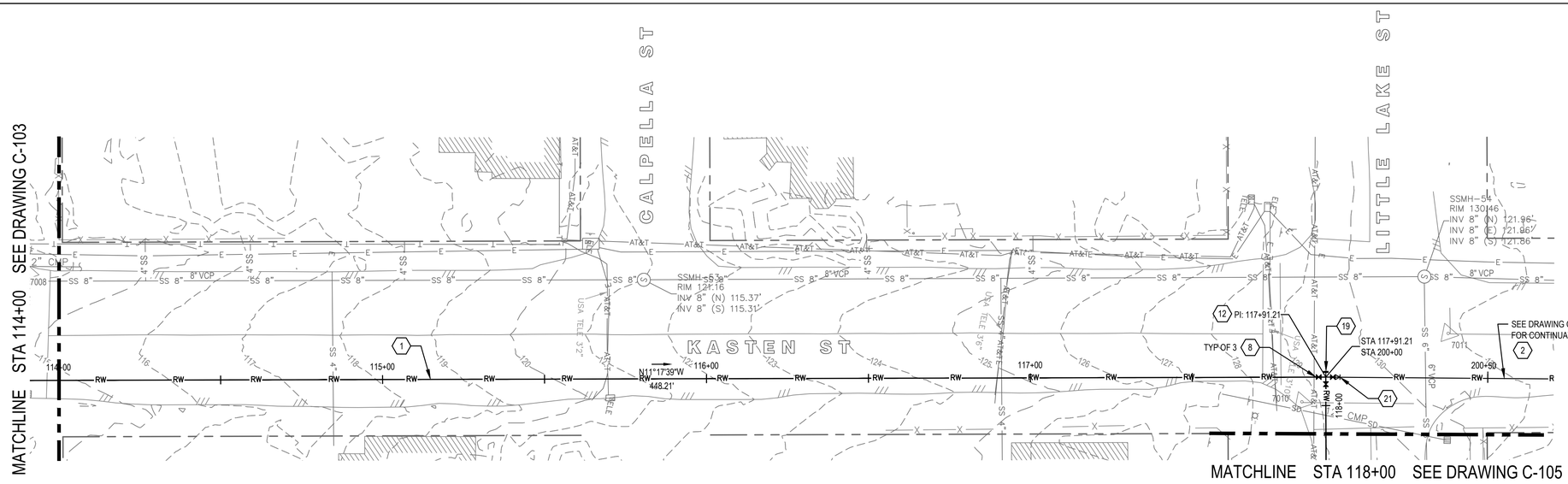
Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **RECYCLED WATER LINE - STA 109+10 TO 114+00**

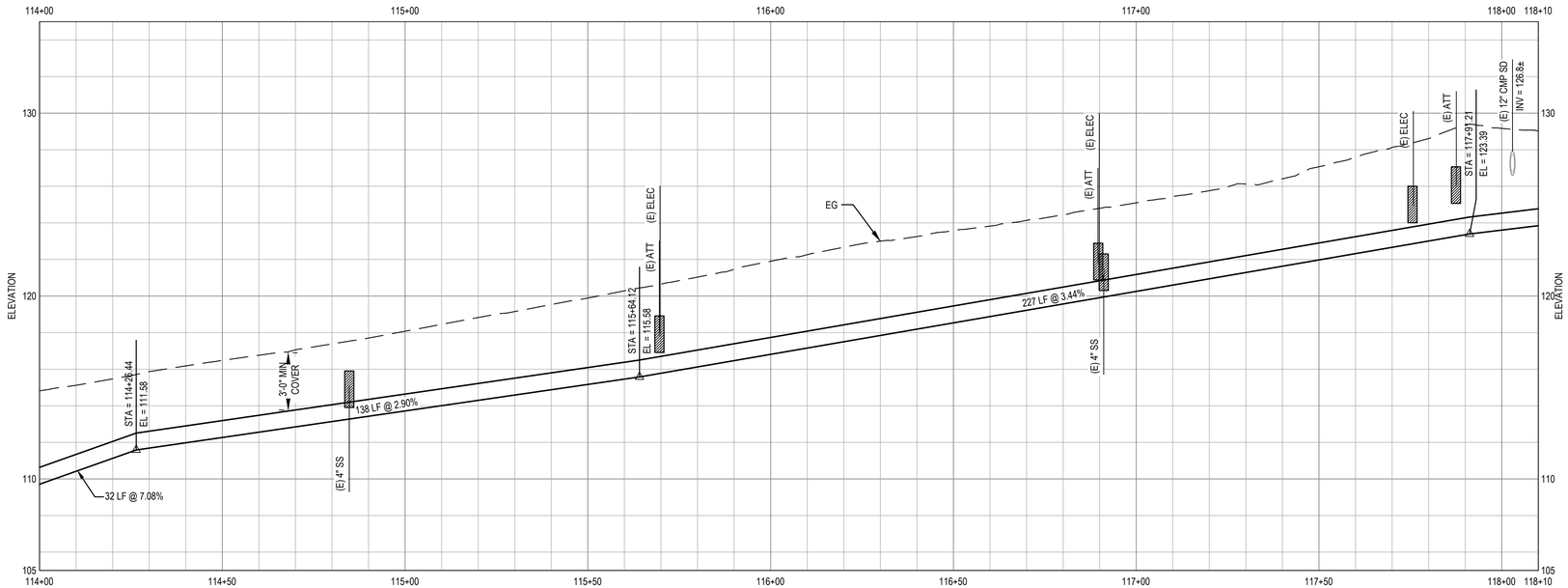
Project No. 12619547
Original Size ANSI D
Drawing No. **C-103**

Plot Date: 24 March 2026 - 2:00 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-103.dwg



1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
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19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — STEVEN GLEN KENNEDY — 063304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
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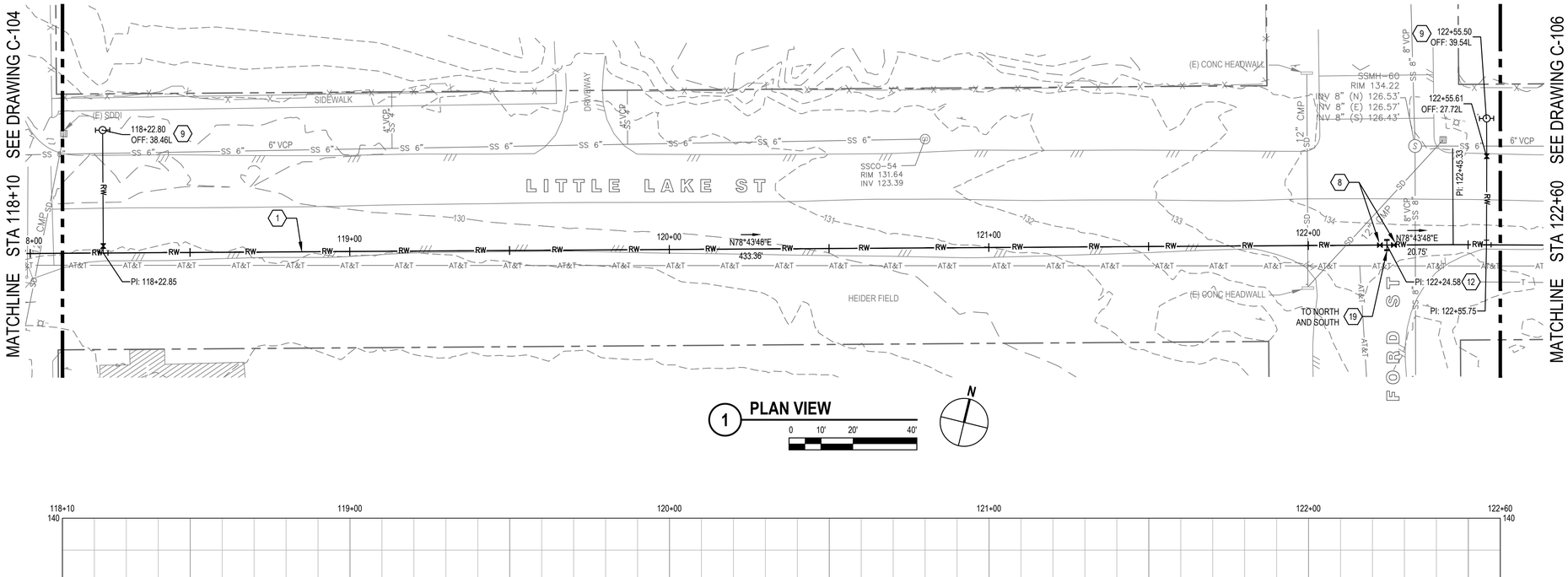
Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 114+00 TO 118+00
Project No. 12619547
Original Size ANSI D
Drawing No. C-104
Sheet 11 of 53

Plot Date: 24 March 2026 - 2:02 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-104.dwg



1 **PLAN VIEW**

0 10' 20' 40'

N

2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
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5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER
GLEN KENNEDY
C68304
CIVIL
STATE OF CALIFORNIA
3/25/2026

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This document shall not be used for construction unless signed and sealed for construction.

Drawn	D. AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**

Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**

Title **RECYCLED WATER LINE - STA 118+10 TO 122+60**

Project No. **12619547**

Original Size **ANSI D**

Drawing No. **C-105**

Sheet **12** of **53**

Plot Date: 24 March 2026 - 2:03 PM Plotted By: Chris Bach
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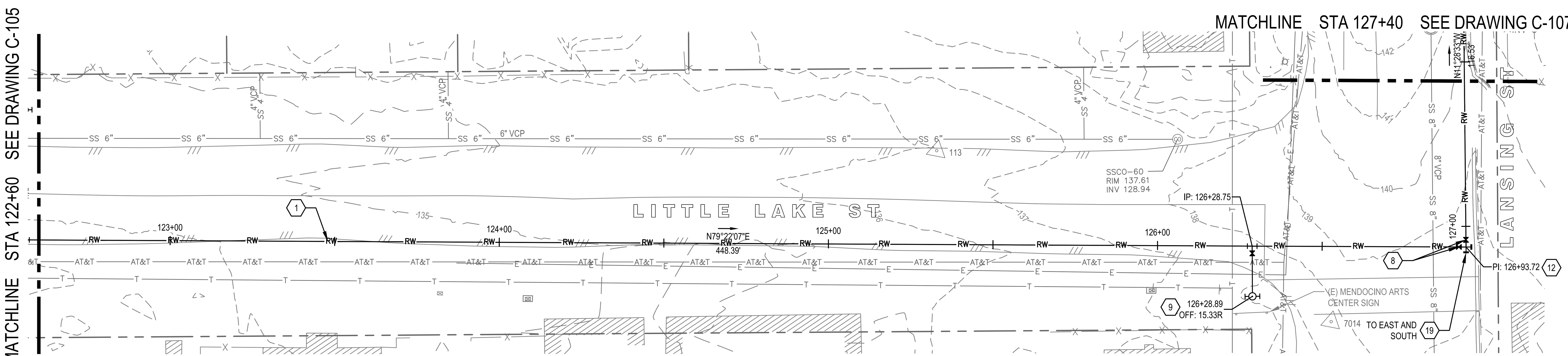
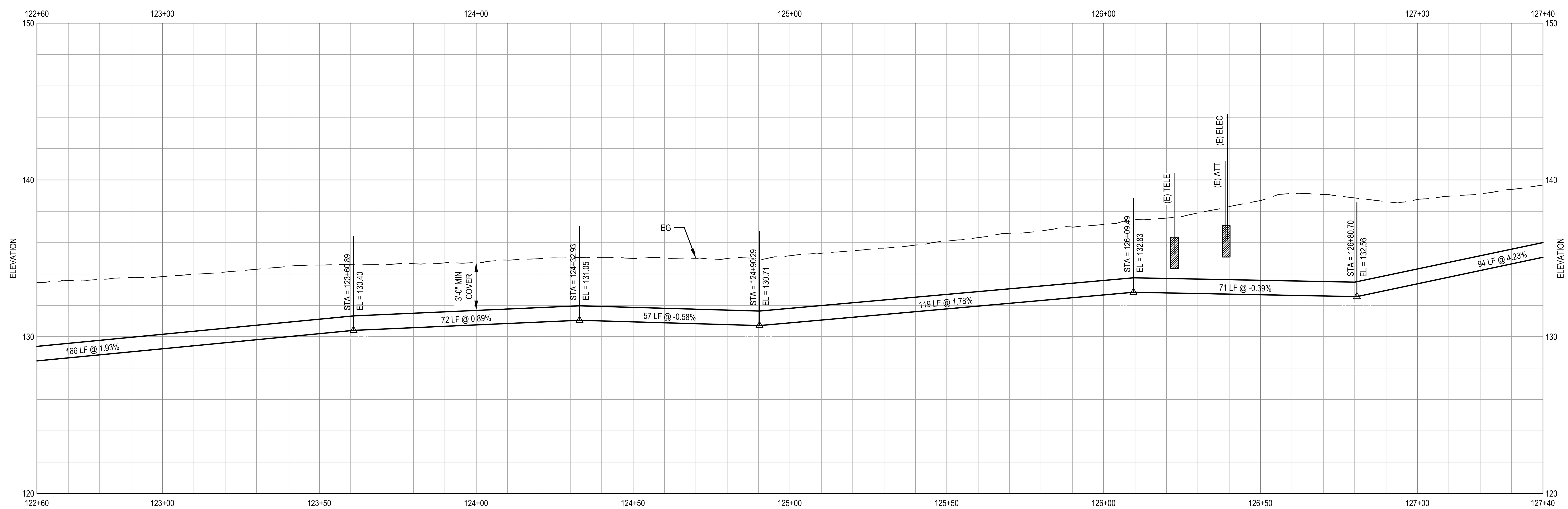


1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

Reuse of Documents

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — 88304 — CIVIL — STATE OF CALIFORNIA
3/25/2026

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Drawn	D. AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
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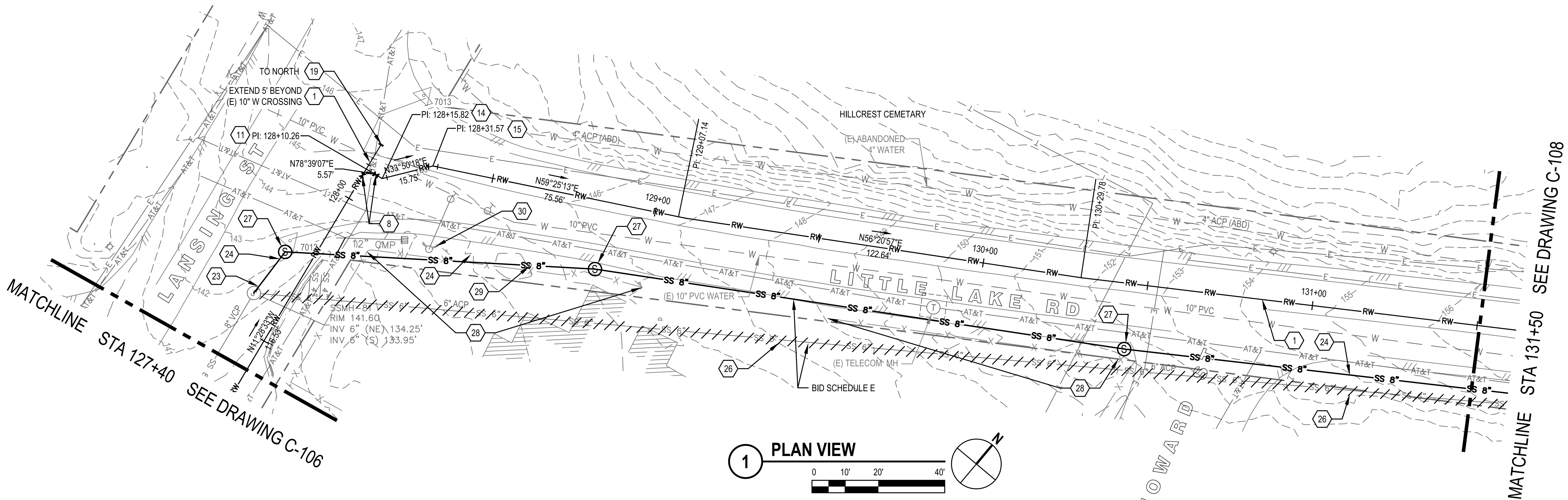
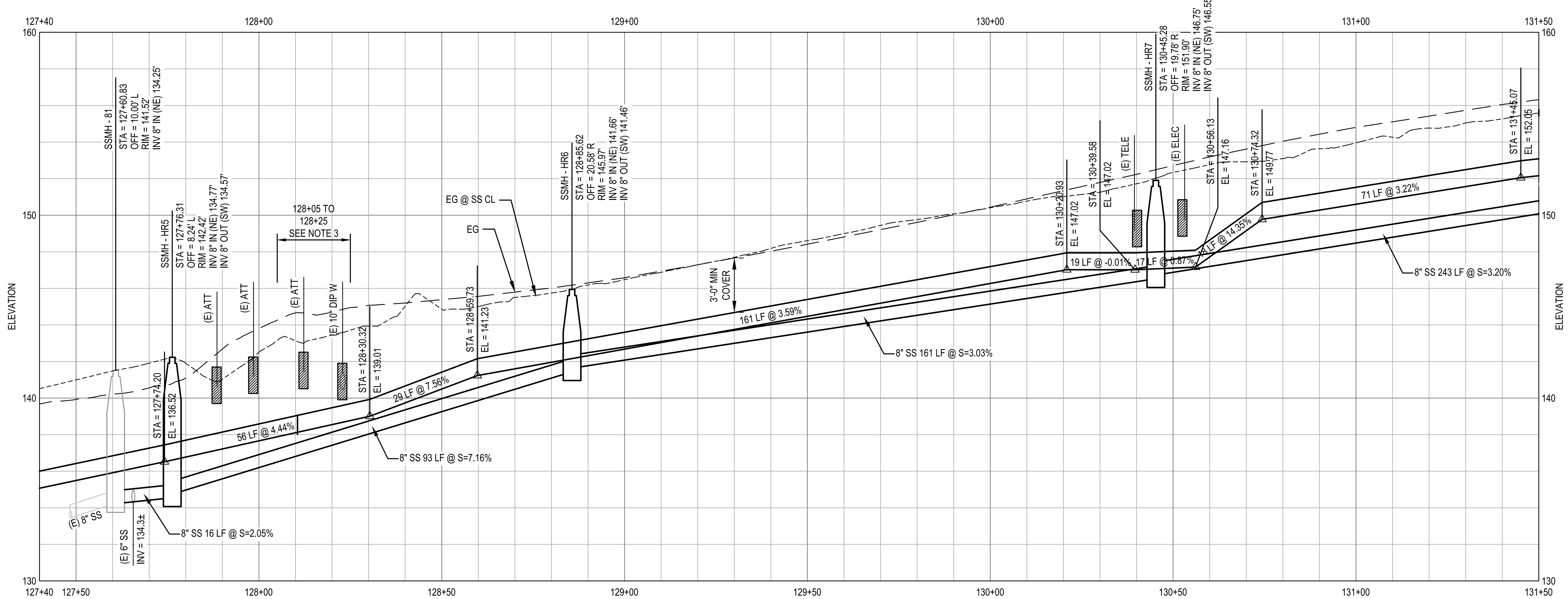
Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 122+60 TO 127+40
Project No. 12619547
Original Size ANSI D Drawing No. C-106

Plot Date: 24 March 2026 - 2:04 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-106.dwg



1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

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20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.
22. REMOVE (E) 6" SS MAIN. INSTALL (N) 8" PVC SS MAIN IN THE SAME ALIGNMENT. (BID SCHEDULE E)
23. CONNECT TO (E) SSMH. SEE DETAIL 5 ON DRAWING C-505. (BID SCHEDULE E)
24. PROVIDE (N) 8" PVC SS MAIN. (BID SCHEDULE E)
25. RECONNECT (E) SS LATERAL. USING INSERTA TEE FITTING, OR APPROVED EQUAL. ENSURE A WATERTIGHT CONNECTION. (BID SCHEDULE E)
26. ABANDON (E) SS MAIN. REMOVE WHERE IN CONFLICT WITH IMPROVEMENTS. SEE DETAIL 4 ON DRAWING C-501. (BID SCHEDULE E)
27. PROVIDE (N) SSMH. SEE DETAIL 5 ON DRAWING C-505. (BID SCHEDULE E)
28. REMOVE AND REINSTALL (E) PICKET FENCE AS NECESSARY TO CONSTRUCT (N) SS MAIN. COORDINATE WITH DISTRICT AND ADJACENT PROPERTY OWNER. (BID SCHEDULE E)
29. REMOVE (E) TREE AS NECESSARY TO CONSTRUCT (N) SS MAIN. COORDINATE WITH DISTRICT AND ADJACENT PROPERTY OWNER. (BID SCHEDULE E)
30. REMOVE (E) FIRE HYDRANT AND BOLLARDS AS NECESSARY TO CONSTRUCT (N) SS MAIN. REINSTALL (E) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502 FOR RE-INSTALLATION DETAILS. (BID SCHEDULE E)

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — 88304 — CIVIL — STATE OF CALIFORNIA
3/25/2026

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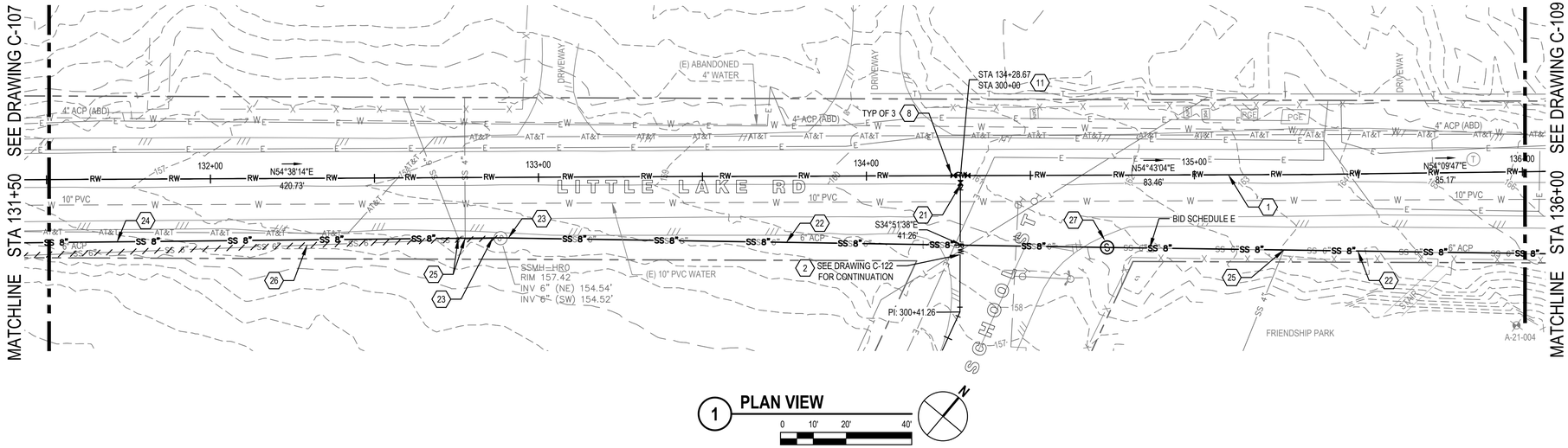
Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: **RECYCLED WATER LINE - STA 127+40 TO 131+50**

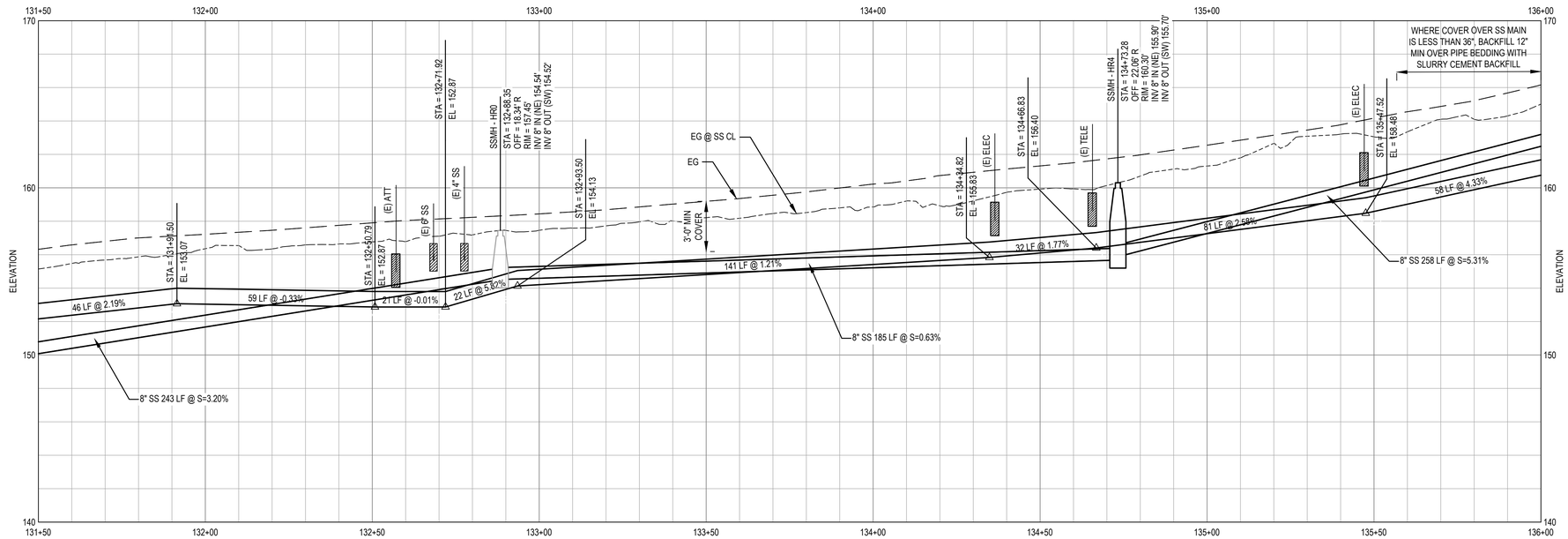
Project No. 12619547
Original Size ANSI D
Drawing No. C-107

Plot Date: 20 April 2026 - 2:46 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-107.dwg



1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.
22. REMOVE (E) 6" SS MAIN. INSTALL (N) 8" PVC SS MAIN IN THE SAME ALIGNMENT. (BID SCHEDULE E)
23. CONNECT TO (E) SSMH. SEE DETAIL 5 ON DRAWING C-505. (BID SCHEDULE E)
24. PROVIDE (N) 8" PVC SS MAIN. (BID SCHEDULE E)
25. RECONNECT (E) SS LATERAL USING INSERTA TEE FITTING, OR APPROVED EQUAL. ENSURE A WATERTIGHT CONNECTION. (BID SCHEDULE E)
26. ABANDON (E) SS MAIN. REMOVE WHERE IN CONFLICT WITH IMPROVEMENTS. SEE DETAIL 4 ON DRAWING C-501. (BID SCHEDULE E)
27. PROVIDE (N) SSMH. SEE DETAIL 5 ON DRAWING C-505. (BID SCHEDULE E)

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet

0 1"

STEVEN GLEN KENNEDY 26304 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA 3/25/2026

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**

Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**

Title **RECYCLED WATER LINE - STA 131+50 TO 136+00**

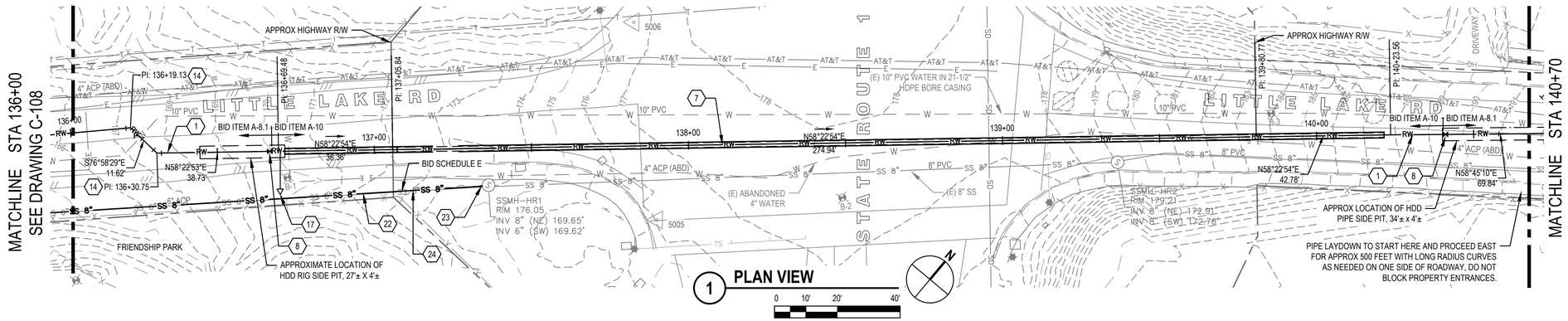
Project No. **12619547**

Original Size **ANSI D**

Drawing No. **C-108**

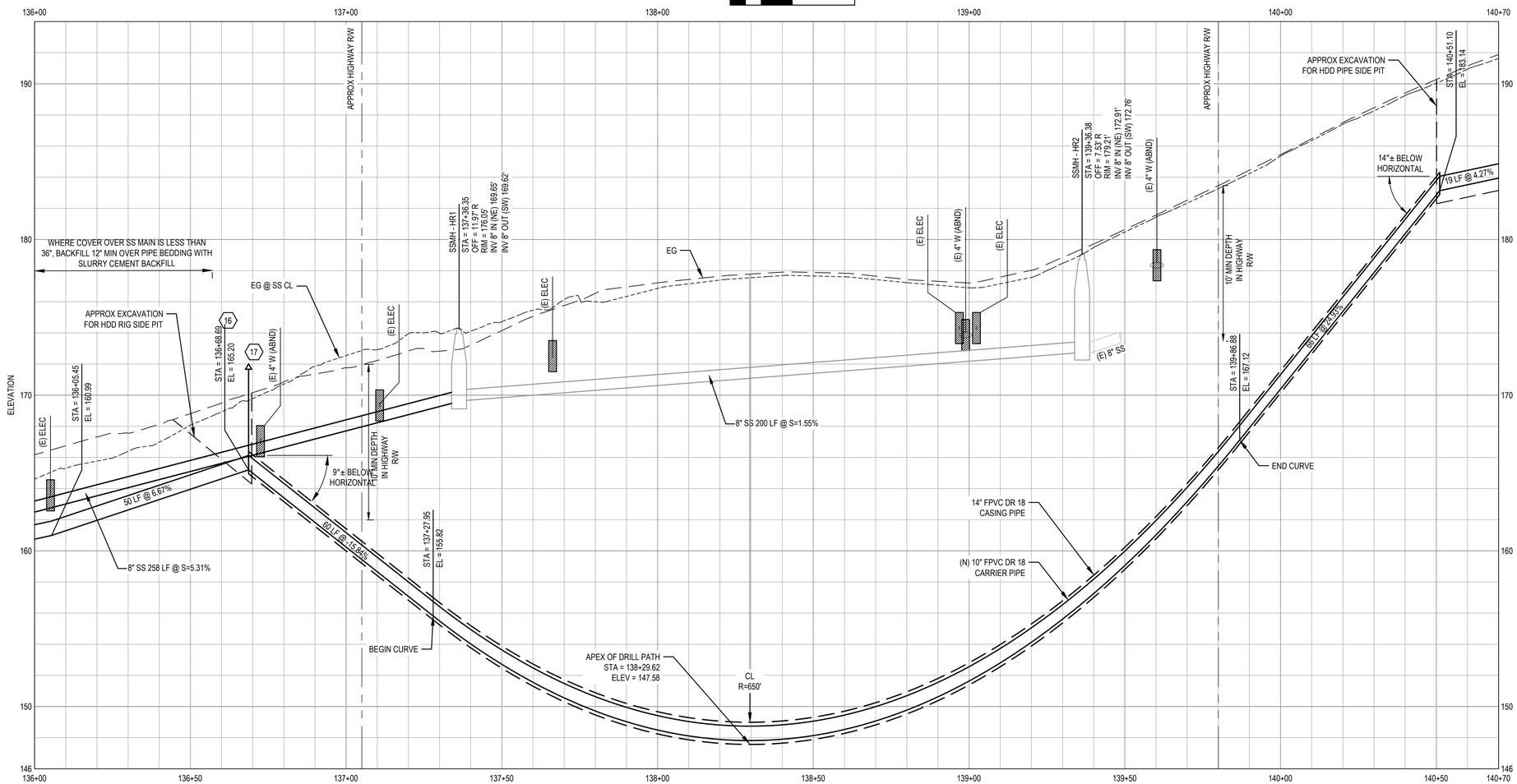
Sheet **16** of **53**

Plot Date: 20 April 2026 - 2:53 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-108.dwg



1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.
22. REMOVE (E) 6" ACP SS MAIN. INSTALL (N) 8" PVC SS MAIN IN THE SAME ALIGNMENT. (BID SCHEDULE E)
23. CONNECT TO (E) SSMH. SEE DETAIL 5 ON DRAWING C-505. (BID SCHEDULE E)
24. TEMPORARILY REMOVE AND REPLACE (E) SERVICE METER AS NECESSARY TO CONSTRUCT REPLACEMENT SS MAIN (BID SCHEDULE E).

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — 063304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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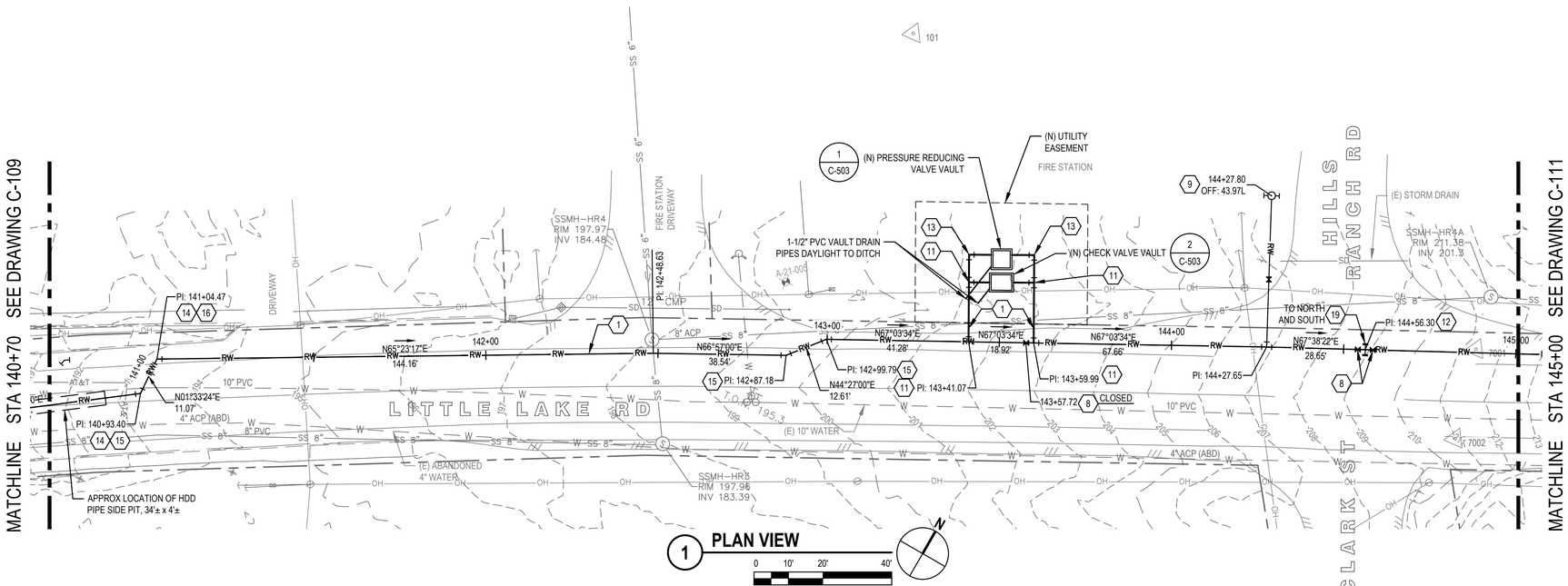
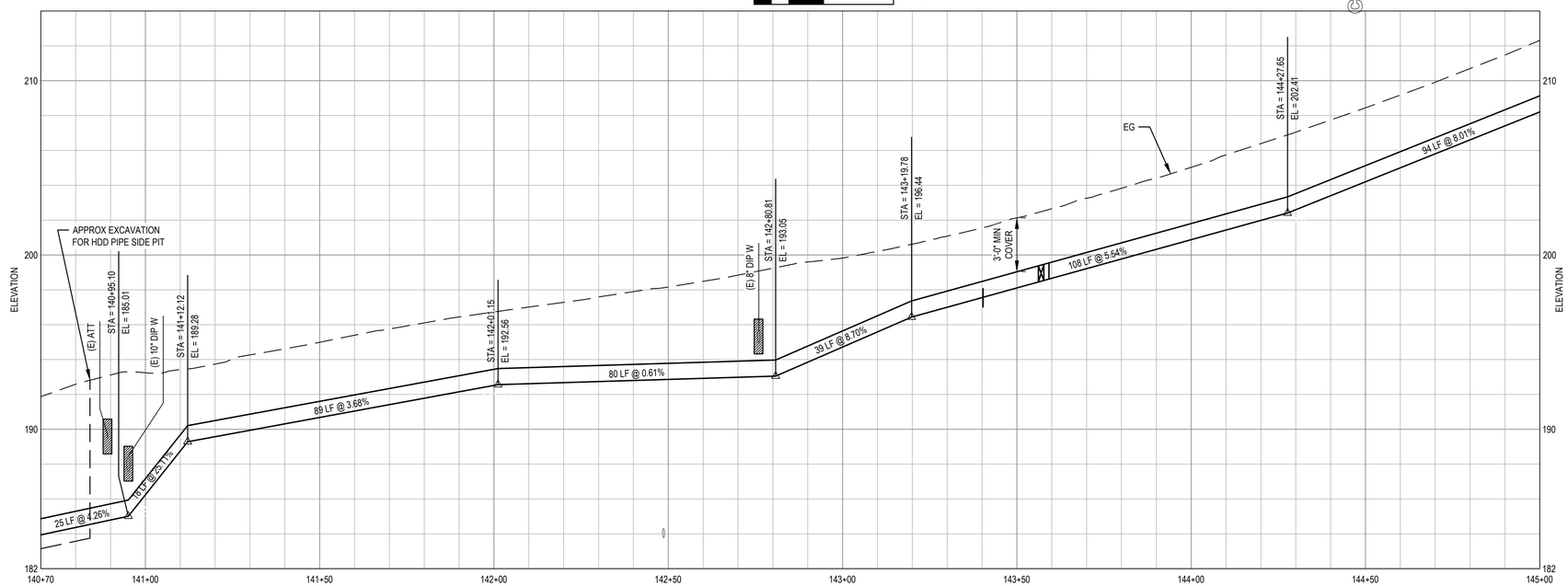
Drafting Check	**L. HALONEN, M. KENNEDY**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **RECYCLED WATER LINE - STA 136+00 TO 140+70**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **C-109**
Sheet **16** of **53**

Plot Date: 24 March 2026 - 2:07 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-109.dwg





2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
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16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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REGISTERED PROFESSIONAL ENGINEER STEVEN GLEN KENNEDY C68304 CIVIL STATE OF CALIFORNIA 3/25/2026

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This document shall not be used for construction unless signed and sealed for construction.

Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 140+70 TO 145+00
Project No. 12619547
Original Size ANSI D
Drawing No. C-110
Sheet 17 of 53

Plot Date: 24 March 2026 - 2:08 PM Plotted By: Chris Bach
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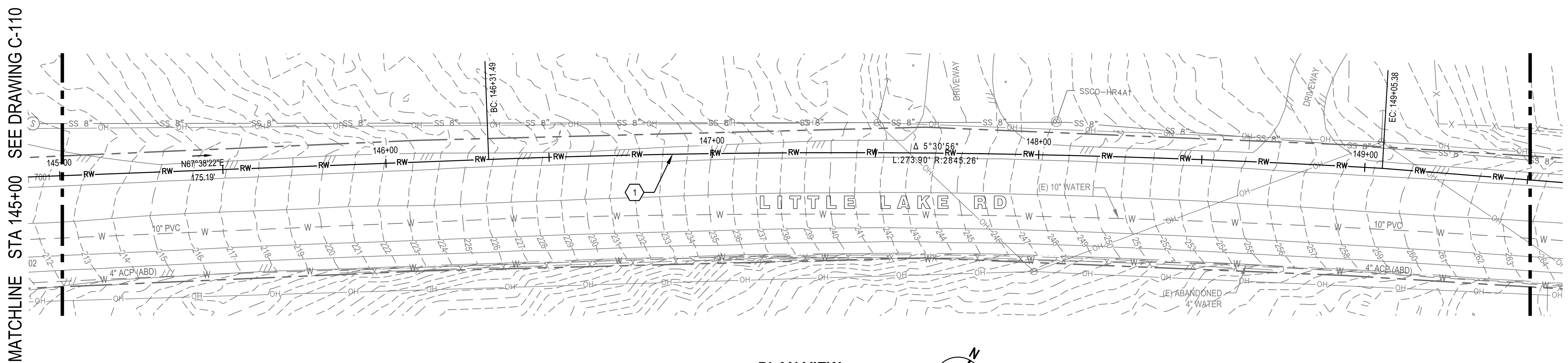
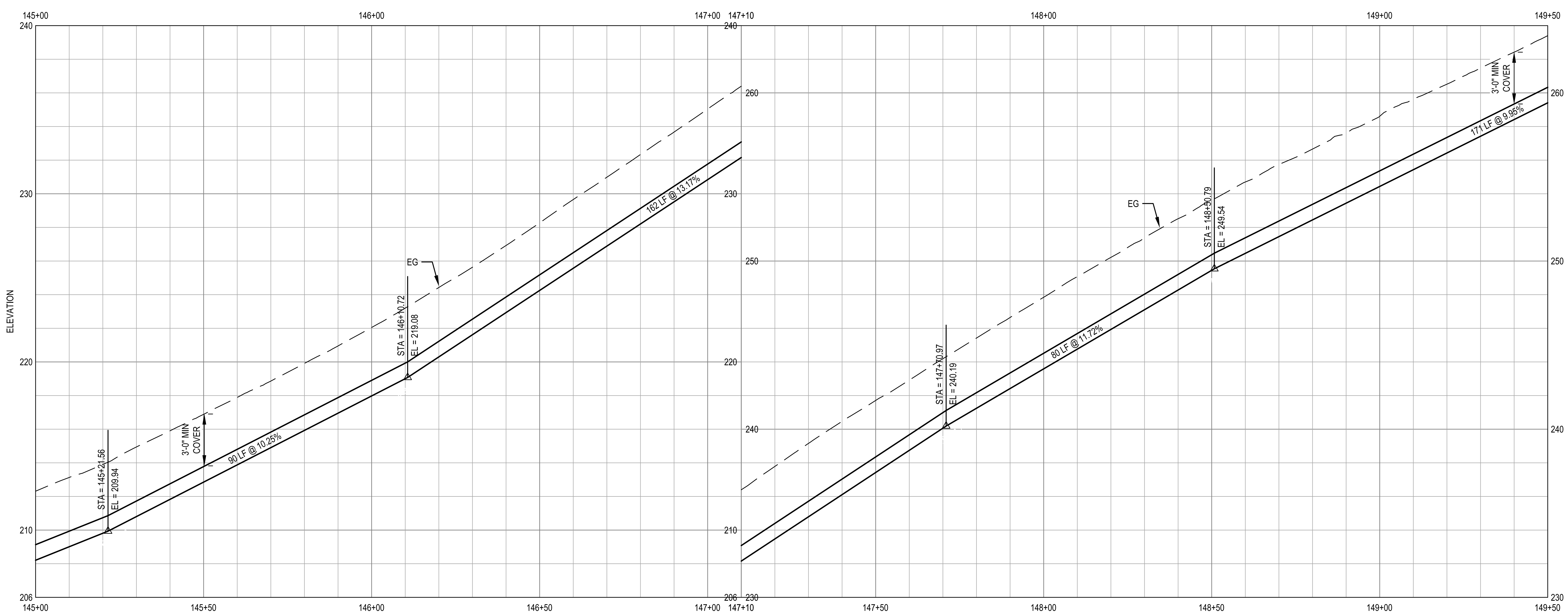


1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

3/25/2026

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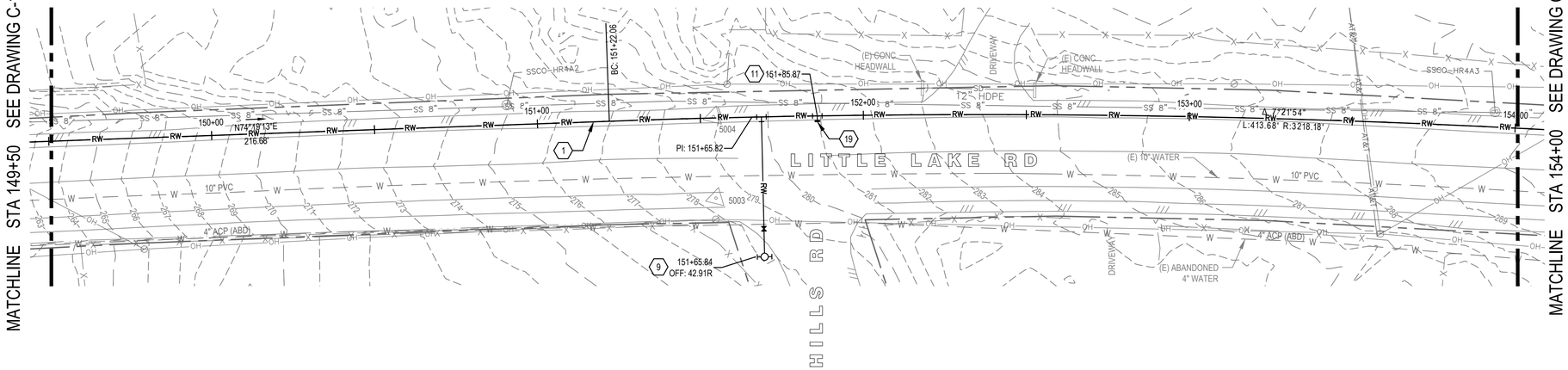
Drawn	D. AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **RECYCLED WATER LINE - STA 145+00 TO 149+50**

Project No. 12619547
Original Size ANSI D
Drawing No. **C-111**

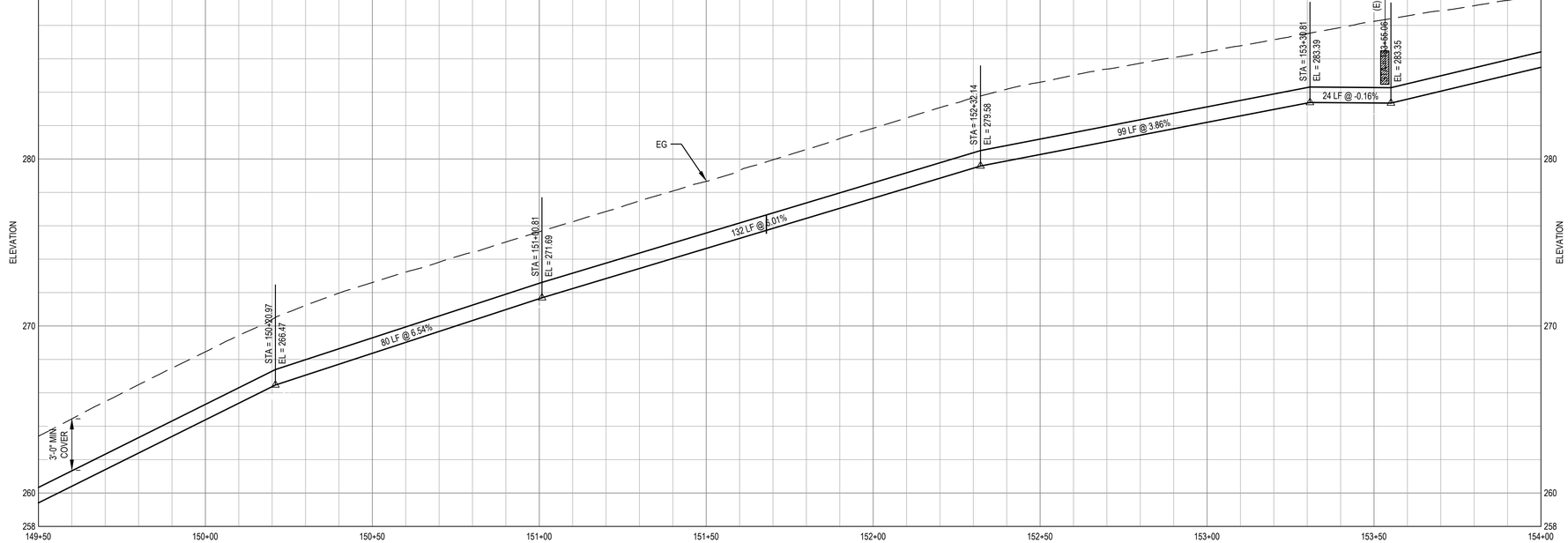
Plot Date: 24 March 2026 - 2:09 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-111.dwg



1 **PLAN VIEW**

0 10' 20' 40'

N



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
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9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
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19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — THEA GLEN KENNEDY — 56304 — CIVIL — STATE OF CALIFORNIA

3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title: RECYCLED WATER LINE - STA 149+50 TO 154+00

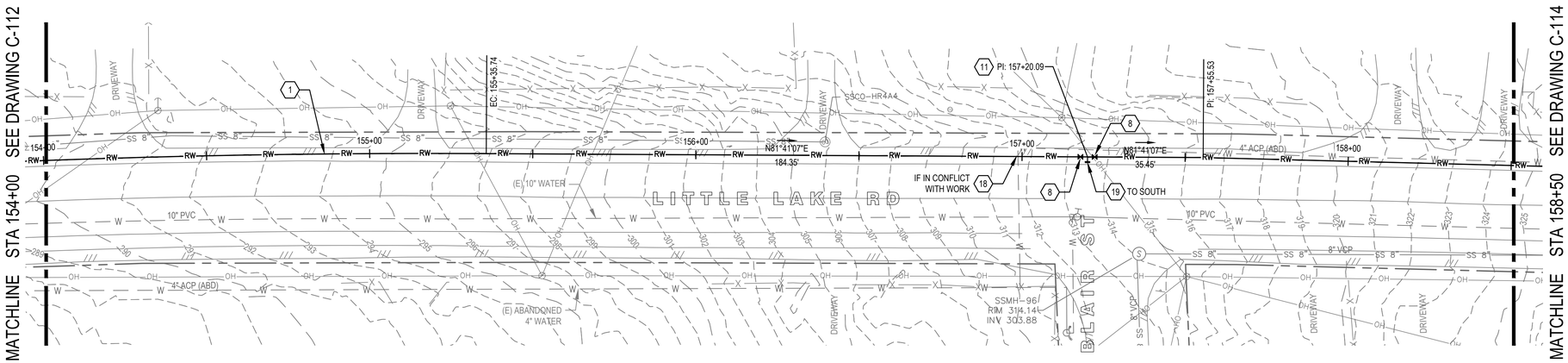
Project No. 12619547

Original Size: ANSI D

Drawing No. C-112

Sheet 19 of 53

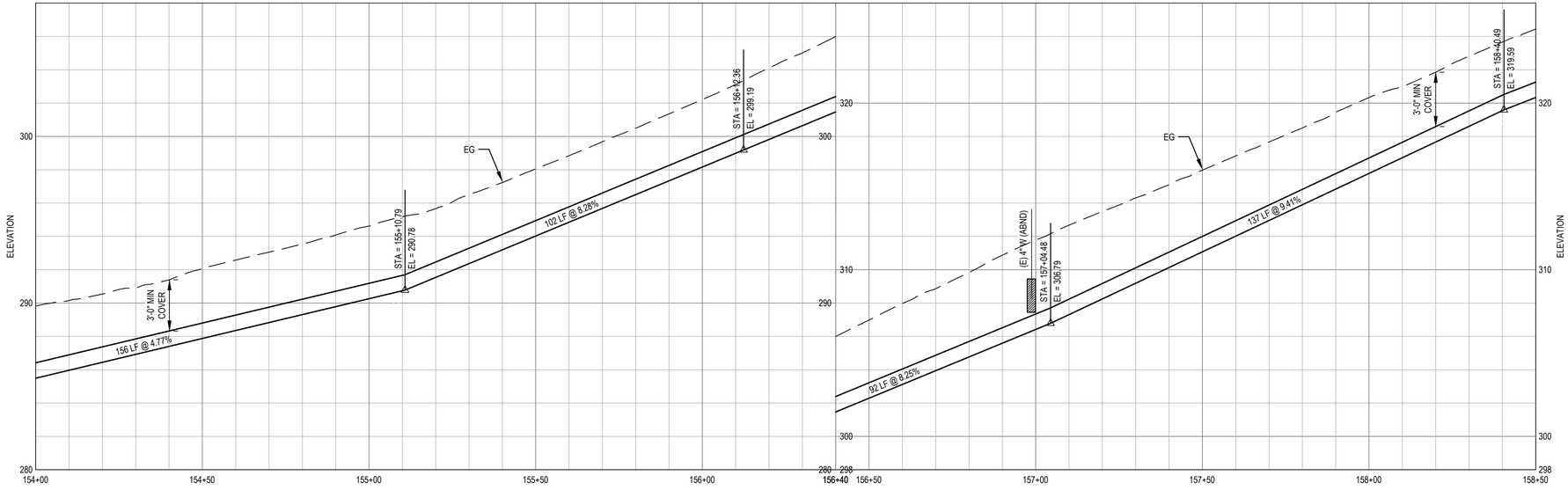
Plot Date: 24 March 2026 - 2:10 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-112.dwg



1 **PLAN VIEW**

0 10' 20' 40'

N



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — KEVIN GLEN KENNEDY — 28304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	**D. AGUAS, C. BACH**	Designer	**L. HALONEN**
Drafting Check	**L. HALONEN, M. KENNEDY**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**

Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**

Title **RECYCLED WATER LINE - STA 154+00 TO 158+50**

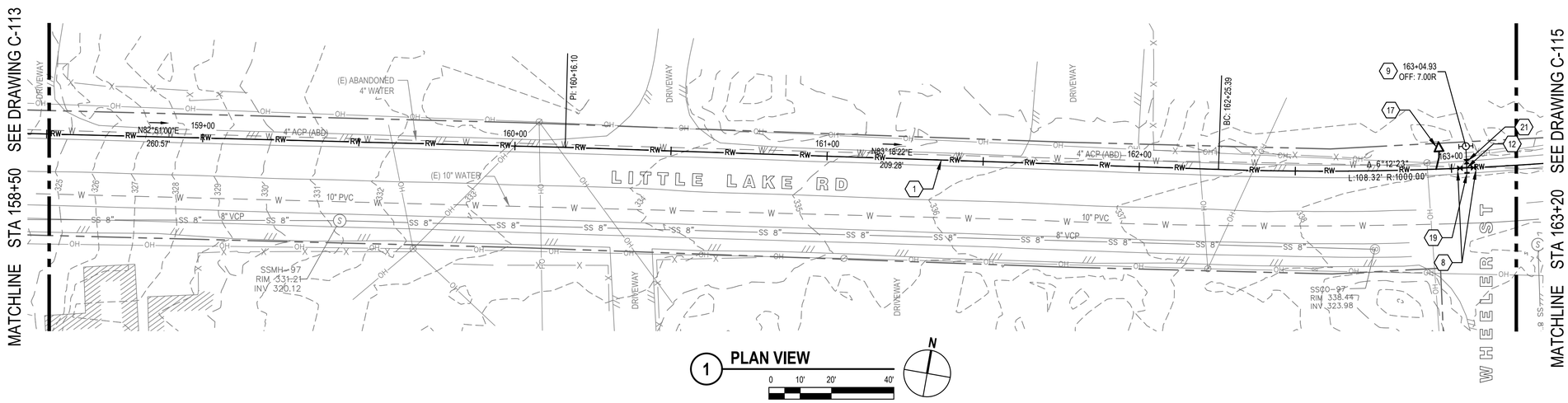
Project No. **12619547**

Original Size **ANSI D**

Drawing No. **C-113**

Sheet **20** of **53**

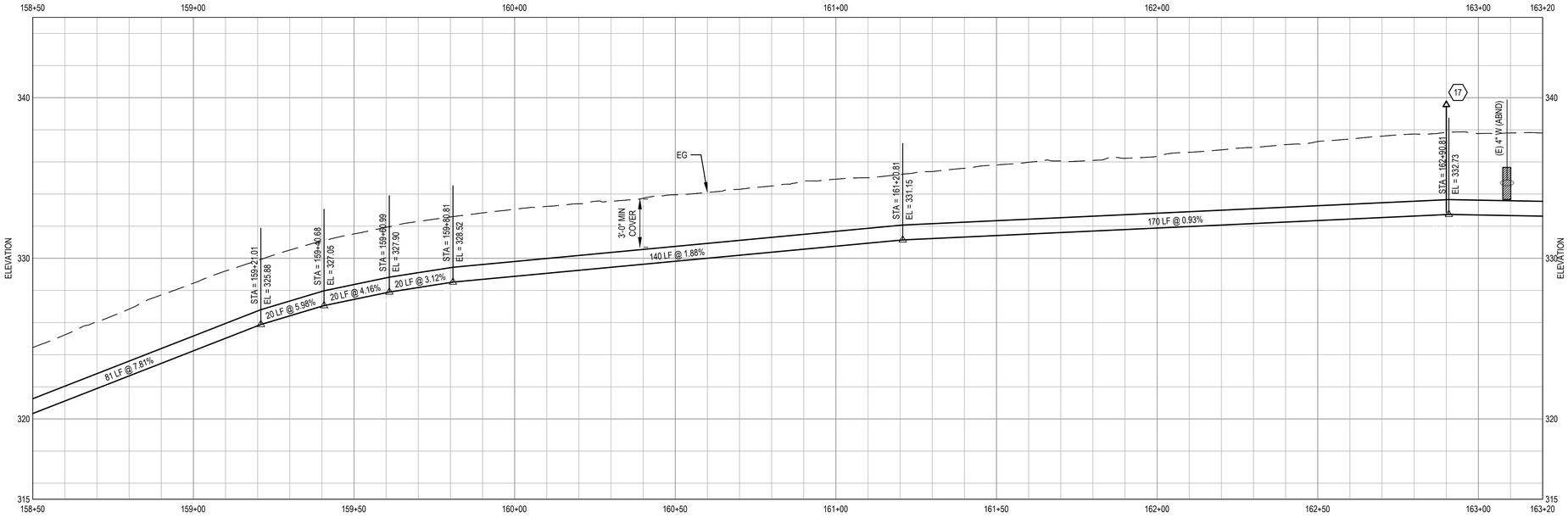
Plot Date: 24 March 2026 - 2:11 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-113.dwg



1 **PLAN VIEW**

0 10' 20' 40'

N



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
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8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — STEVEN GLEN KENNEDY — 068304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **RECYCLED WATER LINE - STA 158+50 TO 163+20**

Project No. 12619547

Original Size ANSI D

Drawing No. **C-114**

Sheet 21 of 53

Plot Date: 25 March 2026 - 1:51 PM Plotted By: Chris Bach
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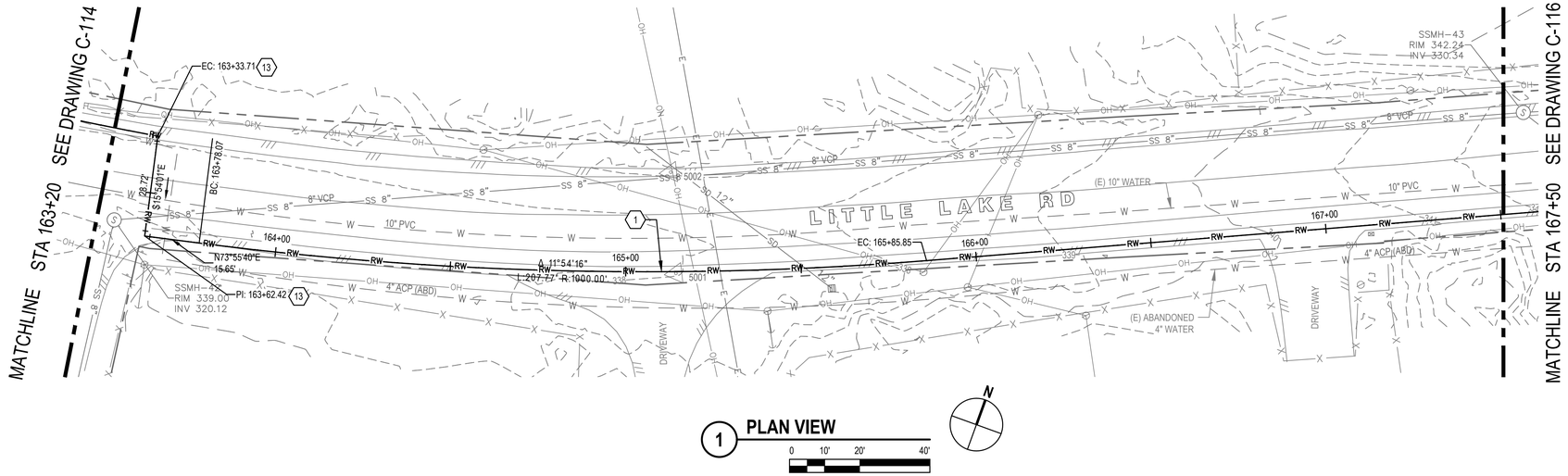
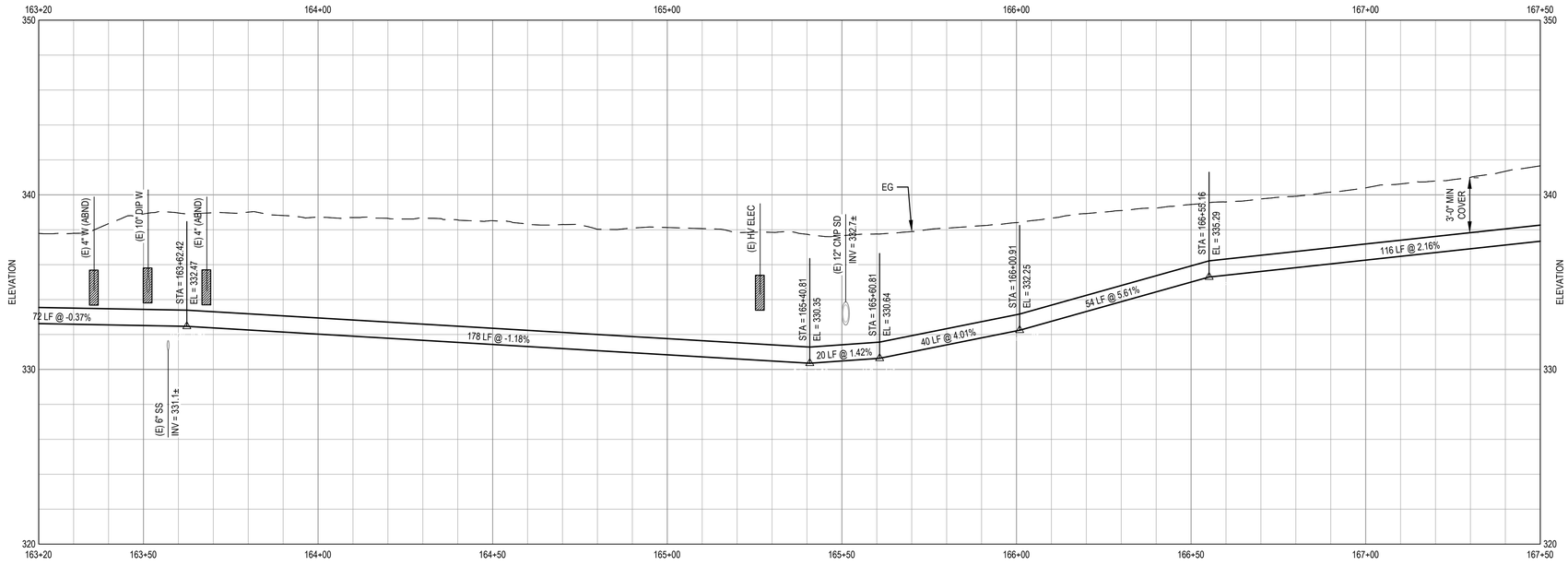


1 **PLAN VIEW**

0 10' 20' 40'



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17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER
STEVEN GLEN KENNEDY
No. C68304
CIVIL
STATE OF CALIFORNIA
3/25/2026

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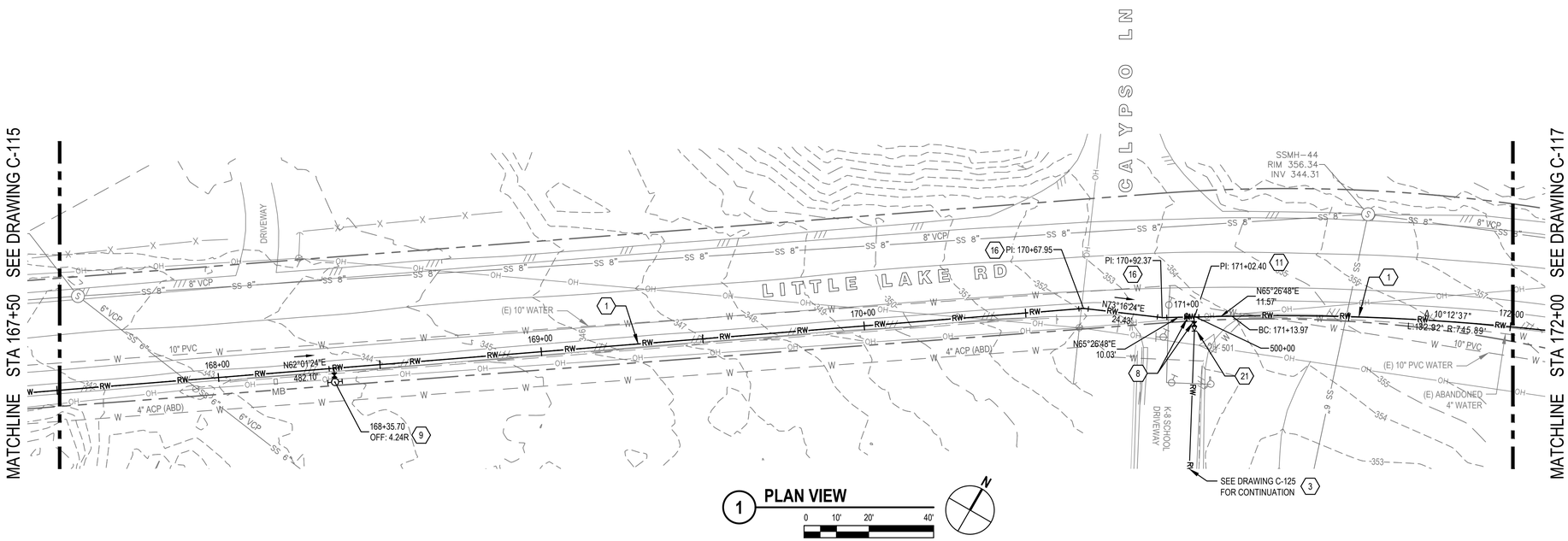
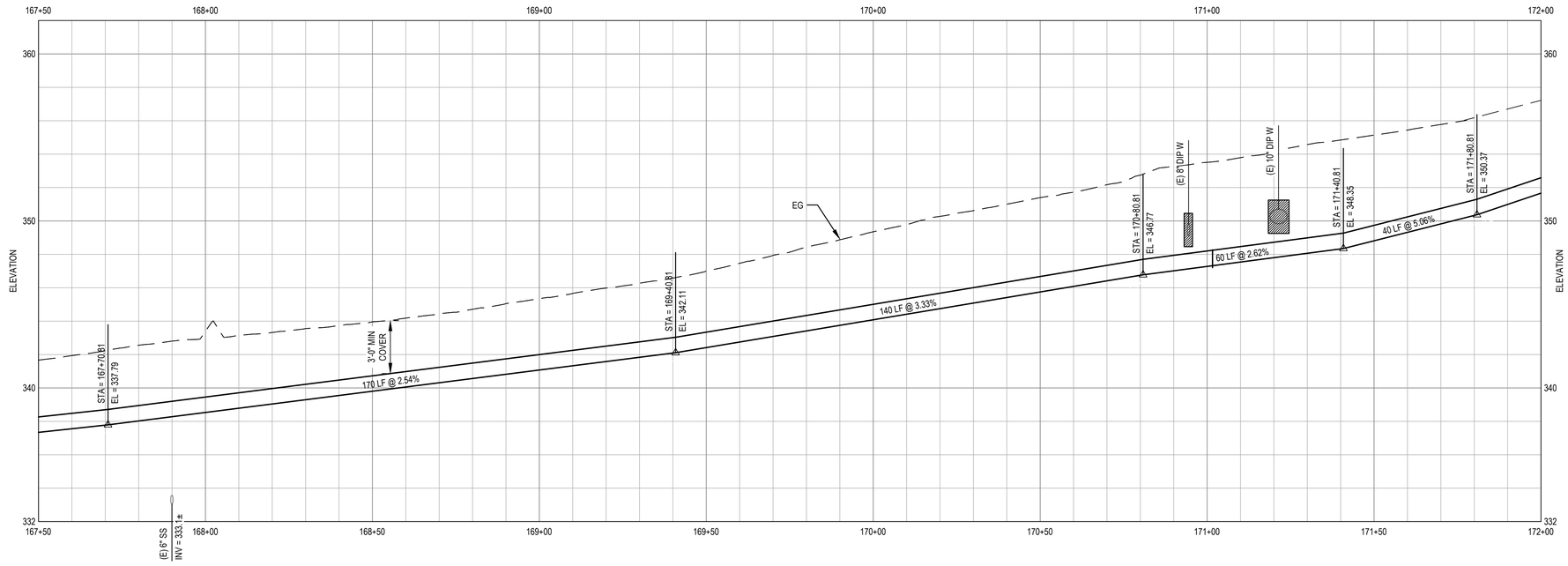
Drawn	**D. AGUAS, C. BACH**	Designer	**L. HALONEN**
Drafting Check	**L. HALONEN, M. KENNEDY**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **RECYCLED WATER LINE - STA 163+20 TO 167+50**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **C-115**
Sheet **22** of **53**



1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
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19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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0 1"

REGISTERED PROFESSIONAL ENGINEER — HUGH GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **RECYCLED WATER LINE - STA 167+50 TO 172+00**

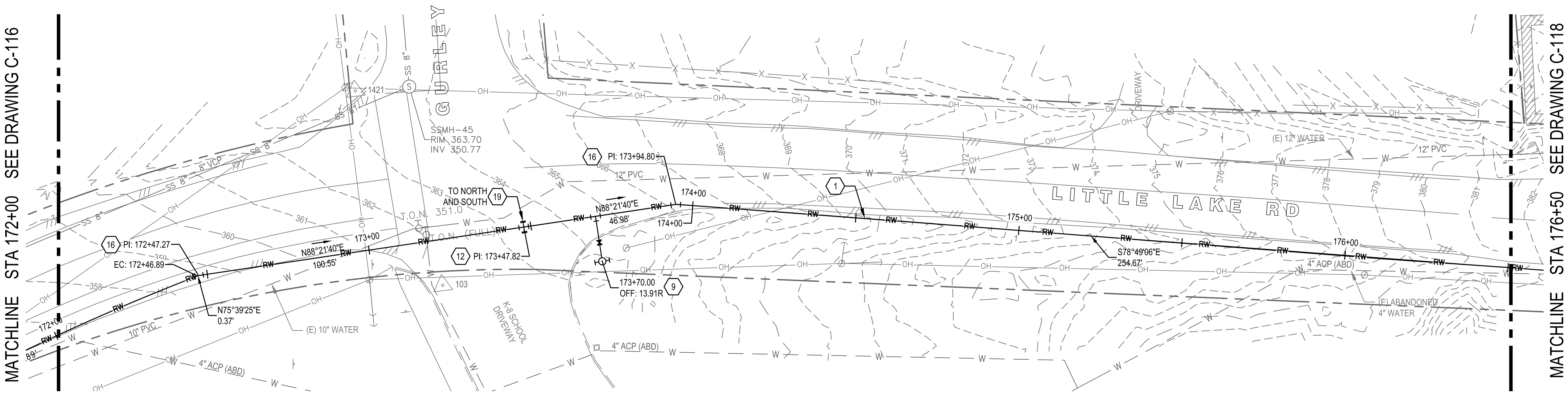
Project No. **12619547**

Original Size **ANSI D**

Drawing No. **C-116**

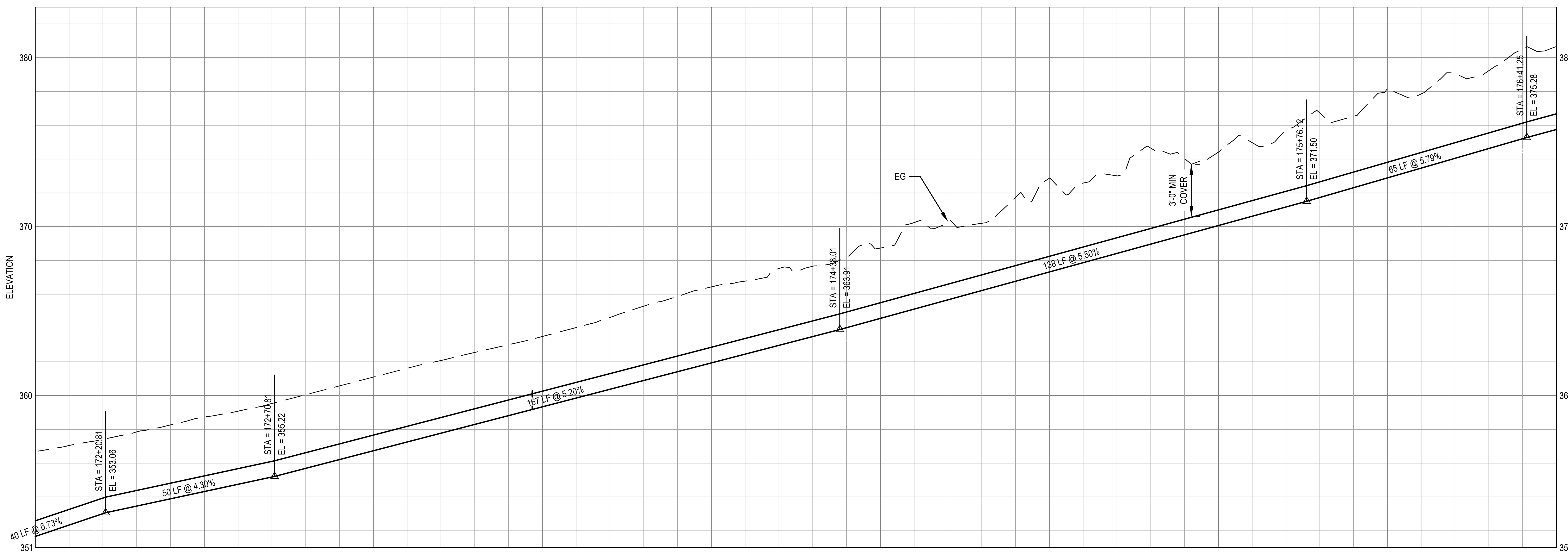
Sheet **23** of **53**

Plot Date: 24 March 2026 - 2:15 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-116.dwg



1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

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9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — C88304 — CIVIL — STATE OF CALIFORNIA
3/25/2026

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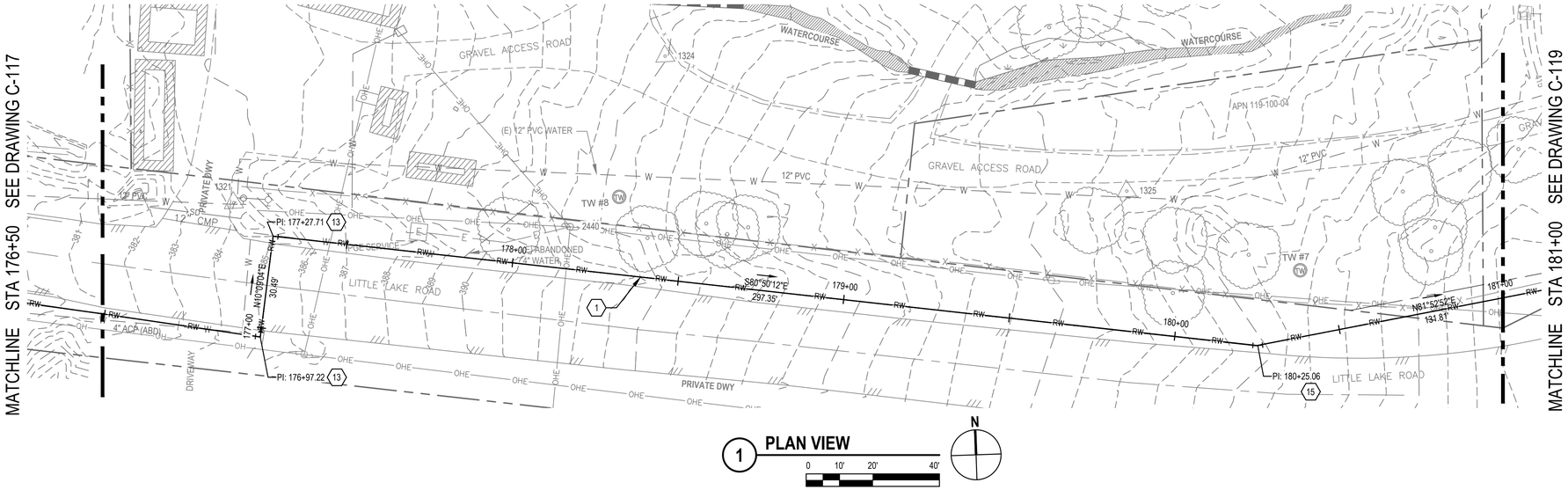
Drawn	D. AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: RECYCLED WATER LINE - STA 172+00 TO 176+50

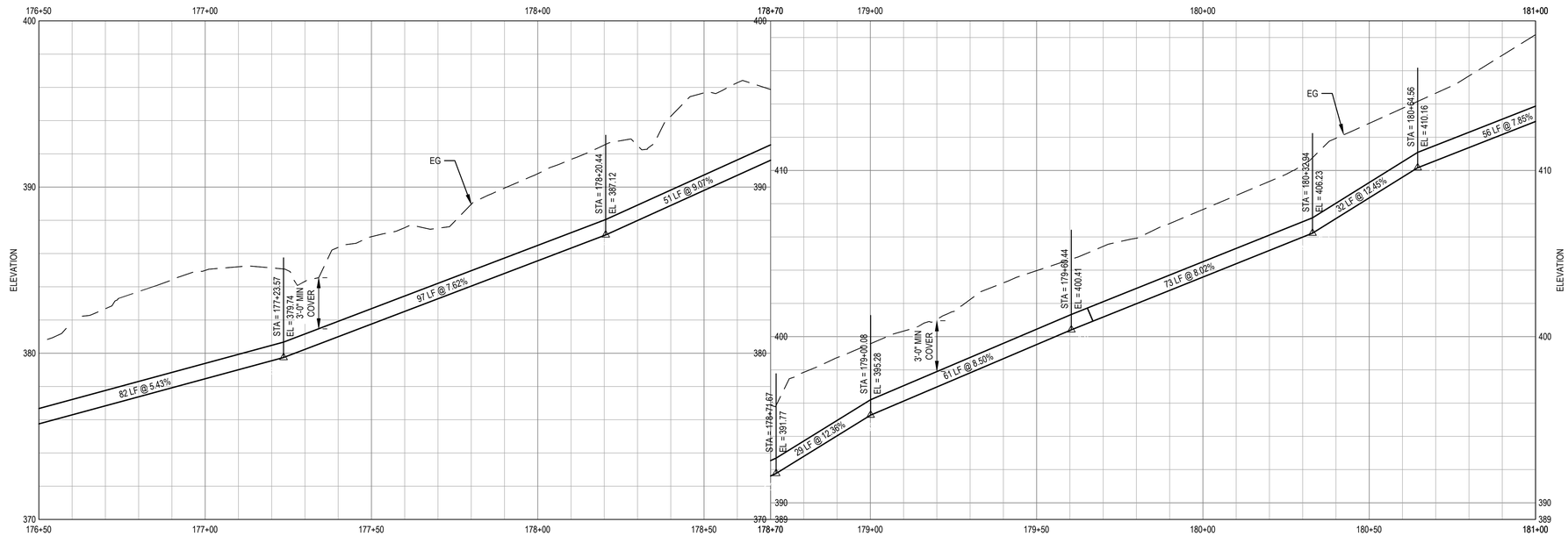
Project No. 12619547
Original Size ANSI D
Drawing No. C-117
Sheet 24 of 53

Plot Date: 24 March 2026 - 2:17 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-117.dwg



1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
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SHEET GENERAL NOTES

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SHEET KEYNOTES

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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — HUGH GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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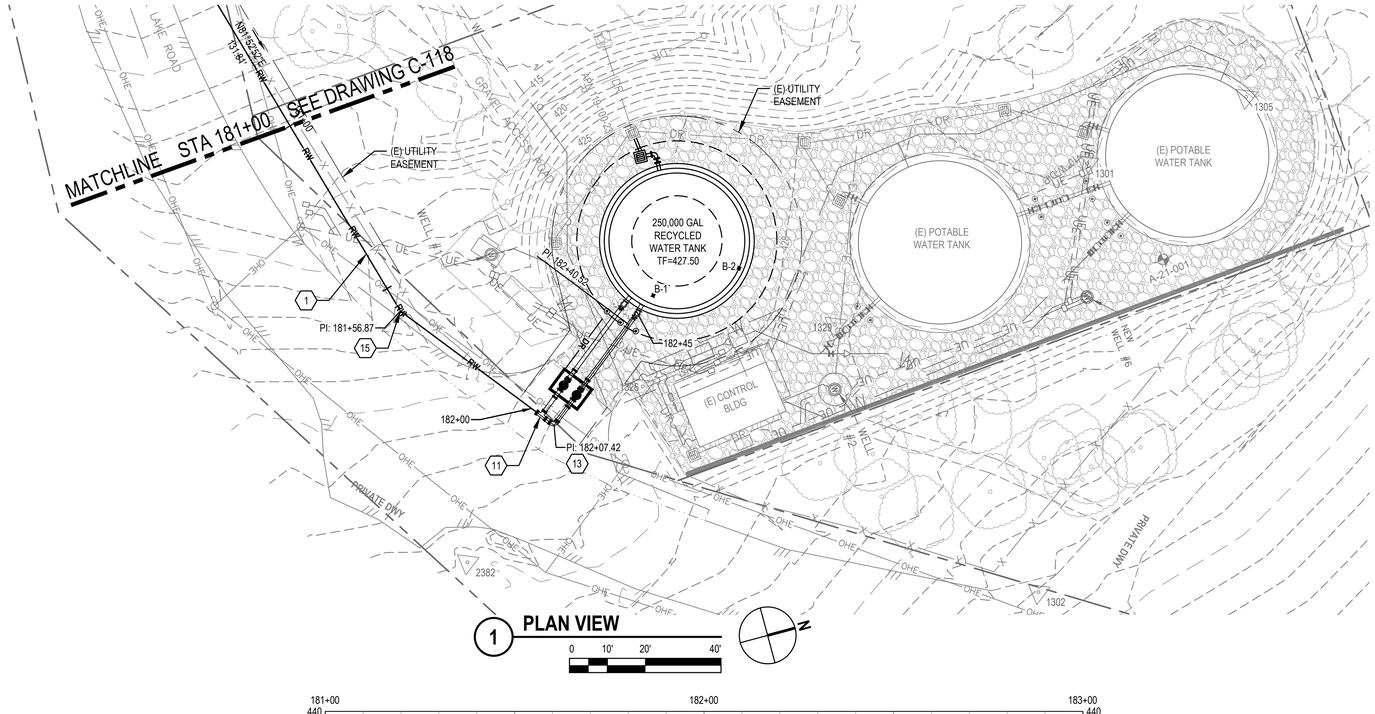
Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

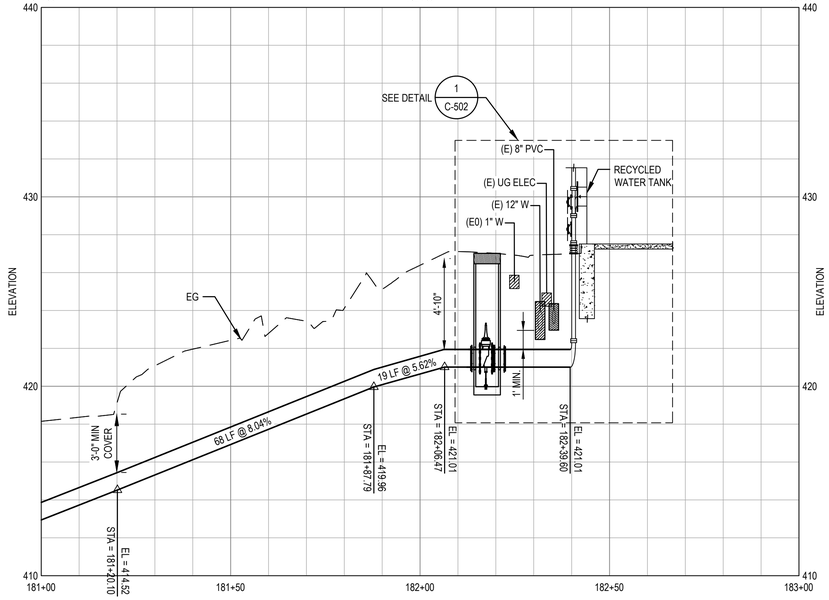
Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: RECYCLED WATER LINE - STA 176+50 TO 181+00
Project No. 12619547
Original Size: ANSI D
Drawing No. C-118
Sheet 25 of 53

Plot Date: 24 March 2026 - 2:18 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-118.dwg



1 **PLAN VIEW**

0 10' 20' 40'



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		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **RECYCLED WATER LINE - STA 181+00 TO 182+31**

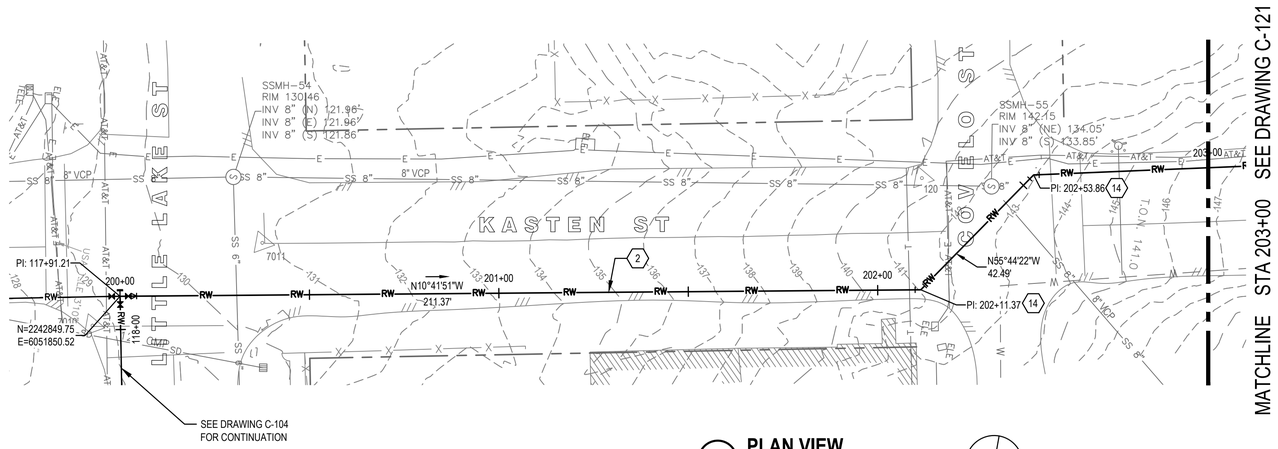
Project No. 12619547

Original Size ANSI D

Drawing No. **C-119**

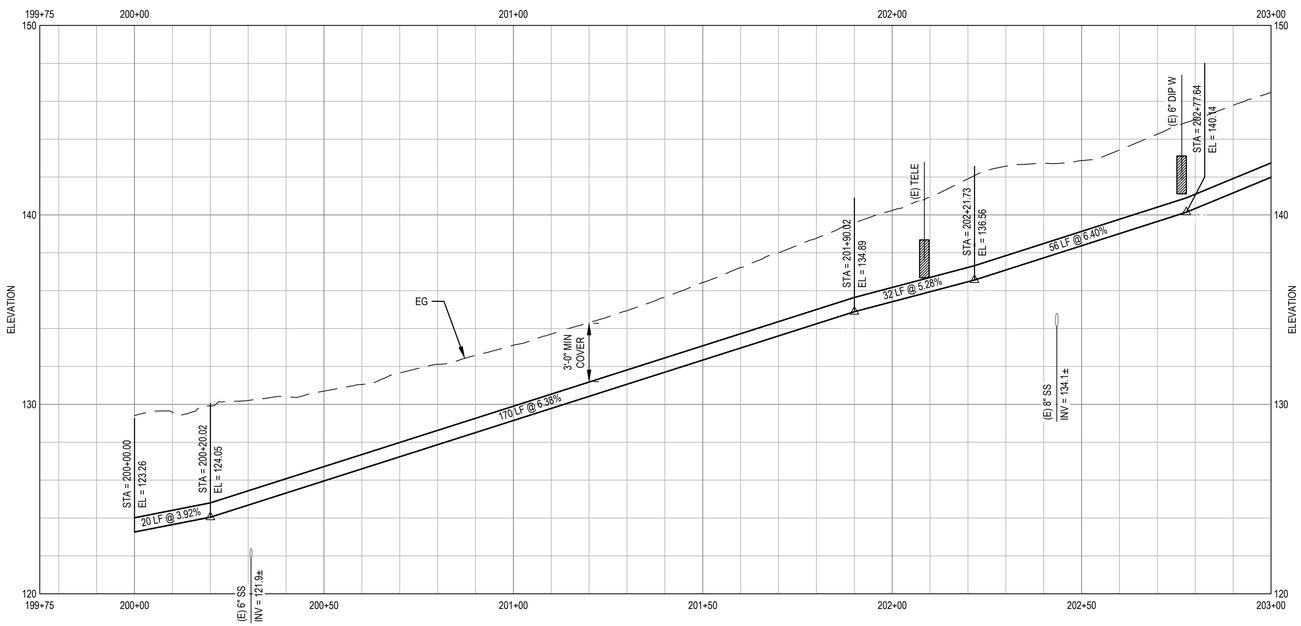
Sheet 26 of 53

Plot Date: 24 March 2026 - 2:19 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-119.dwg



1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER
STEVEN GLEN KENNEDY
C68304
CIVIL
STATE OF CALIFORNIA
3/25/2026

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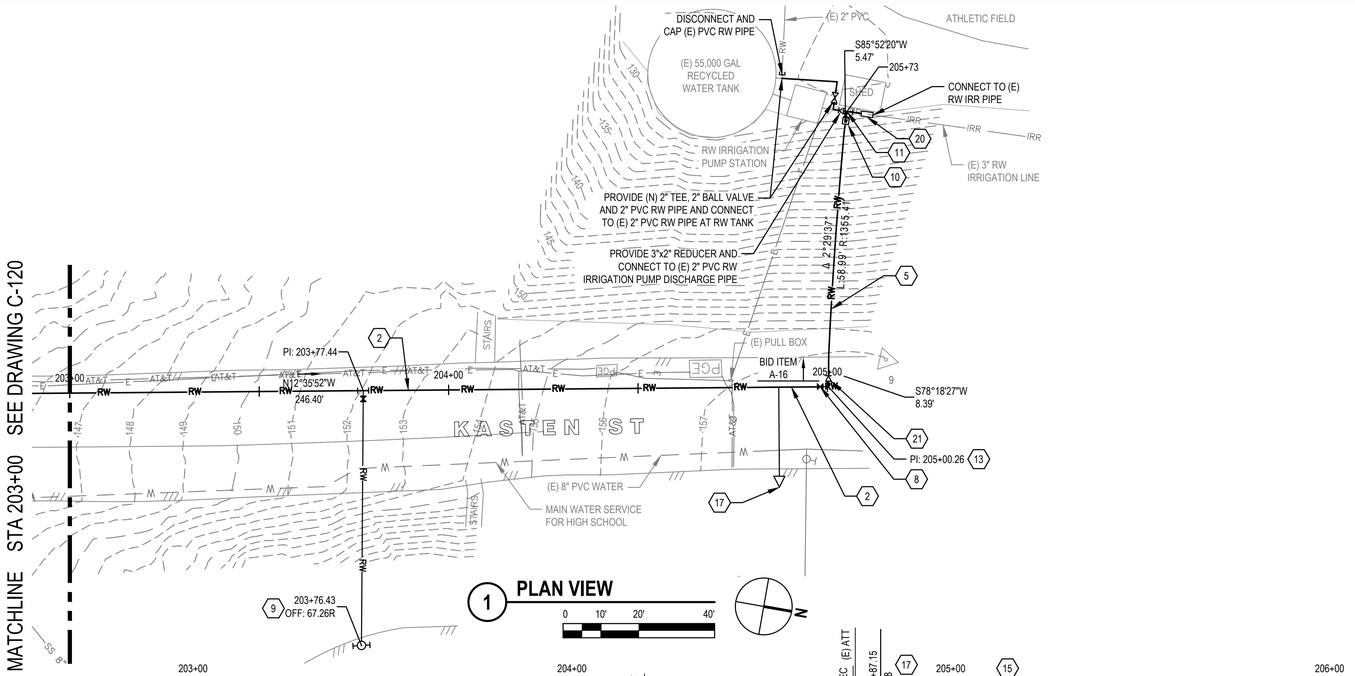
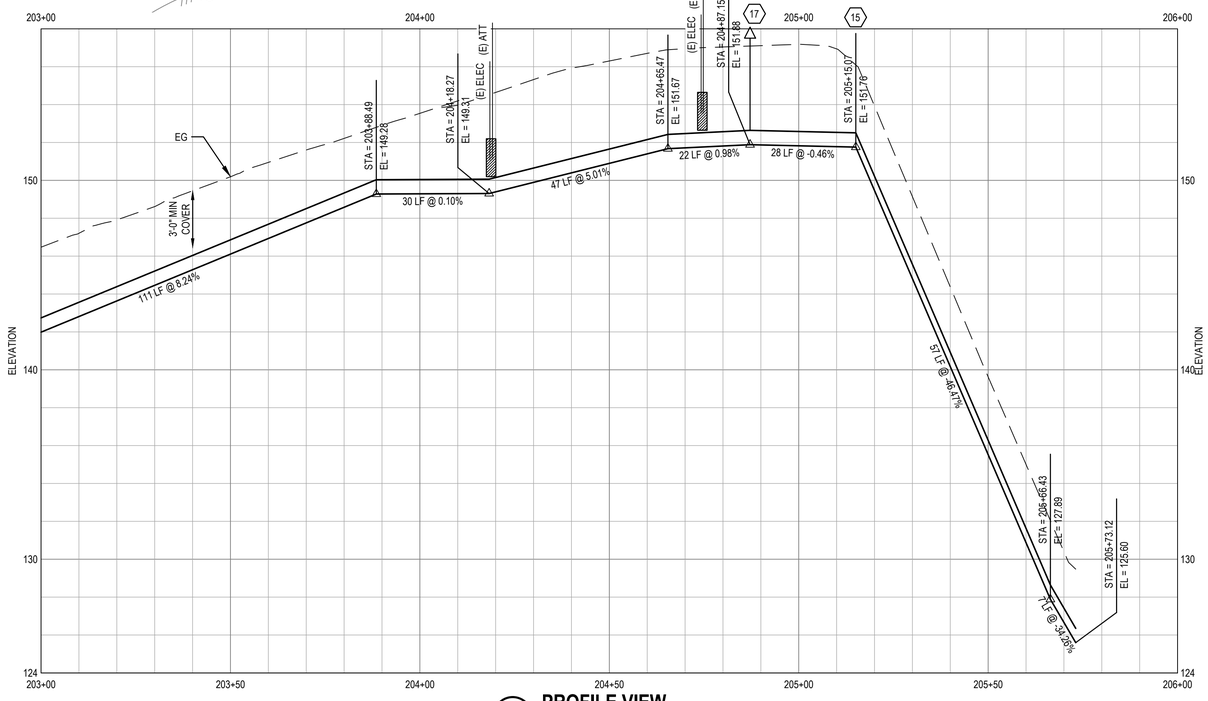
Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
	This document shall not be used for construction unless signed and sealed for construction.	Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 200+00 TO 203+00
Project No. 12619547
Original Size ANSI D
Drawing No. C-120
Sheet 27 of 53

Plot Date: 24 March 2026 - 2:20 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-120.dwg



1 **PLAN VIEW**



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
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6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

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8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — GLEN KENNEDY — CIVIL — STATE OF CALIFORNIA — 66304 — 3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title **RECYCLED WATER LINE - STA 203+00 TO 205+73**
Project No. 12619547
Original Size ANSI D
Drawing No. **C-121**
Sheet 28 of 53

Plot Date: 24 March 2026 - 2:21 PM Plotted By: Chris Bach
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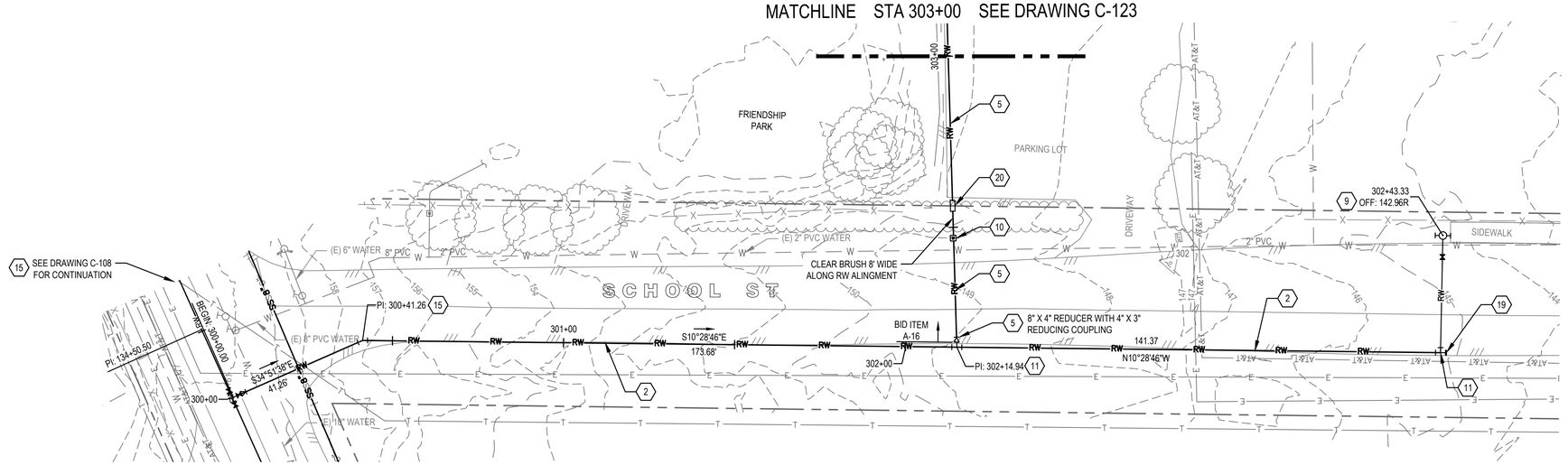

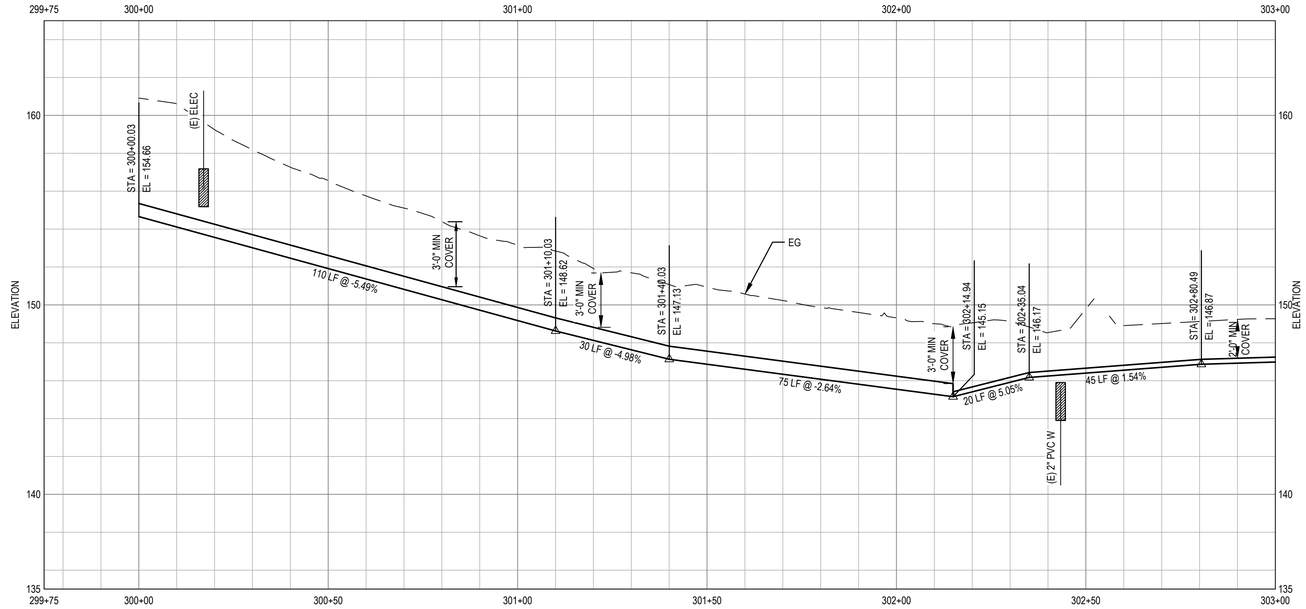

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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER — GLEN KENNEDY — 63304 — CIVIL — STATE OF CALIFORNIA
3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 300+00 TO 303+00
Project No. 12619547
Original Size ANSI D
Drawing No. C-122
Sheet 29 of 53

Plot Date: 24 March 2026 - 2:21 PM
Plotted By: Chris Bach
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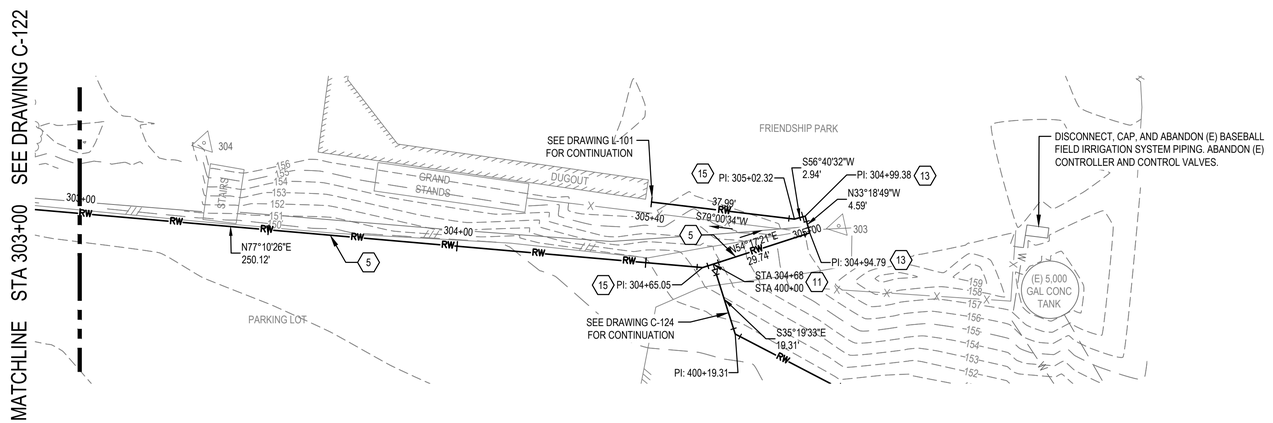
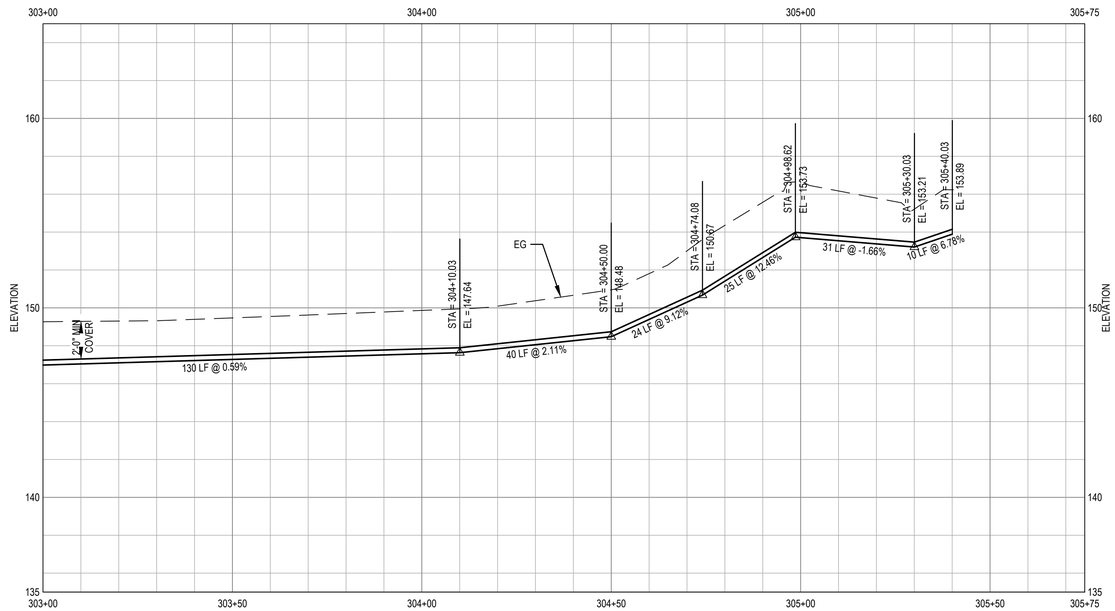


1 PLAN VIEW

0 10' 20' 40'



2 PROFILE VIEW

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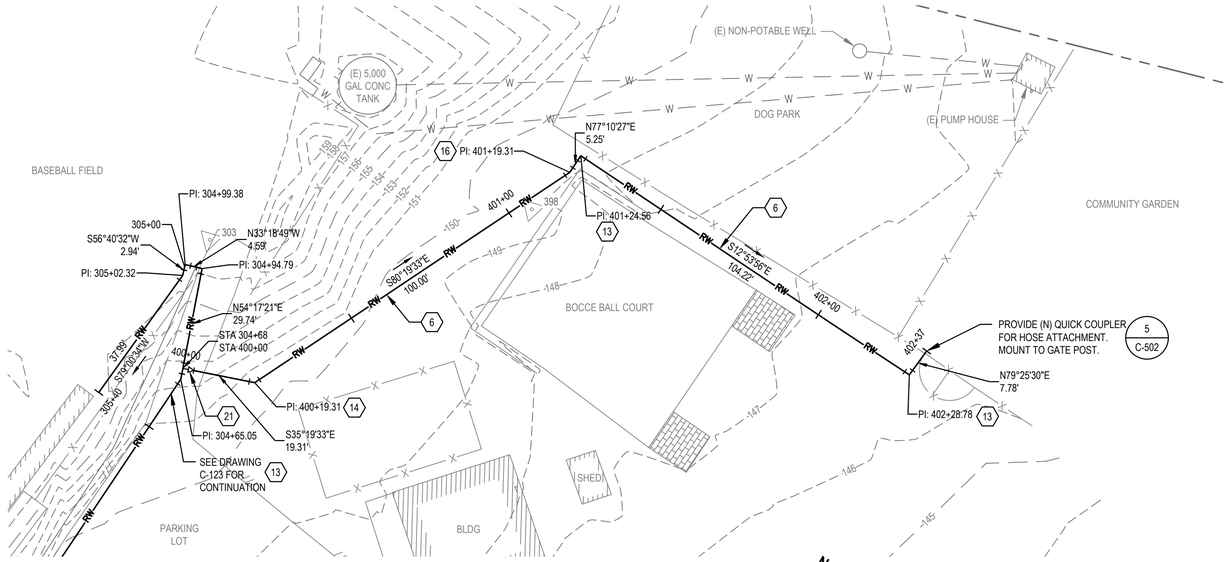
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER LINE - STA 303+00 TO 305+40
Project No. 12619547
Original Size ANSI D
Drawing No. C-123
Sheet 30 of 53

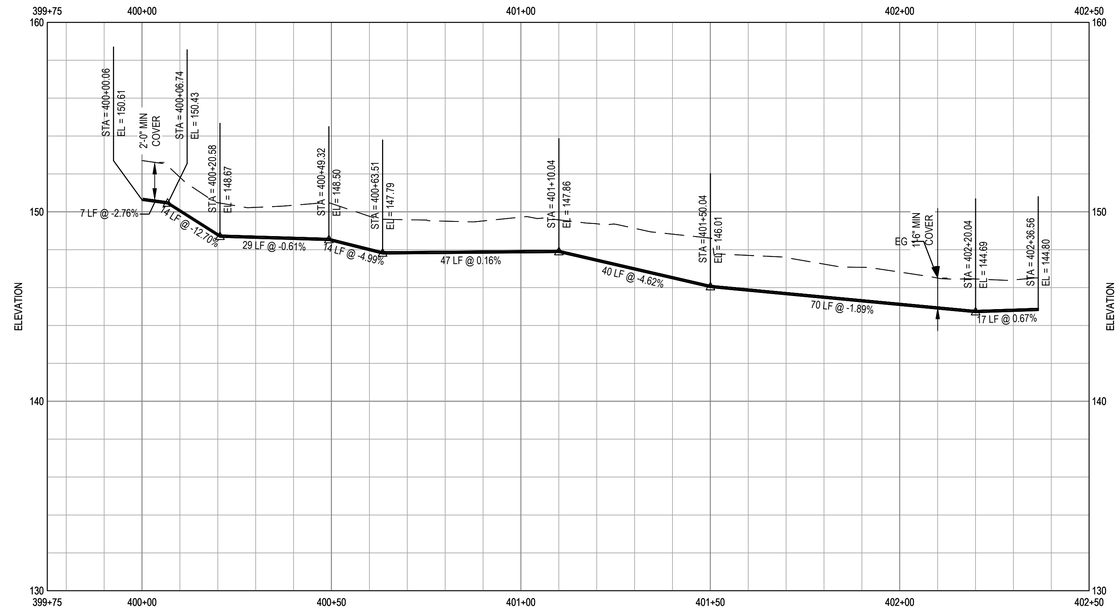
Plot Date: 24 March 2026 - 2:22 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-123.dwg



1 PLAN VIEW

0 10' 20' 40'

N



2 PROFILE VIEW

0 2' 4' 8' VERTICAL
0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
2. THE MINIMUM ALLOWABLE PIPE COVER OVER ALL PIPES 4" NOMINAL DIAMETER AND LARGER SHALL BE 36" AS MEASURED FROM FINISH GRADE TO THE TOP OF THE PIPE.
3. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE BETWEEN (E) WATER UTILITY AND (N) RECYCLED WATER MAIN. BACKFILL BETWEEN UTILITIES WITH CONTROLLED DENSITY FILL SLURRY, MIN 5' FROM CROSSING EACH WAY. PROVIDE A MINIMUM OF 6" SAND AROUND UTILITIES IF USING CONTROLLED DENSITY FILL SLURRY IN ACCORDANCE WITH MENDOT STD NO. A60A AND A60B.
4. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN (E) UNDERGROUND SEWER AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 12" OF VERTICAL CLEARANCE BETWEEN (E) POWER, TELECOMMUNICATIONS, AND GAS UTILITIES AND (N) RECYCLED WATER MAIN. PROVIDE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN (E) STORM DRAINS AND (N) RECYCLED WATER MAIN.
5. THE MINIMUM ALLOWABLE RADIUS ON 10" NOMINAL DIAMETER PIPE SHALL BE 300 FEET. CURVATURE OF THE PIPE SHALL BE ACCOMPLISHED THROUGH LONGITUDINAL BENDING OF THE PIPE BARREL. DEFLECTION OF JOINTS IS NOT ALLOWED.
6. PRIOR TO BACKFILLING, VERIFY THAT THE MANUFACTURER'S ASSEMBLY MARK ON THE PIPE JOINT IS FLUSH WITH THE END OF THE BELL.
7. ALL ELBOWS, BENDS, TEES, VALVES, AND OTHER DUCTILE IRON FITTINGS INSTALLED ON THE RECYCLED WATER PIPELINE SHALL BE MECHANICALLY RESTRAINED AS SHOWN ON DETAIL 3 ON SHEET C-505.
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SHEET KEYNOTES

1. (N) 10" PVC DR 18 RECYCLED WATER MAIN.
2. (N) 8" PVC DR 18 RECYCLED WATER PIPE.
3. (N) 6" PVC DR 18 RECYCLED WATER PIPE.
4. NOT USED.
5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
6. (N) 1" PVC SCH 80 RECYCLED WATER PIPE.
7. (N) 10" FPVC DR 18 RECYCLED WATER MAIN IN 14" FPVC DR 18 CASING INSTALLED VIA HDD. SEE PROFILE.
8. (N) GATE VALVE, SIZE PER ADJOINING PIPE, UNO. SEE DETAIL 3 ON DRAWING C-502.
9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
11. (N) TEE, SIZE PER ADJOINING PIPE, UNO.
12. (N) CROSS, SIZE PER ADJOINING PIPE, UNO.
13. (N) 90° ELBOW, SIZE PER ADJOINING PIPE, UNO.
14. (N) 45° ELBOW, SIZE PER ADJOINING PIPE, UNO.
15. (N) 22.5° ELBOW, SIZE PER ADJOINING PIPE, UNO.
16. (N) 11.25° ELBOW, SIZE PER ADJOINING PIPE, UNO.
17. (N) AIR RELEASE VALVE AT HIGH POINT IN WATER MAIN. SEE DETAIL 1 ON DRAWING C-505.
18. PLUG AND ABANDON (E) ABANDONED WATER LINE. SEE DETAIL 4 ON DRAWING C-501.
19. (N) RESTRAINED MECHANICAL PLUGS WHERE SHOWN ON PLAN.
20. (N) BACKFLOW PREVENTER AND PRESSURE REDUCER. SEE DETAIL 4 ON DRAWING C-502.
21. (N) REDUCER, SIZE PER ADJOINING PIPE, UNO.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: RECYCLED WATER LINE - STA 400+00 TO 402+37
Project No. 12619547
Original Size ANSI D
Drawing No. C-124
Sheet 31 of 53

Plot Date: 24 March 2026 - 2:23 PM
Plotted By: Chris Bach
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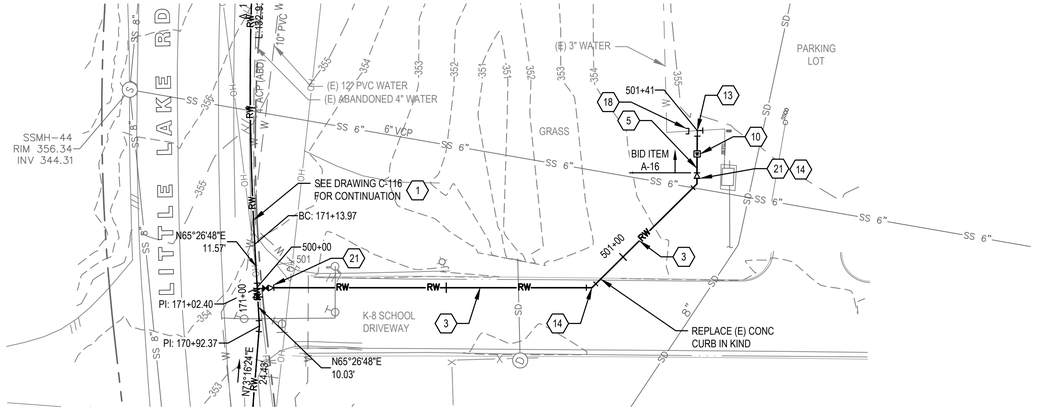
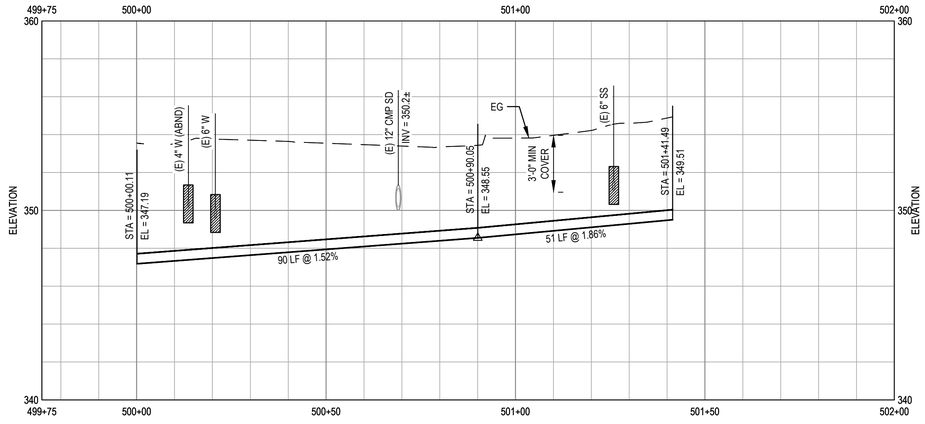


1 **PLAN VIEW**

0 10' 20' 40'



2 **PROFILE VIEW**

0 2' 4' 8' VERTICAL

0 10' 20' 40' HORIZONTAL

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

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5. (N) 3" PVC SCH 80 RECYCLED WATER PIPE.
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9. (N) FIRE HYDRANT. SEE DETAIL 2 ON DRAWING C-502.
10. (N) WATER SERVICE METER. SEE DETAIL 2 ON DRAWING C-505.
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No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

0 1"

REGISTERED PROFESSIONAL ENGINEER — HUGH GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **RECYCLED WATER LINE - STA 500+00 TO 501+41**

Project No. 12619547

Original Size ANSI D

Drawing No. **C-125**

Sheet 32 of 53

Plot Date: 24 March 2026 - 2:24 PM Plotted By: Chris Bach
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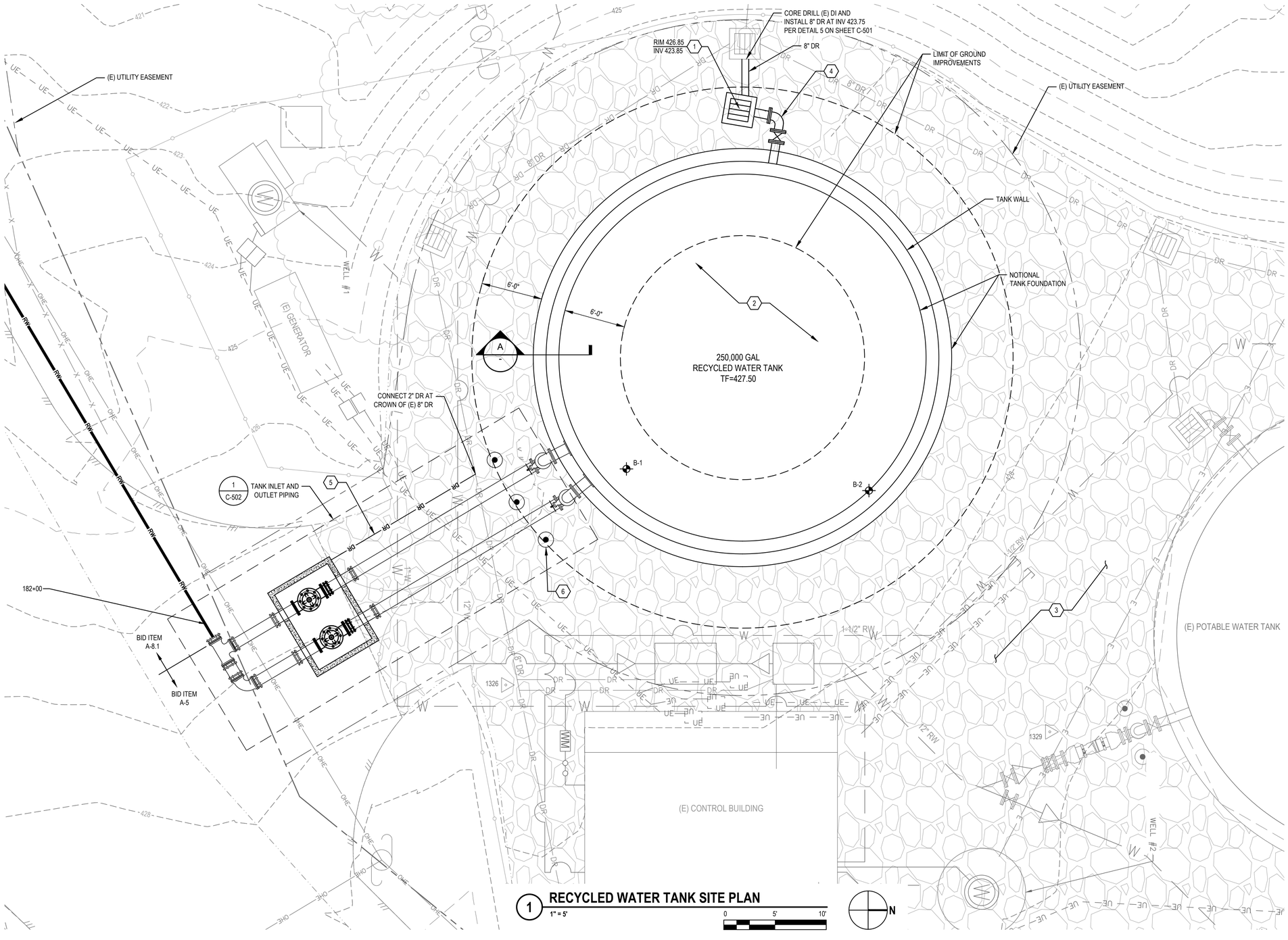

1 RECYCLED WATER TANK SITE PLAN

1" = 5'

0 5' 10'

N

SHEET GENERAL NOTES

1. LOCATION OF EXISTING UTILITIES AND STRUCTURES ARE FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. CONTRACTOR SHALL NOTIFY THE OWNER AND UNDERGROUND SERVICES ALERT (800) 227-2600 OR 811 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION AND SHALL POTHOLE FOR EXACT LOCATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES.
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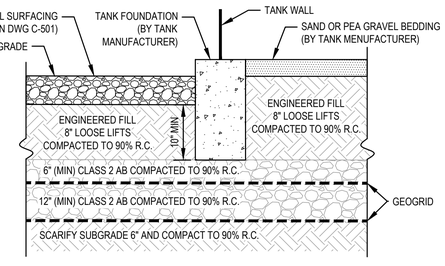
8. PROVIDE ALL FITTINGS AND TRANSITION COUPLINGS TO PROVIDE A COMPLETE AND WORKING SYSTEM.
9. FROM STATION 138+00 TO WEST, CONTRACTOR TO LOCATE STREET LIGHTING CONDUIT AND CABLE.

SOIL IMPROVEMENT AND EXCAVATION NOTES

1. SOILS UNDER AND AROUND THE (N) TANK FOUNDATION (TANK PAD) SHALL BE OVEREXCAVATED TO THE LIMITS SHOWN ON THIS DRAWING AND TO A DEPTH OF AT LEAST 18" BELOW THE BOTTOM OF THE TANK FOUNDATION. THE EXPOSED SUBGRADE SHALL BE LEVEL. THE SUBGRADE SHALL BE SCARIFIED 6", MOISTURE CONDITIONED TO NEAR OPTIMAL, AND COMPACTED TO AT LEAST 90% R.C. IN ACCORDANCE WITH ASTM D1557. THE TANK PAD SHALL BE RECONSTRUCTED, BACKFILLED AND COMPACTED AS SHOWN ON DETAIL A ON THIS DRAWING.
2. ALL SUBGRADE, BACKFILLS AND FILLS SHALL BE MOISTURE CONDITIONED TO SLIGHTLY ABOVE THE OPTIMUM, PLACED IN HORIZONTAL LIFTS NO MORE THAN 8 INCHES THICK AND COMPACTED TO AT LEAST 90% R.C. IN ACCORDANCE WITH ASTM D1557.
3. ANY LOOSE OR SOFT AREAS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO BEING STABILIZED. ONCE APPROVED, LOOSE OR SOFT AREAS SHALL BE STABILIZED BY EXCAVATING TO FIRM, NATIVE MATERIAL AND REPLACING WITH ENGINEERED FILL.
4. SEE SPECIFICATION SECTION 33 16 13 FOR TANK REQUIREMENTS INCLUDING NOTIONAL DRAWINGS OF TANK FLOOR, ROOF, ELEVATIONS, SECTIONS AND DETAILS. FINAL TANK AND FOUNDATION DESIGN BY CONTRACTOR.
5. ALL UNDERGROUND WATER PIPES 4" AND LARGER SHALL HAVE RESTRAINED JOINTS AS SPECIFIED IN SECTION 33 11 00.
6. INSTALL (N) PIPES IN TRENCHES IN ACCORDANCE WITH DETAIL 2 ON DRAWING C-501.

SHEET KEYNOTES

1. PROVIDE (N) DRAINAGE INLET. SEE DETAIL 4 DRAWING C-504.
2. SALVAGE (E) GRAVEL SURFACING WITHIN (N) RECYCLED WATER TANK FOOTPRINT AND A SUFFICIENT DISTANCE OUT FROM (N) FOUNDATION EDGE, AS REQUIRED TO CONSTRUCT FOUNDATION. CUT (E) SUBGRADE ENHANCEMENT GEOTEXTILE AT EDGE OF GRAVEL REMOVAL LIMITS. RESTORE GRAVEL SURFACING AROUND (N) RECYCLED WATER TANK FOLLOWING COMPLETION OF SITE IMPROVEMENTS IN ACCORDANCE WITH DETAIL 6 ON DRAWING C-501. DISPOSE OF EXCESS GEOTEXTILE.
3. SPREAD AND CONSOLIDATE REMAINING SALVAGED GRAVEL AROUND TANK SITE AS DIRECTED BY ENGINEER.
4. TANK OVERFLOW AND DRAIN PIPING. SEE DETAIL 4 DRAWING C-505.
5. PROVIDE 2" SCH 40 PVC VAULT DRAIN AND 1-1/2" SCH 40 PVC ACCESS COVER DRAIN IN COMMON TRENCH.
6. PROVIDE REMOVABLE BOLLARD (TYP OF 3), SEE DETAIL 6 ON DRAWING C-502.



A RECYCLED WATER TANK PAD SECTION

N.T.S.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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REGISTERED PROFESSIONAL ENGINEER — JOHN GLEN KENNEDY — C68304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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This document shall not be used for construction unless signed and sealed for construction.

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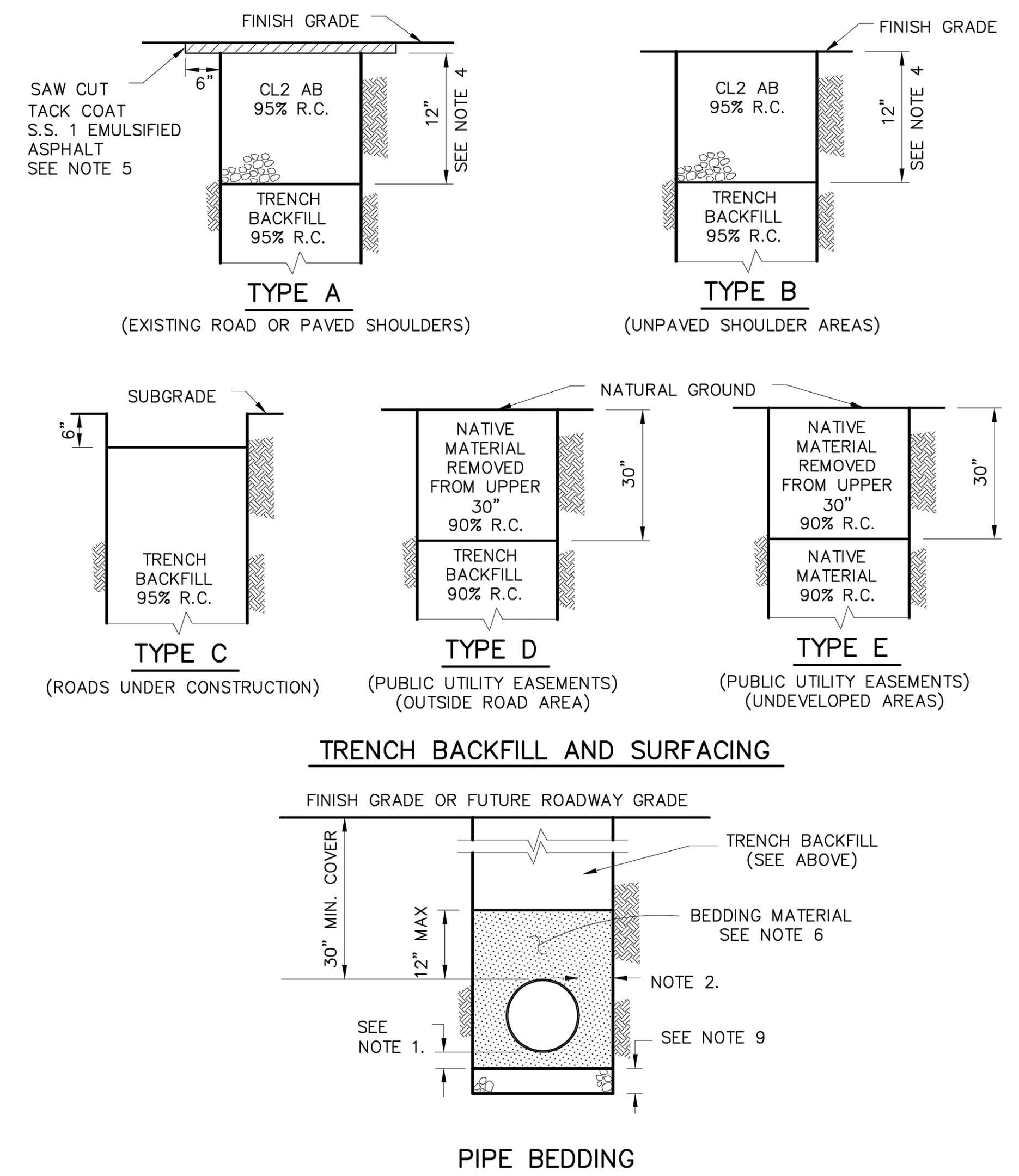
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title RECYCLED WATER TANK SITE PLAN
Project No. 12619547
Original Size ANSI D
Drawing No. C-401
Sheet 33 of 53

Plot Date: 24 March 2026 - 2:25 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-401.dwg



NOTE:

SEE MENDOT STD. A60B AND A60C FOR ALL TRENCH RESTORATION NOTES.

TRENCH RESTORATION SECTIONS — MENDOT STD. NO. A60A

SCALE: NONE | DESIGN: HND | DRAWN: HND | FEB. 2008 | PAGE: A-44

TRENCH RESTORATION NOTES:

1. BEDDING BELOW PIPE SHALL BE AS REQUIRED BY UTILITY OR AGENCY THAT OWNS THE FACILITY.
2. 12" MIN., OR 6" MIN. IF SLURRY CEMENT BACKFILL IS USED. SEE NOTE 10.
3. RELATIVE COMPACTION DESIGNATED R.C.
4. THE MINIMUM ROAD STRUCTURAL SECTION SHALL BE A MIN. OF 3" A.C. ON 12" CL. 2 A.B. OR SHALL MATCH EXISTING PAVEMENT THICKNESS WHICHEVER IS THICKER, UNLESS OTHERWISE SHOWN ON THE PLANS. STRUCTURAL SECTION IN SHOULDERS SHALL MATCH EXISTING AND SHALL BE A MIN. OF 8" CL. 2 A.B.
5. NEATLY CUT PAVEMENT SIX INCHES FROM EDGE OF TRENCH AFTER TRENCH IS BACKFILLED. SS1 DESIGNATES SS1 ASPHALTIC EMULSION PER CALTRANS STANDARD SPECIFICATION, SECTION 94, ASPHALTIC EMULSION.
6. **MATERIAL SPECIFICATIONS**

6a. DRAIN ROCK SHALL BE EITHER OF THE NOMINAL SIZES DESIGNATED AS 1-1/2" BY 3/4" OR 2-1/2" BY 1-1/2".

6b. PIPE BEDDING AND TRENCH BACKFILL MATERIAL SHALL BE A WELL GRADED GRAVEL/SAND MATERIAL AND SHALL HAVE A MINIMUM SAND EQUIVALENT VALUE OF 20 AND SHALL CONFORM TO THE FOLLOWING GRADINGS:

PERCENT PASSING

	3"	3/4"	3/8"	NO. 4	NO. 16	NO. 30	NO. 200
PIPE BEDDING		100	80–100	10–50	5–30		0–4
TRENCH BACKFILL	100			35–100		20–100	

6c. IN ADDITION, WHEN TESTED WITH THE FOLLOWING SERIES OF SIEVES, NO MORE THAN 25% OF THE MATERIAL WILL BE RETAINED BETWEEN ANY ADJACENT SIEVES: 3", 2-1/2", 2", 1-1/2", 1", 3/4", 1/2", 3/8", NO. 4, NO. 8, NO. 16, NO. 30, NO. 50, NO. 100, AND NO. 200.

6d. **AGGREGATE BASE** CL 2 A.B. DESIGNATES CLASS 2 AGGREGATE BASE AND SHALL CONFORM TO THE PROVISIONS OF SECTION 26 OF THE COUNTY STANDARD SPECIFICATIONS.

6e. **NATIVE MATERIAL** SHALL NOT CONTAIN ROCKS LARGER THAN 3".

TRENCH RESTORATION NOTES — MENDOT STD. NO. A60B

SCALE: NONE | DESIGN: HND | DRAWN: HND | FEB. 2008 | PAGE: A-45

7. **COMPACTION REQUIREMENTS:** (AS SHOWN ON A60A AND IN THE FOLLOWING MODIFICATIONS)

7a. **DRAIN ROCK** SHALL BE CONSOLIDATED WITH VIBRATORY COMPACTION EQUIPMENT TO A MINIMUM R.C. OF 90%.

7b. **PIPE BEDDING MATERIAL** SHALL BE CONSOLIDATED WITH VIBRATORY COMPACTION EQUIPMENT TO A MINIMUM R.C. OF 90%.

7c. **GENERAL:** THE COMPACTION REQUIREMENTS SHALL BE ACHIEVED UTILIZING METHODS AND EQUIPMENT APPROVED BY THE COUNTY. ANY METHOD OF COMPACTION WHICH FAILS TO UNIFORMLY ACHIEVE THE REQUIRED LEVELS OF COMPACTION THROUGHOUT THE LENGTH AND DEPTH OF TRENCHES SHALL BE DISCONTINUED. COMPACTION METHODS AND EQUIPMENT SHALL BE SUCH AS NOT TO DAMAGE THE INSTALLED PIPE, EXCEED ITS LOADING CAPACITY OR DISTURB ITS ALIGNMENT. FLOODING, PONDING OR JETTING WILL NOT BE ALLOWED.

7d. **MECHANICAL COMPACTION:** TRENCH BACKFILL SHALL BE PLACED IN UNIFORM, HORIZONTAL LAYERS NOT EXCEEDING EIGHT (8) INCHES IN THICKNESS BEFORE COMPACTION. EACH LAYER SHALL BE COMPACTED, USING MECHANICAL MEANS, TO THE SPECIFIED DENSITY SHOWN ON THE PLANS.

THE CONTRACTOR MAY, AT CONTRACTOR'S SOLE OPTION AND AT CONTRACTOR'S SOLE EXPENSE, CONSTRUCT A TEST TRENCH SECTION WHICH DEMONSTRATES METHODS, EQUIPMENT, OR MATERIALS WHICH WILL RELIABLY ACHIEVE THE REQUIRED COMPACTION IN LIFTS GREATER THAN 8 INCHES. AT ITS SOLE DISCRETION, THE COUNTY MAY INCREASE THE MAXIMUM ALLOWABLE LIFT THICKNESS PERMITTED BASED UPON THE RESULTS DEMONSTRATED BY THE TEST TRENCH SECTION. SHOULD SUBSEQUENT TESTING DEMONSTRATE THAT THE REQUIRED COMPACTION IS NOT BEING RELIABLY ACHIEVED, THE COUNTY MAY, AT ITS SOLE DISCRETION, REDUCE THE MAXIMUM LIFT THICKNESS TO ITS ORIGINAL VALUE OF 8 INCHES.

8. **TRENCHING METHODS:** ROCK WHEEL TRENCHING SHALL BE ALLOWED FOR TRENCH CONSTRUCTION IN COUNTY ROADS. INSTALLATION OF CABLE USING THE PLOW METHOD SHALL NOT BE ALLOWED.
9. **TRENCH BASE:** TRENCH BASE SHALL BE STABILIZED USING ADDITIONAL PIPE BEDDING; DRAIN ROCK, OR OTHER SUITABLE MATERIAL AS DIRECTED BY UTILITY, COUNTY DOT, OR CIVIL ENGINEER IN RESPONSIBLE CHARGE OF THE WORK.
10. **SLURRY CEMENT BACKFILL:** SLURRY CEMENT BACKFILL MAY BE USED FOR TRENCH BACKFILL ONLY AS AUTHORIZED BY COUNTY DOT, BUT SHALL BE REQUIRED WHEN TRENCH WIDTHS OF LESS THAN 12 INCHES ARE REQUESTED. SLURRY CEMENT BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 19-3.062, SLURRY CEMENT BACKFILL, OF THE CALTRANS STANDARD SPECIFICATIONS, UNLESS COUNTY DOT DIRECTOR APPROVES A SPECIFIC MIX DESIGN.

TRENCH RESTORATION NOTES (CONTINUED) — MENDOT STD. NO. A60C

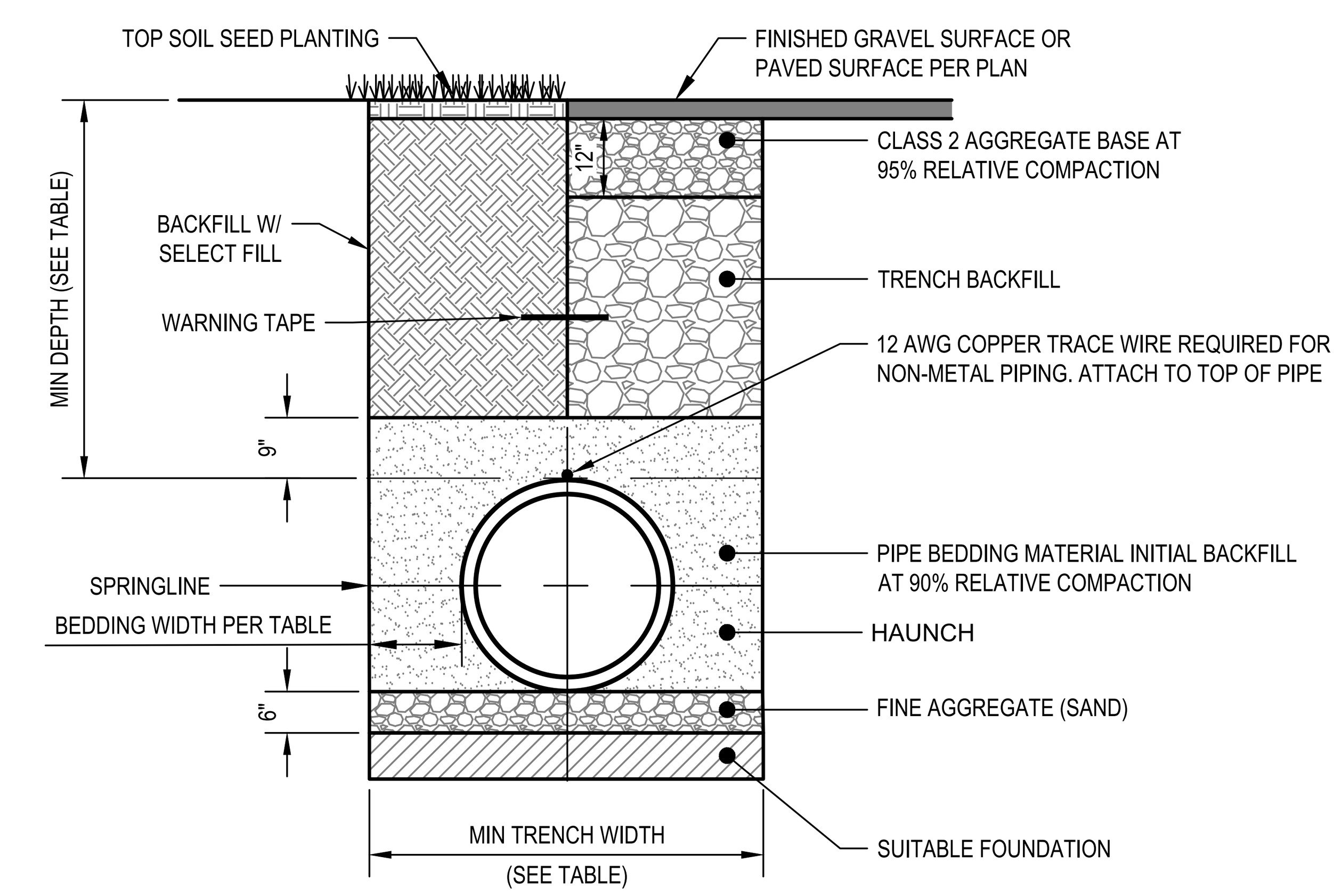
SCALE: NONE | DESIGN: RCW | DRAWN: LMM | OCT. 2000 | PAGE: A-46

1 MENDOCINO COUNTY TRENCH RESTORATION REQUIREMENTS

NOT TO SCALE

NOTES:

1. WIDER TRENCHES SHALL REQUIRE HIGHER STRENGTH PIPE AND/OR SPECIAL BEDDING.
2. DIFFERING TRENCH WIDTHS REQUIRE PRIOR APPROVAL OF ENGINEER.
3. WARNING TAPE SHALL BE BURIED 12 INCHES BELOW FINISHED GRADE.
4. TRACER WIRE SHALL BE ATTACHED DIRECTLY TO THE TOP OF THE PIPE.
5. TRENCH BACKFILL AND PAVING WITHIN COUNTY R/W AND ON COUNTY ROADS SHALL BE PER MENDOCINO COUNTY TRENCH RESTORATION DETAILS. SEE DETAIL 1 THIS SHEET.
6. RESTORE GRAVEL SURFACE PER DETAIL 6 ON DRAWING C-501.
7. RESTORE PAVED SURFACE PER DETAIL 4 ON DRAWING C-504.
8. PIPE BEDDING WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THIS DETAIL.



MINIMUM TRENCH DEPTHS

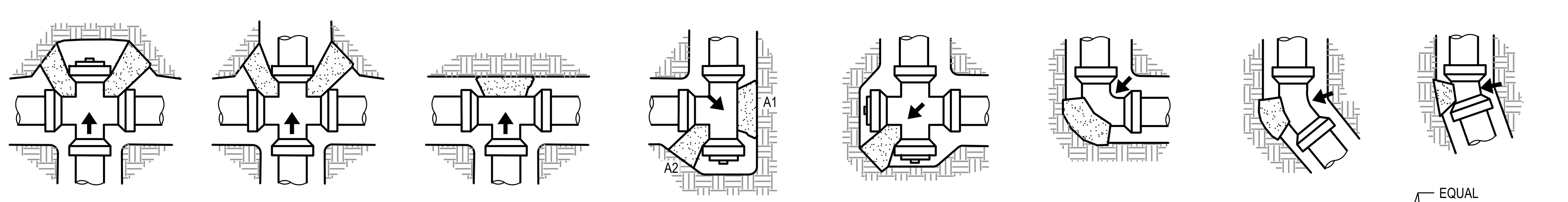
PIPE DIA	MIN DEPTH OF COVER
1-2"	18"
3"	24"
4"	36"
6"	36"
8"	36"
10"	36"
12"	36"

MINIMUM BEDDING WIDTHS

PIPE DIA	MIN BEDDING WIDTH
<4"	14"
4" - 12"	6"

2 TYPICAL TRENCH SECTION

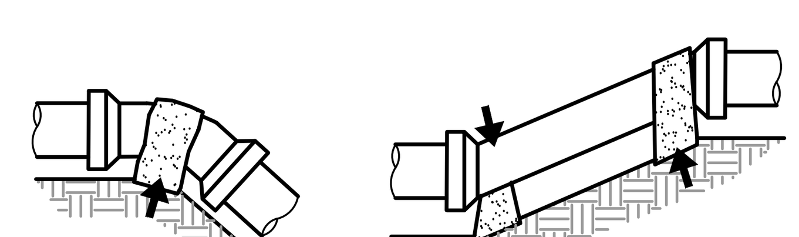
NOT TO SCALE



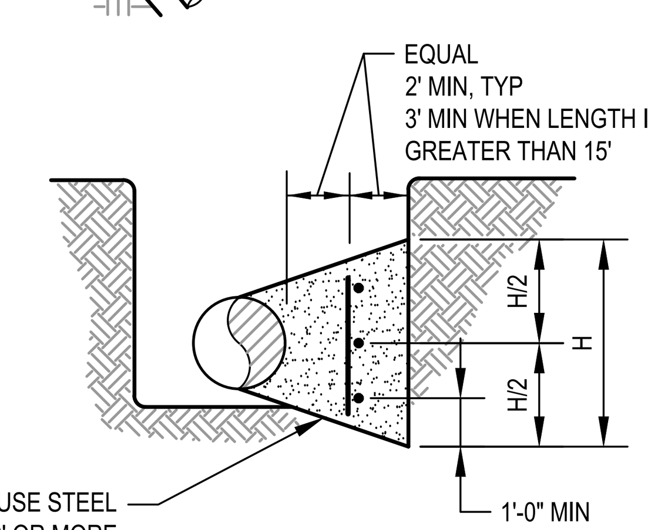
PLAN

NOTES:

1. CONCRETE THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED EARTH OR STRUCTURAL BACKFILL.THRUST BLOCKS ARE NOT REQUIRED WHERE JOINTS ARE ADEQUATELY RESTRAINED.
2. KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES.
3. VOLUMES AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER VOLUMES AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.
4. ALL BURIED PIPE EXCEPT FLANGED, SCREWED, SOLVENT WELDED PVC OR WELDED STEEL PIPE SPECIFIED TO BE PRESSURE TESTED SHALL BE PROVIDED WITH CONCRETE THRUST BLOCKS AT ALL DIRECTIONAL CHANGES UNLESS OTHERWISE NOTED.
5. THRUST BLOCKS SHALL NOT BE LOCATED OR SIZED TO ENCASE ADJACENT PIPES OR FITTINGS.
6. THE SIZE AND WEIGHT OF ALL UPLIFT THRUST BLOCKS SHALL BE AS DETERMINED BY ENGINEER.
7. THE BEARING AREAS ARE BASED ON TEST PRESSURE OF 150 PSI AND ALLOWABLE SOIL BEARING STRESS OF 1000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
   BEARING AREA = (TEST PRESSURE/150) x (1000/SOIL BEARING STRESS) x (TABLE VALUE)
   TEST PRESSURE = 250 PSI
   SOIL BEARING STRESS = 5,000 PSF
8. THRUST BLOCKS REQUIRED ONLY WHERE SHOWN ON PLAN.
9. CONTRACTOR TO PROVIDE ALL COMPONENTS.
10. ALL PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TO PREVENT CORROSION AND CONCRETE ADHESION.



ELEVATION



TYPICAL SECTION

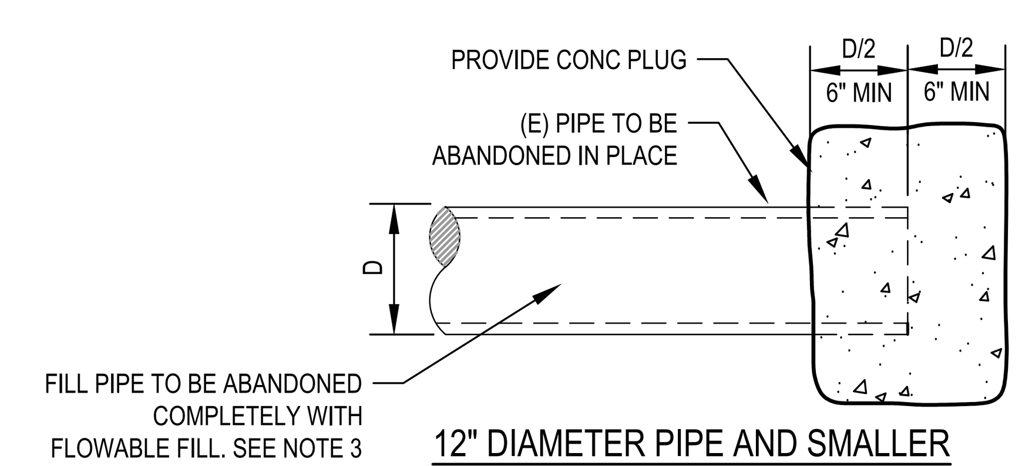
BEARING AREA OF THRUST BLOCK IN SQ. FT. (SEE NOTE 7)

PIPE SIZE	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED A1	TEE PLUGGED A2	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1.5	2	2	1.5	1.5	1	1
6	3	4.5	4.5	3	2.5	1.5	1
8	5	7	7	5	4	2	1
10	8	12	12	8	7	3	2
12	12	17	17	12	10	5	3
16	15	21.5	21.5	15	12	6	4

PIPE SIZE	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED A1	TEE PLUGGED A2	45° BEND	22 1/2° BEND	11 1/4° BEND
18	19	27	27	19	15	8	6
20	24	34	34	24	18	10	8
22	29	41	41	29	22	12	10
24	34	48	48	34	26.5	14	12
32	39	55	55	39	31.5	16	14

3 STANDARD THRUST BLOCK DETAIL

NOT TO SCALE



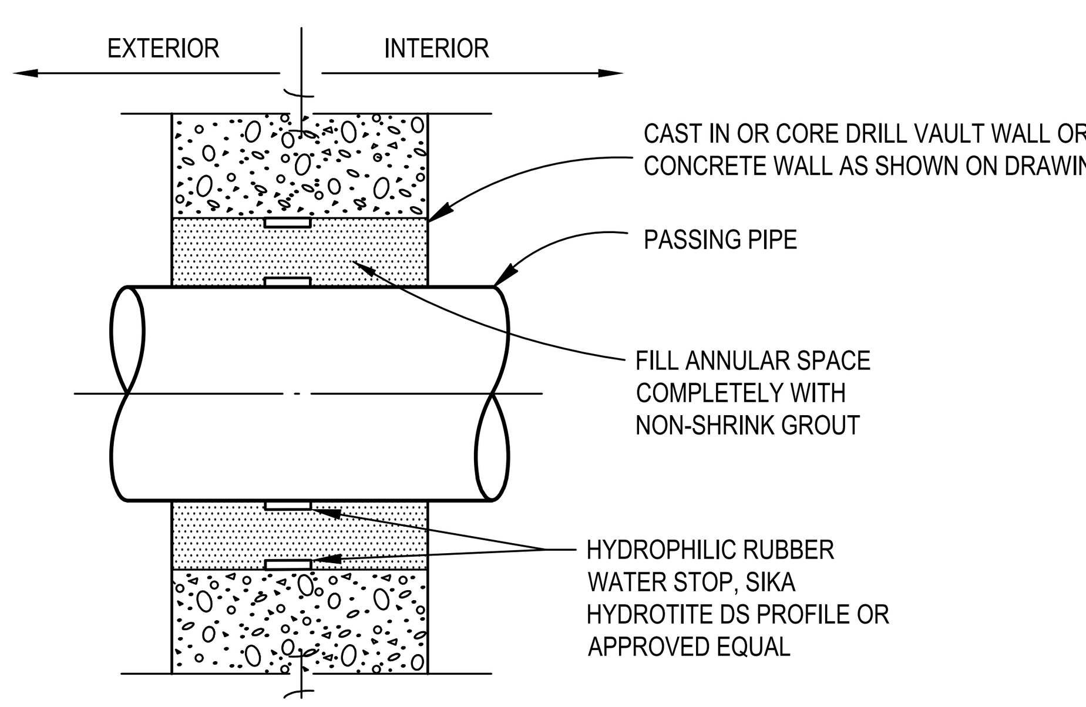
12" DIAMETER PIPE AND SMALLER

NOTES:

1. PIPE PLUGS SHALL BE INSTALLED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
2. SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE BEFORE COVERING.
3. PIPES 4" AND SMALLER MAY BE CAPPED WITHOUT FILLING WITH FLOWABLE FILL.

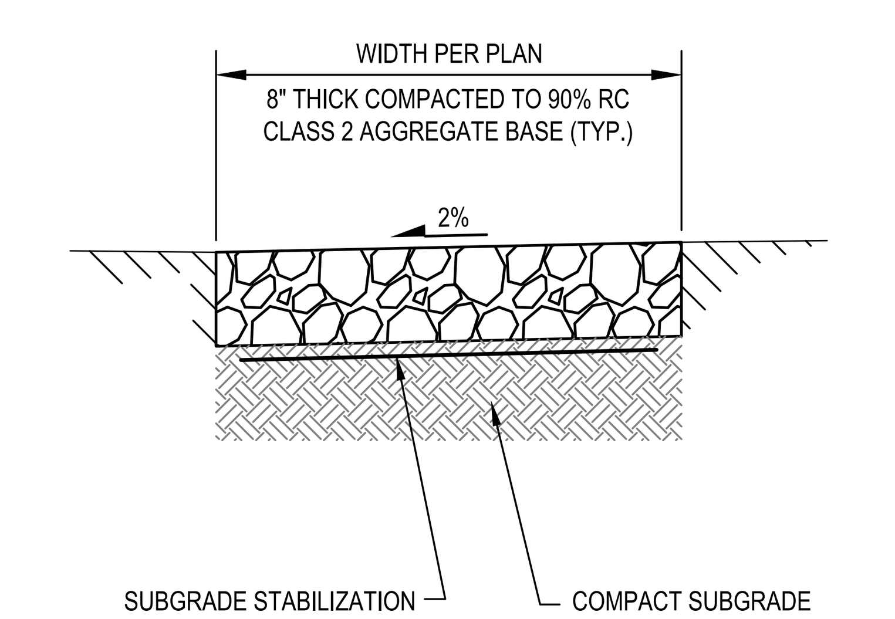
4 PLUG AND ABANDON

NOT TO SCALE



5 WALL PENETRATION

NOT TO SCALE



6 GRAVEL SURFACING

NOT TO SCALE

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 — 1"

REGISTERED PROFESSIONAL ENGINEER — MATTHEW GLEN KENNEDY — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	D. AGUAS C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
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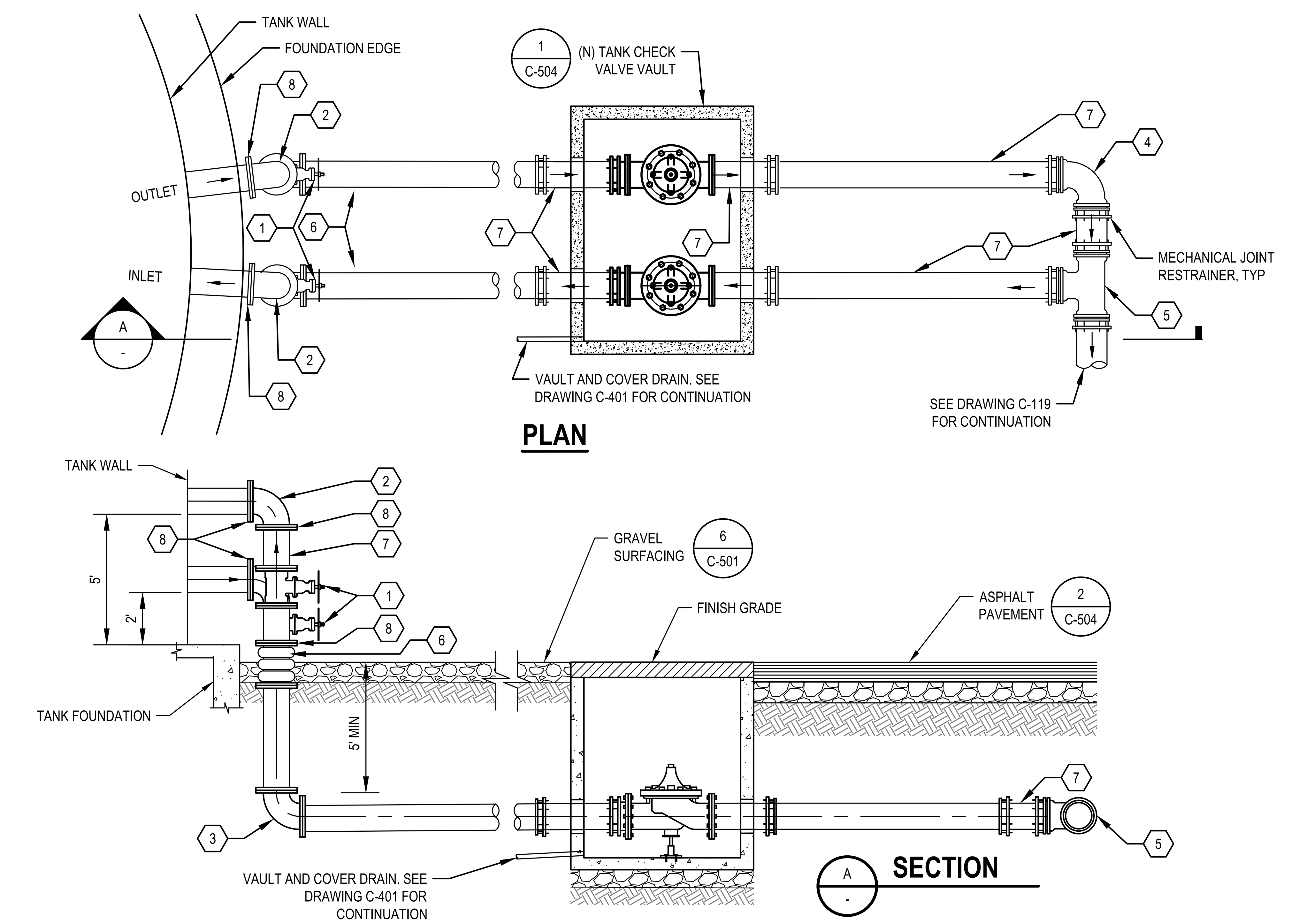
Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **CIVIL DETAILS 1**

Project No. 12619547
Original Size ANSI D
Drawing No. **C-501**

Plot Date: 24 March 2026 - 2:26 PM   Plotted By: Chris Bach   Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-501.dwg

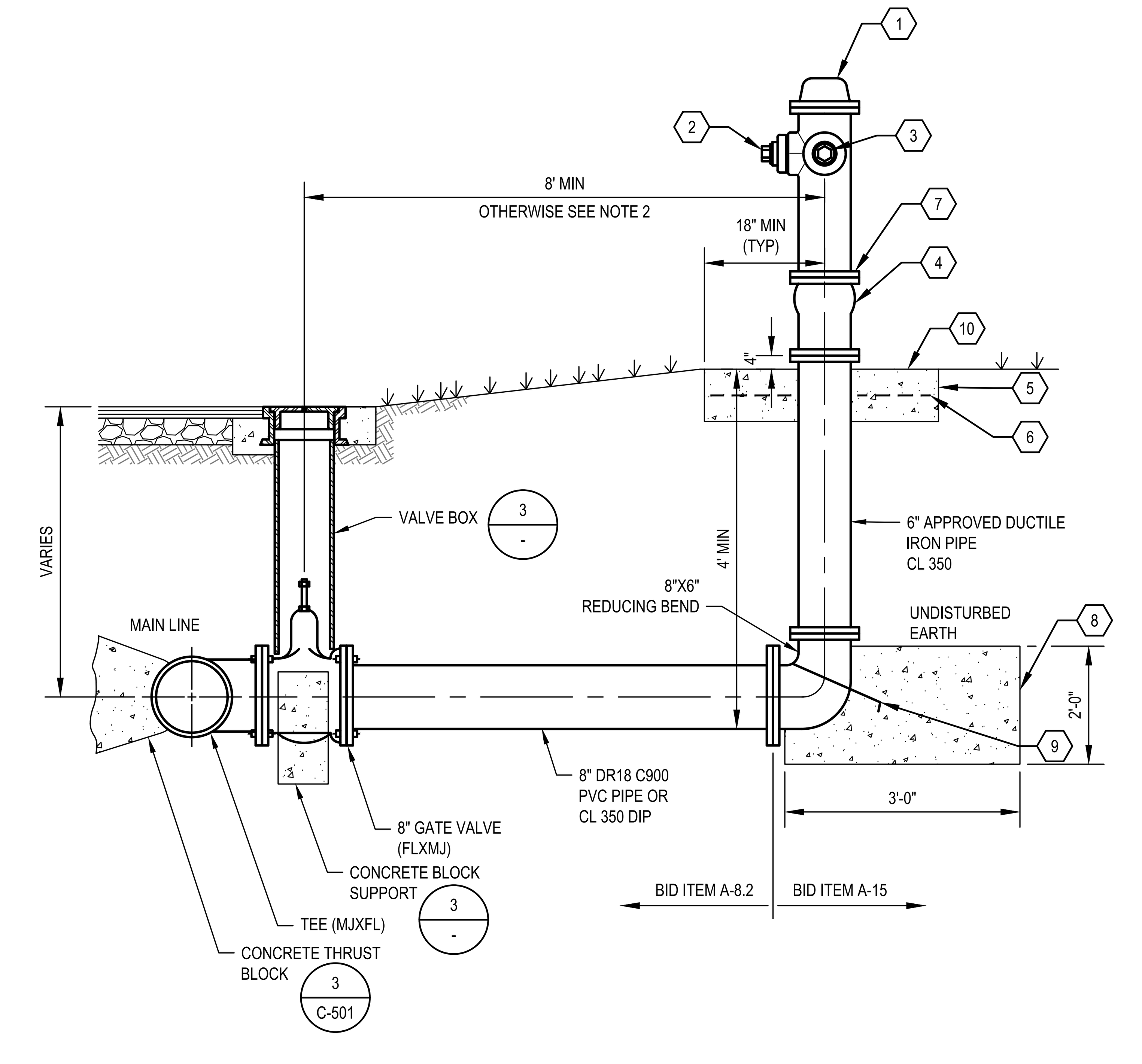


NOTES:
1. ABOVE GRADE PIPING SHALL BE FLANGED. BELOW GRADE PIPING SHALL BE RESTRAINED MECHANICAL JOINT, UNO. CONTRACTOR MAY PROPOSE ALTERNATIVE FITTINGS.
2. PROVIDE DIELECTRIC GASKETS BETWEEN ALL FLANGES OF DISSIMILAR METAL.
3. ALL ABOVE GRADE METALLIC PIPING SHALL BE COATED WITH FUSION BONDED EPOXY WITH URETHANE TOP COAT.
4. INSTALL FLEXIBLE EXPANSION JOINT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL IN POLYETHYLENE SLEEVE AND BED AND BACKFILL A MINIMUM OF 6" ON ALL SIDES WITH COHESIONLESS PEA GRAVEL.

KEYNOTES:
1. 10" FLANGE GATE VALVE WITH HAND WHEEL (TYP OF 2)
2. 10" DUCTILE IRON 90° BEND, FL X FL (TYP OF 2)
3. 10" DUCTILE IRON 90° BEND, FL X MJ (TYP OF 2)
4. 10" DUCTILE IRON 90° BEND, MJ X MJ
5. 10" DUCTILE IRON TEE, MJ
6. 10" FLEXIBLE EXPANSION JOINT (TYP OF 2)
7. 10" DIP SPOOL (LENGTH AS REQUIRED)
8. PROVIDE DIELETRIC FITTINGS TO ELECTRICALLY ISOLATE CONNECTIONS OF DISSIMILAR METALS.

1 TANK INLET AND OUTLET PIPING

SCALE: 1" = 4'



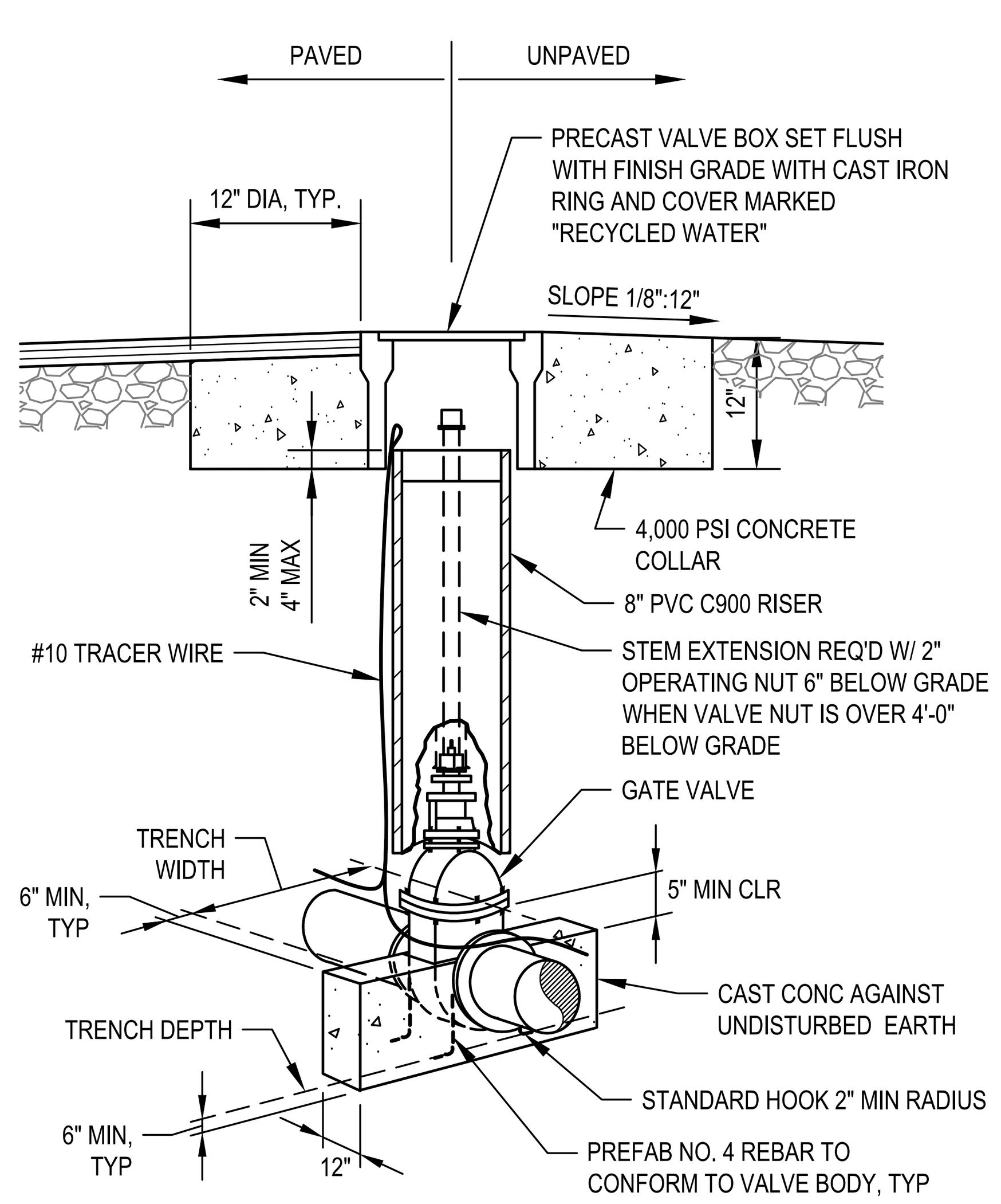
NOTES:
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 3 FT. IN ALL DIRECTIONS OF FIRE HYDRANT.
2. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
3. ALL JOINTS AND FITTINGS SHALL BE RESTRAINED.

KEYNOTES:
1. FIRE HYDRANT (WET BARREL ONLY), IN ACCORDANCE WITH SECTION 33 11 00.
2. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
3. HOSE NOZZLE 2 x 2½".
4. BREAK OFF CHECK VALVE.
5. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
6. #10; 6/6 WWF.
7. BREAKAWAY FLANGE.
8. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH
9. 2"x1/4" STEEL ANCHOR PINS.
10. TOP OF SLAB SHALL BE 4" BELOW THE BREAK LINE OF THE HYDRANT.

2 FIRE HYDRANT LATERAL

NOT TO SCALE

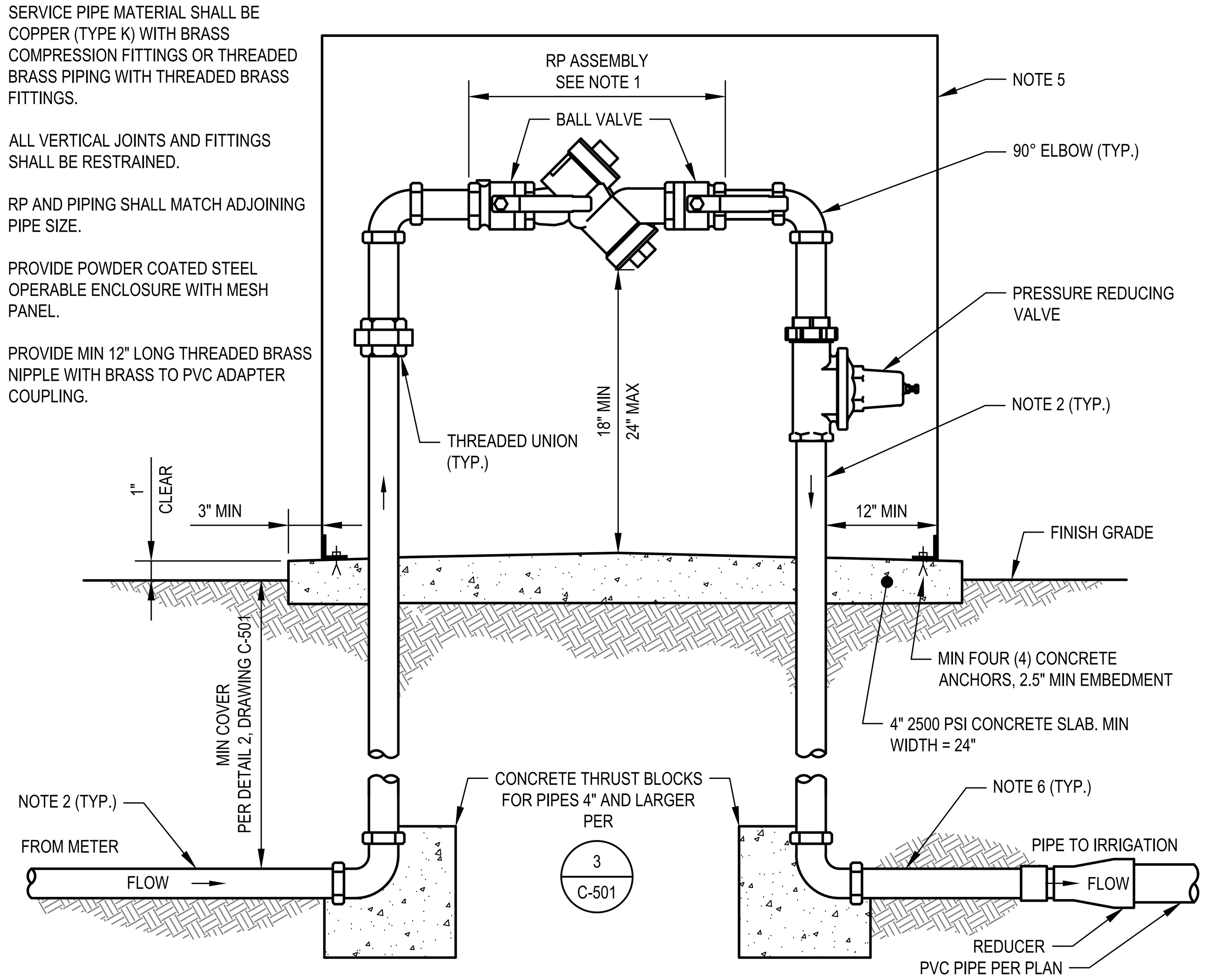
NOTES:
1. A BURIED VALVE 5' AND DEEPER SHALL BE PROVIDED WITH A SOLID STEEL EXTENSION STEM OPERATOR WITH A 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. CONTRACTOR SHALL REMOVE ALL DEBRIS AND SOIL FROM VALVE BOX BEFORE ACCEPTANCE.
3. CONCRETE COLLAR FLUSH WITH FINISHED GRADE FOR PAVED AREA AND 2" ABOVE FINISHED GRADE FOR UNPAVED AREA.
4. JOINTS, BOLTS AND NUTS SHALL BE CLEAR OF CONCRETE.
5. VALVE BOX SHALL BE CHRISTY MODEL G5 TRAFFIC BOX, OR APPROVED EQUAL.
6. VALVE SIZE AS SHOWN ON PLANS.
7. WRAP VALVE IN POLYETHYLENE PRIOR TO POURING CONCRETE.



3 GATE VALVE

NOT TO SCALE

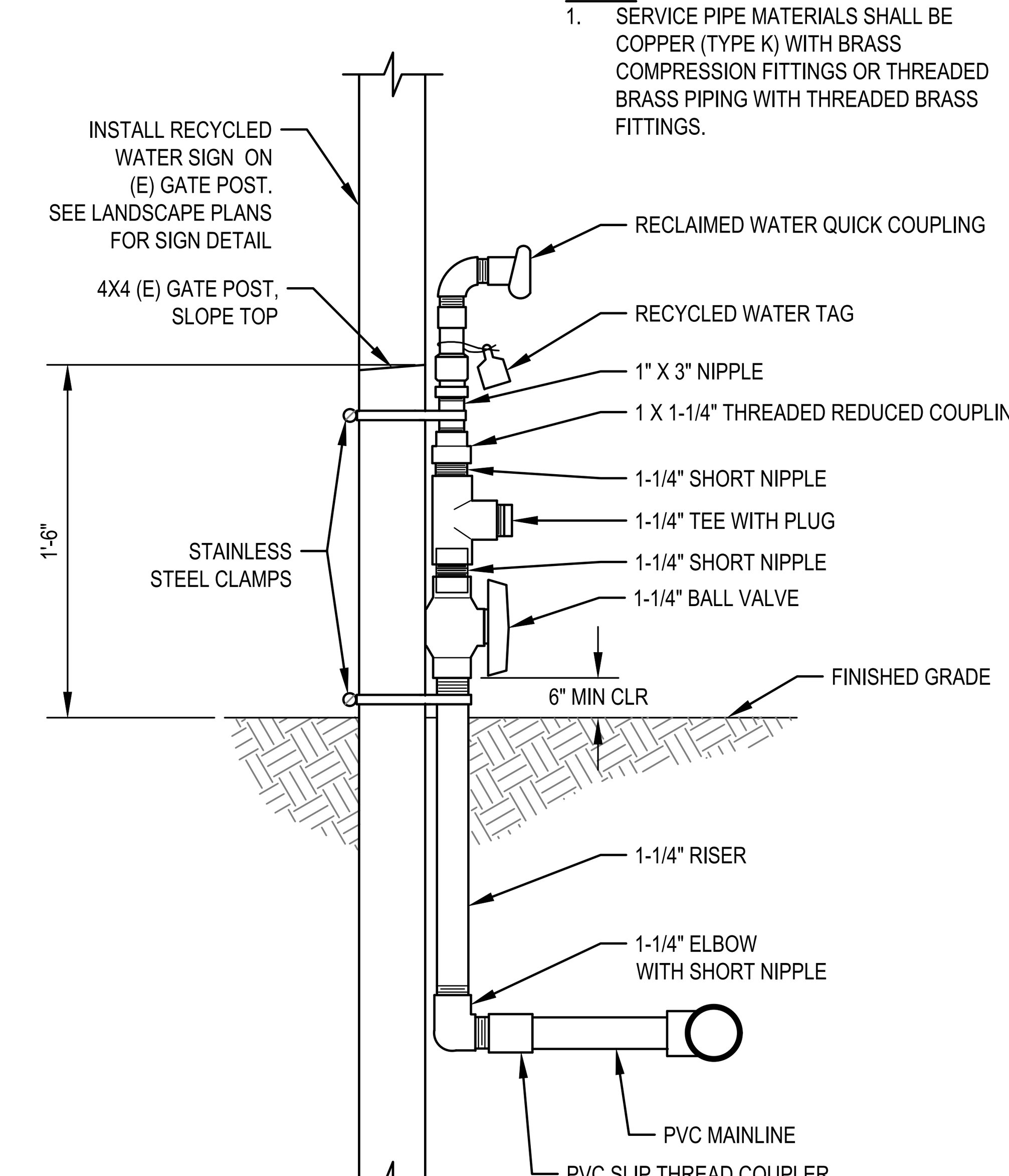
NOTES:
1. REDUCED PRESSURE (RP) BACKFLOW PREVENTION DEVICE SHALL BE CENTERED ON CONCRETE PAD.
2. SERVICE PIPE MATERIAL SHALL BE COPPER (TYPE K) WITH BRASS COMPRESSION FITTINGS OR THREADED BRASS PIPING WITH THREADED BRASS FITTINGS.
3. ALL VERTICAL JOINTS AND FITTINGS SHALL BE RESTRAINED.
4. RP AND PIPING SHALL MATCH ADJOINING PIPE SIZE.
5. PROVIDE POWDER COATED STEEL OPERABLE ENCLOSURE WITH MESH PANEL.
6. PROVIDE MIN 12" LONG THREADED BRASS NIPPLE WITH BRASS TO PVC ADAPTER COUPLING.



4 REDUCED PRESSURE BACKFLOW PREVENTER

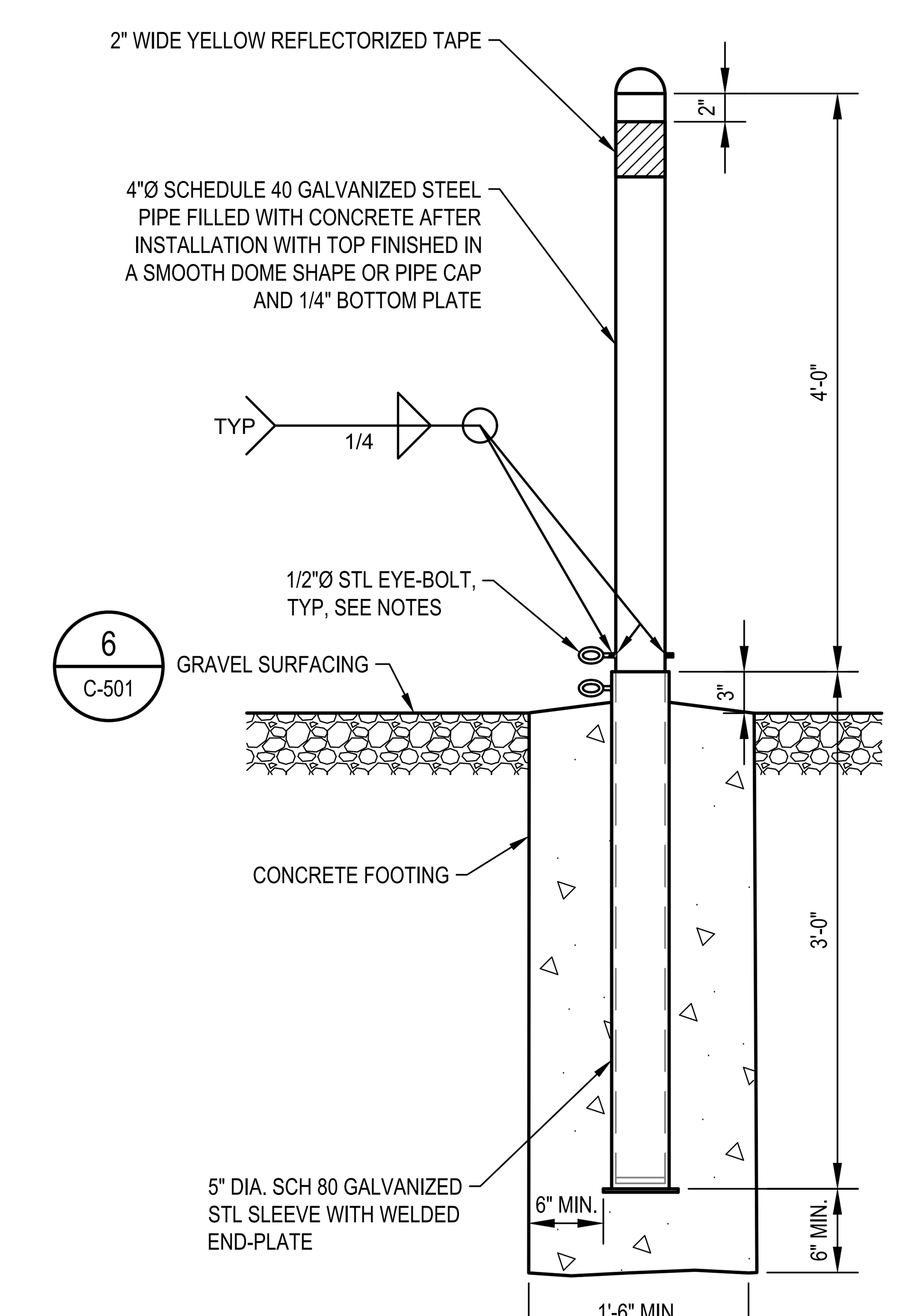
NOT TO SCALE

NOTES:
1. SERVICE PIPE MATERIALS SHALL BE COPPER (TYPE K) WITH BRASS COMPRESSION FITTINGS OR THREADED BRASS PIPING WITH THREADED BRASS FITTINGS.



5 QUICK COUPLING AT GARDEN

NOT TO SCALE



6 REMOVABLE BOLLARD

NOT TO SCALE

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER, MATTHEW GLEN KENNEDY, 88304, CIVIL, STATE OF CALIFORNIA
3/25/2026

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Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
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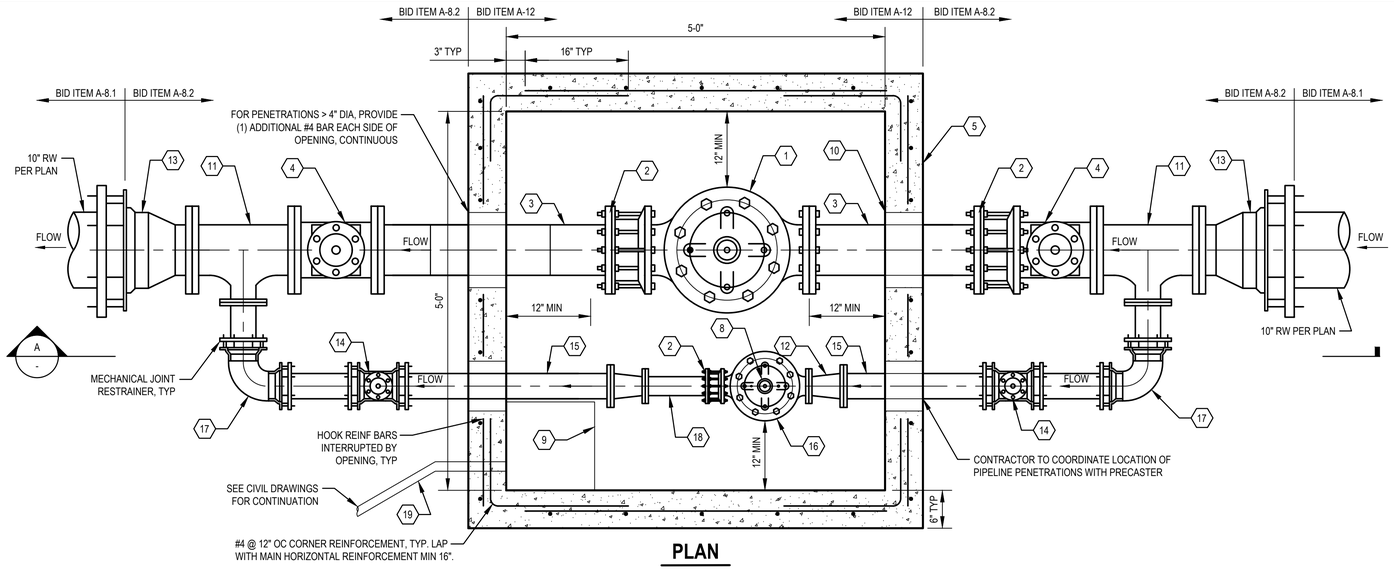
Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **CIVIL DETAILS 2**
Project No. 12619547
Original Size ANSI D
Drawing No. C-502
Sheet 35 of 53



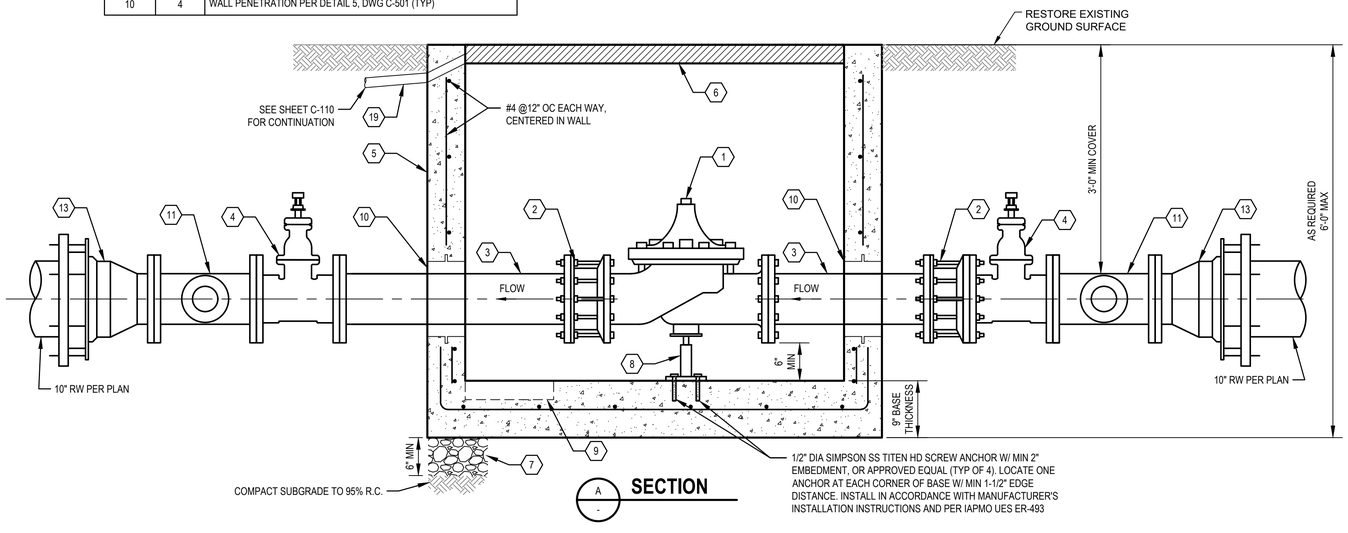
PLAN

MATERIAL LIST		
ITEM	QTY	DESCRIPTION
1	1	8" PRV CLA-VAL 90-01 P OR APPROVED EQUAL
2	3	FCA RESTRAINED (MATCH ADJOINING PIPE SIZE)
3	AS REQ'D	8" FL x PE DIP
4	2	8" FL x FL GV PER DETAIL 3, DWG C-502
5	1	5' x 5' ID PRECAST UTILITY VAULT, DEPTH AS REQUIRED (6'-0" MAX)
6	1	5' x 5' DOUBLE LEAF VAULT ACCESS COVER
7	0.8 CY	GRANULAR BEDDING (COMPACTED)
8	2	PIPE SUPPORT, EATON B-LINE SERIES B3088T-2-1/2 AND B3093-8 OR APPROVED EQUAL. VERIFY SIZE
9	1	14" x 14" x 3" SUMP
10	4	WALL PENETRATION PER DETAIL 5, DWG C-501 (TYP)

MATERIAL LIST		
ITEM	QTY	DESCRIPTION
11	2	8" x 4" FL x FL x FL REDUCING TEE
12	2	4" x 3" FL x FL REDUCER
13	2	10" MJ x 8" FL REDUCER
14	2	4" MJ x MJ GV PER DETAIL 3, DWG C-502
15	AS REQ'D	4" FL x PE DIP
16	1	3" PRV, CLA-VAL 90-01 P OR APPROVED EQUAL (THREADED)
17	2	4" 90° MJ ELBOW
18	1	3" FL x PE DIP
19	AS REQ'D	1 1-1/2" SCH 40 PVC DRAIN PIPE. CONNECT TO ACCESS COVER DRAIN

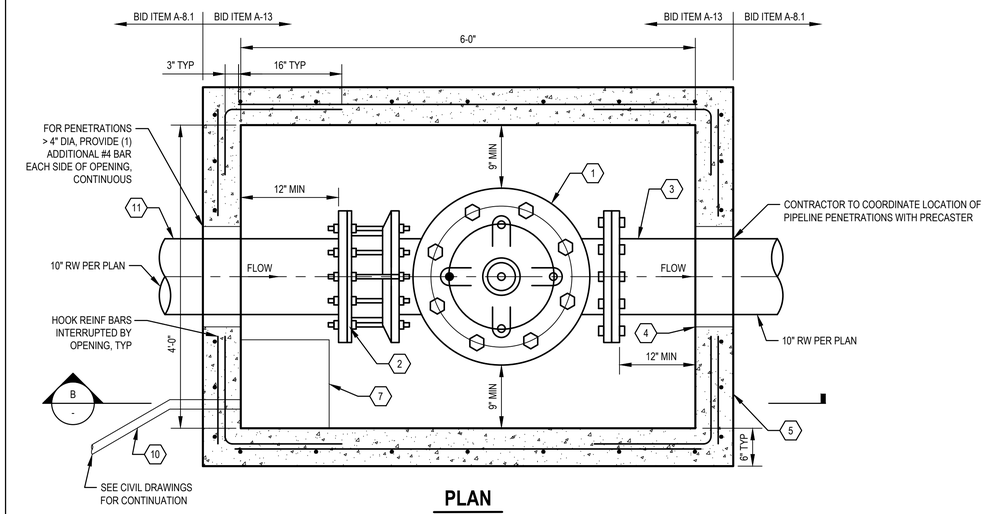
PRECAST CONCRETE NOTES:

1. PRECAST CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
3. SEE SPECIFICATION SECTION 33 05 17 AND STRUCTURAL GENERAL NOTES ON DWG S-002 FOR ADDITIONAL CONCRETE AND REINFORCING STEEL INFORMATION.
4. FOR PENETRATIONS < 4" DIA, LOCATE PENETRATIONS 2" CLEAR MIN FROM ALL REINFORCING STEEL.



SECTION

1 PRESSURE REDUCING VAULT SCALE 1" = 1'

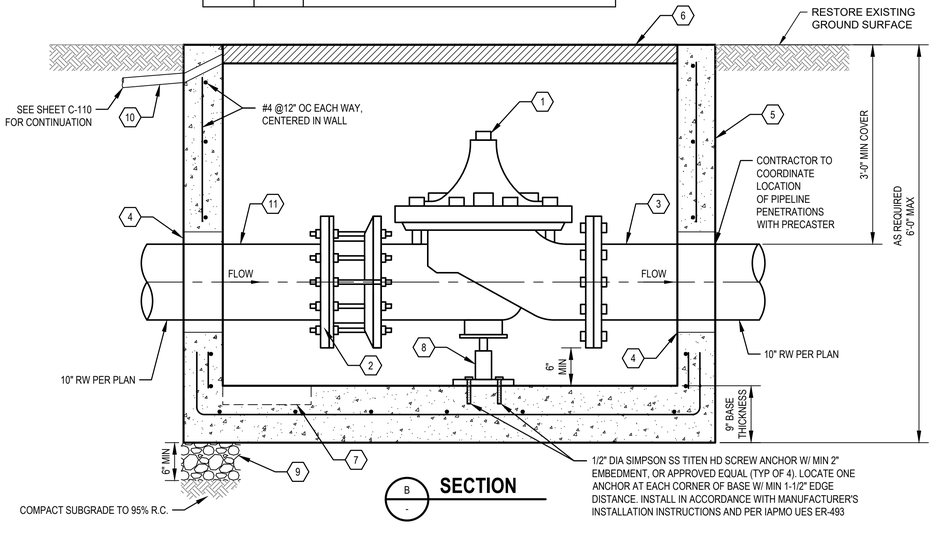


PLAN

MATERIAL LIST		
ITEM	QTY	DESCRIPTION
1	1	10" CHECK VALVE CLA-VAL 81-02 OR APPROVED EQUAL
2	1	FCA RESTRAINED (MATCH ADJOINING PIPE SIZE)
3	AS REQ'D	12" FL x PE DIP
4	2	WALL PENETRATION PER DETAIL 5, DWG C-501 (TYP)
5	1	6' x 4' ID PRECAST UTILITY VAULT, DEPTH AS REQUIRED (6'-0" MAX)
6	1	6' x 4' DOUBLE LEAF VAULT ACCESS COVER
7	1	14" x 14" x 3" SUMP
8	1	PIPE SUPPORT, EATON B-LINE SERIES B3088T-2-1/2 AND B3093-8 OR APPROVED EQUAL. VERIFY SIZE
9	0.7 CY	GRANULAR BEDDING (COMPACTED)
10	AS REQ'D	1 1-1/2" SCH 40 PVC DRAIN PIPE. CONNECT TO ACCESS COVER DRAIN
11	1	10" DIP

PRECAST CONCRETE NOTES:

1. PRECAST CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
3. SEE SPECIFICATION SECTION 33 05 17 AND STRUCTURAL GENERAL NOTES ON DWG S-002 FOR ADDITIONAL CONCRETE AND REINFORCING STEEL INFORMATION.
4. FOR PENETRATIONS < 4" DIA, LOCATE PENETRATIONS 2" CLEAR MIN FROM ALL REINFORCING STEEL.



SECTION

2 CHECK VALVE VAULT SCALE 1" = 1'

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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REGISTERED PROFESSIONAL ENGINEER — GLEN KENNY — 968304 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title CIVIL DETAILS 3
Project No. 12619547
Original Size ANSI D
Drawing No. C-503
Sheet 36 of 53

Plot Date: 24 March 2026 - 2:27 PM
Plotted By: Chris Bach
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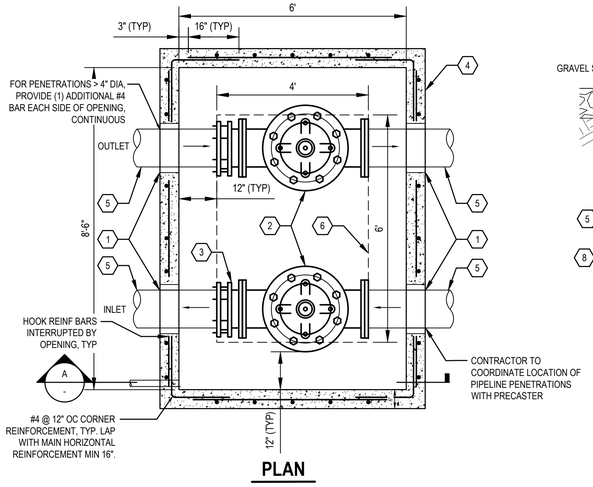
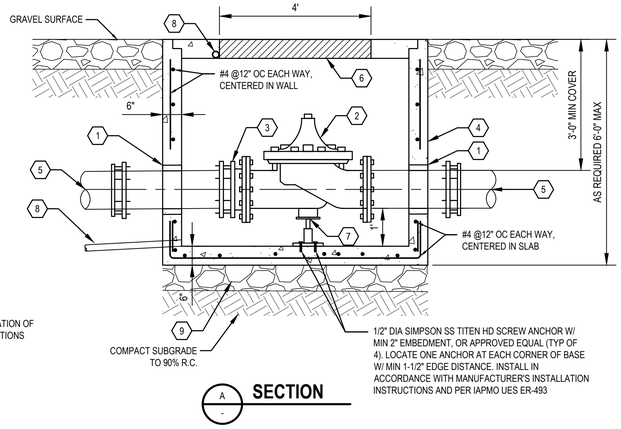




NOTES:
1. ABOVE GRADE PIPING SHALL BE FLANGED. BELOW GRADE PIPING SHALL BE MECHANICAL JOINT, UNO. CONTRACTOR MAY PROPOSE ALTERNATIVE FITTINGS UPON REVIEW AND APPROVAL.
2. PROVIDE DIELECTRIC GASKETS BETWEEN ALL FLANGES OF DISSIMILAR METAL.
3. ALL ABOVE GRADE METALLIC PIPING SHALL BE COATED WITH FUSION BONDED EPOXY WITH URETHANE TOP COAT.
4. INSTALL FLEXIBLE EXPANSION JOINT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL IN POLYETHYLENE SLEEVE AND BED AND BACKFILL A MINIMUM OF 6" ON ALL SIDES WITH COHESIONLESS PEA GRAVEL.

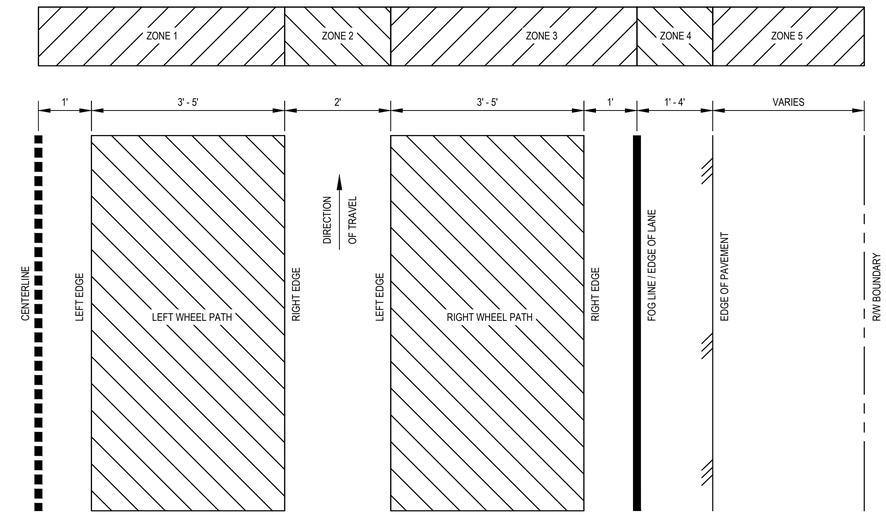
PRECAST CONCRETE NOTES:
1. PRECAST CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
3. SEE SPECIFICATION SECTION 33 05 17 AND STRUCTURAL GENERAL NOTES ON SHEET S-002 FOR ADDITIONAL CONCRETE AND REINFORCING STEEL INFORMATION.
4. FOR PENETRATIONS < 4" DIA, LOCATE PENETRATIONS 2" CLEAR MIN FROM ALL REINFORCING STEEL.

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	4	WALL PENETRATION, SEE DETAIL 5, DWG C-501
2	2	10" CHECK VALVE CLA-VAL 81-02 OR APPROVED EQUAL
3	2	10" FCA
4	1	8' x 6'-6" ID PRECAST CONCRETE UTILITY VAULT, DEPTH AS REQUIRED (6'-0" MAX)
5	AS REQ'D	12" FL X PE DIP (LENGTH AS REQUIRED)
6	1	4' X 6' DOUBLE LEAF VAULT ACCESS COVER. CAST INTO VAULT LID.
7	2	PIPE SUPPORT. EATON B-LINE SERIES B3088T-2-1/2 AND B3093-8 OR APPROVED EQUAL. VERIFY SIZE.
8	AS REQ'D	2" SCH 40 PVC VAULT DRAIN PIPE AND 1-1/2" SCH 40 PVC COVER DRAIN PIPE.
9	1.4 CY	GRANULAR BEDDING (COMPACTED)

1 TANK CHECK VALVE VAULT

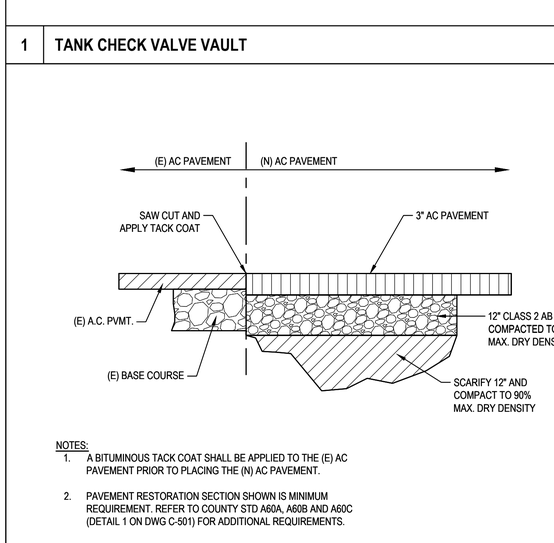
SCALE 1" = 2'



NOTES:
1. THIS DETAIL ILLUSTRATES THE GENERAL PAVEMENT REPAIR REQUIREMENTS FOR COUNTY STANDARD A60A TYPE A T-SECTION TRENCH RESTORATIONS WITHIN EXISTING PAVED TRAVEL LANES IN THE COUNTY OF MENDOCINO R/W.
2. THE DIMENSIONS SHOWN MAY VARY DEPENDING ON THE ACTUAL LANE WIDTH AND SHOULDER WIDTH.
3. ZONE 1 LEFT WHEEL PATH: TRENCHES WITHIN ZONE 1 REQUIRE REPAVING FROM THE ROAD CENTERLINE TO THE RIGHT EDGE OF THE LEFT WHEEL PATH.
4. ZONE 2 CENTER OF LANE: TRENCHES WITHIN ZONE 2 REQUIRE REPAVING OF THE LANE FROM THE ROAD CENTERLINE TO THE FOG LINE. IF THE PAVED SHOULDER IS LESS THAN 2-FT WIDE, REPAVING SHALL EXTEND TO THE EDGE OF PAVEMENT.
5. ZONE 3 RIGHT WHEEL PATH: TRENCHES WITHIN ZONE 3 REQUIRE REPAVING FROM THE CENTER OF THE LANE TO THE FOG LINE. IF THE PAVED SHOULDER IS LESS THAN 2-FT WIDE, REPAVING SHALL EXTEND TO THE EDGE OF PAVEMENT.
6. ZONE 4 PAVED SHOULDER: TRENCHES WITHIN ZONE 4 REQUIRE REPAVING OF THE TYPE A T-SECTION ONLY. REPAVING IS LIMITED TO THE TYPE A T-SECTION UNLESS THE REMAINING PAVED SHOULDER IS LESS THAN 2-FT IN WIDTH IN WHICH CASE THE ENTIRE SHOULDER SHALL BE REPAVED.
7. ZONE 5 UNPAVED SHOULDER: TRENCHES WITHIN ZONE 5 SHALL BE REPAIRED IN ACCORDANCE WITH THE COUNTY STANDARD A60A TYPE B TRENCH RESTORATION.

5 COUNTY TRAVEL LANE TRENCH REPAIR

NOT TO SCALE

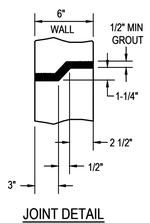


NOTES:
1. A BITUMINOUS TACK COAT SHALL BE APPLIED TO THE (E) AC PAVEMENT PRIOR TO PLACING THE (N) AC PAVEMENT.
2. PAVEMENT RESTORATION SECTION SHOWN IS MINIMUM REQUIREMENT. REFER TO COUNTY STD A60A, A60B AND A60C (DETAIL 1 ON DWG C-501) FOR ADDITIONAL REQUIREMENTS.

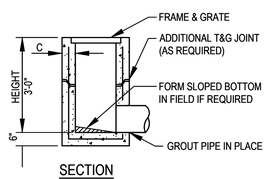
2 AC PAVEMENT AND TRANSITION

NOT TO SCALE

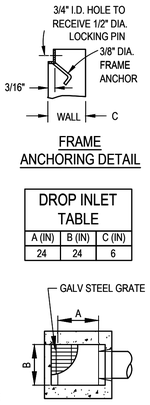
NOTES:
1. FRAME AND GRATES ARE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A-123.
2. ALL GRATING MUST BE RATED FOR H20 LOADING, MINIMUM.
3. ALL GRATES SHALL BE 3" ABOVE ADJACENT FG.
4. INSTALL PRECAST INLET ON 6" MIN COMPACTED CLASS 2 AB.
5. INLET SHALL BE CONSTRUCTED BY A PCI CERTIFIED MANUFACTURER.



JOINT DETAIL



SECTION



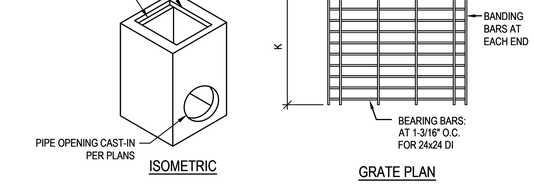
FRAME ANCHORING DETAIL

PLAN

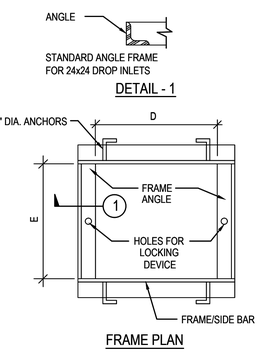
DROP INLET TABLE		
A (IN)	B (IN)	C (IN)
24	24	6

3 DRAINAGE INLET

NOT TO SCALE



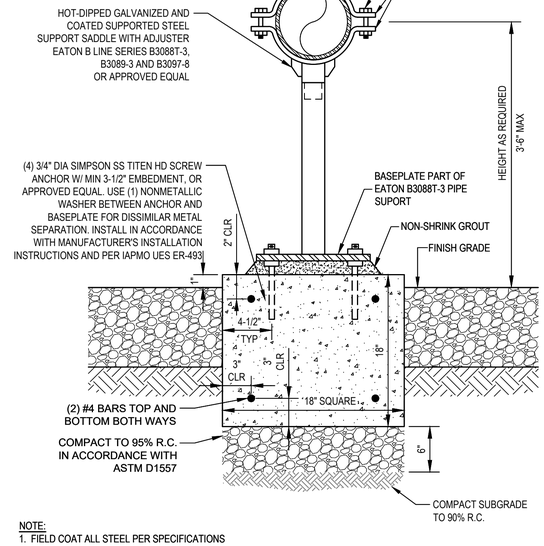
GRATES			
J	K	BEARING BARS	BANDING BARS
IN	IN	IN	IN
26-11/16	24-1/8	2-1/4x3/16	2x3/16



FRAMES					
A	B	D	E	FRAME ANGLE	SIDE BAR
IN	IN	IN	IN	IN	IN
24	24	24-3/8	24-3/8	2-1/2x1-1/2X3/16	2x1/4

4 PIPE SADDLE SUPPORT

NOT TO SCALE



NOTE:
1. FIELD COAT ALL STEEL PER SPECIFICATIONS

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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REGISTERED PROFESSIONAL ENGINEER — PHILIP GLEN KENNEDY — 28830 — CIVIL — STATE OF CALIFORNIA — 3/25/2026

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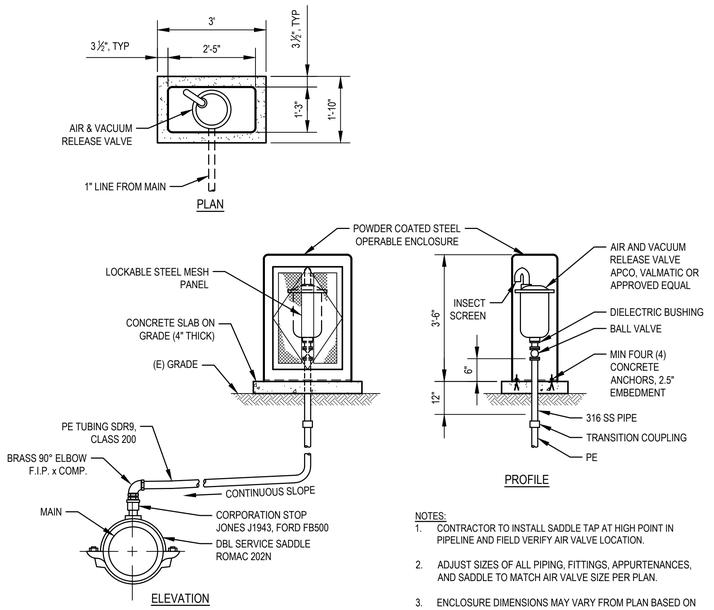
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
This document shall not be used for construction unless signed and sealed for construction.		Scale	AS SHOWN

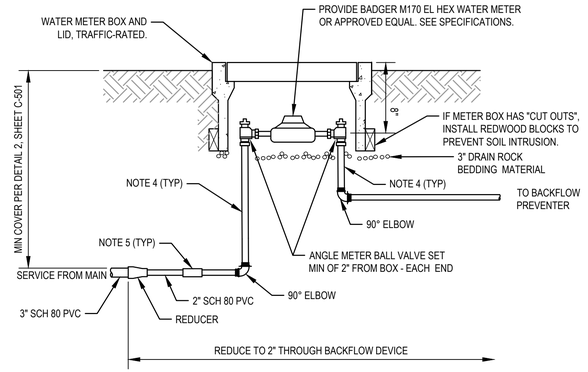
Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: CIVIL DETAILS 4
Project No. 12619547
Original Size: ANSI D
Drawing No. C-504
Sheet 37 of 53



NOTES:
1. CONTRACTOR TO INSTALL SADDLE TAP AT HIGH POINT IN PIPELINE AND FIELD VERIFY AIR VALVE LOCATION.
2. ADJUST SIZES OF ALL PIPING, FITTINGS, APPURTENANCES, AND SADDLE TO MATCH AIR VALVE SIZE PER PLAN.
3. ENCLOSURE DIMENSIONS MAY VARY FROM PLAN BASED ON MANUFACTURER. PROVIDE SUFFICIENT INTERIOR CLEARANCE BETWEEN VALVE AND ENCLOSURE.

1 AIR RELEASE/VACUUM VALVE

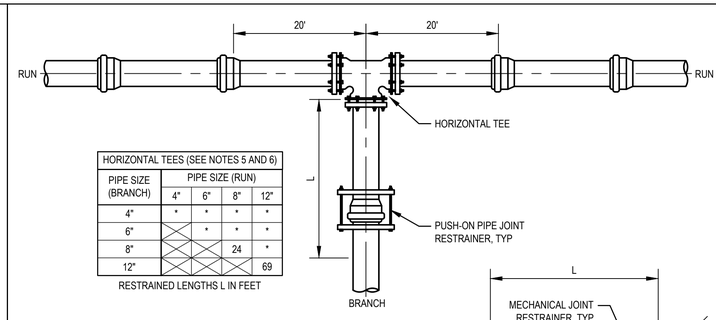
NOT TO SCALE



NOTES:
1. SERVICE LATERAL BEDDING MATERIAL TO BE COMPACTED TO MINIMUM 90% R.C. IN ACCORDANCE WITH ASTM D1557 PRIOR TO INSTALLATION OF POLYETHYLENE SERVICE TUBING.
2. METER BOX SHALL BE INSTALLED SO THAT TOP IS 1" ABOVE FINISH GRADE.
3. PROVIDE TRAFFIC RATED BOX AND LID.
4. SERVICE PIPE MATERIALS SHALL BE COPPER (TYPE K) WITH BRASS COMPRESSION FITTINGS OR THREADED BRASS PIPING WITH THREADED BRASS FITTINGS.
5. PROVIDE MIN 12" LONG THREADED BRASS NIPPLE WITH BRASS TO PVC ADAPTER COUPLING.

2 WATER SERVICE METER

NOT TO SCALE



HORIZONTAL TEES (SEE NOTES 5 AND 6)				
PIPE SIZE (BRANCH)	PIPE SIZE (RUN)			
	4"	6"	8"	12"
4"	*	*	*	*
6"		*	*	*
8"			24	*
12"				69

RESTRAINED LENGTHS L IN FEET

NOTES:
1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. IF THE DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.
2. LENGTHS LISTED ARE MINIMUMS. RESTRAINTS SHALL BE INSTALLED TO THE NEXT JOINT BEYOND THE LENGTH SPECIFIED.
3. IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED LENGTH SHALL BE DETERMINED BY THE DISTRICT.
4. ALL RESTRAINED LENGTHS ARE BASED ON PVC PIPE, SOIL TYPE ML (SOIL TYPE ML (INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, PER UCS CLASSIFICATION ASTM D 2487), SAFETY FACTOR OF 1.5, TRENCH TYPE 3, DEPTH OF BURY OF 4', AND A TEST PRESSURE OF 250 PSI.
5. FOR RUN SIDE OF HORIZONTAL TEES, RESTRAIN BOTH RUN SIDE JOINTS AT THE TEE AND INSTALL A FULL LENGTH OF PIPE ON EACH RUN SIDE.
6. FOR BRANCH SIDE OF HORIZONTAL TEES WITH * CONDITION, RESTRAIN ONLY THE BRANCH SIDE JOINT AT THE TEE. NO ADDITIONAL JOINT RESTRAINTS REQUIRED ALONG THE BRANCH PIPE.

HORIZONTAL BENDS				
BEND ANGLE	PIPE SIZE			
	4"	6"	8"	10"
11.25°	3	4	5	6
22.5°	5	7	9	12
45°	11	15	19	24
90°	25	35	46	57

RESTRAINED LENGTHS L IN FEET

VERTICAL BENDS				
BEND ANGLE	PIPE SIZE			
	4"	6"	8"	10"
11.25°	6	9	11	14
22.5°	12	17	22	28
45°	25	35	46	57

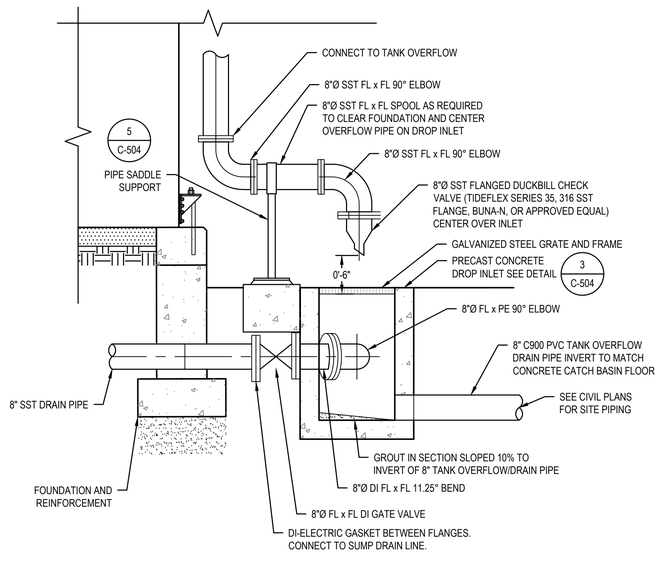
RESTRAINED LENGTHS L IN FEET

DEAD ENDS AND VALVES			
PIPE SIZE			
4"	6"	8"	10"
60	84	111	286

RESTRAINED LENGTHS L IN FEET

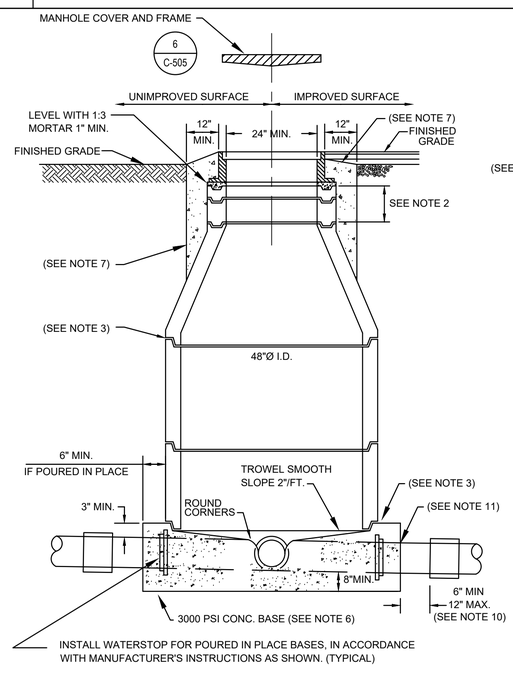
3 RESTRAINT LENGTH DETAILS

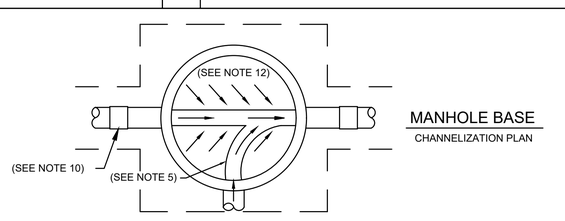
NOT TO SCALE



4 TANK OVERFLOW AND DRAIN

NOT TO SCALE

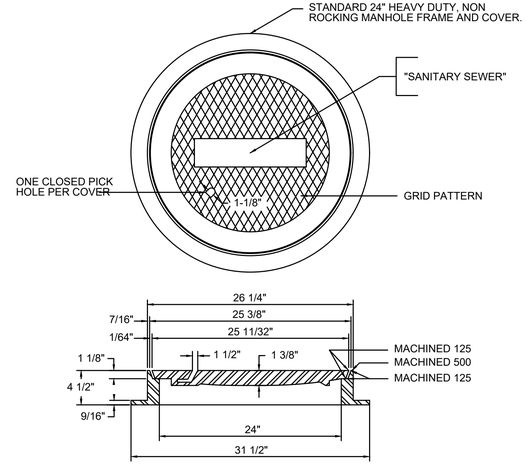




NOTES:
1. WHEN MANHOLES ARE INSTALLED IN UN-IMPROVED AREAS, THE TOP OF THE COVER SHALL BE A MIN. OF 4" ABOVE GRADE.
2. MIN. OF ONE 3" GRADE ADJUSTMENT RING. MAX. HEIGHT OF GRADE ADJUSTMENT RINGS = 20". ALTERNATELY, CONTRACTOR MAY CAST GRADE ADJUSTMENT RINGS IN PLACE.
3. SET ALL BARREL SECTIONS & TAPER SECTIONS IN PLASTIC GASKET, RAM-NEK OR APPROVED ALTERNATE. TYPICAL JOINT USE (1) 3/4"X 2-1/2" RAM-NEK SEAL.
4. CONE SECTION (TAPER) MUST BE CONCENTRIC FOR 48"Ø MANHOLE OR ECCENTRIC FOR 60"Ø MANHOLE UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE ENGINEER.
5. AFTER LOWER RING SECTION IS SET, BREAK OUT TOP HALF OF PIPE FLUSH WITH INSIDE FACE OF M.H. WALL AND CONSTRUCT SHELF AND U-SHAPED CHANNEL. MAKE ELEVATION CHANGES GRADUALLY AND DIRECTIONAL CHANGES WITH SMOOTH CURVES. SLOPE AND SIZE OF CHANNELS SHALL MATCH UPSTREAM AND DOWNSTREAM PIPES. MANHOLE CHANNELS WITH A HORIZONTAL CHANGE IN DIRECTION OF 30° OR MORE SHALL HAVE A MINIMUM DROP OF 0.1' ACROSS THE MANHOLE OR SHALL MATCH THE SLOPE OF THE PIPE, WHICHEVER IS GREATER.
6. POURED-IN-PLACE BASE SHALL BE POURED FULL THICKNESS ON UNDISTURBED SOIL. PRECAST BASE TO BE APPROVED BY ENGINEER AND PLACED ON 6" MINIMUM OF 3/4" DRAIN ROCK INSTALLED AGAINST UNDISTURBED EARTH.
7. 3000 PSI CONC. COLLAR SHALL BE FLUSH WITH FINISHED GRADE.
8. STANDARD MANHOLE BARREL SECTION PER ASTM C478.
9. 48"Ø I.D. M.H. TO BE USED FOR SEWER MAINS LESS THAN 18"Ø.
10. FLEXIBLE PIPE COUPLING IS REQUIRED ON ALL PIPE. FLEX COUPLING TO BE INSTALLED IN MAINLINE TRENCH AND OUT OF MANHOLE EXCAVATION.
11. WHEN CONNECTING NEW MAINS TO EXISTING MANHOLES, CORE EXISTING MANHOLE. JACK HAMMERING IS NOT ALLOWED. USE FLEXIBLE PIPE TO MANHOLE CONNECTOR TO SEAL OPENING. REPAIR BENCHES AND CHANNELS.
12. SHAPE MANHOLE BENCH AND INVERT TO DIRECT FLOW TOWARD THE DOWNSTREAM END OF THE MANHOLE.

5 SANITARY SEWER MANHOLE

NOT TO SCALE



NOTES:
1. SPECIFY SANITARY SEWER WHEN ORDERING. ALL CASTINGS SHALL BE DIPPED IN APPROVED ASPHALTUM OR BITUMINOUS PAINT.
2. ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO A.S.T.M. DESIGNATION A-48 CLASS 35 B, OR OF UNITED STATES GOVERNMENT SPECIFICATIONS QQ1-652B.
3. MINIMUM WEIGHT COMPONENTS: COVER - 130 POUNDS
   FRAME - 135 POUNDS
4. BOLT DOWN GASKETED COVERS ARE REQUIRED ON ALL SEWER MANHOLES. COAT THE BOLT THREADS ON FINAL BOLT UP WITH "NEVER CEASE" OR TEFLON BASED PIPE DOPE.

6 MANHOLE FRAME AND COVER

NOT TO SCALE

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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Drawn	D. AGUAS, C. BACH	Designer	L. HALONEN
Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title CIVIL DETAILS 5
Project No. 12619547
Original Size ANSI D
Drawing No. C-505
Sheet 38 of 53

Plot Date: 24 March 2026 - 2:28 PM
Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-CI-505.dwg

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

For the purpose of these specifications, the Owner's Representative shall be defined as the Landscape Architect, The Project Superintendent, and or the Architect.

These specifications are general requirements for product and installation for irrigation systems. This project utilizes recycled water and, therefore, require additional product requirements and installation standards. Refer to the additional requirements outlined in the details and recycled water notes contained in these drawings.

1.01 SECTION INCLUDES

A. The work included under this Section consists of furnishing all fees and permits, all labor, tools, materials, equipment, transportation, and services required to complete the installation of the Underground Sprinkler Irrigation system, including revisions to existing systems, as shown on the Drawings and as specified in this section.
B. Related Sections:
1. Section 2900 - Planting: Provision of requirements for fine grading of planting areas.

1.02 REFERENCES

A. National Electric Code (NEC).
B. Uniform Plumbing Code (UPC).
C. Underwriters Laboratories Inc. (UL):

1.03 QUALITY ASSURANCE

A. All work and materials shall be in full accordance with the latest rules and regulations of the National Electric Code, the Uniform Plumbing Code, and other applicable State or local laws or regulations. Nothing in these Drawings or Specifications is to be construed to permit work not conforming to these Codes.
B. When the Specifications call for materials or construction of a better quality or larger size than required by the above mentioned rules and regulations, the provision of the Specifications shall take precedence over the requirements of the said rules and regulations.
C. The Contractor shall furnish, without any extra charge, any additional material and labor when required by the compliance mentioned on these particular Specifications or shown on the Drawings.
D. The Contractor shall erect and maintain barricades, guards, warning signs, and lights as necessary or required by OSHA regulations and as required by these contract documents for the protection of the public or workmen.
E. Any existing buildings, equipment, piping, sewers, sidewalks, landscaping or other Site improvements damaged by the Contractor during the course of his work shall be replaced or repaired by the Contractor in a manner satisfactory to the Owner's representative and at the Contractor's own expense, and before the final payment is made. The Contractor shall be responsible for damage caused by leaks in the piping systems being installed or having been installed by him. He shall repair, at his own expense, all damage so caused, in a manner satisfactory to the Owner's representative.
F. Installing company and its job site superintendent shall have at least 3 years immediate and continuous experience installing systems of similar design and type of equipment.
G. The Contractor shall obtain and pay all fees, licenses, and permits required for the Project.
H. Before making bid, examine the Site carefully, verifying dimensions and other Site conditions in relation to the Plans. The Contractor is responsible for informing himself of all conditions under which work is to be done before submitting his bid.
I. In case of an apparent discrepancy among Drawings, Specifications, and actual Site conditions, bring the discrepancy to the attention of the Owner's Representative in writing.

1.04 PERFORMANCE REQUIREMENTS

A. Irrigation System:
1. Construct irrigation system to sizes, grades, and locations indicated on the Drawings.
2. Irrigation lines indicated on the Drawings are essentially diagrammatic.
3. Establish exact locations of tree well bubblers and drip zone tubing, at time of construction.

1.05 SUBMITTALS

A. Submit and cut sheets provide for all irrigation system components.
B. Record Drawings
1. The Contractor shall maintain, in good order, in the field office, one complete Set of Irrigation Drawings showing all water lines, valves, controllers, stub-outs, and sleeves. In the event any work is not installed as indicated on the Drawings, such work shall be immediately corrected and dimensioned accurately from the building walls on these Record Drawings.
2. All underground stub-outs and sleeves for future connections (if noted on the plans) shall be located and dimensioned accurately from the building walls on these Record Drawings.
3. Upon completion of the work, and prior to final acceptance, the Contractor shall provide the 'As Built' conditions. Furnish these corrected 'As Built' plans to the Owner's Representative.
C. Contract Closeout Submittals:
1. Submit to Owner's Representative
a. Project Record Documents: After final acceptance of project, turn over record documents to the Owner's Representative.
b. Operation and Maintenance: Provide operation and maintenance manuals covering the system and its components including a detailed typewritten instructions for Winter and Summer controller programming, including demonstration.

1.06 DELIVERY, STORAGE AND HANDLING

A. Packing and Shipping:
1. Deliver plastic pipe, fittings, and connectors to project site in unbroken bundles or rolls, packaged in such manner as to provide adequate protection for pipe ends, threaded or plain.
B. Storage and Protection
1. During construction and storage protect materials from damage and prolonged exposure to sunlight, excessive heat, and/or deleterious materials.

1.07 JOB CONDITIONS

A. Proceed with and complete irrigation work as rapidly as portions of Site become available, working within seasonal limitations.
B. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate as required.
C. Maintain grade stakes set by others until removal is mutually agreed on by parties concerned.

1.08 SUBSTITUTION AND VERIFICATION

A. Certain numbers on the Drawings and the Specifications are taken from the catalogues of the manufacturers named. The Contractor shall be responsible for verifying that listed numbers correspond to appropriate equipment currently available from the manufacturers.
B. Numbers on the Drawings refer to the basic equipment required and the Contractor shall be responsible for determining additional incidental parts necessary for the attachment or assembly of equipment within the system.
C. Requests for substitutes must be in writing and approved of by the Owner's Representative.

PART 2 - PRODUCTS

2.01 PVC PLASTIC PIPING AND FITTINGS

A. Exterior main lines (pressure lines) & Exterior lateral lines (non-pressure): All piping is to be PVC Schedule 40 (ATM D 1785) plastic pipe. Use Type 1 Schedule 40 High Impact PVC solvent weld fittings.
B. Connections between mainlines and RCV's shall be of Schedule 80 PVC nipples and fittings as per Detail on Plan.
C. Plastic to metal connections shall be made with Schedule 80 male adapter or threaded nipple.
D. Plastic saddles and flange type fittings are not to be used.

2.02 GALVANIZED STEEL PIPE AND FITTINGS

A. Steel pipe shall be standard weight Schedule 40 as specified in Section 15252, mild steel pipe of domestic origin, galvanized, and shall be new and scale free. All nipples shall be of the same material.
B. Steel pipe fittings shall be heavy pattern, banded, galvanized malleable iron, threaded pipe fittings.
C. Nipples are to be of same material as pipe.
D. Crosses, bushings, and close nipples are not to be used.
E. All galvanized steel pipe and fittings occurring below grade, including to 6 inches above finish grade, are to be field wrapped with a PVC tape. The wrapping tape and technique are to be subject to Owner's Representative approval.
F. All dissimilar metal piping are to be joined with a dielectric fitting.

2.03 SLEEVES AND CHASES

A. All irrigation pipe sleeves and/or electrical chases shall be PVC Schedule 40 (ASTM D 1785). Size twice the diameter of the sum of the pipe or pipes total diameter.
B. Class 1 and Class 2 electrical conductors are not to be placed in the same conduit.

2.04 IRRIGATION SYSTEM EQUIPMENT

A. The backflow prevention assembly, automatic sprinkler controller, control valves, and other miscellaneous equipment shall be as specified on the Plans (or on the civil engineering plans) and/or in the Irrigation System Legend.
B. Sprinkler Heads:
1. Type and Sizes: Provide types and sizes with diameter (or radius) of throw, pressure, discharge, and any other designations as indicated on the Plans.
2. For Each Particular Type: Provide from same manufacturer and mark with manufacturer's such position that they can be identified without removing the name and identification in sprinkler from the system.
C. Sprinkler Risers:
1. Rotor and Rotary Pop-up Sprinkler Are to have adjustable assembly (double swing joint) risers as indicated on the Plans.
2. Stationary Pop-up Sprinklers: Are to have swing joint risers or as indicated on the Plans.
B. Drip system components as indicated on the plans.

2.05 CONTROL WIRE

A. Control wire shall be type UF, 600 volt, single conductor wire with PVC insulation 4\64 inches thick (minimum). Control wire shall be #14 single conductor solid copper wire. All control or 'hot' wires shall be of one color (RED) and all common or 'ground' wires shall be (WHITE). Common ground wires size shall be #12 single conductor.
B. Electrical wire connections shall be 3M Brand DBY Direct Bury Splice Kit, shall splice and effectively moisture seal two or more conductors. The electrical connector shall be a 'Scotchlok' Y.

2.06 AUTOMATIC CONTROLLER

A. Provide and install automatic irrigation controller, as indicated in the irrigation legend, and in approximate location shown on the Plans. The exact location will be determined on the Site by the Owner's Representative.
B. Controller shall have correct number of modules to allow for operation of all wired valves.

2.07 DECODERS AND TWO WIRE PATH (if a two wire system is utilized on plans)

A. Two-wire decoders shall be compatible with the specified irrigation controller.
B. Two wire path shall be twisted pair, solid-core, color-coded red/blue pairs with each conductor in a polyethylene jacket suitable for direct burial. The two-wire paths shall be Hunter Industries Model IDWIRE1 for 14 AWG(1.5mm) conductors, or Model IDWIRE2 for 12 AWG(2mm) conductors for extended range (over 10,000 ft./3km, up to 15,000 ft./4.5km).
C. The two-wire paths may be spliced, or “teed”, permitting extensions of the path in multiple directions. In general, the distance from the controller to the end of any one end of a “tee” or wire run shall not exceed the maximum for the gauge of wire, even if the total of all wire exceeds that number. For example, a path comprised of IDWIRE1 (rated for 10,000ft./3km) could extend 5000 ft./1.5km to a “tee” splice, and each arm of the tee could extend an additional 5000 ft./1.5km. The total wire connected would equal 15,000 ft./4.5km, but the distance from the controller, to the end of each run, would be 10,000ft./3km or less, meeting the specification. All wire splices must be made in a valve box with DBR-6 or equal direct-burial waterproof connectors.
D. All connections in the two-wire paths (outside the controller enclosure) shall be made with 3M DBR-6 waterproof, strain-relieving direct burial connectors, or exact equals. Decoder output to solenoid connections shall be made with 3M DBY waterproof, strain-relieving connectors, or exact equals. No substitution of wire or wire connector specifications is permissible. All connections, tees, and splices shall be positioned in valve boxes for future location and service.

2.08 BACKFLOW PREVENTERS

A. Backflow prevention devices are to be installed as per plan details and specifications (see civil plans). Verify point of connection size and location in field. Contact Owner's Representative if contrary to plan.

2.09 MASTER VALVE AND FLOW SENSOR

A. Master Valve and Flow Sensor as specified on the plans.
B. Connect master valve to system controller via the two-wire path and a single-station decoder (compatible with controller and other decoders).
C. Connect system sensors via the Sensor Decoder and the two-wire path. Flow sensor decoder shall be compatible with controller and other decoders.

2.10 REMOTE CONTROL VALVES

A. Remote Control Valves specified on the plans. Wire runs between valves and the controller. Each valve shall have a unique and individual hot wire and shared common ground.
B. Remote Control Valves shall be as indicated on the plans.

2.11 GATE VALVES

A. Gate Valves shall be as indicated on the plans.

2.12 VALVE BOXES

A. Valve boxes shall be Carson #1419-13 as manufactured by Carson Industries, Inc. and are to have bold down lids, with "RCV" cast on lid, or approved equal.
B. Install only one RCV or gate valve per valve box.
C. Install all valve boxes on a pea gravel or 3/4" wash base as indicated on the details.

2.13 MISCELLANEOUS EQUIPMENT AND MATERIALS

A. PVC pipe connections: Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer of pipe and fittings. Cement shall be maintained at proper consistency throughout use.
B. Galvanized pipe connections: Pipe joint compound shall be 'Rectorseal' or equivalent, non-hardening, non-toxic material designed specifically for use on threaded connections in water-carrying pipe.
C. PVC threaded connections: Use Teflon tape or approved equal.
D. Provide the Owner, at completion of the maintenance period, three each of all operating and servicing keys, wrenches, and adjustment screwdrivers required for complete maintenance and operation of all heads and valves. Include all wrenches necessary for complete disassembly of all heads and valves.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet
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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **IRRIGATION SPECIFICATIONS**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **L-001**
Sheet **39** of **53**

Plot Date: 24 March 2026 - 2:39 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-L-001.dwg

IRRIGATION SPECIFICATIONS (continued)

PART 3 - EXECUTION

3.01 SUPERVISION AND WORKMANSHIP

A. The Contractor, personally or through an authorized and competent representative, shall supervise the work constantly and shall, as far as possible, keep the same foreman and workmen on the job from commencement to completion. The workmanship of the entire job shall in every way be first class, and only experienced and competent workmen shall be allowed on the job.

3.02 LAYOUT OF THE WORK

A. Stake out the irrigation system as shown on the Drawings. Any necessary changes from the original system shall be determined at this time. Verify location of existing underground utilities and make any necessary adjustments to avoid damage.

3.03 INSTALLATION PREPARATION

A. Schedule and coordinate placement of materials and equipment in a manner to complete the work as quickly as possible in conformance with construction schedules. Protect all work material from dmage during construction and storage.

3.04 COORDINATION OF WORK

A. Coordinate work with other trades. In particular, schedule placement of irrigation line and wire sleeves prior to paving work.

3.05 EXCAVATING, TRENCHING AND BACKFILL

A. Excavation and Backfill for Sprinkler Lines:
   1. Excavation: Place when pipe and soil temperatures are approximately the same.
   2. Backfill and Compaction: Top 6 inches in landscaped areas may be 85 percent.
B. Excavation shall be in all cases ample space for joining. Provide warning signs and barricades as needed for open trenches. Bottom of trenches shall provide continuous support for pipe.
C. Make trenches for pipe lines deep enough to provide minimum cover from finish grade as follows:
   1. 18 inches minimum cover over mainlines and control wires to control valves and quick coupler valves, 24 inches under paving.
   2. 12 inches minimum cover over lateral lines. 24 inches under paving.
   3. When rocky conditions exist, as determined by the Owner's Representative, the bottom of all trenches shall have 3 inches of sand placed in them. Trenching depth shall be sufficient to allow for the 3 inches of bedding sand.
D. Restore surfaces, existing underground installations, or other Site improvements damaged or cut as a result of excavations, to original condition in a manner approved by the Owner's Representative.
E. Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by the Owner's Representative.
F. No work on excavating, trenching, or backfilling shall be done when soil is muddy, as determined by the Owner's Representative.

3.06 PIPELINE ASSEMBLY / PLASTIC PIPE

A. All pipe shall be assembled free from dirt. Field cut ends shall be reamed only to full diameter, with rough edges and burrs removed.
B. Solvent weld joints: Assemble PVC pipe using primer, solvents, and methods in accordance with manufacturer's recommendations. Wipe excess cement off the outside of the joints.
C. For long pipe runs, 'snake' pipe from side to side in trench to allow for thermal expansion. Install pipe with manufacturer's labels face up for inspection before backfill.
D. Threaded Joints:
   1. Field threading of plastic pipe or fittings is not permitted, factory formed threads only will be permitted.
   2. All plastic to metal connections shall be made with PVC male adapters. All screwed joints shall have Teflon tape applied to the male threads.
   3. Where assembling threaded plastic fittings, take up joint no more than one full turn beyond hand tight. Use strap-eye friction wrench only; do not use metal jawed wrench.
E. Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstruction. Remove caps or plugs only when necessary to continue assembly.
F. Where pipes or control wires pass through sleeves, provide removable non-decaying seal at ends of sleeve to prevent entrance of earth.
G. Install concrete thrust blocks on the main line at all changes in pipe direction associated with PVC tee's, el's, and other fittings as needed and as per detail on the plans. Do not cover thrust blocks until fully acceptable to the Owner's Representative.

3.07 REMOTE CONTROL VALVES (RCV)

A. Install where shown and group together where practical. Limit one RCV per valve box. Locate in shrub or ground cover beds wherever possible.
B. The valve designation (i.e.: controller and station no.) shall be painted on the inside of each valve box lid.
C. Locate valves no closer than 12 inches from pavement or curbs, buildings, and walks.
D. Thoroughly flush main line before installing valve.

3.08 AUTOMATIC CONTROL WIRING

A. Run wires along main lines wherever practical. Tie wires in bundles with pipe wrapping tape at 20 foot intervals and allow slack for contraction between strapping. Place all above ground wiring in conduit.
B. Make connections with 3M Brand DBY Direct Bury Splice Kit, shall splice and effectively moisture seal two or more conductors. The electrical connector shall be a 'Scotchlok' Y. The device shall be installed per manufacture's instructions and all applicable codes. The device shall be UL Listed as a Wire Connector System For Use With Underground Conductors.
C. Loop a minimum of three (3) feet of extra control wire and ground wire in each valve box and at all corners and at 200 foot intervals.
D. Splicing will be permitted only at valve locations or in junction boxes, equivalent to valve boxes, and approved by Engineer.
E. Where control lines pass under paving, or where interior wires are exposed, they shall pass through Schedule 40 PVC conduit.

3.09 AUTOMATIC CONTROLLER

A. The automatic sprinkler controller is to be a new automatic controller. Reference irrigation equipment legend. Contractor is to provide the following:
   1. Furnish and install the new auto controller, controller steel enclosure, and or enclosure concrete base as specified.
   2. Provide all 100X electrical work required to heat the new controller.
   3. Provide all 120 volt electrical work required to reconnect the existing systems control wires to the new auto controller.
   4. Provide telephone service to controller location, if required per plan legend. Coordinate with installing contractor.
   5. Provide adequate electrical surge protection for the new automatic controller and as approved by the Owner's Representative.

3.10 ROOT ZONE WATER SYSTEM BUBBLER AND DRIP SYSTEM

A. Install all root zone water system bubblers and sub-surface drip line in accordance with the plans and details contained within these drawings.

3.11 SPRINKLER HEADS

A. General:
   1. Set heads perpendicular to finished grades, unless otherwise indicated on the Drawings.
   2. Sprinkler heads adjacent to Existing Walks, Curbs, or Other Paved Areas are to be set to grade, and as shown on the drawings.
   3. Sprinkler heads in lawn areas where turf has not be established are to be set 2 inches above finished grade.
      a. Lower heads installed in this manner to grade when turf is sufficiently established to allow walking on it without appreciable damage.
      b. Complete lowering of heads within 30 calendar days after written notification by the Owner's Representative.
B. Flush lines thoroughly before installing heads, with the most distant circuit flushed last. Once the flushing water is clean, put on sprinkler heads, starting with the closest circuit to the vacuum breaker.
C. The Contractor shall be responsible for providing full and even coverage. Make all necessary adjustments for proper distribution and coverage.
D. Avoid overthrow onto windows and keep overthrow onto buildings and pavement to an absolute minimum.
E. Bring any potential problems to the attention of the Owner's Representative prior to completion of the work.

3.12 BACKFILLING

A. Use earth excavated from trenches, free from rocks or other deleterious material. Avoid any sharp objects adjacent to pipe which could cause damage. At the Contractor's option, rock-free imported topsoil may be used to backfill around piping.
B. All PVC piping is to be covered with a 3 inch layer of sand wherever the backfill is rocky in nature as determined by Owner's Representative.
C. The sprinkler system trenches are to be backfilled in 6 inch lifts and adequately compacted to prevent subsequent settling.
D. Finish Site. Site grade areas of backfill to match adjacent grade, removing any rocks or debris from the Obtain approval from the Owner's Representative for relocating any excess earth on
E. If settlement occurs along trenches, make all necessary adjustments to bring irrigation system, soil and turf or paving to proper grade at no additional cost to the Contract.

3.13 FIELD QUALITY CONTROL

A. PIPE TESTING: Notify Owner's Representative at least three (3) working days in advance of testing. All tests shall be at Contractor's expense. Use small amounts of backfill to stabilize pipe before testing, but keep all joints exposed. Test lines as follows:
B. Trench Inspection and Main Line Pressure Test
   1. The Contractor shall not backfill pressure main line trench until an open trench inspection has been conducted and approved.
   2. Test all pressure lines and connections to quick coupler valves, remote control valves and gate valves under hydrostatic pressure of 120 pounds per square inch prior to installation of remote control valves.
   3. All piping under paved areas shall be tested under hydrostatic pressure of 120 pounds per square inch prior to paving.
   4. Sustain pressure in pressure lines for not less than twenty-four (24) hours. If leaks develop, replace joints and repeat test until entire system is proven watertight.
   5. All hydrostatic tests shall be made only in the presence of the Owner. No pipe shall be backfilled, except for center loading, until it has been observed, tested and approved in writing by the Owner. Should any work be covered up before such observation and tests are completed, the Contractor shall, at his own expense, uncover the work; and after it has been observed, tested and approved, he then shall make all repairs with such materials as required to restore all work disturbed to original and proper condition.
   6. Furnish necessary force pump and all other test equipment.
C. Flushing and Testing:
   1. After new sprinkler piping and risers are in place and connected and necessary work has been completed, and prior to installation of sprinkler heads, open control valves and apply full head of water to flush out system.
   2. After the system is thoroughly flushed, and prior to backfilling, cap off and pressure test system.
   3. All testing to be in full compliance with the requirements of the specifications. B. Final System Test:
D. When irrigation system is complete and all adjustments have been made, notify the Owner's Representative to arrange final testing of system. A complete test of the system shall be made with all equipment connected and operating. Make any necessary adjustments as required by the Owner's Representative and retest as needed for final approval of system.
E. Manufacturer's Field Service:
   1. Equipment manufacturer for controllers and automatic control valves shall provide one half day of field training in the operation and maintenance of the equipment to the Owner.
   2. Equipment manufacturer for controllers, automatic control valves, and sprinklers shall inspect the installed system and its operation and certify in writing its proper installation and operation.

3.14 GUARANTEE

A. Submit in writing to the Owner's Representative.
B. It shall be the responsibility of the Contractor to fill and repair all depressions and replace all necessary paving or plating due to the settlement of irrigation trenches for one year following completion and acceptance of the job.
C. The Contractor shall guarantee all materials, equipment, and workmanship furnished by him to be free of all defects of workmanship and materials, and shall agree to replace at his expense at any time within one year after installation is accepted, any and all defective parts that may be found. In cases where emergency repairs are needed, or if the Contractor is not immediately available for repair work, the Owner shall have the option of making repairs at the Contractor's expense.

3.15 CLEAN-UP

A. The Contractor shall keep his work areas in a workmanlike and safe condition and so his rubbish, waste, and debris does not interfere with the work.
B. Upon completion of work in this Section, remove all rubbish, waste and debris from Site.
C. Remove all equipment and implements of service, leave entire area in a neat and clean condition to meet acceptance by the Owner's Representative.

3.16 WATER EFFICIENT LANDSCAPE - COMPLIANCE CERTIFICATE OF COMPLETION

A. The Contractor shall comply with the completion of all forms associated with the Certificate of Completion associated with the Water Efficient Landscape Compliance Certificate of Completion.

B. IRRIGATION AUDIT: Irrigation audit shall be conducted by a third party irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape. Irrigation audit required for projects as described (15.92.160). The applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and other factors necessary for accurate programing.

C. IRRIGATION RUNTIME SCHEDULE: The Landscape Contractor shall provide the City of Sacramento, as part of the Irrigation Audit and Certification of Completion, an Irrigation Runtime Schedule. This schedule shall break down individual valve schedules and runtimes based on the irrigation volume requirements determined during the irrigation audit.

END OF SECTION

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

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Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: IRRIGATION SPECIFICATIONS CONT.
Project No. 12619547
Original Size: ANSI D
Drawing No. L-002
Sheet 40 of 53

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INSTALL RECYCLED WATER POST MOUNTED WARNING SIGN IN GENERAL LOCATION. SEE RECYCLED WATER NOTES AND SIGN DETAIL SHEET L-502.
EXISTING STAIRS TO REMAIN
OUTFIELD FENCE
FOUL LINE
LIMIT OF PLAYING FIELD
INSTALL LATERAL LINES IN COMMON TRENCH WHERE POSSIBLE TO LIMIT TRENCHING ACROSS EXISTING TURF
TURF EDGE
FOUL LINE
AREA TO REMAIN ON EXISTING POTABLE WATER IRRIGATION SYSTEM. CONTRACTOR SHALL ENSURE THAT ANY IRRIGATION LINES THAT ARE CUT DURING THE CONSTRUCTION ARE RE-ESTABLISHED TO ENSURE POST CONSTRUCTION IRRIGATION COVERAGE TO THE EXISTING IRRIGATION SYSTEM IS THE SAME AS PRIOR TO CONSTRUCTION. CONNECT EXISTING CONTROL WIRING TO NEW CONTROLLER AND TEST OPERATION PRIOR TO COMPLETION OF WORK.
INSTALL RECYCLED WATER POST MOUNTED WARNING SIGN IN GENERAL LOCATION. SEE RECYCLED WATER NOTES AND SIGN DETAIL SHEET L-502.
APPROXIMATE LOCATION OF EXISTING CONTROLLER TO BE REMOVED.
METER AND BACKFLOW PREVENTER INSTALLATION LOCATION. LOCATED AND INSTALLED PER CIVIL PLANS.
RECYCLED WATER MAIN ALIGNMENT, PER CIVIL PLANS.
INSTALL RECYCLED WATER WARNING SIGN AT THREE LOCATIONS ON FENCE OR DUGOUT. SEE RECYCLED SIGN IMAGE AND NOTES THIS SHEET.
WALL MOUNT IRRIGATION CONTROLLER AT END OF DUGOUT AND PROVIDE NEW LENGTH OF WIRE FOR POWER AND EXISTING CONTROL VALVES FROM OLD CONTROLLER LOCATION TO NEW.
INSTALL SERIES OF CONTROL VALVES BEHIND DUGOUT, OUTSIDE THE FIELD OF PLAY.
INSTALL RECYCLED WATER POST MOUNTED WARNING SIGN IN GENERAL LOCATION. SEE RECYCLED WATER NOTES AND SIGN DETAIL SHEET L-502.
COMMUNITY GARDEN
INSTALL RECYCLED WATER POST MOUNTED WARNING SIGN IN GENERAL AREA NEAR NEW QUICK COUPLER LOCATION. SEE RECYCLED WATER NOTES AND SIGN DETAIL SHEET L-502.
PROVIDE SUBMITTAL OF SIGN FOR ENGINEER'S APPROVAL
SECURE SIGN TO DUGOUT WALL OR TO FENCE USING SCREWS OR WIRE.
FOR WATER CONSERVATION THIS PROPERTY IS IRRIGATED WITH RECLAIMED WATER
DO NOT DRINK
COMO PARTE DE SOS ESFUERZOS DE CONSERVACION DE LA CIUDAD; ESTA AGUA HA SIDO TRATADA CON EL PROPOSITO DE SER UTILIZADA UNICAMENTE PARA RIEGO
POST IN LOCATIONS APPROVED BY ENGINEER AND AT OR NEAR THE LOCATIONS SHOWN ON THIS DRAWING.
SIGN SHALL BE AN ALUMINUM SIGN SIMILAR TO THE EXAMPLE PROVIDED ABOVE, PURPLE IN COLOR WITH WHITE LETTERING. MINIMUM 4" X 8" IN SIZE. CONTRACTOR TO PROVIDE A SHOP DRAWING OR CUT SHEET OF THE ACTUAL SIGN FOR APPROVAL PRIOR TO INSTALLATION.
1 18.5 1"
2 46.5 1½"
3 27.9 1½"
4 27.9 1½"
5 27.9 1½"
6 37.2 1½"
7 46.5 1½"
RS C POC FS MV
N
0 10' 20' 40'

No.	Issue	Drawn	Approved	Date
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Project Manager	M. KENNEDY	Date	MARCH 2026
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Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**

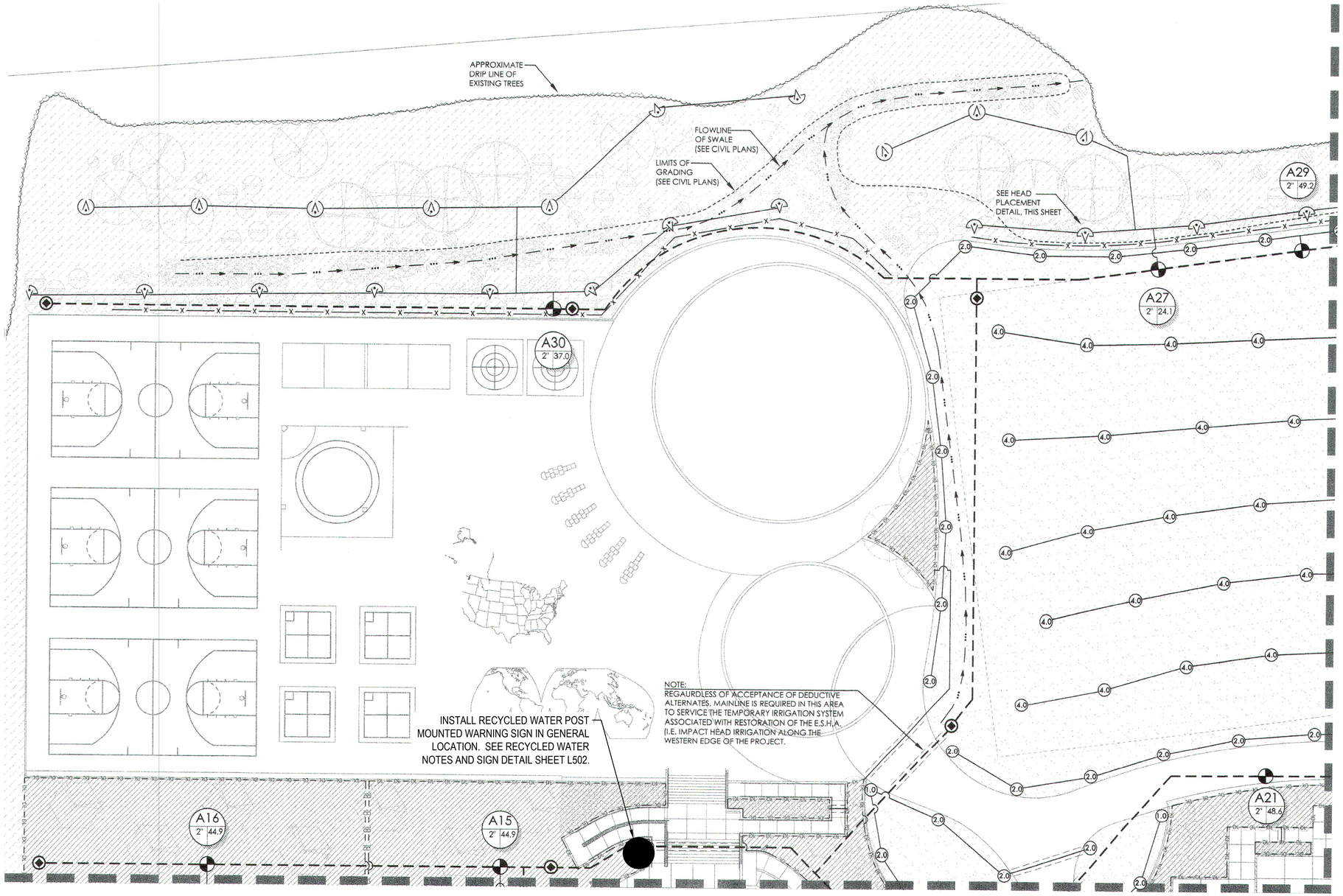
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**

Title **FRIENDSHIP PARK IRRIGATION PLAN**

Project No. **12619547**

Original Size **ANSI D** Drawing No. **L-101**

Plot Date: 24 March 2026 - 2:43 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-L-101.dwg



K-8 SCHOOL LAYOUT 1 - USE FOR LOCATION OF RECYCLED WATER SIGNS ONLY

No.	Issue	Drawn	Approved	Date
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Project Manager	M. KENNEDY	Date	MARCH 2026
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Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title K-8 SCHOOL RECYCLED WATER SIGN PLAN LAYOUT 1
Project No. 12619547
Original Size ANSI D
Drawing No. L-102
Sheet 42 of 53

Plot Date: 24 March 2026 - 2:44 PM Plotted By: Chris Bach
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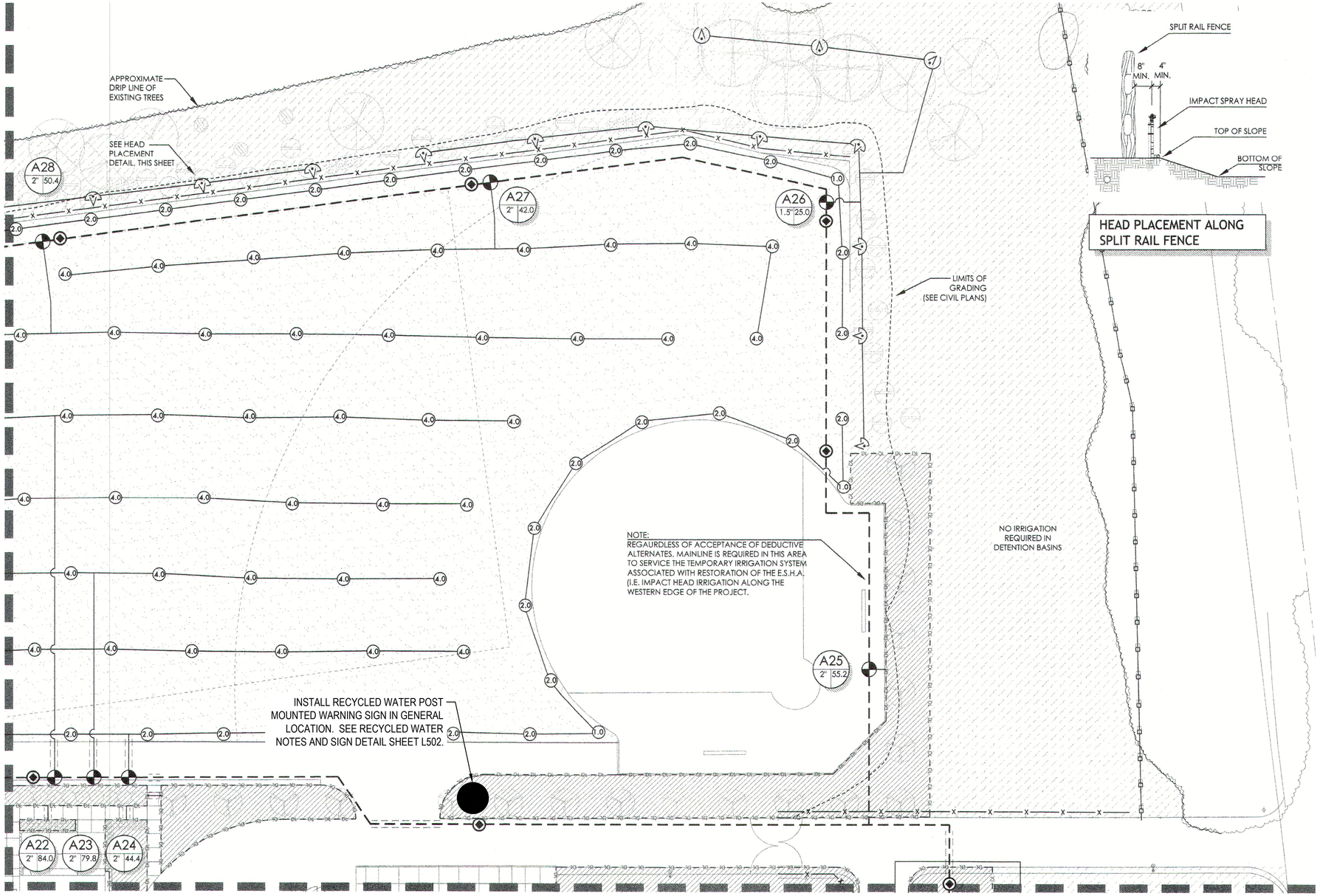

HEAD PLACEMENT ALONG SPLIT RAIL FENCE

0 10' 20' 40'

K-8 SCHOOL LAYOUT 2 - USE FOR LOCATION OF RECYCLED WATER SIGNS ONLY

No.	Issue	Drawn	Approved	Date
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Project Manager	M. KENNEDY	Date	MARCH 2026
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Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title K-8 SCHOOL RECYCLED WATER SIGN PLAN LAYOUT 2
Project No. 12619547
Original Size ANSI D
Drawing No. L-103
Sheet 43 of 53

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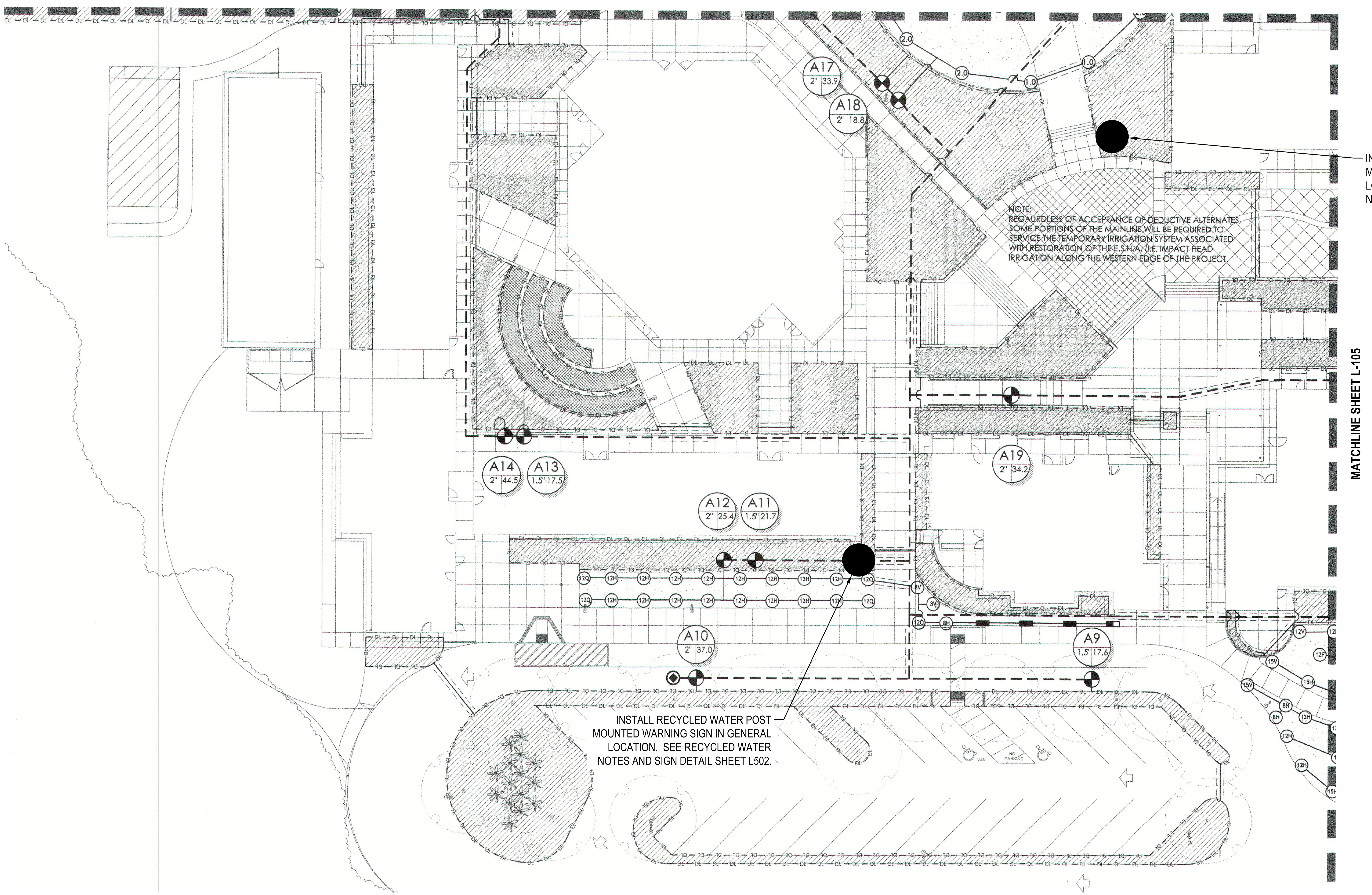
MATCHLINE SHEET L-102



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K-8 SCHOOL LAYOUT 3 - USE FOR LOCATION OF RECYCLED WATER SIGNS ONLY

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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Project Manager	M. KENNEDY	Date	MARCH 2026
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Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title K-8 SCHOOL RECYCLED WATER SIGN PLAN LAYOUT 3
Project No. 12619547
Original Size ANSI D Drawing No. L-104

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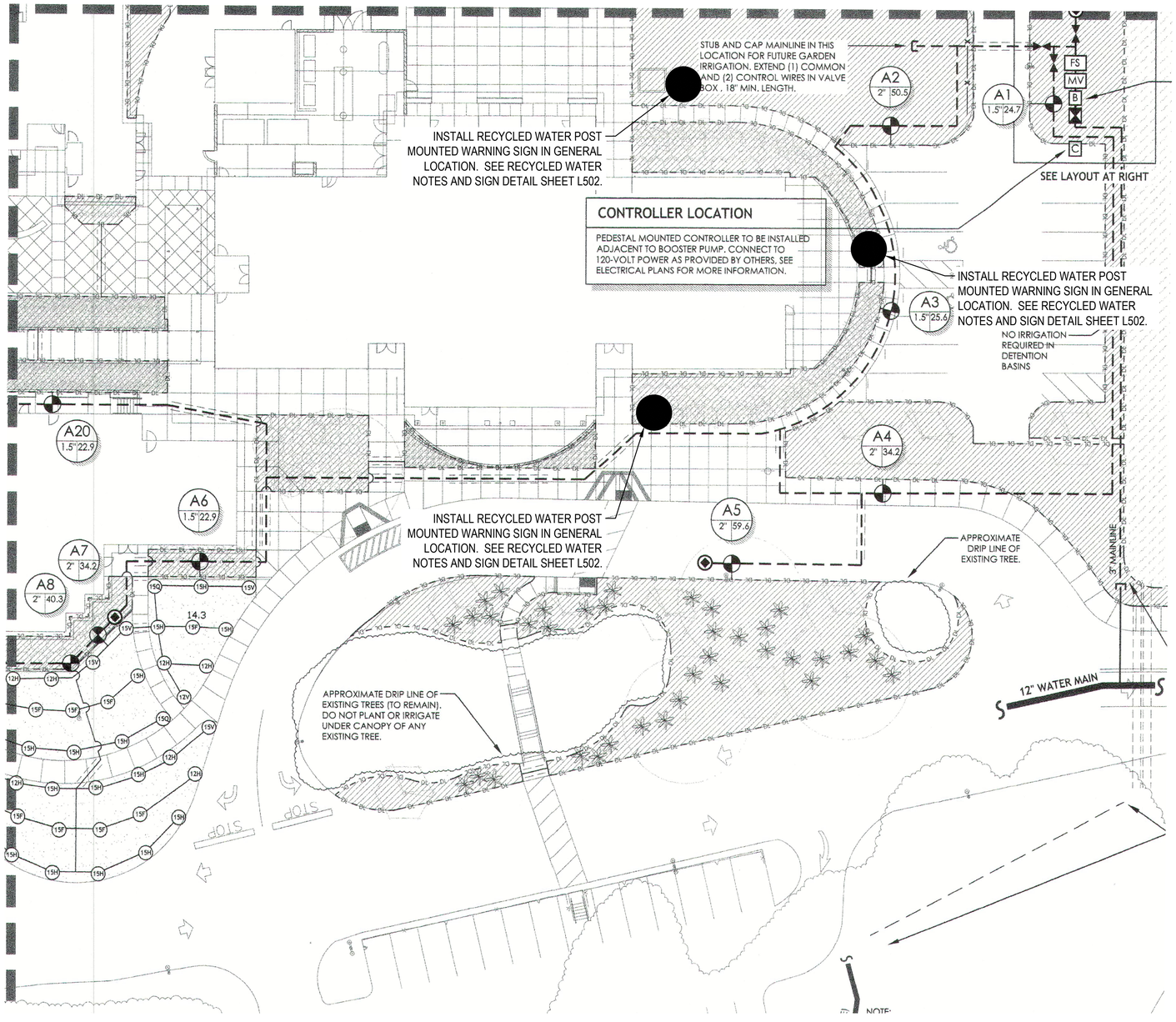
MATCHLINE SHEET L-103

MATCHLINE SHEET L-104



0 10' 20' 40'

K-8 SCHOOL LAYOUT 4 - USE FOR LOCATION OF RECYCLED WATER SIGNS ONLY

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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Project Manager	M. KENNEDY	Date	MARCH 2026
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Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title K-8 SCHOOL RECYCLED WATER SIGN PLAN LAYOUT 4
Project No. 12619547
Original Size ANSI D
Drawing No. L-105
Sheet 45 of 53

Plot Date: 24 March 2026 - 2:47 PM Plotted By: Chris Bach
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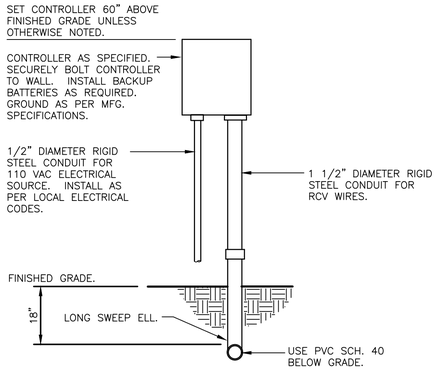
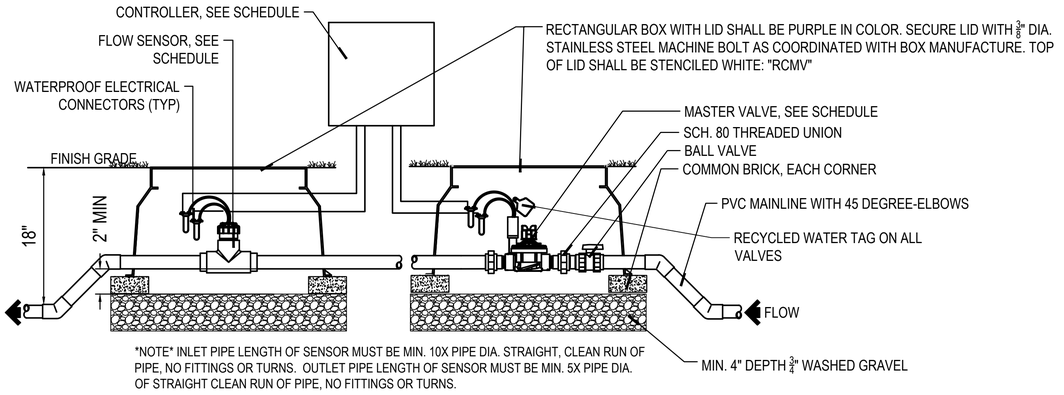


1 WALL MOUNT CONTROLLER

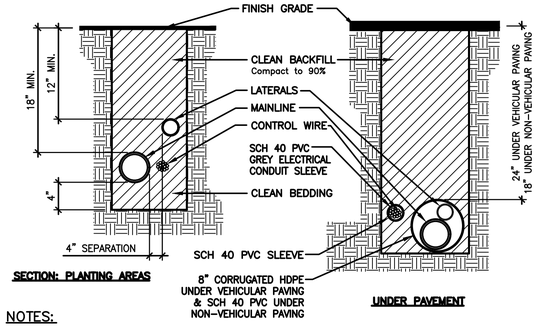
1" = 1'-0" P-FR-61



IF TWO WIRE SYSTEM - CONNECT PER MANUFACTURE'S SPECIFICATIONS AND DETAILS.

2 MASTER VALVE AND FLOW SENSOR ASSEMBLY

1 1/2" = 1'-0" P-FR-19



NOTES:

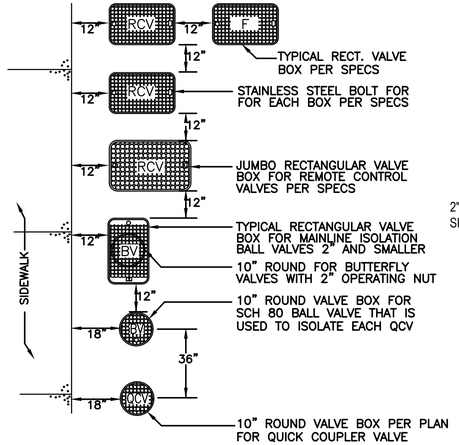
1. COORDINATE ROADWAY/SIDEWALK IMPROVEMENTS SO THAT SLEEVE(S) ARE INSTALLED PRIOR TO PAVING.
2. ALL "2-WIRE" CONDUCTORS TO BE INSTALLED IN A 1" GRAY CONDUIT OR SLEEVE AT ALL TIMES.
3. ALL "STANDARD" WIRE CONDUCTORS TO BE BUNDLED AND TAPED AT 10' INTERVALS; TAPE TO MAINLINE AT 20' INTERVALS. PLACE WIRE IN GREY CONDUIT WHEN UNDER PAVING (SIZE CONDUIT TO FIT WIRE BUNDLE)
4. WHEN INSTALLED UNDER VEHICULAR PAVING, ELECTRICAL CONDUIT MAY BE PLACED IN 8" CORRUGATED HDPE SLEEVE WITH IRRIGATION PIPE(S)
4. SLEEVES SHALL EXTEND 12" BEYOND BACK OF CURB/PAVING INTO PLANTER AREA.
4. PROVIDE A 2' LOOP OF WIRE AT CHANGES IN DIRECTION OF 30 DEG. OR GREATER.
5. INSTALL LOCATOR WIRE ALONGSIDE MAINLINE WHERE THERE IS NO CONTROL WIRE.

3 IRRIGATION PIPE AND CONTROL WIRE TRENCHING

NOT TO SCALE P-FR-67

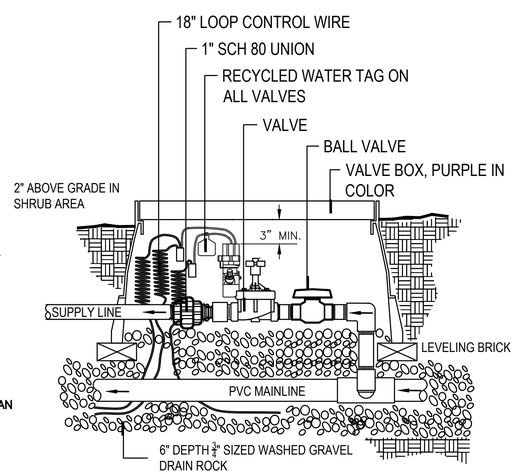
NOTES:

1. INSTALL VALVE BOXES IN PLANTER AREAS WHENEVER POSSIBLE
2. ALL VALVE BOXES MUST BE PERPENDICULAR TO SIDEWALKS
3. ALL VALVES MUST BE CENTERED AND INSTALLED PLUMB INSIDE VALVE BOX
4. IDENTIFY VALVE NUMBER ON LID.
5. USE PURPLE BOXES AND LIDS FOR RECYCLED WATER USED.



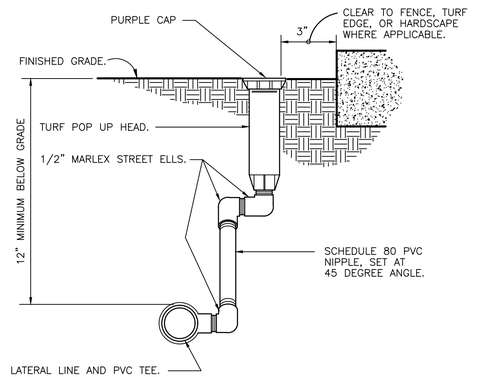
4 VALVE BOX LAYOUT

NTS



5 REMOTE CONTROL VALVE WITH UNION

NOT TO SCALE



6 TURF ROTOR POP-UP ASSEMBLY

3" = 1'-0" P-FR-23

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet
0 1"

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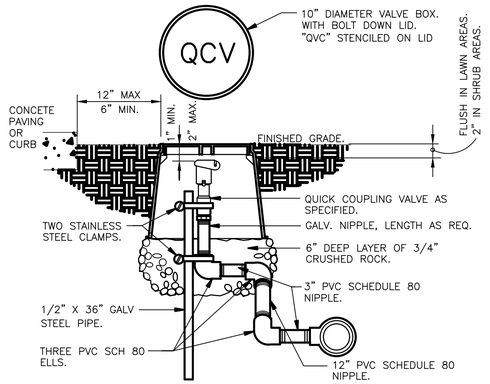
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

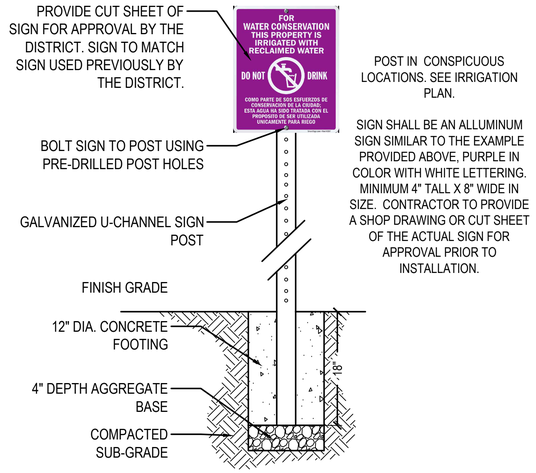
Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title IRRIGATION DETAILS 1
Project No. 12619547
Original Size ANSI D
Drawing No. L-501
Sheet 46 of 53

Plot Date: 24 March 2026 - 2:48 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-L-501.dwg



1 QUICK COUPLING VALVE

1 1/2" = 1'-0" P-FR-01



2 RECYCLED WATER ADVISORY SIGN

1" = 1'-0"

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

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Drafting Check	L. HALONEN, M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT

Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS

Title **IRRIGATION DETAILS 2**

Project No. 12619547

Original Size ANSI D

Drawing No. **L-502**

Sheet 47 of 53

Plot Date: 24 March 2026 - 2:49 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-L-502.dwg

RECYCLED WATER NOTES

1. Recycled water is provided by the Mendocino City Community Services District (District) Recycled Water Program. Recycled water is disinfected tertiary treated. Contractor shall contact the District at (707) 937-5790 or (707) 937-5751 prior to start of work and verify that all use requirements have been met and work may proceed.

2. Ordinances, requirements, and applicable standards of governmental agencies having jurisdiction within the District's service area shall be observed in the design and construction of recycled water systems. Such requirements include but are not limited to current revisions of the following:

   - The Uniform Plumbing Code as amended by the County of El Dorado.
   - Local Municipal Code, as applicable.
   - State of California Department of Public Health, Title 22.
   - Regional Water Quality Control Board Regulations.
   - Administrative Regulations and Board Policies.

3. The onsite installation of all recycled water and drinking water systems shall be accomplished under the approval, inspection, and to the satisfaction of the District.

4. The contractor or site supervisor shall call (707) 937-5790 to schedule a pre-construction meeting with the District prior to the installation of any recycled water and drinking water piping.

5. The District shall be notified two (2) days prior to the start of construction at (707) 937-5790.

6. The contractor approved shall be responsible for providing access to and cooperation with a District inspector to perform all testing and inspections.

7. Connections to the existing recycled water facilities shall be done by a licensed contractor in accordance with District connection procedures. Service connection per Civil Plans, irrigation contractor work begins downstream of backflow prevention device.

8. There shall be no connections between the potable and recycled water systems.

9. Recycled water shall not be used for any purpose other than as shown on these plans.

10. Hose bibs are prohibited on the recycled water system.

11. Water used in hose bibs shall be potable water and all hose bibs shall be attached to the building. Proposed deviations to comply with city or county ordinances shall be submitted in writing in conjunction with the plan review submittal.

12. A minimum of four (4) feet horizontal separation must be maintained at all times between the constant pressure recycled and potable water lines. A minimum of one (1) foot vertical separation must be maintained at all times between constant pressure recycled and potable water line crossings with the recycled waterline below the potable.

13. Approved blue warning tape shall be installed above all constant pressure potable main line piping.

14. Approved purple warning tape shall be installed above all constant pressure recycled water main line piping.

15. Recycled water piping shall be purple and identified as recycled water pipes by continuous marking on both sides. The markings shall include the following: “WARNING RECYCLED WATER – DO NOT DRINK”.

16. All recycled water sprinkler control valves, isolation valves, quick couplers, regulators, ARVs, and devices shall be tagged. Identification shall be weatherproof purple plastic, 3-inches by 4-inches with the words “WARNING RECYCLED WATER – DO NOT DRINK”. Imprinting shall be permanent. Use tags manufactured by T. Christy Enterprises or approved equal.

17. All areas where recycled water is used shall be posted approved with signage. Each sign shall state “RECYCLED WATER – DO NOT DRINK” and display the international “Do Not Drink” symbol.

18. All spray heads shall be adjusted to minimize overspray onto adjacent hardscapes.

19. Before occupation, a cross-connection shutdown test and inspection will be performed by a District inspector.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
15	Rain Bird 3504-PC-NP Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. With Non-Potable Purple Cover.	14
20	Rain Bird 3504-PC-NP Turf Rotor, 4.0" Pop-Up. Adjustable and Full Circle. With Non-Potable Purple Cover.	4
10	Rain Bird 8005-NP Turf Rotor, 5.0" Pop-Up, Plastic Riser, Standard Nozzle. With Seal-A-Matic Check Valve, Adjustable 50-330 arc, and 360 Non-Reversing Full-Circle. 1" (26/34) NPT. Extended Radius is Ideal for Large Turf Applications. Non-Potable Purple Cap.	23

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Turf Watering Valve Rain Bird PESBR-PRS-D, Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, Purple Flow Control Handle. Install with pressure regulating dial module. 1" Valves shall be set to 45PSI and 1.5" valves shall be set to 50PSI. Size valves as shown on plans.	7
	1" Brass Quick-Coupling Valve Rain Bird model: 5-NP, with Corrosion-Resistant Stainless Steel Spring, Locking Non-Potable Purple Rubber Cover, and 1-Piece Body.	1
MV	Master Valve 1-1/2" Rain Bird PESBR, Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle. Install with recycled water tags. Size as shown on plans.	1
C	Smart Controller 12 Station Commercial Outdoor Controller mounted to dugout wall in a stainless steel cabinet. Controller to have flow sensing, rain sensing, and master valve shut off built-in capabilities. Add additional station modules as needed and reconnect existing control wires to maintain operation and irrigation coverage of existing valves to remain. Use and extend as needed existing electrial wiring from old controller to power new controller. Rainbird Model ESP-12LXMEF controller with LXMMSS or Equal. See detail for cabinet and controller installation.	1
RS	Rain Sensor Rain sensor that is compatible with irrigtion controller. Mount per manufacturer recommendation with metal latching bracket to controller or other secure structure that is in an area free from overhead obstruction. House communication wire in a 1" gray conduit. Rainbird Model RSD-BEx or Equal.	1
FS	Flow Sensor 1.5" Brass Impeller Flow Sensor that is compatible with controller. Flow sensor shall have a minimum suggested operating range of 4gpm - 80gpm. Rainbird Model FS150B or Equal.	1
POC	Point of Connection 3" Stubbed Mainline POC By Civil. See Civil Plans for Meter, Backflow, and RW Main Routing.	1

CRITICAL ANALYSIS

Generated:	2021-11-01 13:04
P.O.C. NUMBER: 01	
Water Source Information:	Stubbed Mainline POC By Civil. See Civil Plans for Meter, Backflow, and RW Main Routing.
FLOW AVAILABLE	
Point of Connection Size:	3"
Flow Available:	170.11 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	68.00 PSI
Pressure Available:	68.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	46.50 gpm
Flow Available at POC:	170.11 gpm
Residual Flow Available:	123.61 gpm
Critical Station:	3
Design Pressure:	50.00 psi
Friction Loss:	6.51 psi
Fittings Loss:	0.65 psi
Elevation Loss:	0.00 psi
Loss through Valve:	3.18 psi
Pressure Req. at Critical Station:	60.35 psi
Loss for Fittings:	0.01 psi
Loss for Main Line:	0.12 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	0.00 psi
Loss for Master Valve:	3.18 psi
Critical Station Pressure at POC:	63.66 psi
Pressure Available:	68.00 psi
Residual Pressure Available:	4.34 psi

GENERAL IRRIGATION NOTES

1. Irrigation Point of Connection (POC) is as identified on the plan. Water source is recycled water provided by Mendocino Community Service District.

2. Reclaimed irrigation meter and backflow set by others per Civil Engineering plans.

4. Plan is diagrammatic and not intended to show exact locations of piping and valves, except where noted and specifically shown on the drawings. All main line, and valves shall be installed within the planting areas, whether shown there or not.

5. Irrigation mainline pipe size to be a consistent 2.5" dia. sch 40 pvc.

6. Control Wire: Route irrigation control wire to be placed in a 1" diameter SCH. 40 gray electrical conduit from controller to valve locations.

7. Flow Sensor: Place flow sensor data cable from controller to master valve/flow sensor in its own 1" diameter SCH. 40 gray electrical conduit.

8. Sleeving: Coordinate sleeve installation with roadway / sidewalk paving improvements. SCH. 40 pvc sleeves to be used under all aisle pavement and concrete walks. Sleeve size to be twice the size of the line it is protecting. See details. Irrigation sleeves to extend a minimum of 12" beyond back of curb/walk. Irrigation Mainline to be placed in its own separate sleeve.

9. State Model Water Efficient Landscape Ordinance: The irrigation system is designed to comply with the State Model Water Efficient Landscape Ordinance.

10. Installation Scheduling: Irrigation system shall not be installed until landscape grading is complete, and approved by Owner.

11. Code Conformance: Irrigation system shall be installed in accordance with all local and State codes and regulations. All materials shall be in new perfect condition and commercial grade. Deviations from the specified must be "or equal" or approved by the Landscape Architect or Owner.

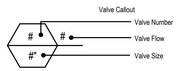
12. Flow Control: Adjust flow controls on all remote control valves to correct operating pressure at all rotors.

13. Rotor Heads: Rotor heads are located on the drawings to achieve head to head spacing. Contractor to ensure that heads are placed at locations shown and adhere to this requirement.

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	Turf Watering Valve	1"	Turf Rotor	18.50	16.2	53.54	57.08	0.53 in/h
2	Turf Watering Valve	1-1/2"	Turf Rotor	46.50	20.9	56.12	58.55	1.36 in/h
3	Turf Watering Valve	1-1/2"	Turf Rotor	27.90	33.6	60.34	63.66	0.3 in/h
4	Turf Watering Valve	1-1/2"	Turf Rotor	27.90	38.8	56.87	60.21	0.44 in/h
5	Turf Watering Valve	1-1/2"	Turf Rotor	27.90	43.1	57.9	61.24	0.71 in/h
6	Turf Watering Valve	1-1/2"	Turf Rotor	37.20	47.8	57.99	60.81	0.88 in/h
7	Turf Watering Valve	1-1/2"	Turf Rotor	46.50	27.2	60.53	63	0.7 in/h

———	Irrigation Lateral Line: PVC Schedule 40-NP Size line as shown. Non-Potable Purple Pipe. See Recycled Water Notes and Specs.	2,211 l.f.
— — — —	Irrigation Mainline: PVC Schedule 40-NP 2.5" Mainline. Non-Potable Purple Pipe. See Recycled Water Notes and Specs.	169.6 l.f.



EXAMPLE RECYCLED WATER STICKERS AND TAGS

Include Recycle Water tags on all Irrigation Items. See Reclaimed Water Notes this sheet.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

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Drafting Check	L. HALONEN M. KENNEDY	Design Check	M. KENNEDY
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: IRRIGATION SCHEDULES AND RECYCLED WATER NOTES
Project No. 12619547
Original Size: ANSI D
Drawing No. L-601
Sheet 48 of 53

Plot Date: 24 March 2026 - 2:50 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-L-601.dwg

ABBREVIATIONS

(D)	DEMOLISH
(E)	EXISTING
(F)	FUTURE
(N)	NEW
A	AMPERES
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPACITY
ANN	ANNUNCIATOR
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BFG	BELOW FINISH GRADE
CATV	CABLE TELEVISION
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CO	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
EGU	ENGINE GENERATOR UNIT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PA
FU	FUSE
GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
HID	HIGH INTENSITY DISCHARGE
HOA	"HAND-OFF-AUTO" SWITCH
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HMI	HUMAN-MACHINE INTERFACE
HVAC	HEATING, VENTILATION & AIR-CONDITIONING
IG	ISOLATED GROUND
INST	INSTRUMENTATION
JB	JUNCTION BOX
KAIC	KILO-AMPS INTERRUPTING CAPACITY
KVA	KILOVOLT-AMP
KW	KILOWATT
KWH	KILOWATT-HOUR
LSH	LEVEL SWITCH - HIGH
LSHH	LEVEL SWITCH - HIGH-HIGH
LSL	LEVEL SWITCH - LOW
LSLL	LEVEL SWITCH - LOW-LOW
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
PG&E	PACIFIC GAS & ELECTRIC COMPANY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PB	PULL BOX, ELECTRICAL
PLC	PROGRAMMABLE LOGIC CONTROLLER
RECPT	RECEPTACLE, OUTLET
RGS	RIGID GALVANIZED STEEL (CONDUIT)
RVSS	REDUCED VOLTAGE SOFT START
RTU	REMOTE TERMINAL UNIT
SPD	SURGE PROTECTION DEVICE
SSRV	SOLID STATE REDUCE VOLTAGE
SSTL	STAINLESS STEEL
SR	RECEPTACLE
STC	STANDARD TEST CONDITIONS
TV	TELEVISION MONITOR (SET)
UF	UNDER FLOOR
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT-AMP
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
WPI	WEATHERPROOF IN USE
XFMR	TRANSFORMER

ANNOTATION

1 — KEYNOTE

10 — RACEWAY, FEEDER OR CIRCUIT DESIGNATION (SEE SCHEDULE)

DETAIL NUMBER / DETAIL INDICATOR (1 / E-501) — SHEET NUMBER ON WHICH DETAIL APPEARS

SECTION LETTER / SECTION INDICATOR (A / E-301) — SHEET NUMBER ON WHICH SECTION APPEARS

WH 1 — MECHANICAL EQUIPMENT DESIGNATION (SEE SCHEDULE)

OBJECT LINES

NEW OBJECTS
(HEAVY CONTINUOUS LINES, UNDERGROUND CONDUIT HEAVY DASHED LINES)

EXISTING OBJECTS TO REMAIN. MAY INCLUDE NEW CIRCUITING ETC.
(FINE CONTINUOUS LINES, UNDERGROUND CONDUIT FINE DASHED LINES)

EXISTING OBJECTS TO BE DEMOLISHED
(EXTRA FINE DASHED LINES, SCREENED)

ELECTRICAL SYMBOLS LEGEND

DIAGRAM

ALARM, INDICATING LIGHT, SIGNAL LIGHT OR STROBE

AT / AF — CIRCUIT BREAKER - SIZE AND TYPE AS INDICATED

XXX/X NEMA XX — CIRCUIT BREAKER IN NEMA ENCLOSURE SIZE AND TYPE AS INDICATED

OL — THERMAL OVERLOAD RELAY

XXX/X / SIZE / OL — COMBINATION MOTOR CONTROLLER, STARTER, CIRCUIT BREAKER TYPE

DISCONNECT SWITCH WITH FUSE

FUSE - SIZE AS INDICATED

INTERLOCK, ELECTRICAL

M — METER, ELECTRICAL

M — MOTOR - SIZE AS INDICATED

TRANSFORMER, PAD MOUNT

TRANSFORMER, DRY TYPE

POTENTIAL TRANSFORMER WITH FUSE

CURRENT TRANSFORMER

SURGE ARRESTOR - LIGHTING

GROUNDING ELECTRODE OR CONNECTION

CONDUIT

CONDUIT INSTALLED ABOVE GRADE

CONDUIT INSTALLED UNDERGROUND OR UNDER SLAB

CONDUIT STUB-OUT WITH CAP

FLEXIBLE CONDUIT WHIP TO LIGHT FIXTURE OR EQUIPMENT

INDICATES CIRCUIT BREAKER I.D. L1-4 — INDICATES BRANCH PANEL

CONDUIT HOME RUN TO DESIGNATED PANEL, TERMINAL, OR CONTROL CABINET EXAMPLES:

L1-6,8 — COMMA INDICATES MULTIPLE SINGLE POLE CIRCUITS

L1-10/12 — SLASH INDICATES MULTI-POLE CIRCUIT

NOTE FOR CONDUIT: THE TIC MARKS INDICATE THE QUANTITY OF #12 AWG WIRES OR, IF INDICATED, THE QUANTITY OF OTHER SIZE WIRE OR CABLES.

SEE THE SINGLE LINE DIAGRAM FOR FEEDER SIZES.
EXAMPLES: = (3) #12; = (2) #10 (#10); = (1) TYPE F1 CABLE. SEE CABLE SCHEDULE. (F1)

POWER

48" — DENOTES HEIGHT IN INCHES AFF (INTERIOR) AFG (EXTERIOR)

DUPLEX RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON

C — DUPLEX RECEPTACLE - CEILING MOUNTED

DOUBLE DUPLEX RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON

OR — SPECIAL PURPOSE RECEPTACLE AS DESIGNATED SEE 'SPECIAL SYMBOLS' ON EACH SHEET

J OR J — JUNCTION BOX, CODE SIZED UON

DISCONNECT SWITCH - FUSED WHERE APPLICABLE

MOTOR STARTER, COMBINATION WITH DISCONNECT SWITCH

MOTOR STARTER OR CONTROLLER

M — MOTOR CONNECTION

CEILING EXHAUST FAN

WH OR WH — WATER HEATER

P — POWER POLE: P=POWER, T=TELEPHONE, D=DATA, C=COMBINATION

OR — GROUND ROD

T — THERMOSTAT (SEE MECHANICAL DRAWINGS) COORDINATE MOUNTING HEIGHT

DC — DOOR CONTACT/INTRUSION SWITCH

SCHEMATIC

BATTERY CHARGER

CR — COIL RELAY

CONTACT - NORMALLY CLOSED

CONTACT - NORMALLY OPEN

DC BATTERY

FLOAT OR LEVEL SWITCH - NORMALLY CLOSED

FLOAT OR LEVEL SWITCH - NORMALLY OPEN

LIMIT SWITCH - NORMALLY CLOSED

LIMIT SWITCH, NORMALLY OPEN

R — PILOT LIGHT, LED TYPE - COLOR AS INDICATED

PRESSURE SWITCH - CLOSED ON INCREASE

PRESSURE SWITCH - OPEN ON INCREASE

PUSH BUTTON, MOMENTARY - NORMALLY CLOSED

PUSH BUTTON, MOMENTARY - NORMALLY OPEN

RECTIFIER

O / H / A — SELECTOR SWITCH - HAND-OFF-AUTO

SWITCH - NORMALLY CLOSED

SWITCH - NORMALLY OPEN

TEMPERATURE SWITCH - NORMALLY CLOSED

TEMPERATURE SWITCH - NORMALLY OPEN

GENERAL ELECTRICAL NOTES

1. ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS OF THE FOLLOWING PUBLICATIONS:
   (A) CALIFORNIA CODE OF REGULATIONS TITLE 24; INCLUDES; CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALIFORNIA BUILDING CODE, ETC.
   (B) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
   (C) AMERICANS WITH DISABILITIES ACT (ADA)
2. INFORMATION SHOWN AS EXISTING CONDITIONS WAS PRIMARILY GAINED FROM "AS BUILT" DRAWINGS AND LIMITED FIELD INVESTIGATION. BEFORE CONSTRUCTION, VISIT SITE TO VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN.
3. DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
4. INTERCEPT, EXTEND, REROUTE, REPULL CONDUCTORS AND OTHERWISE MODIFY EXISTING CONDUCTORS OF ALL SYSTEMS AS REQUIRED TO MAINTAIN AND/OR ESTABLISH PROPER FUNCTION AND SATISFY DESIGN INTENT. REMOVE ALL ABANDONED CONDUCTORS AND CONDUIT, UON.
5. PRIOR TO COMMENCING WORK, COORDINATE WITH CLIENT REPRESENTATIVE. WHERE DISCONNECTING, MODIFYING OR WORKING ON EXISTING EQUIPMENT OR SYSTEMS, PROVIDE A WRITTEN METHOD OF PROCEDURE OUTLINING DATES, TIMES, DURATION AND DESCRIPTION OF PROPOSED WORK PRIOR TO COMMENCING WORK FOR APPROVAL.
6. PRIOR TO COMMENCING WORK, COORDINATE WITH OTHER TRADES TO PREVENT CONFLICTS.
7. ALL EQUIPMENT SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS.
8. ALL EQUIPMENT SHALL BE GROUNDED PER THE REQUIREMENTS OF CEC ARTICLES 250. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL POWER SYSTEM RACEWAYS.
9. CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS PRIOR TO CONSTRUCTION.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2025 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT: FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH REFERENCE NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK & ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2025 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENT ARE BASED ON PRE APPROVED INSTALLATION GUIDE (e.g., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTUAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # _____

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet (0 — 1")

REGISTERED PROFESSIONAL ENGINEER — BRICK A. OSORNO — No. E29581 — ELECTRICAL — STATE OF CALIFORNIA — 3/25/2026

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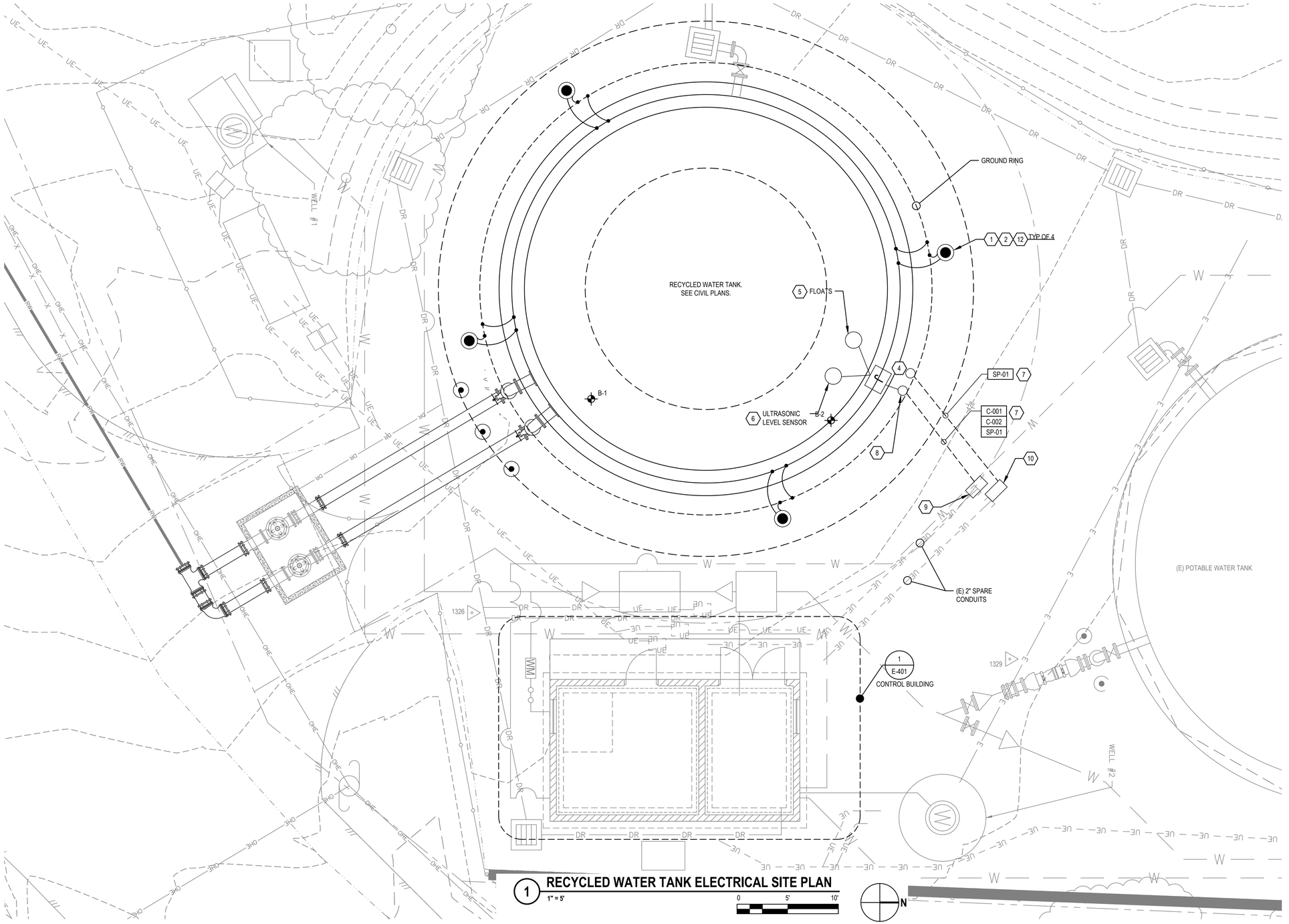
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client: MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project: RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title: ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES
Project No. 12619547
Original Size: ANSI D
Drawing No. E-001
Sheet 49 of 53

Plot Date: 24 March 2026 - 2:34 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-EL-001.dwg



1 **RECYCLED WATER TANK ELECTRICAL SITE PLAN**
1" = 5'
0 5' 10'

GENERAL NOTES

1. PROVIDE CONDUIT AND WIRE IN TRENCH AS SHOWN IN PLANS. SEE CONDUIT AND CABLE SCHEDULE ON SHEET E-601 FOR SIZES.
2. INSTALL CONDUITS IN TRENCHES. REFER TO TRENCHING AND CONDUIT STUB UP DETAILS ON SHEET E-501.
3. REFER TO TANK GROUNDING AND TANK CONDUIT MOUNTING DETAILS ON SHEET E-501.

KEYNOTES

1. PROVIDE 5/8" X 10' LONG COPPER GROUND ROD. PROVIDE #4/0 BARE COPPER WIRE TO GROUND RING. PROVIDE EXOTHERMIC WELDS TO BOTH ROD AND RING. SET GROUND ROD JUST OUTSIDE FOUNDATION AND LEAVE TOP 6" OF ROD EXPOSED ABOVE GRADE FOR TESTING.
2. PROVIDE #4/0 BARE COPPER CABLE GROUNDING RING WITH (4) LEADS UP TO TANK SIDE. PROVIDE CADWELD (EXOTHERMIC WELD) TO SIDE OF TANK AND EACH GROUNDING ROD FOR LIGHTING PROTECTION PER NFPA 22 SECTION 4.9.
3. PROVIDE #4/0 BARE COPPER WIRE, BOND GROUNDING RING WITH REBAR IN TANK FOUNDATION.
4. PROVIDE JUNCTION BOX WITH TERMINAL STRIPS (POWER AND SIGNAL) AT TOP OF THE TANK TO TRANSITION BETWEEN MANUFACTURER'S CABLES AND INSTRUMENTATION CABLE TO RTU.
5. PROVIDE HIGH LEVEL AND LOW LEVEL FLOAT SWITCH WITH MANUFACTURER CABLING IN TANK. TERMINATE FLOAT CABLES AT J-BOX AT TOP OF TANK. PROVIDE 3/4" CONDUIT BETWEEN DEVICE AND J-BOX.
6. PROVIDE ULTRASONIC LEVEL SENSOR AND MANUFACTURER CABLING AT TOP OF TANK. TERMINATE CABLES AT J-BOX AT TOP OF TANK. PROVIDE 3/4" CONDUIT BETWEEN DEVICE AND J-BOX.
7. PROVIDE CONDUIT IN TRENCH FROM PULL BOX TO TANK PER CONDUIT AND CABLE SCHEDULE.
8. TRANSITION TO SURFACE MOUNT CONDUIT FROM STUB UP TO JUNCTION BOX AT TOP OF TANK. MOUNT CONDUIT ON TANK. SEE DETAIL 2 ON SHEET E-501.
9. PROVIDE 17" X 11" TRAFFIC RATED SIGNAL PULL BOX WITH STEEL COVER. INTERCEPT SPARE CONDUIT.
10. PROVIDE 24" X 36" TRAFFIC RATED POWER PULL BOX WITH STEEL COVERS. INTERCEPT SPARE CONDUIT.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

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0 1"

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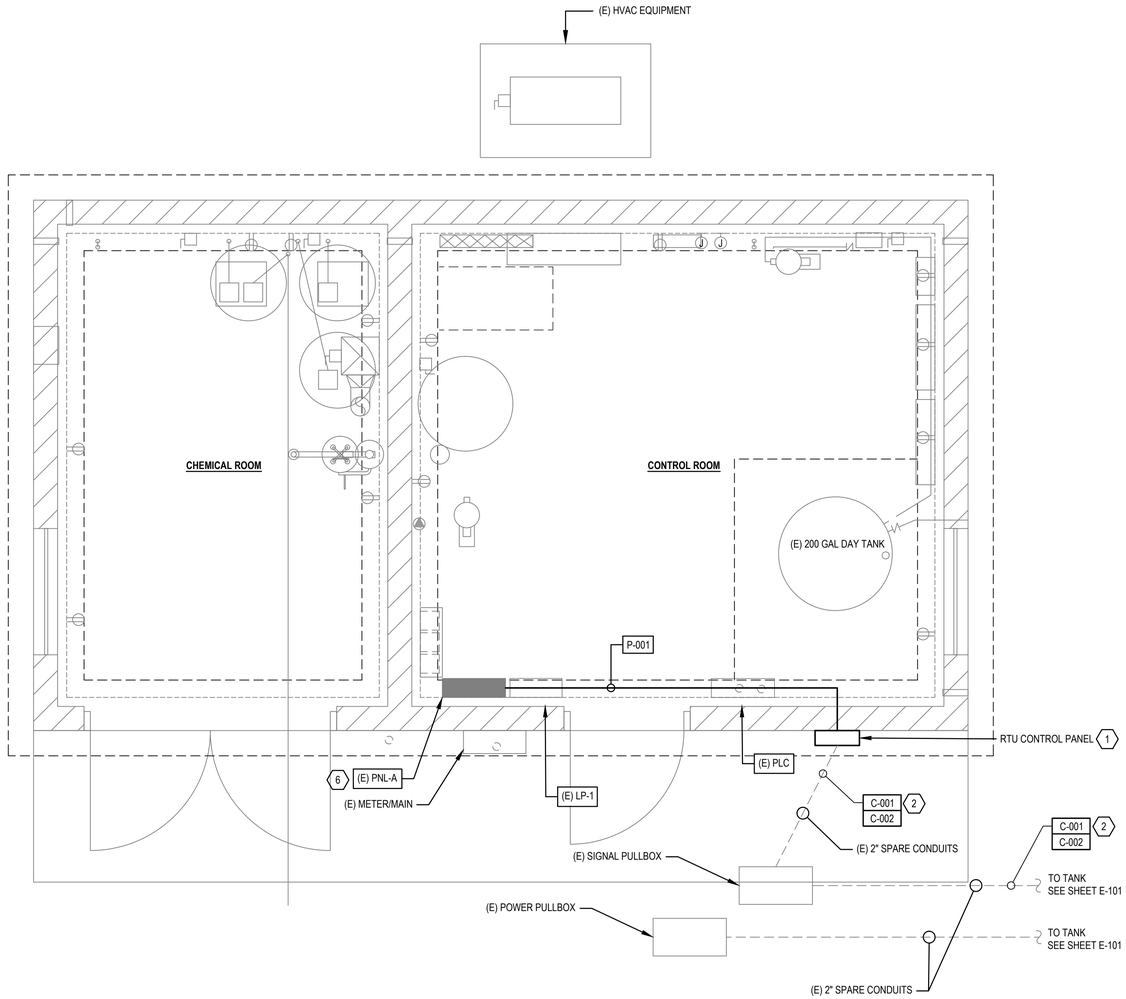
Drafting Check	**E. OSORNO**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **RECYCLED WATER TANK ELECTRICAL SITE PLAN**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **E-101**
Sheet **50** of **53**

Plot Date: 24 March 2026 - 2:34 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-EL-101.dwg

KEYNOTES

1. PROVIDE CONTROL PANEL COMPLETE RTU, POWER SUPPLIES, MODULES, ETHERNET SWITCH, CELLULAR MODEM AND ALL ASSOCIATED COMPONENTS FOR A COMPLETE OPERATING SYSTEM TO MEET CLIENT STANDARDS. PROVIDE 3' X 3' X 12" DEEP NEMA 3R ENCLOSURE WITH HMI INTERFACE INSIDE OF ENCLOSURE. ESTABLISH COMMUNICATION WITH PLC-100 AT THE WWTP SITE. SEE RISER DIAGRAM ON SHEET E-602.
2. ROUTE CABLES VIA (E) CONDUIT.



1 CONTROL BUILDING ELECTRICAL ENLARGED PLAN

SCALE: 1" = 2'

N

0 2' 4'

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	CB	MK	3/25/2026

Bar is one inch on original size sheet

0 1"

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This document shall not be used for construction unless signed and sealed for construction.

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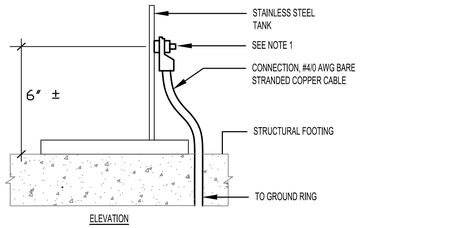
Project Manager	M. KENNEDY	Date	MARCH 2026
		Scale	AS SHOWN

Client MENDOCINO CITY COMMUNITY SERVICES DISTRICT
Project RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS
Title CONTROL BUILDING ELECTRICAL ENLARGED PLAN
Project No. 12619547
Original Size ANSI D
Drawing No. E-401
Sheet 51 of 53

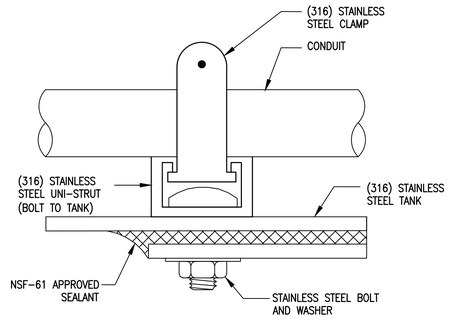
Plot Date: 24 March 2026 - 2:35 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-EL-401.dwg



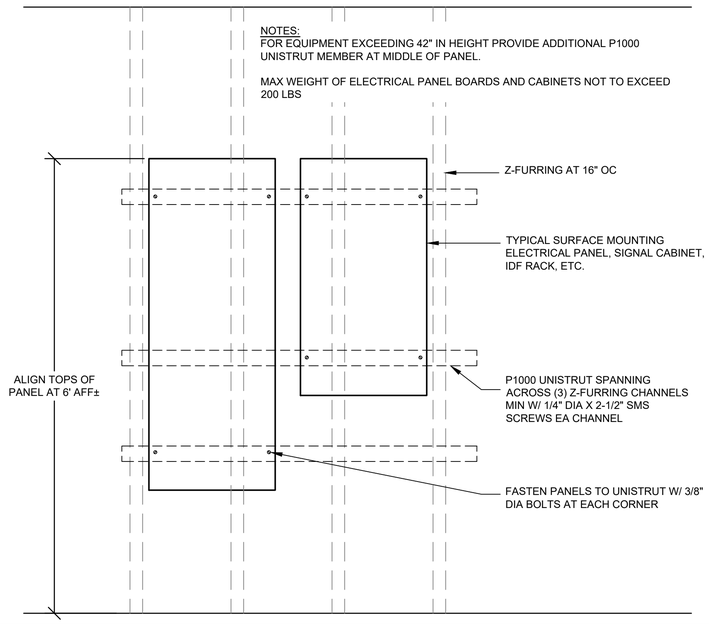
NOTES:

1. EXOTHERMIC WELD CONNECTION MAY BE USED IN LIEU OF CONNECTION INDICATED. USE ER316 WELD FILLER.

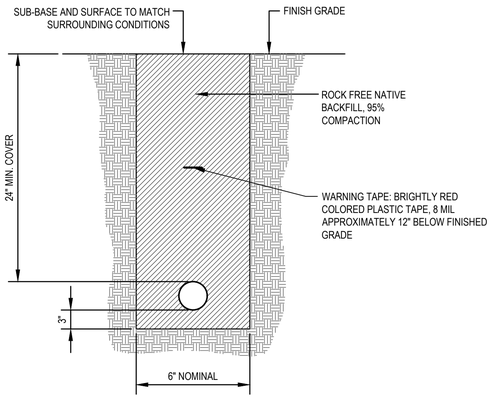
1 METHOD FOR GROUNDING STEEL TANK NOT TO SCALE



2 CONDUIT MOUNTING ON TANK NOT TO SCALE



3 SURFACE ELECTRICAL EQUIPMENT NOT TO SCALE



NOTE:
MAINTAIN A MINIMUM VERTICAL SEPARATION OF 12" WHEN CROSSING UTILITIES. ROUTE CONDUIT EITHER ABOVE OR BELOW OTHER UTILITIES AS NECESSARY TO ACHIEVE THIS SEPARATION WHILE MAINTAINING THE MINIMUM BACKFILL COVERAGE.

4 TYPICAL ELECTRICAL TRENCH NOT TO SCALE

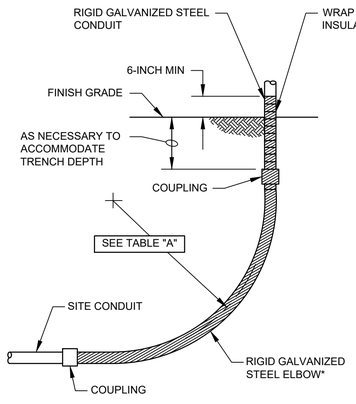
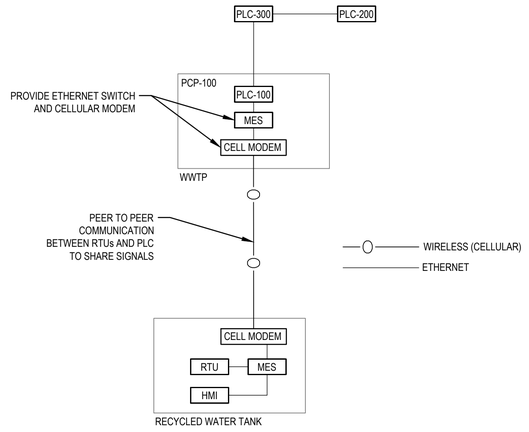


TABLE "A" - RGS		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2-INCH	4-INCH	4-INCH
3/4-INCH	4 1/2-INCH	4 1/2-INCH
1-INCH	5 3/4-INCH	5 3/4-INCH
1 1/4-INCH	7 1/4-INCH	7 1/4-INCH
1 1/2-INCH	8 1/4-INCH	8 1/4-INCH
2-INCH	9 1/2-INCH	9 1/2-INCH
2 1/2-INCH	10 1/2-INCH	11 7/16-INCH
3-INCH	13-INCH	13 3/4-INCH
4-INCH	16-INCH	18 1/4-INCH
5-INCH	24-INCH	-
6-INCH	30-INCH	-

5 TYPICAL CONDUIT STUB-UP NOT TO SCALE



6 RECYCLED WATER SIGNAL DIAGRAM NOT TO SCALE

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

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Drafting Check	**E. OSORNO**	Design Check	**M. KENNEDY**
Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **ELECTRICAL DETAILS 1**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **E-501**
Sheet **52** of **53**

Plot Date: 24 March 2026 - 2:36 PM Plotted By: Chris Bach Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-EL-501.dwg

PANEL SCHEDULE

PANEL NAME: **A** | VOLTAGE: 240/120 | NEMA RATING: 3R | MOUNTING: SURFACE | NOTES: ITALIC TEXT INDICATES EXISTING LOADS. BOLD TEXT ARE NEW LOADS.
MAINS RATING: 200 A MCB | PHASE: 3 | AIC RATING: 10K | LOCATION:
BUS RATING: 200 A | WIRE: 4 | DEMAND FACTOR: STD

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	M	*WELL PUMP #1*	20/2	0.59	4.92	10	100	0.43	A	0.32	75	10	4.92	0.59	20/2	*WELL PUMP #2*	M	2
3	M		20/2	0.59	4.92	10	100	0.43	B	0.32	75	10	4.92	0.59	20/2		M	4
5	L	*INT LIGHTING EXT LIGHTING/LP-1*	20/1	0.12	1.00	12	45	0.12	C	0.01	30	12	0.17	0.02	20/1	*CHLORINE/PH ANALYZERS*	R	6
7	R	*CHEMICAL RM RECEPTACLES*	20/1	0.54	4.50	12	50	0.62	A	1.23	75	12	6.00	0.72	20/1	*CONTROL RM RECEPTACLES*	R	8
9	M	*WELL PUMP #6*	20/2	0.59	4.92	10	150	0.65	B							*STINGER LEG UNAVAILABLE*		10
11	M		20/2	0.59	4.92	10	150	0.65	C	0.30	25	12	4.17	0.50	20/1	*CONTROL PANEL-PLC*	O	12
13	O	*WATER HEATER*	60/2	5.00	41.67	4	25	0.26	A	0.05	40	12	0.42	0.05	20/1	*EXHAUST FAN EF-1*	M	14
15	O		60/2	5.00	41.67	4	25	0.26	B							*STINGER LEG UNAVAILABLE*		16
17	M	*HEAT PUMP HP-1 / FAN COIL FC-1*	30/2	1.33	11.08	10	50	0.49	C	0.12	50	12	0.83	0.10	20/1	*CHEMICAL INJECTION PUMP CP-1/CP-3*	M	18
19	M		30/2	1.33	11.08	10	50	0.49	A	0.06	50	12	0.42	0.05	20/1	*CHEMICAL INJECTION PUMP CP-2*	M	20
21	H	*EHU-1*	20/2	1.50	12.50	12	50	0.90	B						40/2	*SPARE*		22
23	H		20/2	1.50	12.50	12	50	0.90	C						40/2			24
25	H	*EHU-2*	20/2	1.50	12.50	12	50	0.90	A			10	4.92	0.59	20/2	*(F) WELL PUMP #10*	M	26
27	H		20/2	1.50	12.50	12	50	0.90	B			10	4.92	0.59	20/2		M	28
29	M	*BOOSTER PUMP BP-2*	20/2	0.95	7.92	12	15	0.17	C			8	4.92	0.59	20/2	*(F) WELL PUMP #11*	M	30
31	M		20/2	0.95	7.92	12	15	0.17	A			8	4.92	0.59	20/2		M	32
33	O	*BP-1 AQUA BOOST/CHEM INJ PUMP*	20/1	0.50	4.17	20	30	0.56	B						20/2	*SPARE*	M	34
35	O		20/1	0.50	4.17	20	30	0.56	C						20/2		M	36
37	M	*TURBIDIMETER*	20/1	0.50	4.17	12	25	0.30	A			8	4.92	0.59	20/2	*(F) WELL PUMP #13*	M	38
39		**STINGER LEG UNAVAILABLE**							B			8	4.92	0.59	20/2		M	40
41	M	*(F) WELL PUMP #7*	20/2	0.59	4.92	10			C	1.46	100	10	8.33	1.00	20/1	*GENERATOR BLOCK HEATER*	M	42
43	M		20/2	0.59	4.92	10			A	1.46	100	10	8.33	1.00	20/1	*GENERATOR BATTERY CHARGER*	M	44
45	M	*(F) WELL PUMP #8*	20/2	0.59	4.92	10			B			8	4.92	0.59	20/2	*(F) WELL PUMP #15*	M	46
47	M		20/2	0.59	4.92	10			C			8	4.92	0.59	20/2		M	48
49	M	*(F) WELL PUMP #9*	20/2	0.59	4.92	10			A	0.04	75	12	0.17	0.02	20/1	*MAGNETIC FLOWMETER*	O	50
51	M		20/2	0.59	4.92	10			B			8	4.92	0.59	20/2	*(F) WELL PUMP #14*	M	52
53	O	*FLOW LINE LI55*	20/1						C	2.00		8	4.92	0.59	20/2		M	54
55	O	**PLC PANEL**	20/1	0.50	4.17	12	20	1.81	A	0.07	30	12	0.83	0.10	20/1	*CHEMICAL INJECTION PUMP*	M	56
57		**STINGER LEG UNAVAILABLE**							B						20/1	*STINGER LEG UNAVAILABLE*		58
59		SPARE	20/1						C	0.18	15	12	4.17	0.50	20/1	*CONTROL PANEL-PLC - RECEPTACLE*	R	60
61		SPARE	20/1						A	0.18	15	12	4.17	0.50	20/1	*CONTROL PANEL-PLC - UPS*	O	62
63		**STINGER LEG UNAVAILABLE**							B				15.00	1.80	20/3	*(F) RECIRCUILATION PUMP 5HP*	M	64
65		SPARE	20/1						C				15.00	1.80	20/3		M	66
67		SPARE	20/1						A				15.00	1.80	20/3		M	68
69		**STINGER LEG UNAVAILABLE**							B							*STINGER LEG UNAVAILABLE*		70
71		SPARE	20/1						C							*SPACE*		72
73		SPARE	20/1						A							*SPACE*		74
75		**STINGER LEG UNAVAILABLE**							B							*STINGER LEG UNAVAILABLE*		76
77		SPARE	20/1						C							*SPACE*		78
79		SPARE	20/1						A							*SPACE*		80
81		**STINGER LEG UNAVAILABLE**							B							*STINGER LEG UNAVAILABLE*		82
83		SPARE	20/1						C							*SPACE*		84

CONNECTED KVA		DEMAND KVA		DEMAND AMPS
PHASE A:	18.7	16.1		Check Voltage
PHASE B:	15.6	14.0		Check Voltage
PHASE C:	11.9	9.3		Check Voltage

STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA

USE LEGEND

ID	LOAD TYPE	ASSUMED PF
H	HVAC	0.85
L	LIGHTING	0.80
M	MOTOR	0.85
R	RECEPTACLE	0.80
P	PANEL	0.85
O	OTHER	0.85

VOLTAGE DROP CALCULATION

VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2011 NEC CHAPTER 9 TABLE 9 FORMULA:
VD = I * (R * PF + X * SIN(ACOS(PF))) * L
WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS

R AND X VALUES ARE TAKEN FROM 2011 NEC CHAPTER 9 TABLE 9.

ASSUMPTIONS:

POWER FACTOR	VARIES BY LOAD TYPE
CONDUIT TYPE	RGS
WIRE MATERIAL	CU

CONDUIT AND CABLE SCHEDULE

TAG ID	DESCRIPTION	FROM	TO	CONDUIT TYPE	CONDUIT SIZE	CABLE SIZE	COMMENTS
P-001	120V BRANCH CIRCUIT	RTU CONTROL PANEL	PANEL-A	RGS	3/4 INCH	(2) #12, #12 GND	
C-001	TANK LEVEL SENSOR	J-BOX AT TANK	RTU ENCLOSURE	PVC	2 INCH	(1) #16 TSP, (2) #14	TRANSITION TO 1" SURFACE MOUNT CONDUIT WHERE CONDUIT IS EXPOSED. ROUTE VIA (E) CONDUIT WHERE INDICATED.
C-002	TANK LEVEL FLOAT	J-BOX AT TANK	RTU ENCLOSURE	PVC	2 INCH	(1) #16 TSP	TRANSITION TO 1" SURFACE MOUNT CONDUIT WHERE CONDUIT IS EXPOSED. ROUTE VIA (E) CONDUIT WHERE INDICATED.
SP-01	SPARE	SEE SITE PLAN	SEE SITE PLAN	PVC	2 INCH	PULL STRING	

NOTE:
1.WIRING TYPE SHALL BE PER SPECIFICATION SECTION 260519.

No.	Issue	Drawn	Approved	Date
	CONFORMED DRAWINGS	**CB**	**MK**	**3/25/2026**

Bar is one inch on original size sheet
0 — 1"

REGISTERED PROFESSIONAL ENGINEER — ERICK A. OSORNO — No. E23067 — ELECTRICAL — STATE OF CALIFORNIA — 3/25/2026

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Project Manager	**M. KENNEDY**	Date	**MARCH 2026**
This document shall not be used for construction unless signed and sealed for construction.		Scale	**AS SHOWN**

Client **MENDOCINO CITY COMMUNITY SERVICES DISTRICT**
Project **RECYCLED WATER DISTRIBUTION AND STORAGE IMPROVEMENTS**
Title **ELECTRICAL SCHEDULES**
Project No. **12619547**
Original Size **ANSI D**
Drawing No. **E-601**
Sheet **53** of **53**

Plot Date: 24 March 2026 - 2:36 PM Plotted By: Chris Bach
Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12619547 - MCCSD RW Project\Project Files\01 WIP\Civil\ACAD-RCW\Sheets\12619547-GHD-RCW-DWG-EL-601.dwg