Set No._____

RIVER GLEN
LIFT STATION AND FORCE MAIN
LARIMER COUNTY, CO
CDPHE APPROVAL SUBMITTAL

JVA, Incorporated
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MARCH 2014

PREPARED UNDER THE SUPERVISION OF

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JVA, Inc.

CONTACTS

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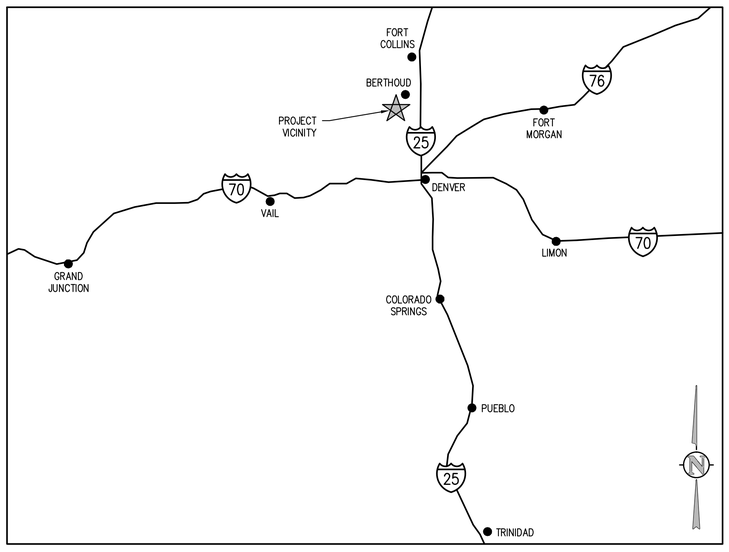
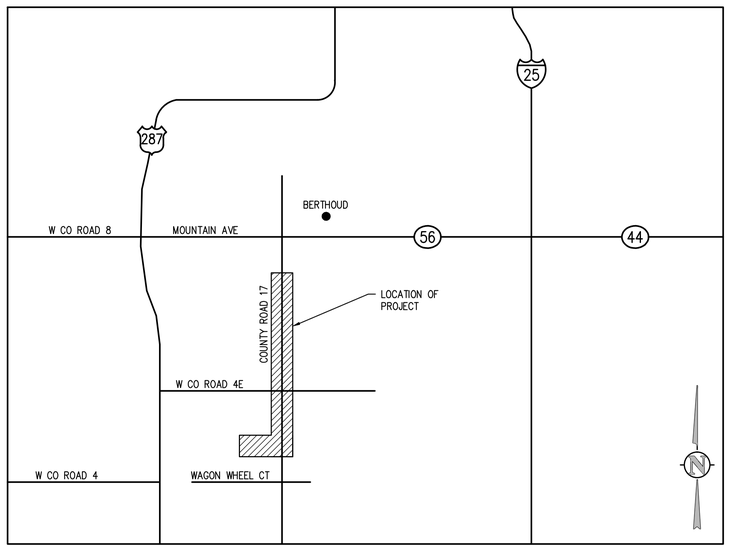
CIVIL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302 WILLIAM A. RAATZ, P.E.	(303) 444-1951

DRAWING INDEX



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

ABBREVIATIONS

AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
AC	AIR CONDITIONING
ACKV	AUTOMATIC CHECK VALVE
ACOUS	ACOUSTICAL
ACP	ASPHALTIC CONCRETE PAVING
ACTR	ACTUATOR
AD	AREA DRAIN OR ACCESS DOOR
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALT	ALTERNATE
AMT	AMOUNT
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ARV	AIR RELIEF VALVE
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AVG	AVERAGE
AVS	AUTOMATIC VALVE STATION
B	BLOWER
B&F	BELL AND FLANGE
BB	BOND BEAM
BAF	BAFFLE
BC	BACK OF CURB
BE	BELL END
BF	BOTTOM FACE
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BLK	BLOCK
BM	BENCH MARK
BMPS	BEST MANAGEMENT PRACTICES
BOD	BIOCHEMICAL OXYGEN DEMAND
BOT	BOTTOM
BS	BACKSIGHT
BSMT	BASEMENT
BU	BELL UP
BV	BALL VALVE
BCV	BUTTERFLY CHECK VALVE
C/C	CENTER TO CENTER
CA	CITRIC ACID SUPPLY LINE
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CEB	CONCRETE EQUIPMENT BASE
CHKV	CHECK VALVE
CIP	CAST IRON PIPE
CIMJ	CAST IRON MECHANICAL JOINT
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE OR CHAIN LINK
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS(ATION)
CP	CENTRIFUGAL PUMP
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CONCENTRIC REDUCER
CTR	CENTER
CV	CHECK VALVE
CW	COLD WATER
CY	CUBIC YARDS
DCO	DOUBLE CLEAN OUT
DEMO	DEMOLITION
DI	DEIONIZATION
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISP	DISPENSER
DL	DEAD LOAD
DMJ	DUCTILE MECHANICAL JOINT
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWL	DOWEL
DWN	DRAWN
DWV	DRAIN WASTE AND VENT
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE OR ELECTRICAL FAN
EFF	EFFLUENT
EJ	EXPANSION JOINT
EL	ELEVATION
ELB	ELBOW
ELEC	ELECTRICAL
ENGR	ENGINEER
EOA	EDGE OF ASPHALT
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESMT	EASEMENT
EST	ESTIMATE
EUH	ELECTRIC UNIT HEATER
EW	EACH WAY
EXH	EXHAUST
EXP BT(S)	EXPANSION BOLT(S)
EXP JT	EXPANSION JOINT
EXIST	EXISTING
EXIST GR	EXISTING GRADE
EXT	EXTERIOR
EXTN	EXTENSION

F/F	FACE TO FACE
FCA	FLANGE COUPLING ADAPTER
FD	FLOOR DRAIN
FDN	FOUNDATION
FED	FEDERAL
FES	FLARED END SECTION
FIN	FINISH
FIN FL	FINISH FLOOR
FIN GR	FINISH GRADE
FL	FLOWLINE
FLR	FLOOR
FF	FLOOR FINISH
FN	FENCE
FOC	FACE OF CONCRETE
FPM	FEET PER MINUTE
FP	FEED POINT
FPS	FEET PER SECOND
FPW	FIRE PROTECTION WATER SUPPLY
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FSTNR	FASTENER
FT	FEET
FTG	FOOTING OR FITTING
FUR	FURNACE
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GIP	GALVANIZED IRON PIPE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR BM	GRADE BEAM
GRC	GALVANIZED RIGID CONDUIT
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GWB	GYPSUM WALL BOARD
H	HIGH
HB	HOSE BIB
HDWL	HEADWALL
HNDRL	HAND RAIL
HNDWL	HANDWHEEL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOUR
HS	HIGH STRENGTH
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HW	HOT WATER
HWL	HIGH WATER LINE
HWY	HIGHWAY
HYD	HYDRANT
INCL	INCLUDED
INCR	INCREASER
ID	INSIDE DIAMETER
IF	INSIDE FACE
INF	INFLUENT
INL	INLET
INSTL	INSTALLATION
INSTR	INSTRUMENT
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
INV EL	INVERT ELEVATION
ISA	INSTRUMENT SOCIETY OF AMERICA
ISO	ISOMETRIC
JST	JOIST
JTS	JOINTS
KO	KNOCKOUT
KPL	KICK PLATE
KWY	KEYWAY
L	LEFT OR LITER
LAB	LABORATORY
LSCAPE	LANDSCAPE(ING)
LATL	LATERAL
LAV	LAVATORY
LB(S)	POUND(S)
LCMU	LIGHTWEIGHT CONCRETE MASONRY UNIT
LF	LINEAR FOOT
LG	LENGTH
LH	LATENT HEAT
LKR	LOCKER
LL	LIVE LOAD, LOOSE LINTEL
LOC	LOCATION
LP	LOW PRESSURE OR LIGHT POLE
LRG	LARGE
LT	LIGHT
LT WT	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MED	MEDIUM
MFM	MAGNETIC FLOW METER
MFR	MANUFACTURER
MG	MILLION GALLONS OR MILLIGRAMS
MGD	MILLION GALLONS PER DAY
MGMT	MANAGEMENT
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLSS	MIXED LIQUID SUSPENDED SOLIDS
MO	MASONRY OPENING
MRGWB	MOISTURE RESISTANT
MTG	MOUNTING

N	NITROGEN
NAC	NaOCL SUPPLY LINE
NAL	NaAlO2 SUPPLY LINE
NIC	NOT IN CONTRACT
NP	NO PAINT
NPL	NAMEPLATE
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NRS	NON-RISING STEM
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
P	PUMP
PA	PIPE ANCHOR
PAR	PARALLEL
PC	POINT OF CURVE, OR PORTLAND CEMENT
PCO	PRESSURE CLEAN OUT
PCP	PROGRESSING CAVITY PUMP
PCR	POINT OF CURVE RETURN
PD	PUMP DISCHARGE LINE
PE	PLAIN END
PERM	PERMANENT
PERP	PERPENDICULAR
PG	PRESSURE GAGE
PI	POINT OF INTERSECTION
PIVC	POINT OF INTERSECTION FOR VERTICAL CURVE
PL	PLATE OR PROPERTY LINE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNT	PAINT
POLY	POLYETHYLENE
PORT	PORTABLE
POS	POSITIVE
PPM	PARTS PER MILLION
PRCST	PRECAST
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PRELIM	PRELIMINARY
PREP	PREPARATION
PROJ	PROJECT
PROP	PROPERTY
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PT	POINT OF TANGENCY
PTD	PAINTED
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PV	PLUG VALVE
PVC	POINT OF VERTICAL CURVE OR POLYVINYL CHLORIDE
PVG	PAVING
PVMT	PAVEMENT
PW	POTABLE WATER
Q_{AVG}	AVERAGE DAILY FLOW
Q_{MAX}	MAXIMUM DAILY FLOW
Q_{PEAK}	PEAK HOUR FLOW
QCV	QUICK COUPLER VALVE
QTR	QUARTER
QTY	QUANTITY
R	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RED	REDUCER
REC	RECESSED
RECT	RECTANGULAR
REF	REFERENCE
REHAB	REHABILITATION
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
RESIL	RESILIENT
RFCA	RESTRAINED FLANGED COUPLING ADAPTER
RFG	ROOFING
RH	RIGHT HAND
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RR	RAILROAD
RRAS	RAPID RETURN ACTIVATED SLUDGE
RTN	RETURN
SA	SUPPLY AIR
SALV	SALVAGE
SAN	SANITARY
SB	SPLASH BLOCK
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SCRN	SCREEN
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SHLDR	SHOULDER
SHT	SHEETING
SHTHG	SHEATHING
SIM	SIMILAR
SLV	SLEEVE

SM	SMOOTH
SP	SPACE (ING)
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SST	STAINLESS STEEL
SST BT	STAINLESS STEEL BOLT
STA	STATION
STD	STANDARD
STL	STEEL
STL JST	STEEL JOIST
STL PL	STEEL PLATE
STRUCT	STRUCTURAL
STRUCT STL	STRUCTURAL STEEL
SUPP	SUPPLY
SUSP CLG	SUSPENDED CEILING
SV	SOLENOID VALVE
SVC	SERVICE
SW	SIDEWALK
SWMP	STORM WATER MANAGEMENT PLAN
SYMM	SYMMETRICAL
SYS	SYSTEM
T	TEE
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T&P	TEMPERATURE AND PRESSURE
TB	TOP OF BEAM
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TE	TOP ELEVATION
TEMP	TEMPORARY
TF	TOP OF FOOTING
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TFF	TOP OF FINISH FLOOR
THD	THREAD (ED)
THK	THICK
TJ	TOP OF JOIST
TOB	TOP OF BANK
TOC	TOP OF CONCRETE OR TOP OF CURB
TOE	THREADED ONE END
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOT	TOTAL
TP	TOP OF PAVEMENT
TR	TOP OF RIM
TSL	TOP OF SLAB
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNGD	UNDERGROUND
UE	UNDERGROUND ELECTRIC
ULT	ULTIMATE
UN	UNION
UNFIN	UNFINISHED
UNIF	UNIFORM
UNIV	UNIVERSAL
UTIL	UTILITY
UV	ULTRAVIOLET
VAC	VACUUM
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VP	VENT PIPE
VTR	VENT THROUGH ROOF
W	WIDE OR WIDTH
W/	WITH
W/O	WITHOUT
W/W	WALL TO WALL
WAS	WASTE ACTIVATED SLUDGE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WD	WIDTH OR WOOD
WDW	WINDOW
WF	WIDE FLANGE
WH	WALL HYDRANT
WHSE	WAREHOUSE
WI	WROUGHT IRON
WL	WATER LINE OR WIND LOAD
WP	WASTE PIPE
WPR	WORKING PRESSURE
WQCE	WATER QUALITY CONTROL ELEVATION
WS	WETTED SURFACE
WSE	WATER SURFACE ELEVATION
WT	WEIGHT
WTR	WATER
WTRPRF	WATERPROOFING
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
X SECT	CROSS SECTION
YCO	YARD CLEANOUT
YD	YARD DRAIN
YH	YARD HYDRANT
YR	YEAR

LEGEND

- SS — SANITARY SEWER
- FM — FORCE MAIN
- BORE CASING PIPE
- MANHOLE
- REDUCER
- PLUG VALVE
- PIPE PLUG
- SF — SILT FENCE
- VTC — VEHICLE TRACKING CONTROL
- SCL — SEDIMENT CONTROL LOG
- GRAVEL PAVING
- 20 — PROPOSED INDEX CONTOUR
- 21 — PROPOSED INTERMEDIATE CONTOUR
- 5220 — EXIST INDEX CONTOUR
- 5221 — EXIST INTERMEDIATE CONTOUR

SURVEY LEGEND

- FOUND ALIQUOT MONUMENT AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- BM — SET TEMPORARY BENCHMARK AS DESCRIBED
- (P) — AS PER THE PLAT OF AMENDED EXEMPTION PLAT OF LOTS 2 & 3 HICKS MRD S-45-91
- (P1) — HICKS MRD S-45-91
- (P2) — AS PER THE PLAT OF LUDLOW FARMS
- (P3) — AS PER THE PLAT OF RIVERSIDE FARM-FIRST FILING
- (P4) — AS PER THE PLAT OF AMENDED PLAT OF RIVER GLEN
- (P5) — AS PER THE PLAT OF HICKS MRD S9-89
- CONCRETE
- EDGE OF ASPHALT
- GRAVEL
- FENCE
- SIGN
- SPIGOT
- DECIDUOUS TREE (TRUNK DIAMETER/DRIP LINE RADIUS)
- W — WATER LINE
- W(m) — W(m) — WATER LINE SCALED FROM MAPS
- WATER VALVE
- WM — WATER METER
- W — WELL
- W — WATER MANHOLE
- FIRE HYDRANT
- IRV — IRRIGATION VALVE
- S — SANITARY SEWER MANHOLE
- CLEANOUT
- E — ELECTRICAL LINE
- ELECTRICAL TRANSFORMER
- EM — ELECTRICAL METER
- ER — ELECTRICAL RISER
- EP — ELECTRICAL PANEL
- OE — OVERHEAD UTILITY LINE
- UTILITY POLE
- GUY WIRE
- T — TELEPHONE LINE
- T — TELEPHONE MANHOLE
- TR — TELEPHONE RISER
- G — GAS LINE
- G(m) — G(m) — GAS LINE SCALED FROM MAPS
- MB — MAILBOX
- TH — TEST HOLE
- UNIDENTIFIED MANHOLE
- SD — PIPE
- DITCH
- EDGE OF WATER
- GUARDRAIL
- EDGE OF TREES

GENERAL NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE TOWN OF BERTHOUD, LARIMER COUNTY, COLORADO DEPARTMENT OF TRANSPORTATION, JURISDICTIONAL FIRE PROTECTION REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE JURISDICTIONAL FIRE PROTECTION DISTRICT REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.

2. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY (OWNER, OWNER'S REPRESENTATIVE, MUNICIPAL/DISTRICT INSPECTOR, GEOTECHNICAL ENGINEER, ENGINEER AND/OR UTILITY OWNER) AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION. PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.

4. THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM LARIMER COUNTY AND ENGINEER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).

5. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS.

7. PIPE LENGTHS AND HORIZONTAL CONTROL POINTS SHOWN ARE FROM CENTER OF STRUCTURES, END OF FLARED END SECTIONS, ETC. SEE STRUCTURE DETAILS FOR EXACT HORIZONTAL CONTROL LOCATION. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL PIPE LENGTHS TO ACCOUNT FOR STRUCTURES AND LENGTH OF FLARED END SECTIONS.

8. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.

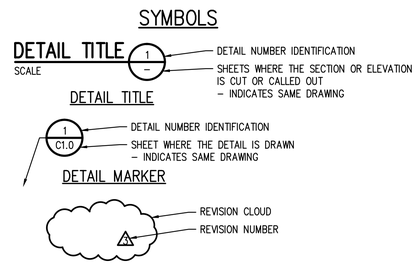
9. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

10. BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY FLATIRONS SURVEYING IN TOPOGRAPHIC EXHIBITS, DATED 07/26/2013 AND 09/12/2013. A GPS DERIVED ELEVATION WAS ESTABLISHED AT AN ONSITE BENCHMARK BETWEEN THE SOUTHEAST AND NORTH POND LOCATED ON TRACT B AMENDED PLAT OF RIVER GLEN, BEING A #4 REBAR WITH AN ELEVATION OF 4991.27 FEET. A CHECK SHOT, 0.1'±, WAS TAKEN ON NGS POINT J 410, BEING A STAINLESS STEEL W/O SLEEVE, STAMPED J 410 1984 LOCATED 1.0 MILES FROM SITE, SOUTHWEST OF THE INTERSECTION OF US HIGHWAY 287 AND COUNTY ROAD 17 NORTH, WITH A PUBLISHED ELEVATION OF 5053.35 FEET (NAVD88). NO DIFFERENTIAL LEVELING WAS PERFORMED TO ESTABLISH THIS ELEVATION. DATUM PER SURVEY. COORDINATE AND VERIFY ALL VERTICAL AND HORIZONTAL DATA SHOWN IN SURVEY AND REPORT ANY IRREGULARITIES OR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.

11. HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED BY THE FOLLOWING POINTS AS SHOWN ON THE PLANS:
    - CP-1 SOUTHEAST CORNER SECTION 27, TOWNSHIP 4 NORTH, RANGE 69 WEST
      FOUND 2 1/2" ALUMINUM CAP IN RANGE BOX, "LS 12374" PER MONUMENT RECORD DATED JUNE 12, 1998
      N1343677.59, E3113504.75
    - CP-2 ONSITE BENCHMARK, SET #4 REBAR, ELEV: 4991.27
      N1344258.72, E3113305.34
    - CP-3 EAST 1/4 CORNER SECTION 27, TOWNSHIP 4 NORTH, RANGE 69 WEST
      FOUND 2 1/2" ALUMINUM CAP IN RANGE BOX "LS 12347" PER MONUMENT RECORD, DATED JUNE 12, 1998
      N1346343.72, E3113490.11

12. THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL PAVEMENT, FLOW LINE ELEVATIONS, CONTOURS AT POND/DRAINAGE FEATURES (AS SURVEYED AND CERTIFIED BY A COLORADO P.L.S.), MANHOLE, PIPE, AND INLET LOCATIONS, INVERTS, GRATE ELEVATIONS, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.

SYMBOLS



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NO.	DATE	DESD	DWN	REVISION DESCRIPTION

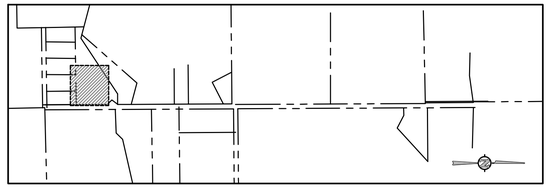
DESIGNED BY:	WAR
DRAWN BY:	JCD
CHECKED BY:	KAT
JOB #:	1862.4c
DATE:	MARCH 2014

RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

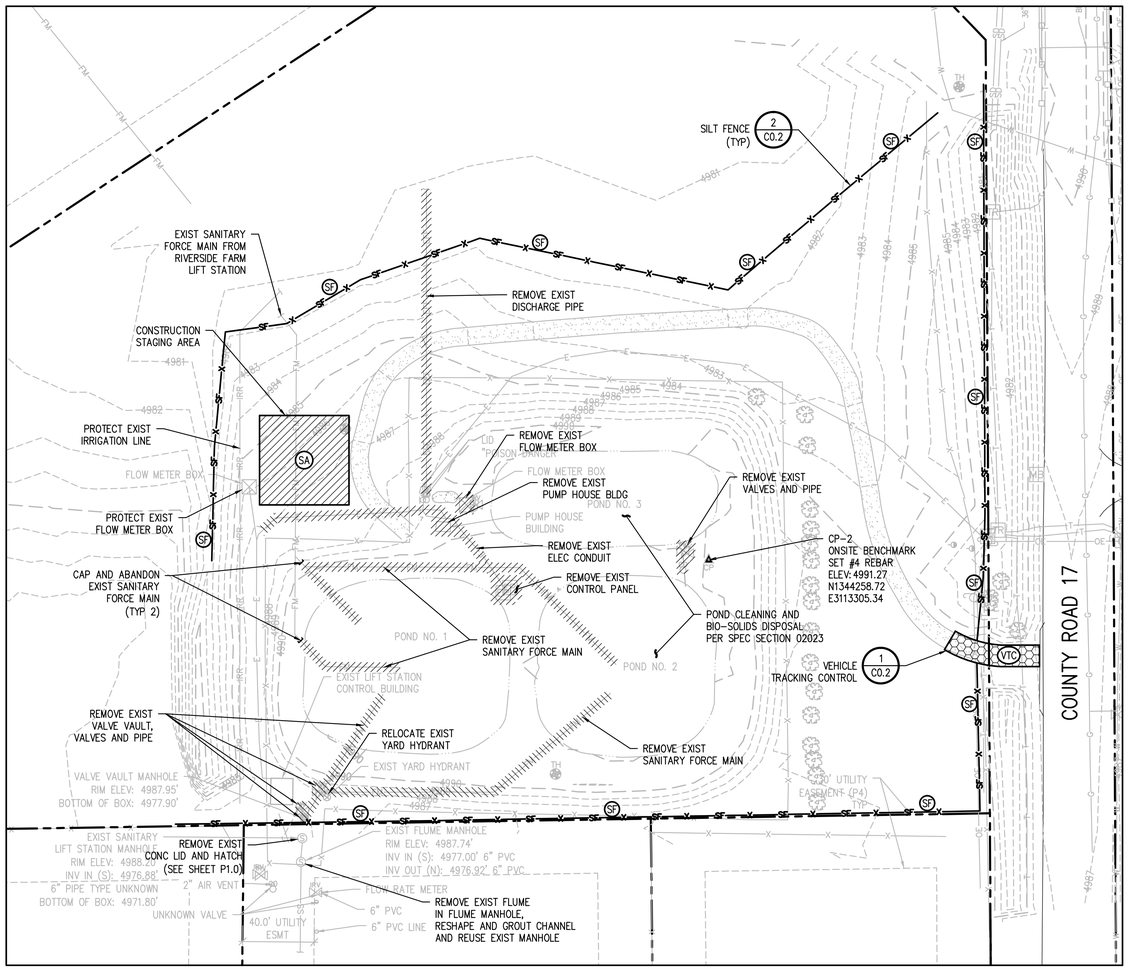
LEGEND, NOTES AND ABBREVIATIONS

SHEET NO.

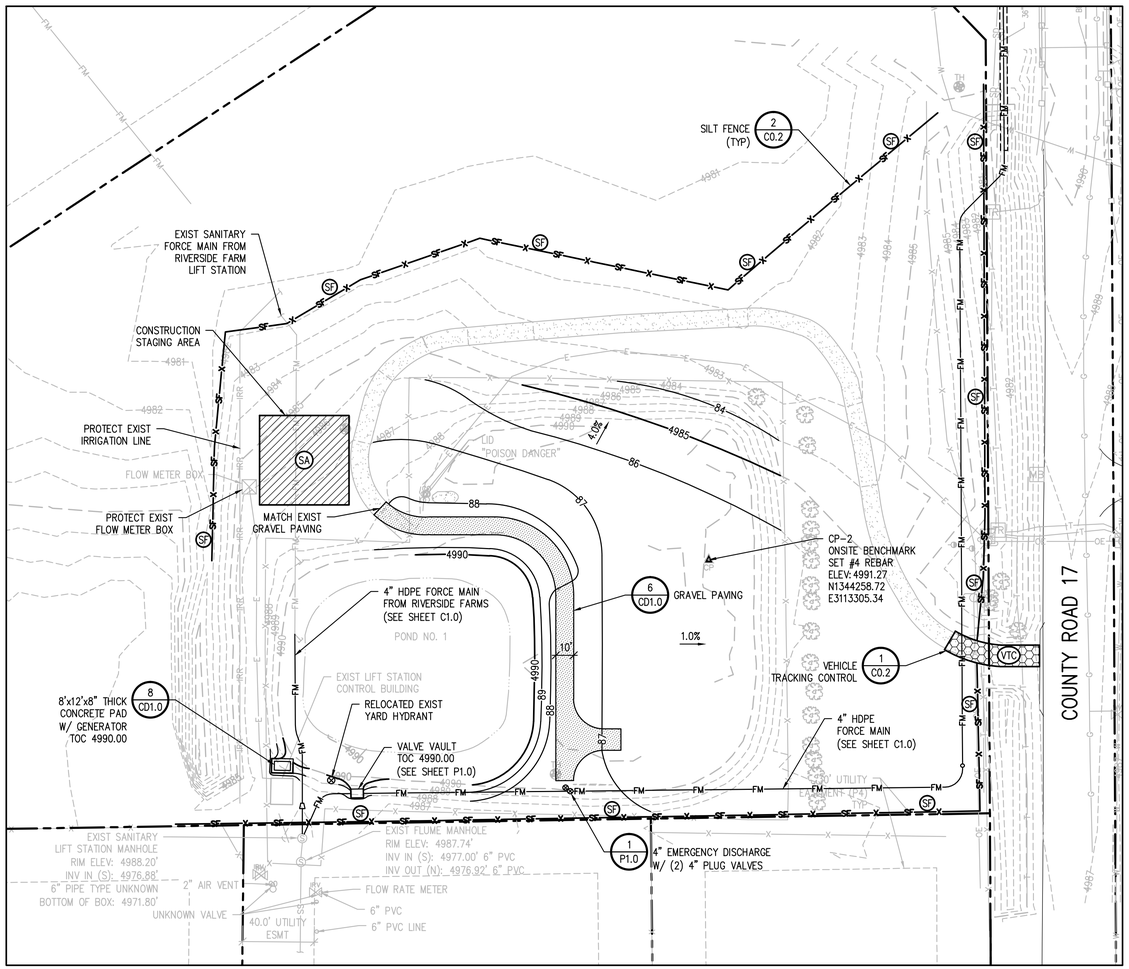
G0.1



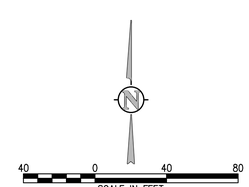
KEY MAP
SCALE: 1" = 1000'



SITE DEMO PLAN
SCALE: 1" = 40'



SITE GRADING AND ERSOSION CONTROL PLAN
SCALE: 1" = 40'



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SITE PLAN

SHEET NO.
C0.1

STORMWATER MANAGEMENT PLAN (SWMP)

THIS STORMWATER MANAGEMENT PLAN IS TO BE RETAINED AND MAINTAINED ONSITE INCLUDING FINAL LANDSCAPING PLANS AND ANY OTHER EROSION CONTROL DOCUMENTATION. A SWMP ADMINISTRATOR WILL BE DESIGNATED BY THE CONTRACTOR AND IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THIS SWMP. THE SWMP ADMINISTRATOR IS THE CONTACT FOR ALL SWMP-RELATED ISSUES AND IS RESPONSIBLE FOR ITS ACCURACY, COMPLETENESS, AND IMPLEMENTATION. THE FOLLOWING HAS BEEN DESIGNATED AS THE SWMP ADMINISTRATOR FOR THIS PROJECT:

NAME: _____

CONTACT INFO: _____

_____

THE BEGINNING OF THE PROJECT SITE IS LOCATED OFF COUNTY ROAD 17 1/10 OF A MILE NORTH OF WAGON WHEEL COURT AT APPROXIMATELY 40°16'39"N LATITUDE, 105°05'40"W LONGITUDE. THE PROPOSED PROJECT CONSISTS OF THE CONSTRUCTION OF A 4" FORCE MAIN SANITARY LINE. THE TOTAL SITE AREA IS APPROXIMATELY 4.2 ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	MONTH, YEAR	_____
ROAD AND OVERLOT GRADING	MONTH, YEAR	_____
UTILITY CONSTRUCTION	MONTH, YEAR	_____
BUILDING CONSTRUCTION	MONTH, YEAR	_____
PAVING	MONTH, YEAR	_____
SITE RESTORATION	MONTH, YEAR	_____

THE EXISTING SITE CONSISTS OF DEVELOPED LAND, NATIVE GRASSLAND, VEGETATION, GRAVEL AND ASPHALT PAVING AND IS APPROXIMATELY 80% COVERED WITH VEGETATIVE GROUND COVER

OTHER POTENTIAL POLLUTION SOURCES DO NOT EXIST AT THIS SITE.

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT

NON STRUCTURAL BMPS WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMPS WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMPS WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMPS. NON STRUCTURAL BMPS WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMPS FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET GUTTERS.

APPLICATION OF THESE BMPS FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS AND GRASSED SWALES.

VEHICLE TRACKING CONTROL (VTC):

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED AT COUNTY ROAD 17. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

SILT FENCING (SF):

SILT FENCING SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE SHALL BE CONSTRUCTED ALONG THE PORTIONS OF ALL SIDES OF THE PROPERTY AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE FENCE SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT, SILT FENCE SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

DUST CONTROL MEASURES:

DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPES, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECULDE VISIBLE DUST EMISSIONS.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPS IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GRADING BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMPS THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE TO BE REMOVED, AS THE PAVING, LANDSCAPING, AND OTHER PERMANENT GROUNDCOVER INSTALLATIONS ARE COMPLETED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED AS CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPS ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

THE EROSION AND SEDIMENT CONTROL PLAN MAY BE MODIFIED BY THE DEPARTMENT OF HIGHWAYS AND TRANSPORTATION, OWNER'S ENGINEER, COUNTY ENGINEERING INSPECTORS, MUNICIPALITY, OR ITS AUTHORIZED REPRESENTATIVE AS FIELD CONDITIONS WARRANT.

TEMPORARY SEEDING AND MULCHING:

ALL SEEDS FURNISHED SHALL BE FREE FROM NOXIOUS SEEDS SUCH AS RUSSIAN OR CANADIAN THISTLE, COURSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAPWEED, AND LEAFY SPURGE. THE FORMULA USED FOR DETERMINING THE QUALITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS). SEEDING RECOMMENDATIONS ARE PROVIDED BELOW, BUT MAY BE MODIFIED WITH THE OWNER'S APPROVAL TO MAKE THE BEST USE OF EXISTING CLEARINGS AND GRUBBINGS:

SPECIES	COMMON NAME	% OF MIX	LBS/ACRE
BUCHLOE DACTYLOIDES	BUFFALOGRASS	44.4	8.4
PASCOPYRUM SMITHI	WESTERN WHEATGRASS	22.8	4.3
ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	15.9	3.0
BOUTELOUA CURTIPENDULA	SIDEOTS GRAMA	13.2	2.5
BOUTELOUA GRACILIS	BLUE GRAMA	3.2	0.6
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	0.5	0.1

ALL SEEDS SHALL BE DRILLED NOT HYDROSEEDED. ALL DISTURBED AREAS SHALL BE SEEDED AND CRIMP MULCHED IF PERMANENT VEGETATION IS NOT IMMEDIATELY INSTALLED. AFTER SEEDING HAS BEEN COMPLETED, A RATE OF 4,000 LBS. OF STRAW PER ACRE SHALL BE APPLIED UNIFORMLY, CRIMPED IN WITH A CRIMPER OR OTHER APPROVED EQUIPMENT OR OTHERWISE ATTACHED. A TACKIFIER OR JUTE NETTING TO ATTACH MULCH MAY BE USED WITH THE OWNER'S APPROVAL. THE SEEDED AREA SHALL BE CRIMPED MULCHED AND THE MULCH ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING. AREAS NOT MULCHED AND ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING MUST BE RESEEDED WITH THE SPECIFIED MIX AT THE CONTRACTOR'S EXPENSE, PRIOR TO MULCHING AND ATTACHING. ON STEEP SLOPES OR OTHER SPECIFIED AREAS AS SHOWN ON THE PLANTING PLAN, WHICH ARE DIFFICULT TO MULCH AND ATTACH BY CONVENTIONAL METHOD, BURLAP OR OTHER BLANKETING MATERIALS PROPERLY ANCHORED AND SECURED MAY BE USED WHEN APPROVED BY LARIMER COUNTY OR ENGINEER.

PERMANENT STABILIZATION MEASURES:

PERMANENT LANDSCAPING WILL INCLUDE SEEDING TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER.

MATERIALS AND SPILL PREVENTION:

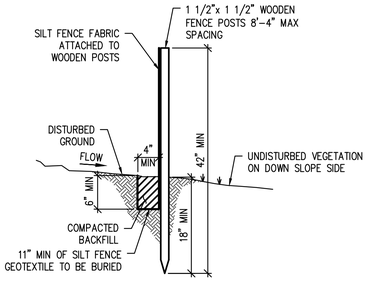
THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

INSPECTION AND MAINTENANCE:

THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPS EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY LARIMER COUNTY WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

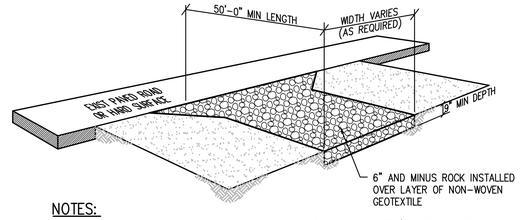
FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:

FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% OR PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAVE BEEN EMPLOYED. FINAL STABILIZATION WILL BE ACHIEVED USING SOD, NATIVE SEEDING, PERMANENT BMP'S, AND OTHER METHODS. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM.



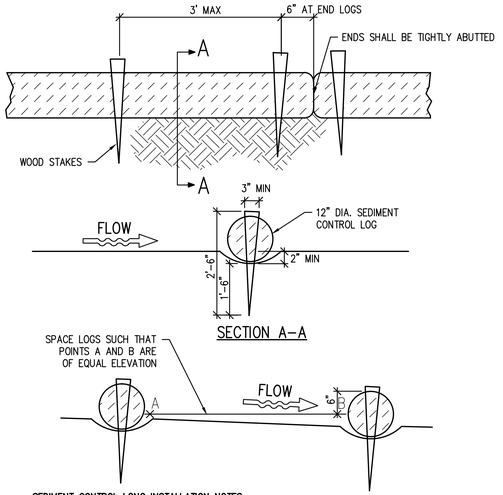
NOTES:
1. SILT FENCE MUST BE PLACED AWAY FROM TOE OF SLOPE TO ALLOW FOR WATER PONDING.
2. SILT FENCE MAY BE USED ALONG PERIMETERS SO LONG AS SLOPES DO NOT EXCEED 5% IF SLOPE IS GREATER THAN 5%, THEN SILT FENCE MAY BE INSTALLED ALONG THE CONTOUR OR A DIVERSION DIKE MAY BE REQUIRED.
3. ANCHOR TRENCH SHALL BE EXCAVATED WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE: NO ROAD GRADERS, BACKHOES, ETC. SHALL BE USED. TRENCH SHALL BE COMPACTED BY HAND WITH "JUMPING JACK", OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE INDICATED ON PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTRUBING ACTIVITIES UNLESS NOTED OTHERWISE.
5. SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES A DEPTH OF 6-INCHES.

SF SILT FENCE DETAIL — NTS — 1 / C0.1



NOTES:
1. VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT ALL INGRESS/EGRESS POINTS WHERE VEHICULAR ACCESS TRANSITIONS FROM PAVED SURFACES TO DISTURBED SURFACES.
2. THE VTC PAD SHALL CONSIST OF HARD, ANGULAR, DENSE, AND DURABLE STONE. ROUNDED STONE, BOULDERS, RECYCLED ASPHALT, AND RECYCLED CONCRETE ARE NOT ACCEPTABLE.
3. ANY CRACKED OR DAMAGED CURB AND/OR GUTTER SHALL BE REPLACED BY THE CONTRACTOR.
4. PAD WILL BE REPAIRED AND REFRESHED AS NEEDED TO MAINTAIN FUNCTION AND INTEGRITY.
5. VTC PADS SHALL BE INSTALLED AT ALL CONCRETE WASHOUT AREAS AND AT STABILIZED STAGING/STORAGE AREAS.

VTC VEHICLE TRACKING CONTROL DETAIL — NTS — 2 / C0.1



SEDIMENT CONTROL LONG INSTALLATION NOTES:
1. SEE PLAN VIEW FOR LOCATION AND EXTENT OF SEDIMENT CONTROL LOGS.
2. SEDIMENT CONTROL LOGS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES AND AS REQUIRED DURING CONSTRUCTION.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE:
1. THE SEDIMENT CONTROL LOGS SHALL BE INSPECTED DAILY, DURING AND AFTER ANY STORM EVENT, AND REPAIRED OR HAVE ANY UPSTREAM SEDIMENT REMOVED.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST OF LOG.
3. ALL SEDIMENT CONTROL LOGS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE ACCEPTABLY STABILIZED.

SCL SEDIMENT CONTROL LOG DETAIL — NTS — 3 / —

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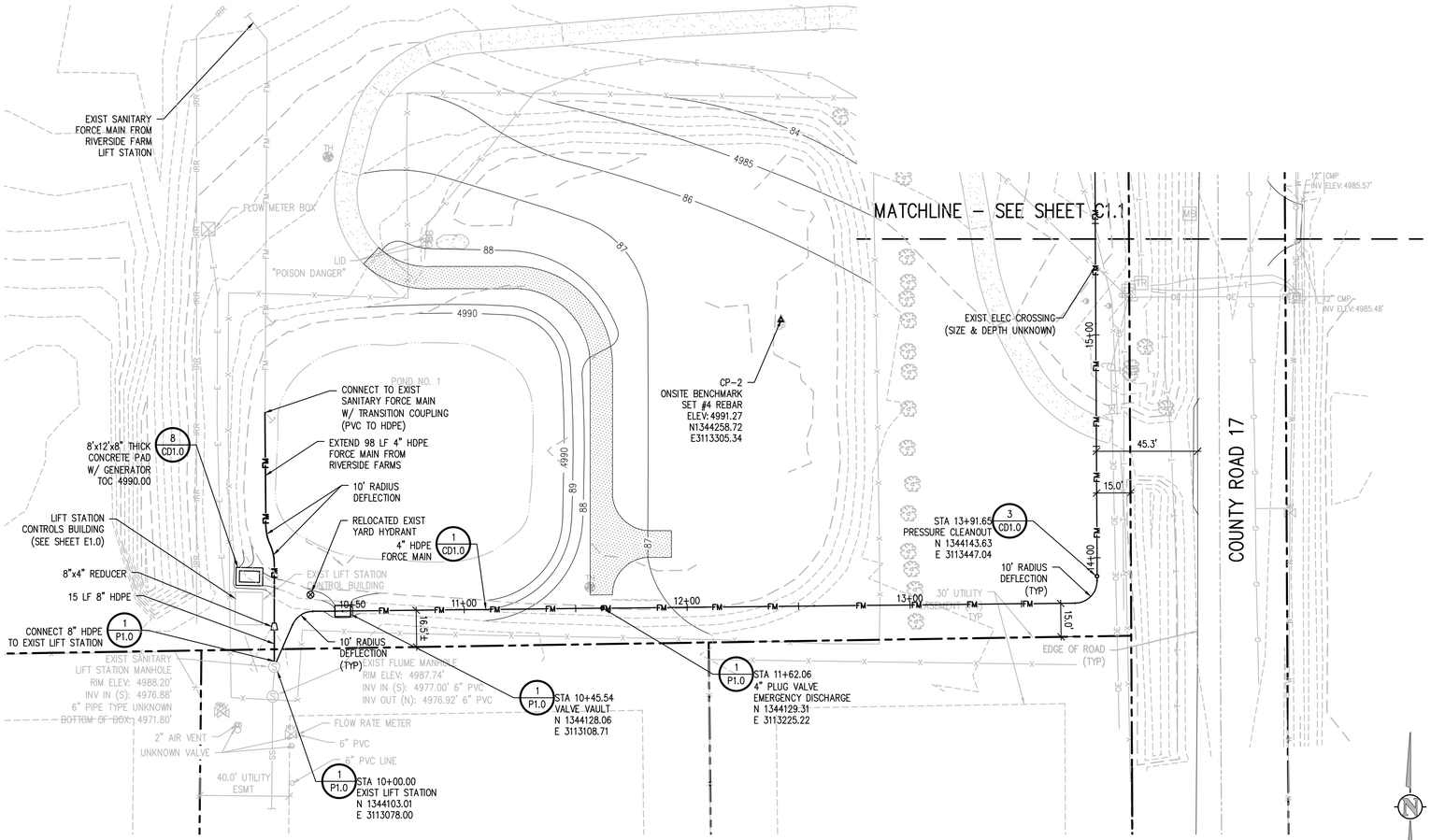
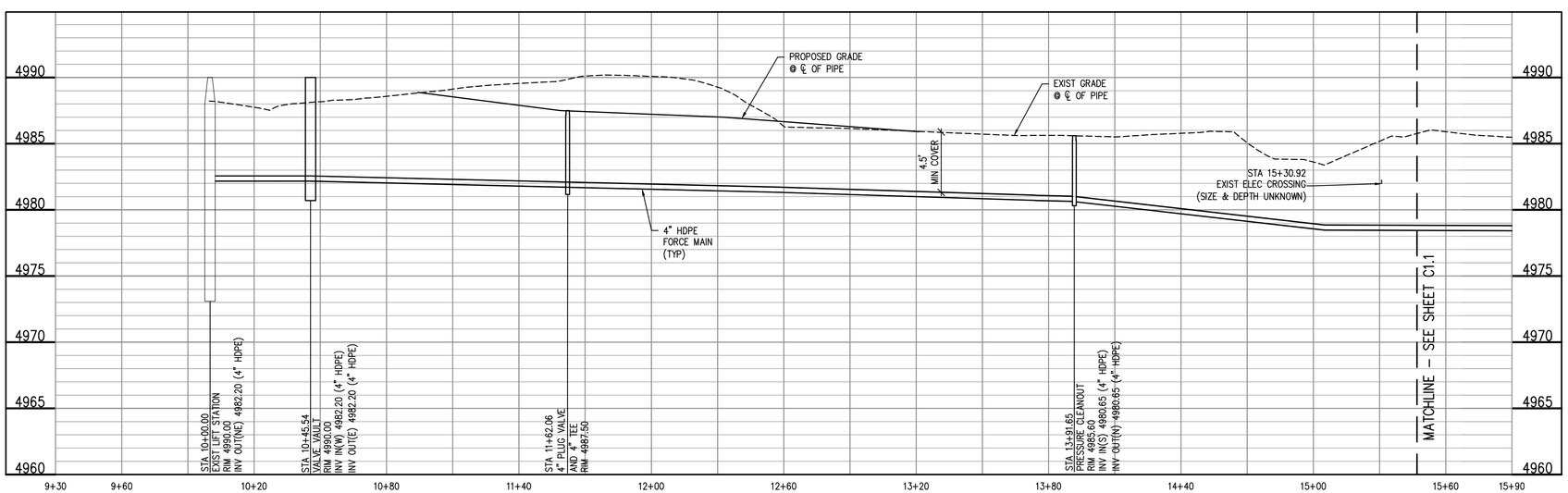
SWMP AND EROSION CONTROL DETAILS

SHEET NO.
C0.2



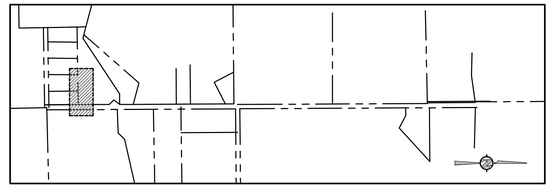
LIFT STATION FORCE MAIN PLAN

SCALE: 1" = 30'



FORCE MAIN PROFILE

SCALE: 1"=30' HORIZ
1"=5' VERT



KEY MAP

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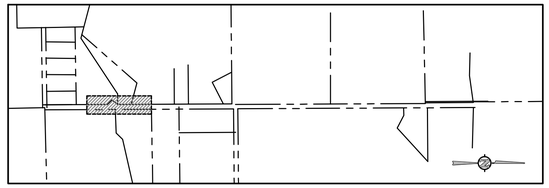
PLAN AND PROFILE

SHEET NO.
C1.0



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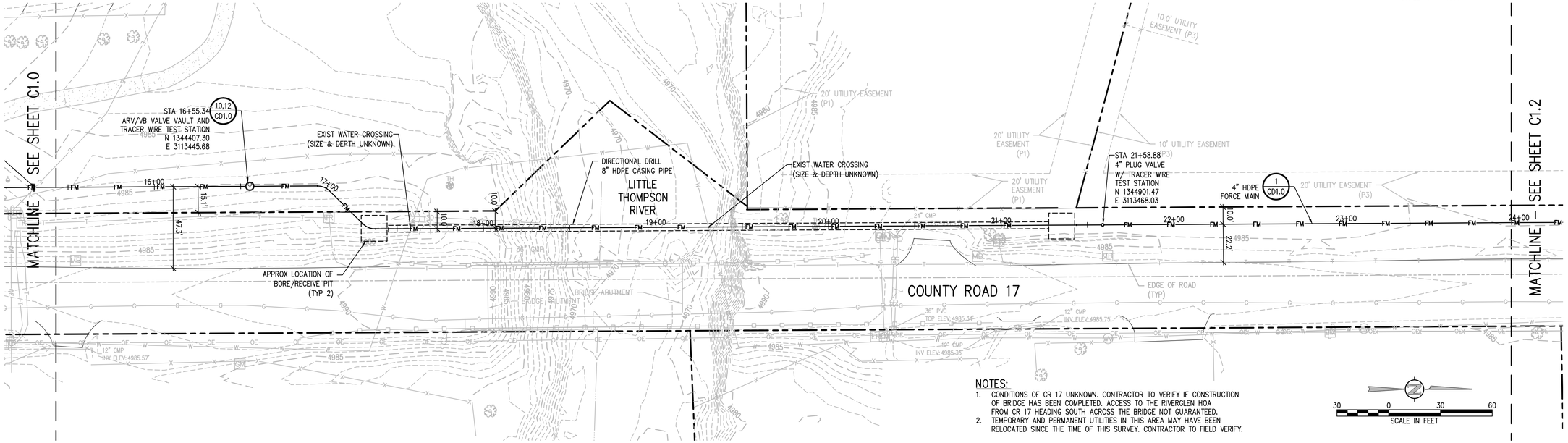
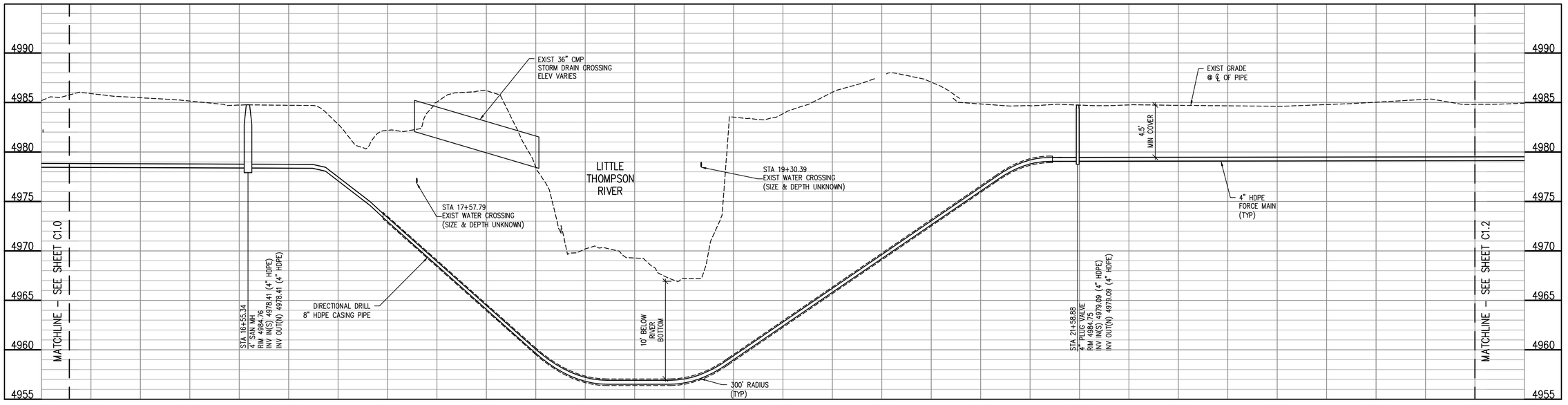


NOTES:
1. CONDITIONS OF CR 17 UNKNOWN. CONTRACTOR TO VERIFY IF CONSTRUCTION OF BRIDGE HAS BEEN COMPLETED. ACCESS TO THE RIVERGLEN HOA FROM CR 17 HEADING SOUTH ACROSS THE BRIDGE NOT GUARANTEED.
2. TEMPORARY AND PERMANENT UTILITIES IN THIS AREA MAY HAVE BEEN RELOCATED SINCE THE TIME OF THIS SURVEY. CONTRACTOR TO FIELD VERIFY.

30 0 30 60
SCALE IN FEET

LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 30'



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1"=5' VERT

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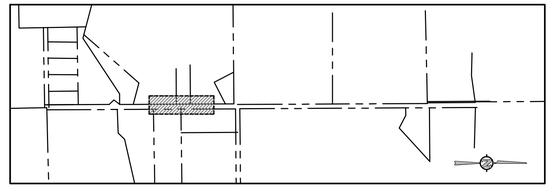

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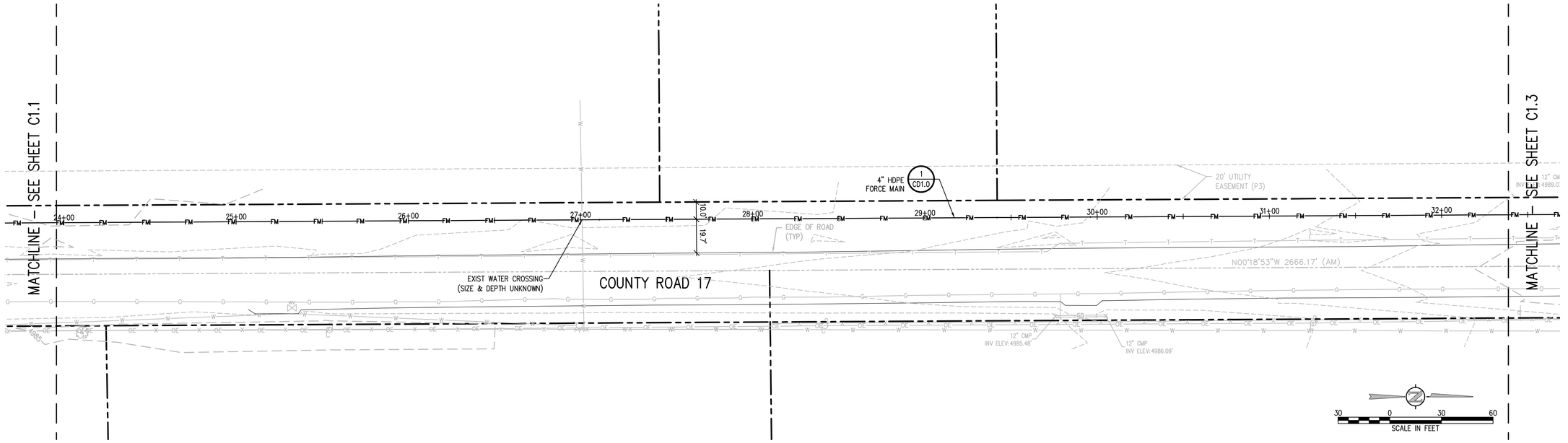

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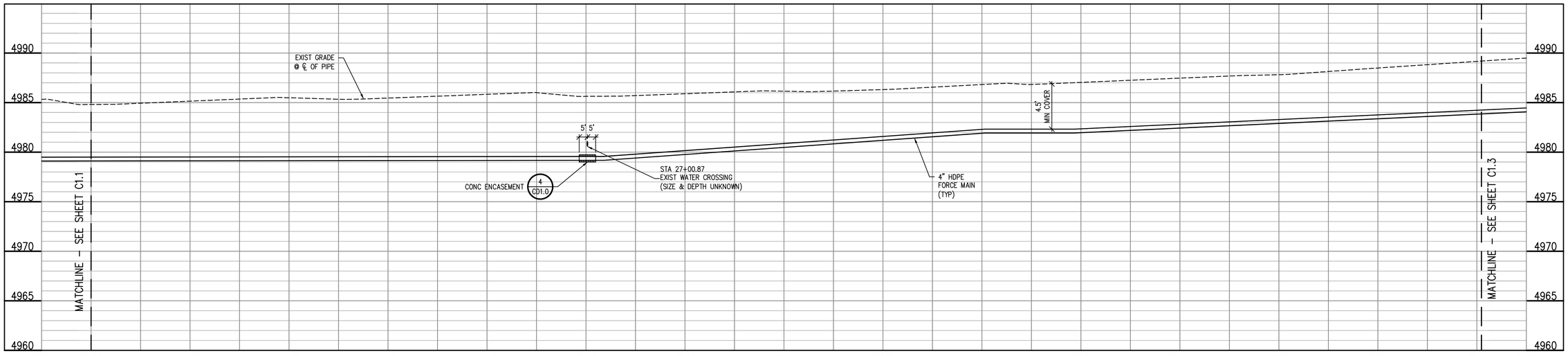

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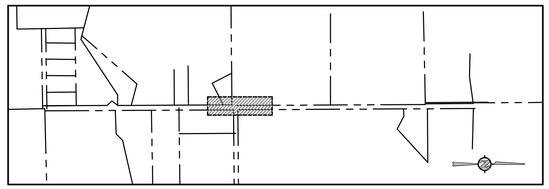
NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

DESIGNED BY:	WAR
DRAWN BY:	JCD
CHECKED BY:	KAT
JOB #:	1862.4c
DATE:	MARCH 2014

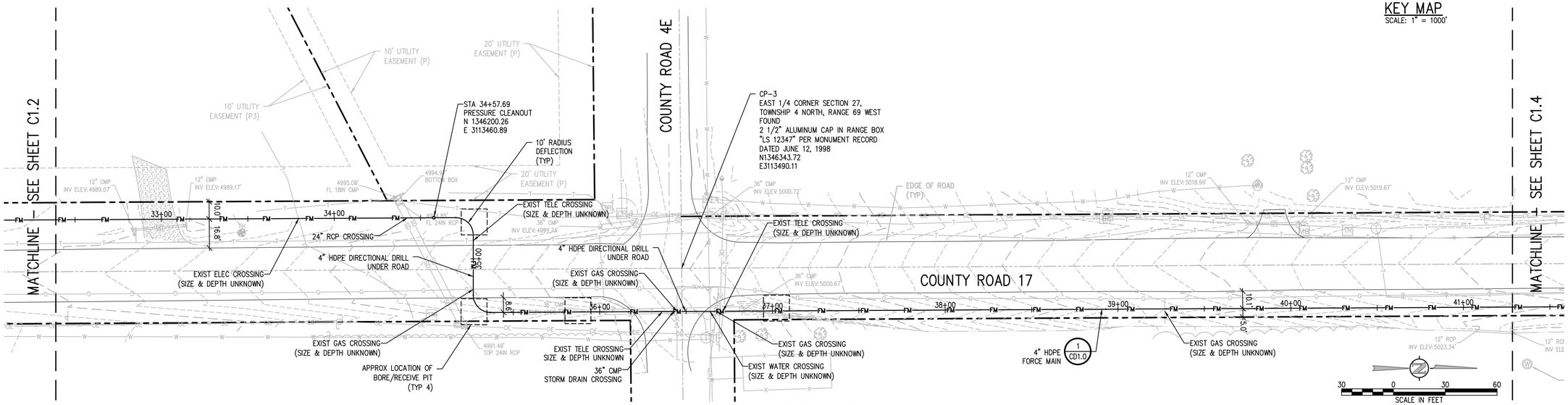
RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

PLAN AND PROFILE

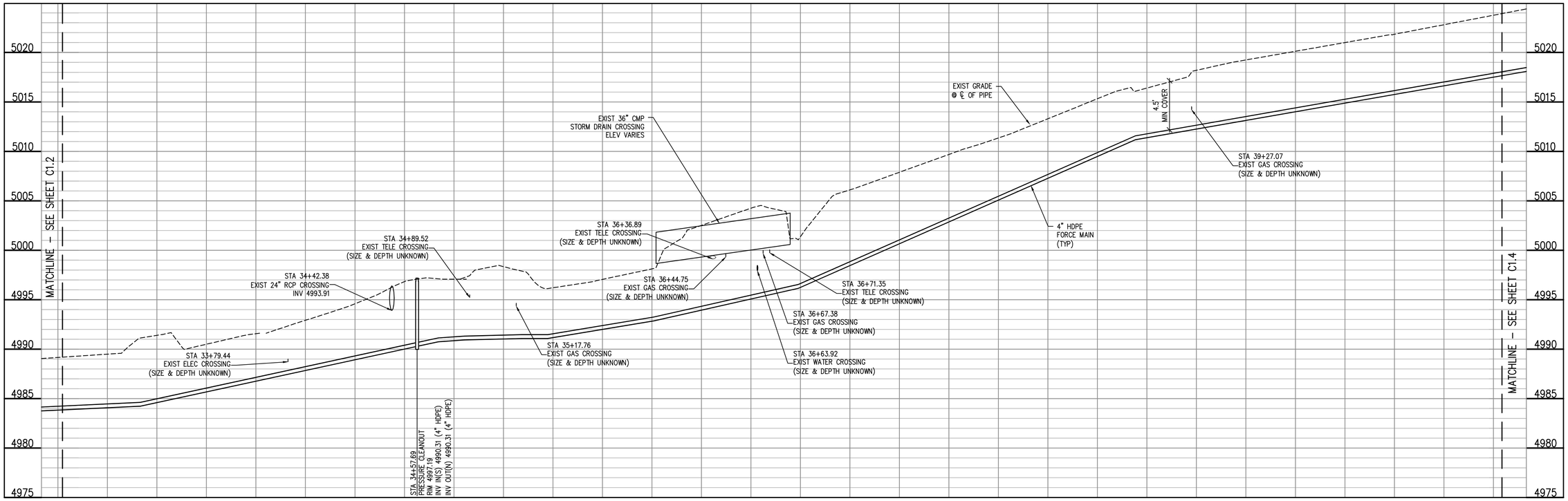
SHEET NO.
C1.2



KEY MAP
SCALE: 1" = 1000'



LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 30'



FORCE MAIN PROFILE
SCALE: 1"=30' HORIZ
1"=5' VERT

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RIVER GLEN
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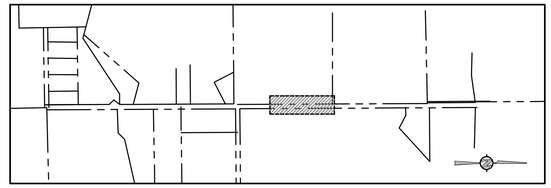
PLAN AND PROFILE

SHEET NO.
C1.3



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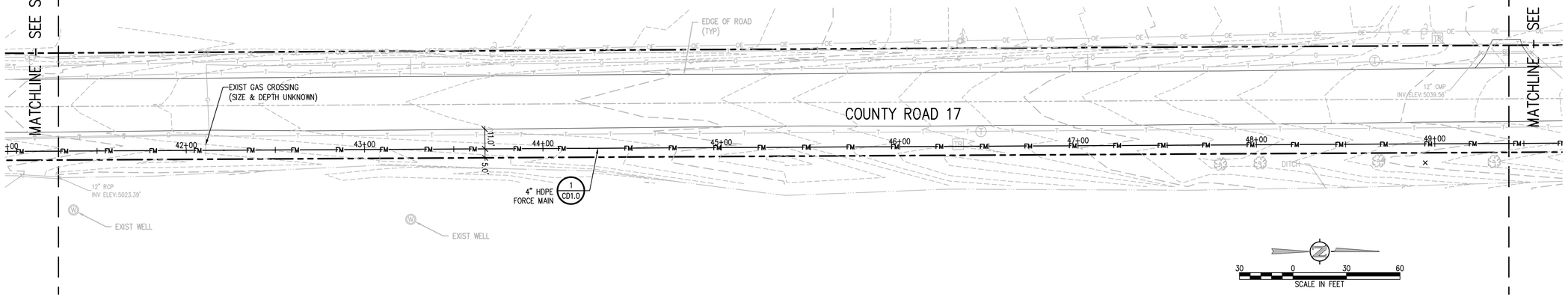

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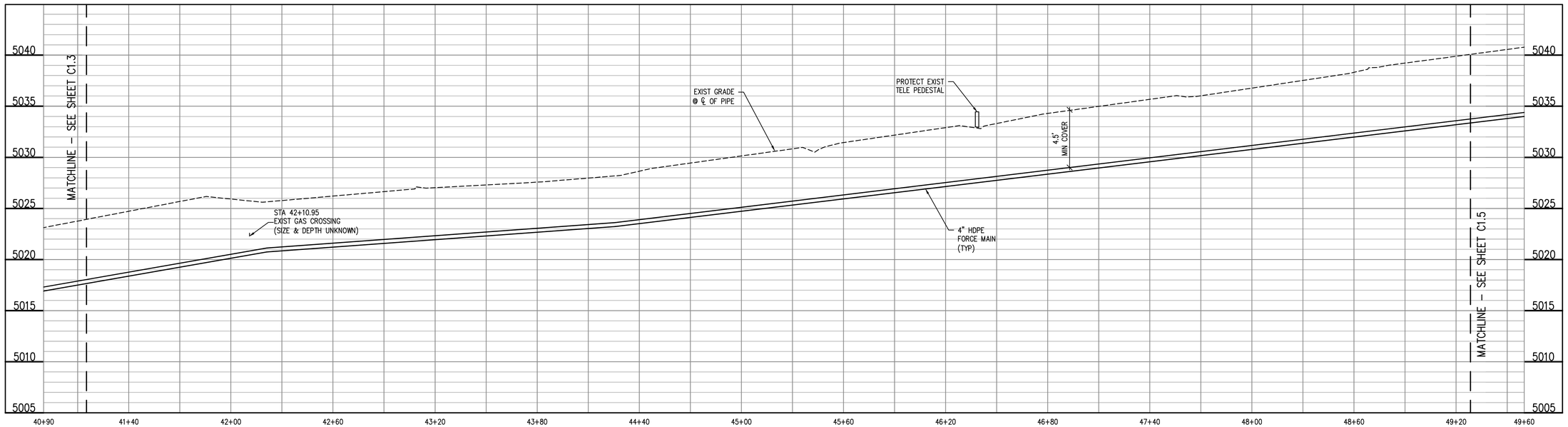
SCALE: 1" = 30'



FORCE MAIN PROFILE
SCALE: 1"=30' HORIZ
1"=5' VERT

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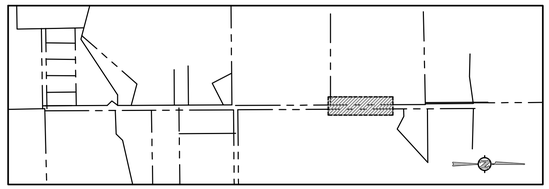
LIFT STATION AND FORCE MAIN DESIGN

PLAN AND PROFILE

SHEET NO.
C1.4



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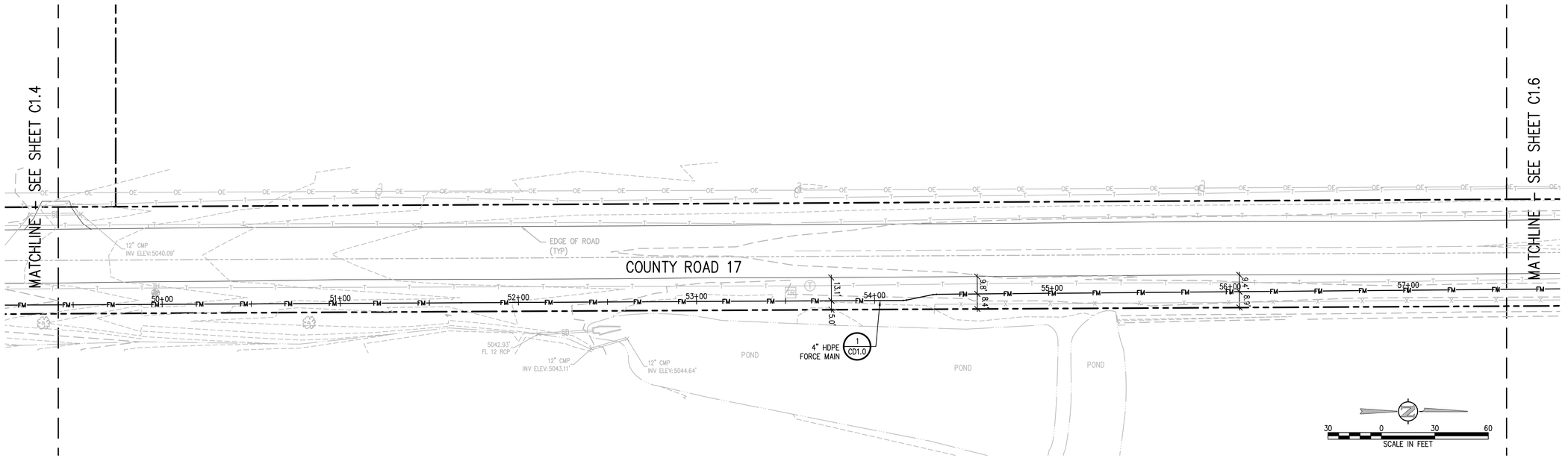
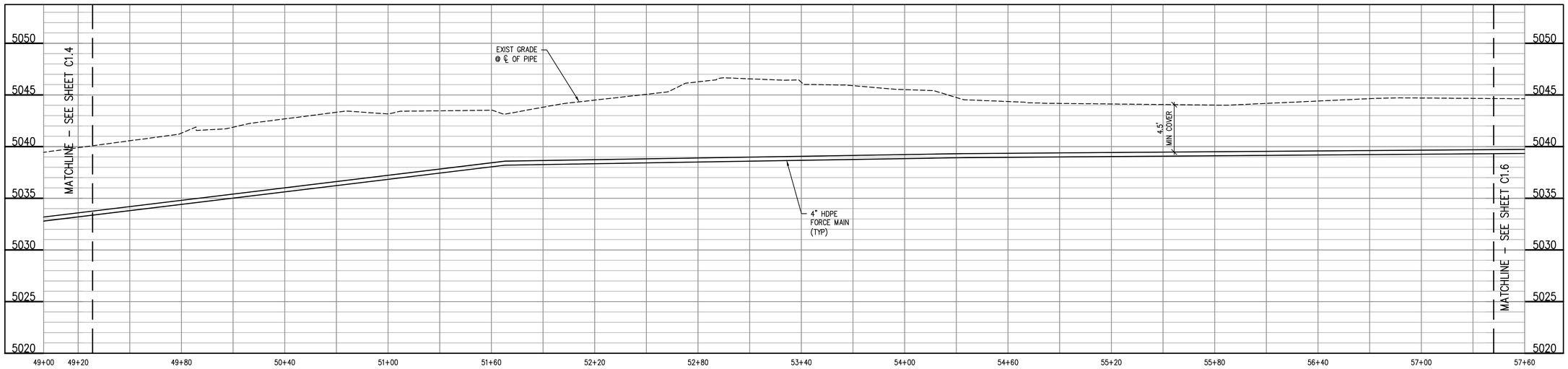


LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 30'



FORCE MAIN PROFILE
SCALE: 1"=30' HORIZ
1"=5' VERT

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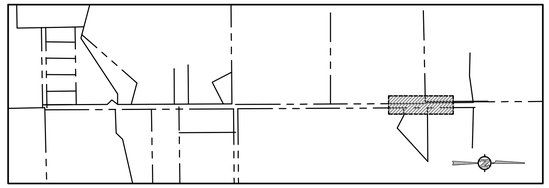
SHEET NO.
C1.5



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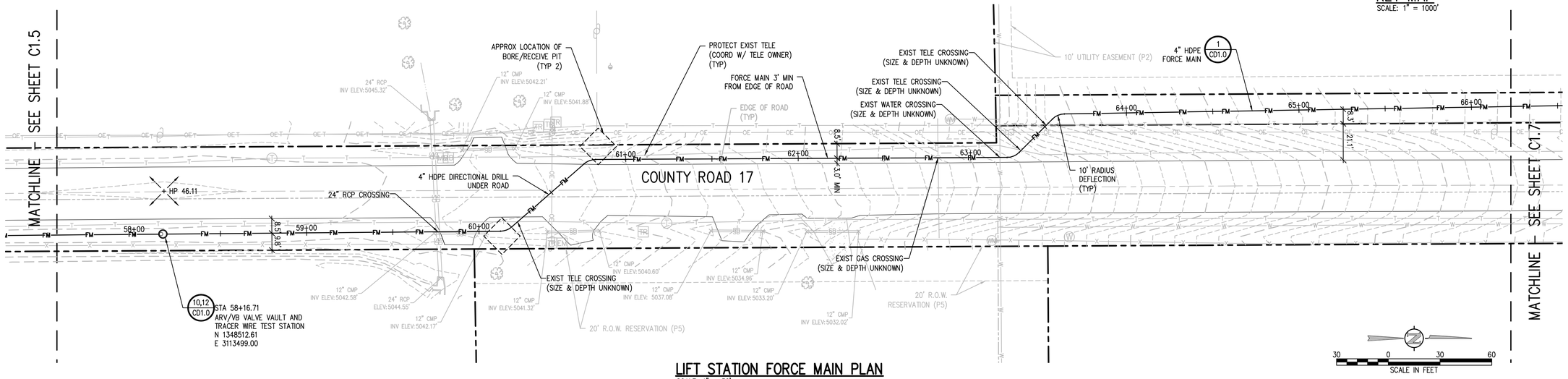
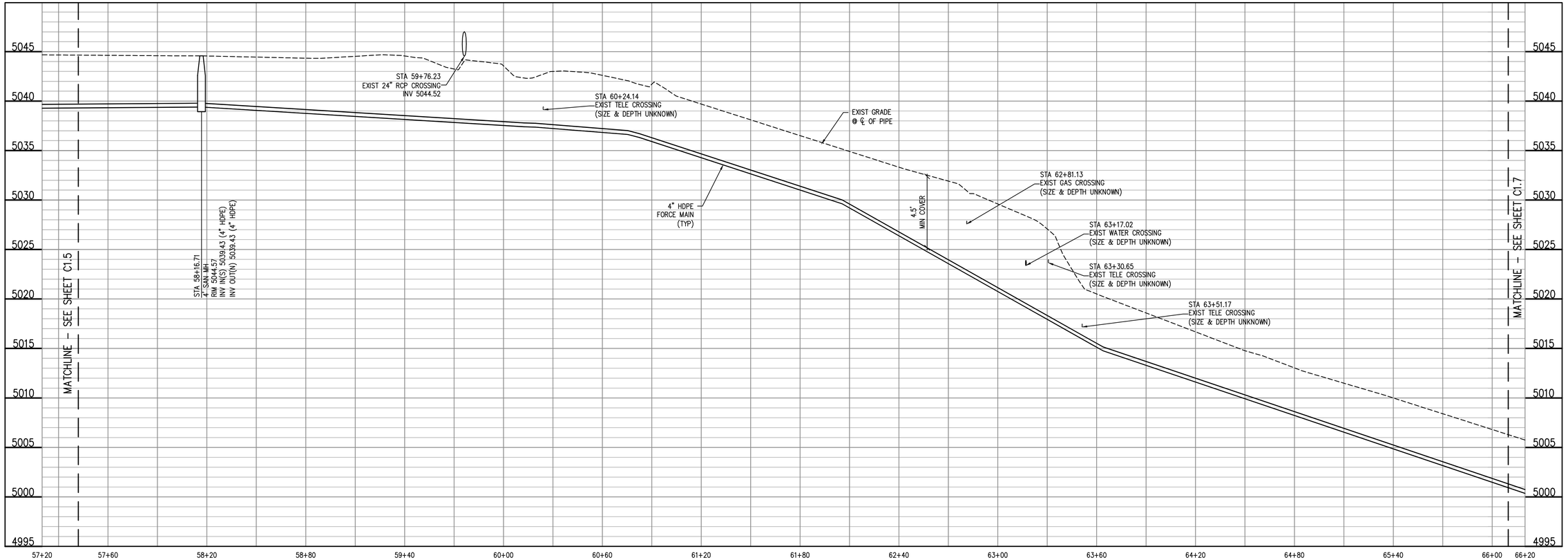


LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 30'



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SCALE: 1"=30' HORIZ
1"=5' VERT

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RIVER GLEN
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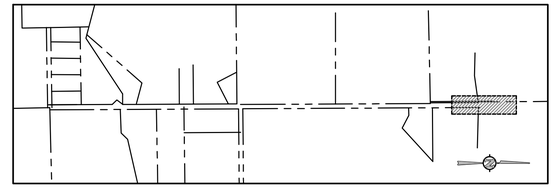
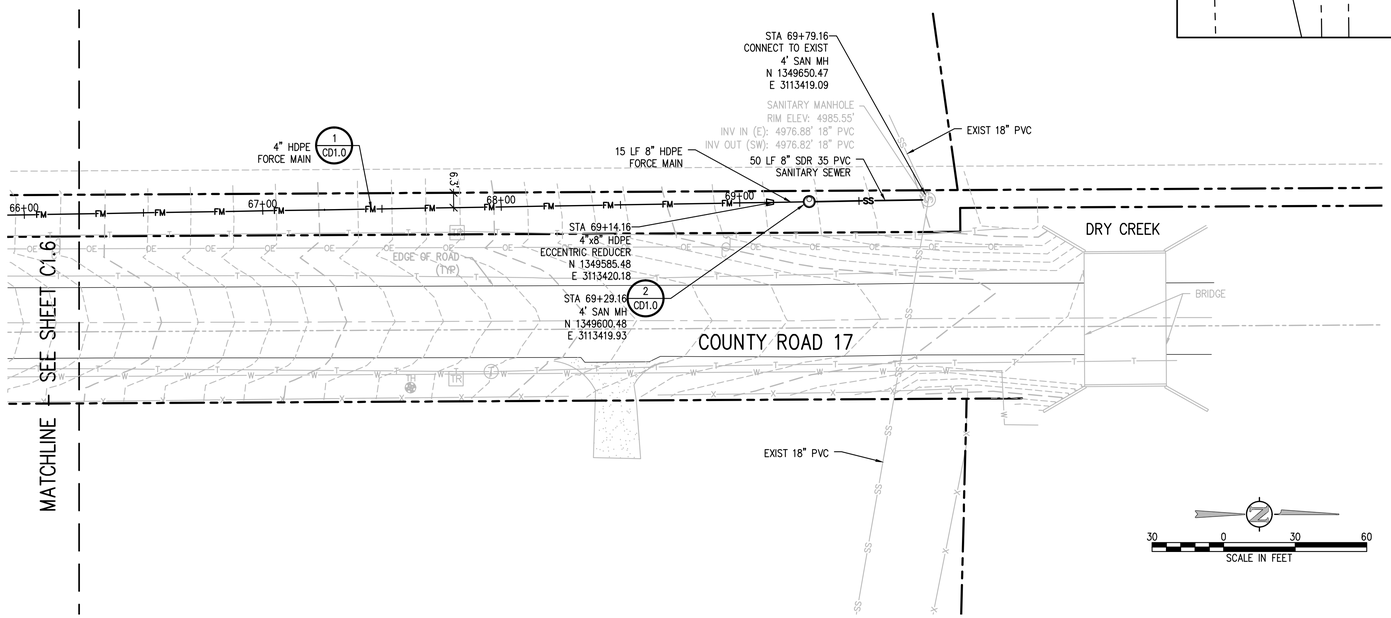
PLAN AND PROFILE

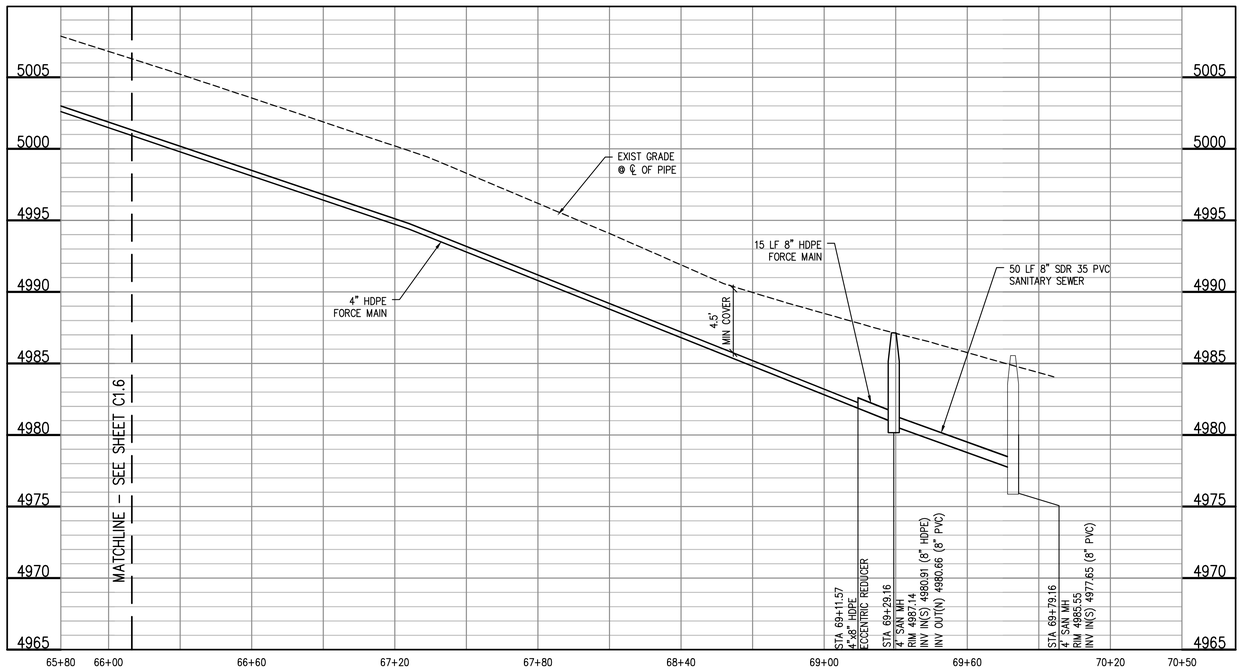
SHEET NO.
C1.6



KEY MAP
SCALE: 1" = 1000'



LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 30'



FORCE MAIN PROFILE
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RIVER GLEN
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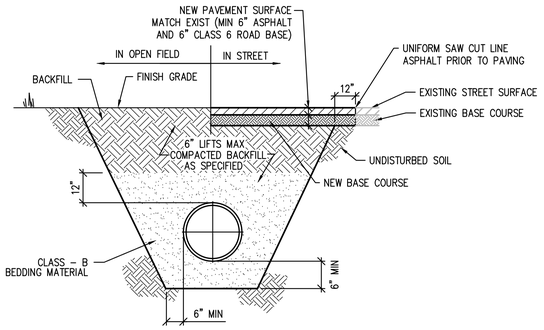
PLAN AND PROFILE

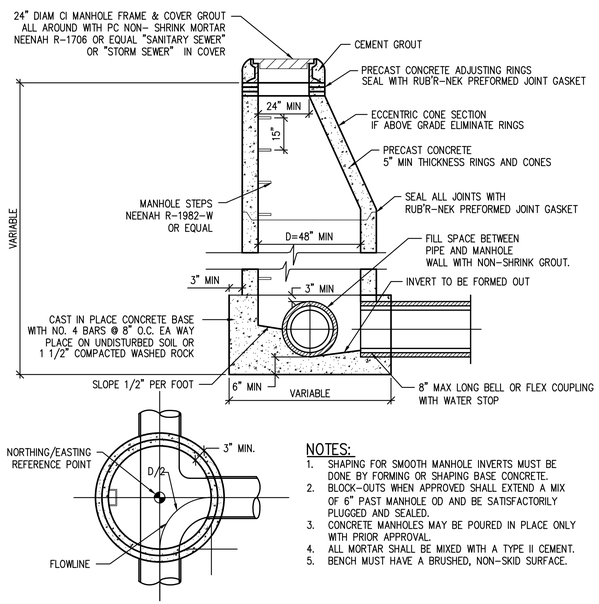
SHEET NO.
C1.7



HDPE PIPE

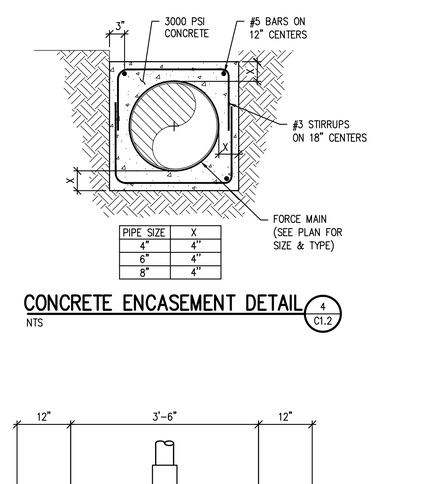
NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH, OVEREXCAVATE PER SPECIFICATIONS.
2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES.
3. PRIOR TO PLACEMENT OF ASPHALT, PAVEMENT EDGE SHALL BE SAW CUT TO A CLEAN, VERTICAL, AND STRAIGHT EDGE & OUTSIDE OF THE WHEEL PATH.
4. MINIMUM COVER IS 4.5' BELOW FINISHED GRADE.
5. COMPLY WITH LARIMER COUNTY URBAN ROAD STANDARDS.

SEWER PIPE BEDDING DETAIL
NTS — 1 / C1.0



NOTES:
1. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING OR SHAPING BASE CONCRETE.
2. BLOCK-OUTS WHEN APPROVED SHALL EXTEND A MIX OF 6" PAST MANHOLE OD AND BE SATISFACTORILY PLUGGED AND SEALED.
3. CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR APPROVAL.
4. ALL MORTAR SHALL BE MIXED WITH A TYPE II CEMENT.
5. BENCH MUST HAVE A BRUSHED, NON-SKID SURFACE.

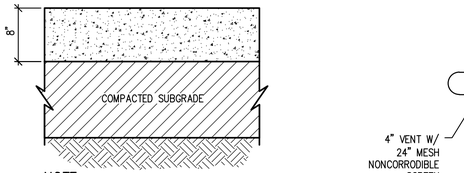
TYPICAL PRECAST MANHOLE DETAIL
NTS — 2 / C1.7



PRESSURE CLEANOUT DETAIL
NTS — 3 / C1.0

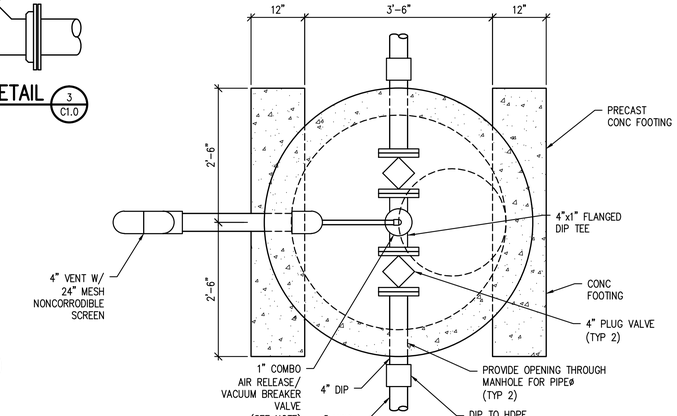
PIPE SIZE	X
4"	4"
6"	4"
8"	4"

CONCRETE ENCASEMENT DETAIL
NTS — 4 / C1.2

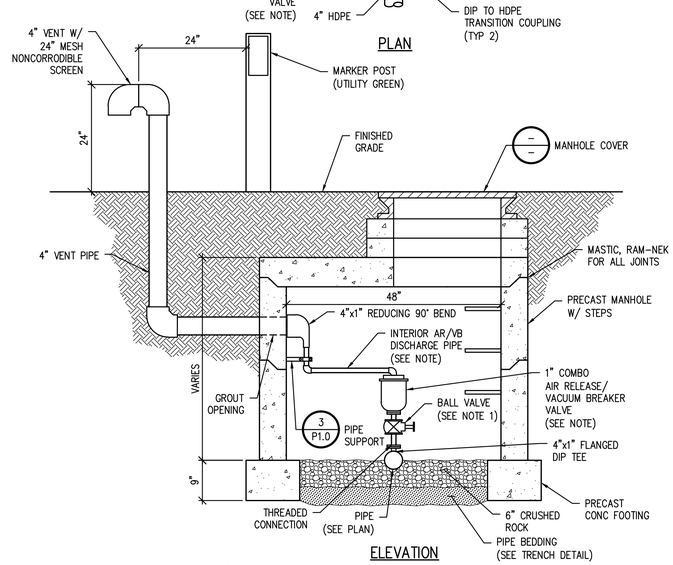


NOTE:
COMPACT SUBGRADE PER SPECIFICATIONS.

CONCRETE PAVING SECTION DETAIL
NTS — 8 / C0.1



PLAN



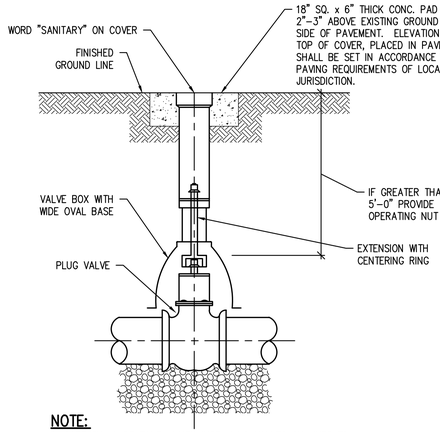
ELEVATION

NOTES:
1. INSTALL IN ACCORDANCE WITH VALVE SCHEDULE, THIS SHEET.
2. PROVIDE INTERIOR VENT PIPE CONNECTED TO AR/VB DISCHARGE. INTERIOR VENT PIPE SIZE IS 1" DIAMETER SCH 40 PVC. PROVIDE REDUCER TO TRANSITION TO 4" VENT PIPE OUTSIDE OF VAULT.

AIR RELEASE/VACUUM BREAKER COMBINATION VALVE SCHEDULE

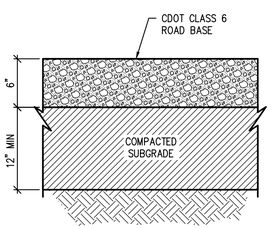
STATION	SIZE	MIN. OPERATING PRESSURE (PSI)	MAX. OPERATING PRESSURE (PSI)	CONNECTION	CONNECTION
16+59.27	1"	7.25	232	FLANGED	FLANGED
58+20.64	1"	7.25	232	SCREW	SCREW

COMBINATION AIR RELEASE/ VACUUM BREAKER VALVE INSTALLATION DETAIL
NTS — 12 / C1.1

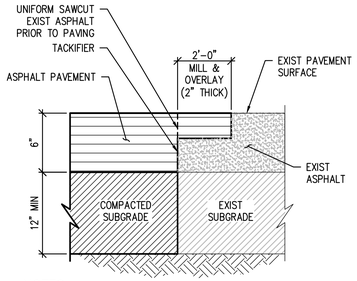


NOTE:
1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES ON LINES TO ASSURE PROPER SUPPORT OF THE VALVES.
2. WOOD BLOCKS OR 3/4" WASHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT WHERE REQUIRED.
3. VALVES SHALL NOT BE PLACED IN CONCRETE CROSS PANS.

PLUG VALVE DETAIL
NTS — 5 / P1.0

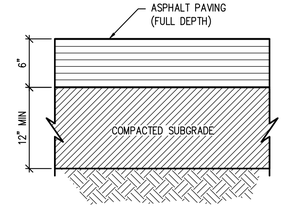


GRAVEL PAVING DETAIL
NTS — 6 / C0.1



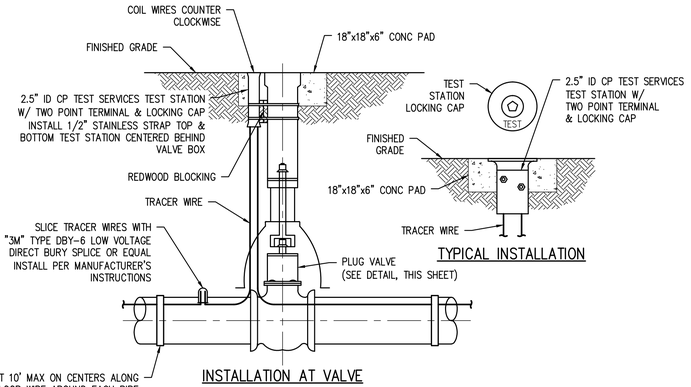
NOTES:
1. MATCH EXIST ASPHALT DEPTH UNLESS OTHERWISE SPECIFIED.
2. COMPACT SUBGRADE PER SPECIFICATIONS.

ASPHALT "T" PATCH DETAIL
NTS — 7 / —



NOTE:
COMPACT SUBGRADE PER SPECIFICATIONS.

ASPHALT PAVING SECTION DETAIL
NTS — 9 / —

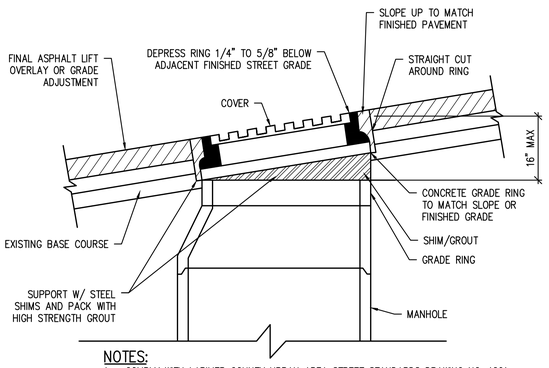


TYPICAL INSTALLATION

INSTALLATION AT VALVE

NOTES:
1. SPACE TRACER WIRE TEST STATIONS AT 500' MAX SPACING
2. FOR HORIZONTAL DIRECTIONAL DRILLING TRACER WIRE, PROVIDE #12 COPPER CLAD OR 1/4" SS AIRCRAFT CABLE, MANUFACTURER AS SPECIFIED IN SECTION 02530.

TRACER WIRE INSTALLATION AND TEST STATION DETAIL
NTS — 10 / C1.1



NOTES:
1. COMPLY WITH LARIMER COUNTY URBAN AREA STREET STANDARDS DRAWING NO. 1201.
2. GROUT SHALL BE A MIXTURE OF 100 LBS GROUT MIX, 26 LBS WATER (3.12 GAL), AND 100 LBS OF SAND CONFORMING TO ASTM C35
3. MANHOLES SHALL NOT BE LOCATED IN CROSSPANS, GUTTERS, OR WHEEL PATH
4. SHIM AND GROUT TO MAKE RING AND COVER FLUSH WITH THE FINISHED PAVEMENT SURFACE

STANDARD MANHOLE COVER DETAIL
NTS — 11 / —

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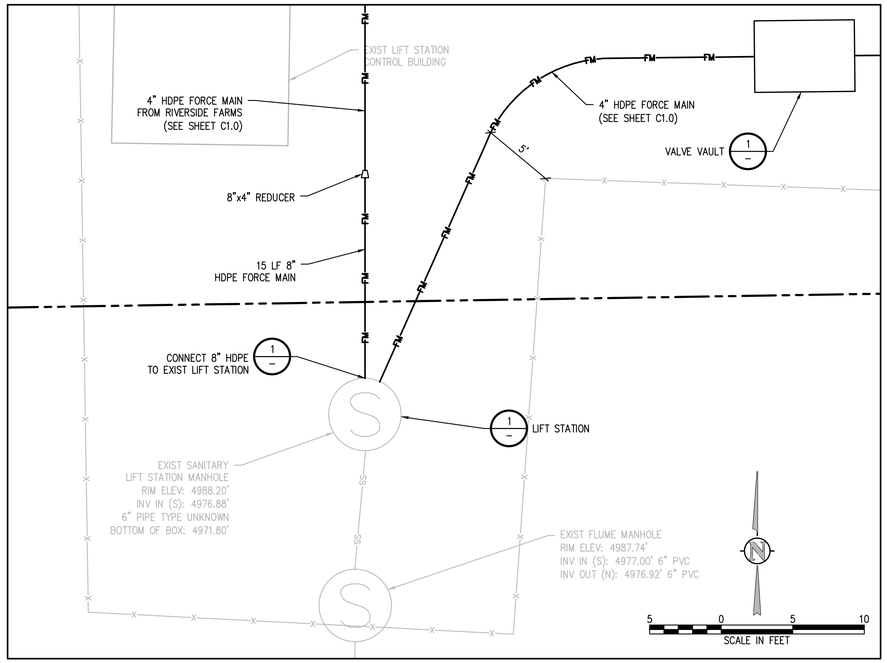
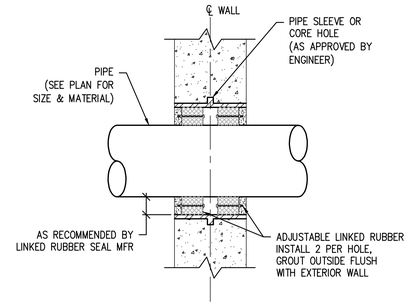
RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

DETAILS

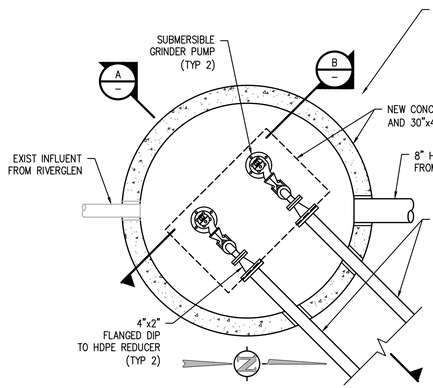
SHEET NO.
CD1.0



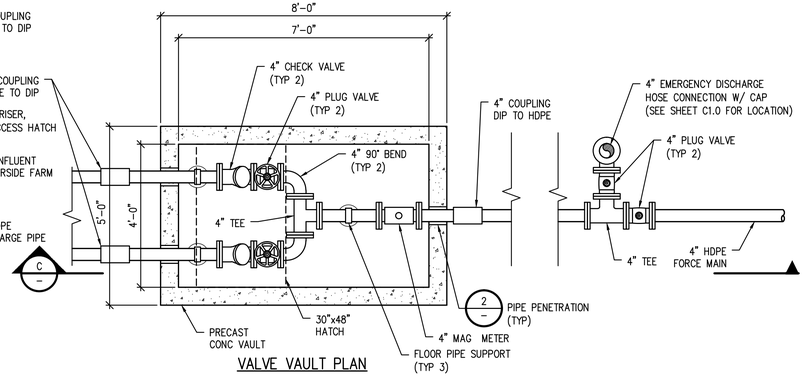
LIFT STATION FORCE MAIN PLAN
SCALE: 1" = 5'



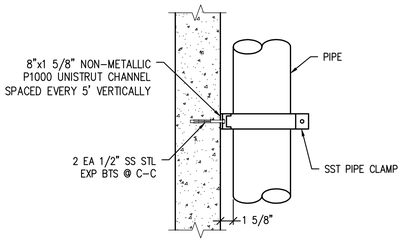
WALL PENETRATION WITH CORE HOLE DETAIL 2/–
NTS



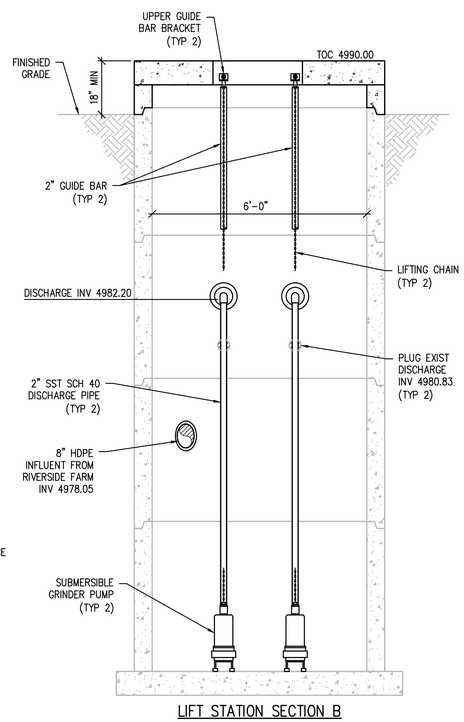
LIFT STATION PLAN



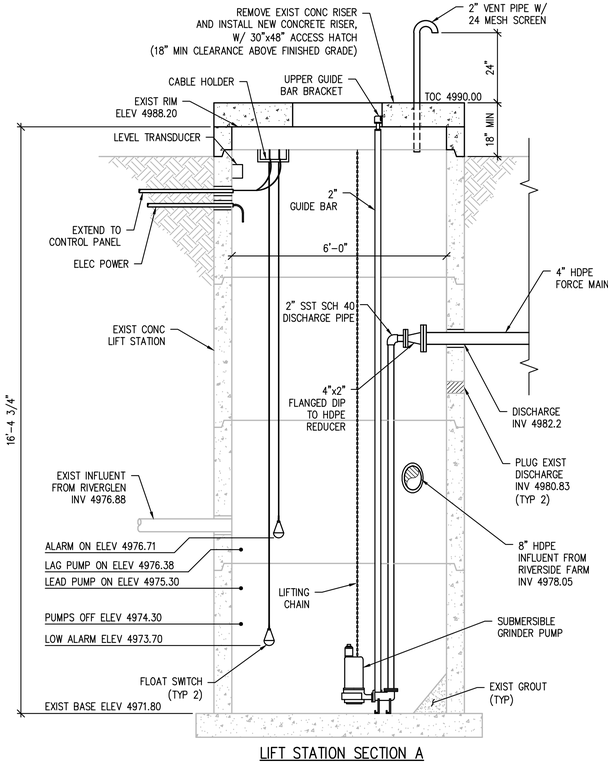
VALVE VAULT PLAN



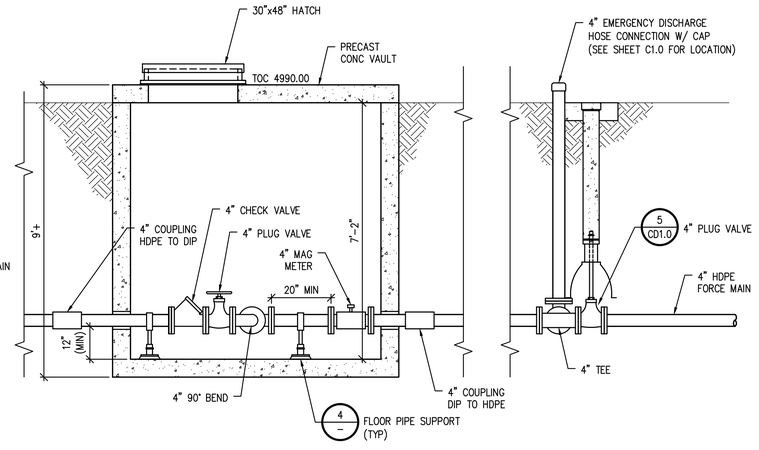
TYPICAL WALL PIPE SUPPORT DETAIL 3/–
NTS



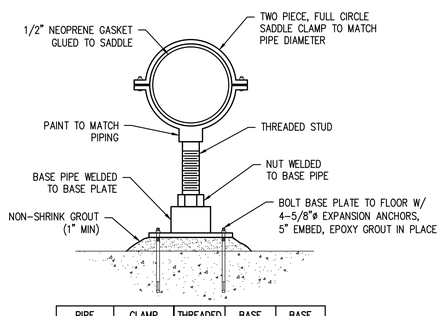
LIFT STATION SECTION B



LIFT STATION SECTION A



VALVE VAULT SECTION C



PIPE SIZE	CLAMP SIZE	THREADED STUD ø	BASE PLATE	BASE PIPE
2", 3"	.375"x1.5"	.75"	6"x6"	2"
4"–12"	.5"x2"	1"	8"x8"	2"
14"–16"	.625"x3"	1.5"	12"x12"	3"
18"–24"	.75"x4"	2"	12"x12"	4"

FLOOR PIPE SUPPORT DETAIL 4/–
NTS

LIFT STATION AND VALVE VAULT DETAIL 1/–
SCALE: 1/2" = 1'–0"

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LIFT STATION PLAN AND DETAILS

SHEET NO.
P1.0

ONE LINE DIAGRAM LEGEND

1500KVA
2.4KV-480Y/277
3Ø, 60 HZ — TRANSFORMER WITH PRIMARY AND SECONDARY VOLTAGE, AND KVA RATING AS NOTED.

20 — 22: 3#8,#10G,2" — CIRCUIT NO. 22 WITH #8 INSULATED CONDUCTORS, 1#10 BARE GROUND WIRE ALL IN 2" CONDUIT TO 20 HP MOTOR.

AUXILIARY ITEMS MAY NOT BE SHOWN COMPLETELY
15 — ONE-LINE SHOWING POWER AND CONTROL TO A PACKAGE UNIT, AS FOR EXAMPLE A STEAM GENERATOR OR AN AIR HANDLING UNIT, SHALL IMPLY THAT ANY AND ALL ASSOCIATED EQUIPMENT SHALL ALSO BE INSTALLED AND WIRED AS REQUIRED BY THE EQUIPMENT FURNISHED.

INDICATES THAT ALL OR PART OF CIRCUIT MAY BE ROUTED IN DUCT BANK OR UNDERGROUND. CONDUIT SIZE SHOWN ON ONE-LINE IS ABOVE GROUND AND/OR INSIDE OF STRUCTURE. SEE DUCT BANK SCHEDULE AND SECTIONS FOR CONDUIT SIZE OF UNDERGROUND PORTION OF CIRCUIT.

HIGH VOLTAGE DRAWOUT AIR OR VACUUM CIRCUIT BREAKER.

3P-20 — LOW VOLTAGE AIR CIRCUIT BREAKER, 3 POLE, 20 AMPERE.

S4 — SIZE 4 COMBINATION MAGNETIC MOTOR STARTER.

LOW VOLTAGE DRAWOUT AIR CIRCUIT BREAKER.

HIGH VOLTAGE DRAWOUT CONTACTOR.

FUSE AND DISCONNECT SWITCH.

S2 — SIZE 2 COMBINATION MAGNETIC MOTOR STARTER, REVERSING OR 2 SPEED.

POTENTIAL TRANSFORMER.

CURRENT TRANSFORMER.

CONDUIT & WIRING INSTALLATION LEGEND

CONDUIT EXPOSED.

CONDUIT CONCEALED.

CONDUIT TURNING UP, CONDUIT TURNING DOWN.

CONDUIT PLUGGED FLUSH, CONDUIT CAPPED.

L2-5 — TYPICAL FOR HOME RUN TO BE ROUTED TO LIGHTING PANEL L2 AND CONNECTED TO CIRCUIT #5 (MINIMUM NO. 12 AWG CONDUCTORS & ¾" CONDUIT.)

A — LIGHTING FIXTURE. REFER TO NUMBER OR LETTER IN FIXTURE SCHEDULE.

11 — FLUORESCENT FIXTURE. REFER TO NUMBER OR LETTER IN FIXTURE SCHEDULE.

LP1-3 — RECEPTACLE POWERED FROM LIGHTING PANEL LP1, CIRCUIT 3.

A LP2-2 — LIGHTING FIXTURE POWERED FROM LIGHTING PANEL LP2, CIRCUIT 2 (NON-SWITCHED.)

LPA-4
11 — LIGHTING FIXTURE POWERED FROM LIGHTING PANEL LPA, CIRCUIT 4

A
11 — LIGHTING FIXTURE POWERED VIA SWITCH A.

E — UNDERGROUND CONCRETE ENCASED ELECTRICAL DUCT BANK.

UNDERGROUND CONCRETE ENCASED ELECTRICAL BANK ROUTED BENEATH SLAB-ON-GRADE.

EE — DIRECT BURIED CONDUIT.

GROUND CONDUCTOR.

SCHEMATIC SYMBOLS

- WIRE CONNECTION POINT
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- STARTER, CONTACTOR OR RELAY COIL
- NORMALLY OPEN PUSH BUTTON
- NORMALLY CLOSED PUSH BUTTON
- MAINTAINED PUSH BUTTON
- NORMALLY CLOSED GEARED LIMIT SWITCH
- NORMALLY OPEN GEARED LIMIT SWITCH
- INDICATING LIGHT
- FUSE
- CONTROL POWER TRANSFORMER
- SWITCH
- MS — MANUAL STARTER
- OL — OVERLOAD
- FLOAT SWITCH (CLOSING ON RISING LEVEL)
- FLOAT SWITCH (OPENING ON RISING LEVEL)
- PRESSURE SWITCH (CLOSING ON RISING PRESSURE)
- PRESSURE SWITCH (OPENING ON RISING PRESSURE)
- VACUUM SWITCH (CLOSING ON INCREASING VACUUM)
- VACUUM SWITCH (OPENING ON INCREASING VACUUM)
- TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)
- TEMPERATURE SWITCH (OPENING ON RISING TEMPERATURE)
- FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)
- FLOW ACTUATED SWITCH (OPENING ON INCREASE IN FLOW)
- ON TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY CLOSING AFTER COIL IS ENERGIZED)
- ON TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY OPENING AFTER COIL IS ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY OPENING AFTER COIL IS DE-ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY CLOSING AFTER COIL IS DE-ENERGIZED)
- TORQUE SWITCH (NORMALLY OPEN)
- TORQUE SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY OPEN)
- LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED, HELD OPEN)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY OPEN, CLOSING ON INCREASING DIFF.)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY CLOSED, OPENING ON INCREASING DIFF.)
- SUPX — 24 VDC SURGE PROTECTION

SWITCH & OUTLET SYMBOLS

- S^{A} SINGLE POLE SWITCH, A=SWITCH DESIGNATION
- S^{A}_{2} TWO POLE SWITCH, A=SWITCH DESIGNATION
- S^{A}_{3} THREE-WAY SWITCH, A=SWITCH DESIGNATION
- S^{A}_{4} FOUR-WAY SWITCH, A=SWITCH DESIGNATION
- S^{A}_{WP} WEATHERPROOF SWITCH, A=SWITCH DESIGNATION
- S^{A}_{KO} KEY OPERATED SWITCH, A=SWITCH DESIGNATION
- S^{A}_{EP} EXPLOSION PROOF SWITCH, A=SWITCH DESIGNATION
- DUPLEX RECEPTACLE 120 VOLT
- 30 — 240V, 1 PHASE RECEPTACLE, TYPICAL AMPERE RATING NOTED
- 60 — 480V, 3 PHASE WELDING RECEPTACLE, TYPICAL AMPERE RATING NOTED

MISCELLANEOUS SYMBOLS

- T — THERMOSTAT
- J — JUNCTION BOX
- DISCONNECT SWITCH
- COMBINATION STARTER
- POWER PANEL
- LIGHTING PANEL
- MISCELLANEOUS PANEL

ABBREVIATIONS

A	AMBER, AMPERE, ALARM
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AM	AMMETER
ATO	AUTOMATIC THROWOVER
AWG	AMERICAN WIRE GAUGE
C	CLOSE, COUNTER, CONTACTOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CD	CONTROL DAMPER
CKT	CIRCUIT
CL2	CHLORINE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL STATION
CT	CYCLE TIMER, CURRENT TRANSFORMER
CTM	CYCLE TIMER MOTOR
2/C	2 CONDUCTOR
4"C	4" CONDUIT
DC	DIRECT CURRENT
DM	DAMPER MOTOR, DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DPS	DIFFERENTIAL PRESSURE SWITCH
DS	DISCONNECT SWITCH
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE
EMH	ELECTRICAL MANHOLE
ETM	ELAPSED TIME METER
EX	EXISTING
F	FORWARD
FS	FLOW SWITCH
G	GREEN, GROUND
GFI	GROUND FAULT INTERRUPTER
GLS	GEARED LIMIT SWITCH
#8G	#8 GROUND WIRE
H	HIGH, HUMIDISTAT
HH	HANDHOLE
HMT	HIGH MOTOR TEMPERATURE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HP	HORSEPOWER
HWCO	HIGH WATER CUTOFF
HZ	HERTZ (CYCLE)
I/O	INPUT/OUTPUT
J	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR
KW	KILOWATT
KWH	KILOWATT HOUR
L	LOW, LEVEL
LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LP	LIGHTING PANEL
LS	LIMIT SWITCH, LEVEL SWITCH
LWCO	LOW WATER CUTOFF
M	MAGNETIC MOTOR STARTER
MA	MILLIAMPERE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MIL
MD	MOISTURE DETECTOR
MH	MANHOLE, MOUNTING HEIGHT
MOV	MOTOR OPERATED VALVE
MS	MANUAL MOTOR STARTER
MSH	MOTOR SPACE HEATER
N	NEUTRAL
NC	NORMALLY CLOSED
NTS	NORMALLY OPEN, NUMBER
NO	NOT TO SCALE
O	OPEN
OL	OVERLOAD
PB	PUSH BUTTON, PULL BOX
PF	POWER FACTOR METER
PH	PHASE (CHEMICAL TERM)
PLC	PROGRAMMABLE LOGIC CONTROLLER
PP	POWER PANEL
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER, PROGRAM TIMER
2P	2 POLE
R	RED, RAISE, RELAY, REVERSE
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RTD	RESISTANCE TYPE TEMP DETECTOR
RTU	REMOTE TERMINAL UNIT
RVSS	REDUCED VOLTAGE SOLID STATE STARTER
S2	SIZE 2 STARTER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SP	SINGLE POLE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	SELECTOR SWITCH
SV	SOLENOID VALVE
SWB	SWITCHBOARD
SWGR	SWITCHGEAR
T	THERMOSTAT, TIMER, TOTALIZER
TACH	TACHOMETER
TB	TERMINAL BLOCK
TD	TIME DELAY RELAY
TEMP	TEMPERATURE
TQ	TORQUE
TS	TEMPERATURE SWITCH
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPERE
VLS	VALVE LIMIT SWITCH
VM	VOLTMETER
W	WHITE, WATTS
WH	WATTHOUR METER
WM	WATT METER
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
Y	YELLOW
Z	AUXILIARY RELAY
ZS	POSITION SWITCH

AREA DESIGNATIONS

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

AREA TYPE 1A — CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES, AND ACCESSORIES.

AREA TYPE 4 — INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.

AREA TYPE 7A — CLASS 1, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

AREA TYPE 7B — CLASS 1, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

AREA TYPE 12 — INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.

AREA TYPE 4X — OUTDOOR AND INDOOR WET LOCATIONS SUBJECT TO CORROSION. CONDUIT SYSTEM SHOULD BE PVC COATED RIGID GALVANIZED STEEL WITH PVC COATED FITTINGS, BOXES, AND STAINLESS STEEL HARDWARE.

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
2. SPARE WIRES SHALL BE TAPED AND COILED.
3. IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMODATE THE HIGHER VALUE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
5. LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM ¾".
6. IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

GENERAL NOTES

1. SOLID LINES —— INDICATE NEW WORK OR EQUIPMENT.
2. DOTTED LINES ..... INDICATE EXISTING WORK OR EQUIPMENT.
3. DASHED LINES _ _ _ INDICATE FUTURE WORK OR EQUIPMENT.
4. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
5. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
   A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
   B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
   C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
   D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
6. CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.

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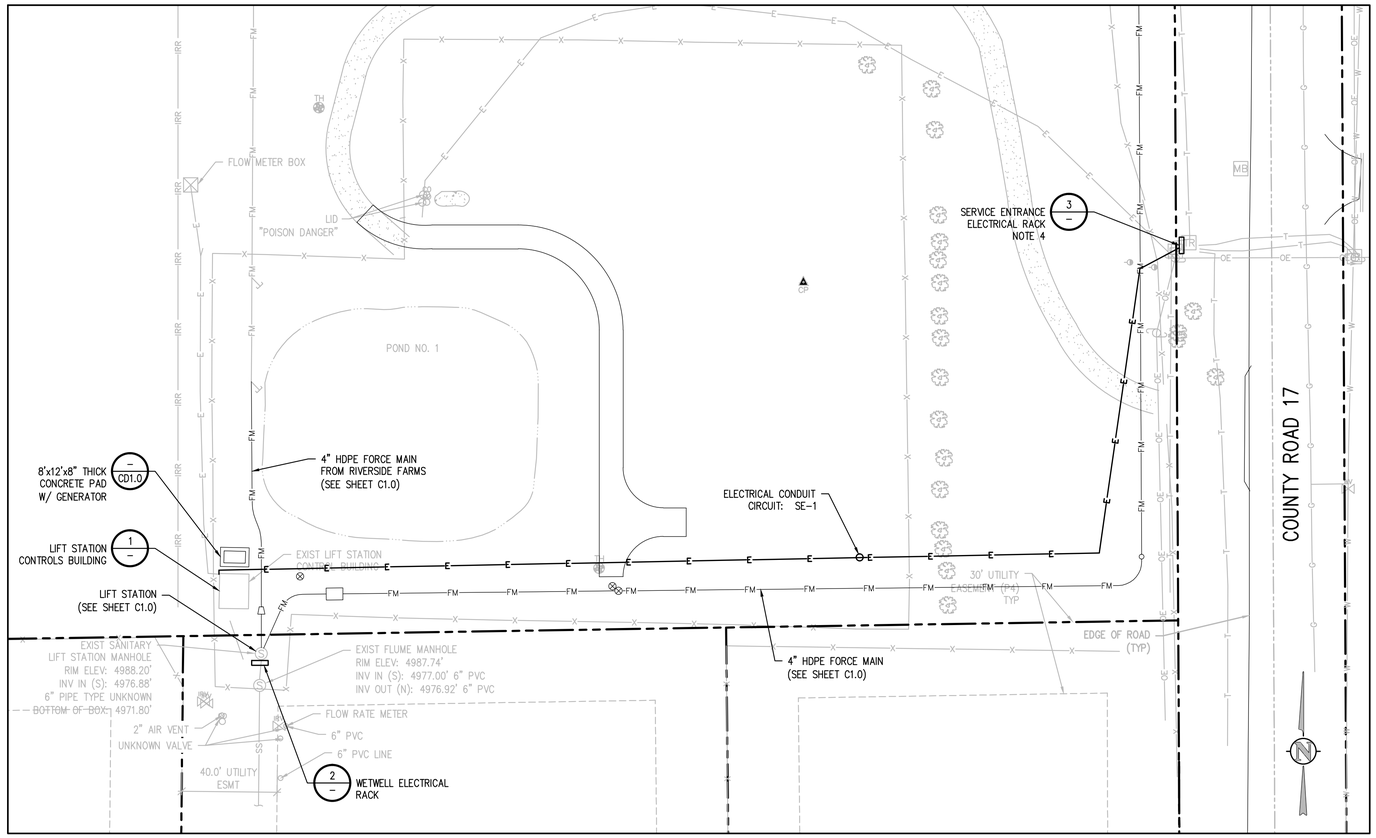
NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

DESIGNED BY:	TFW
DRAWN BY:	TFW
CHECKED BY:	JJM
JOB #:	1862.4c
DATE:	MARCH 2014

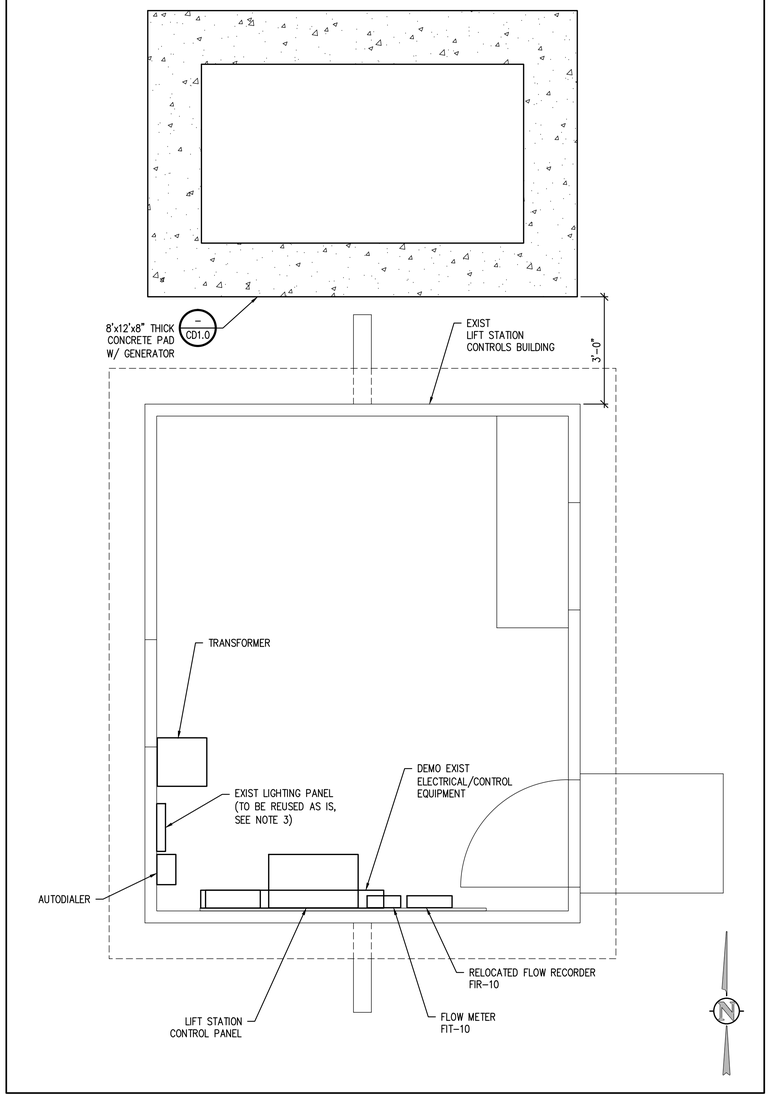
RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

ELECTRICAL
LEGEND

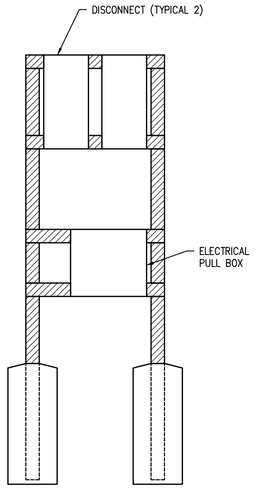
SHEET NO.
E0.1



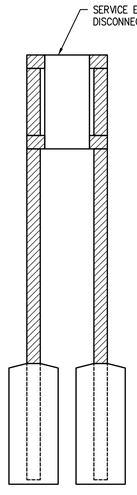
ELECTRICAL SITE PLAN
SCALE: 1" = 30'



LIFT STATION CONTROLS BUILDING ELECTRICAL PLAN 1/–
SCALE: 1/2" = 1'-0"



WETWELL ELECTRICAL RACK 2/–
NTS



SERVICE ENTRANCE ELECTRICAL RACK 3/–
NTS

NOTES:
1. NOT ALL ELECTRICAL INSIDE THE BUILDING IS SHOWN FOR CLARITY. CONTRACTOR RESPONSIBLE TO FIELD VERIFY EQUIPMENT TO BE REMOVED AND REPLACED.
2. REFER TO SHEET P1.1 FOR ADDITIONAL DETAILS.
3. THE EXISTING CIRCUITS FROM THE EXISTING LIGHTING PANEL FOR THE INTERIOR OF THE BUILDING FOR THE LIGHTS, RECEPTACLES, HEATER, AND OTHER ACCESSORIES SHALL REMAIN AS THEY ARE UNLESS SPECIFICALLY NOTED OTHERWISE.
4. AFTER THE NEW SERVICE FEED IS CONNECTED IN THE BUILDING, THE OLD SERVICE SHALL BE COMPLETELY REMOVED.

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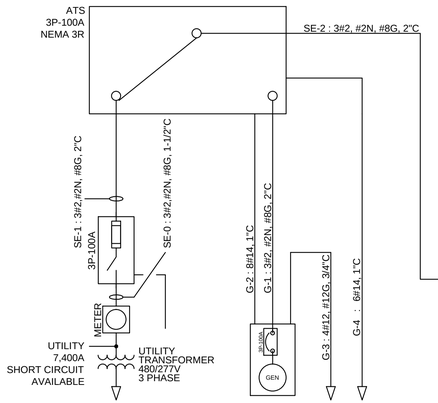
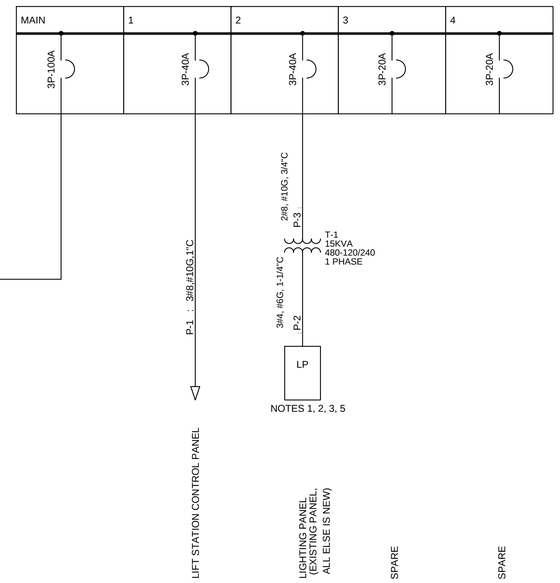
RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

ELECTRICAL
SITE PLAN

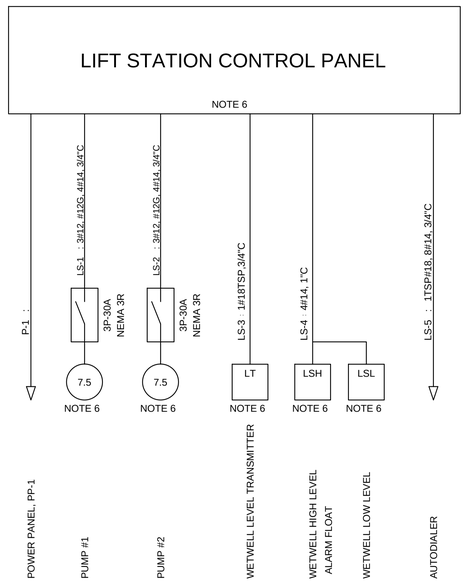
SHEET NO.
E1.0



SERVICE ENTRANCE AND GENERATOR ONE-LINE DIAGRAM

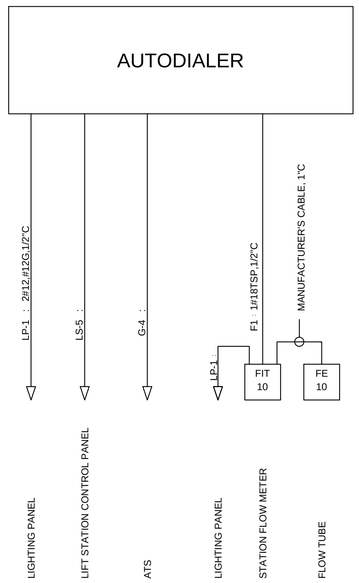


POWER PANEL, PP-1 ONE-LINE DIAGRAM



LIFT STATION CONTROL PANEL ONE-LINE DIAGRAM

NOTE 4



FLOW METER ONE-LINE DIAGRAM

NOTE 4

NOTES 1, 2, 3, 7

NAME:		LP (EXISTING)	BUS:		COPPER				MAINS:	2P-80A	
SERVICE		120/240 VAC	RATING:		100A				LOCATION:	LIFT STATION CONTROL BUILDIING	
MOUNTING		SURFACE, NEMA 1									
V.A.					CIRCUIT NUMBER					V.A.	
A	B	LOAD	PHASE	BREAKER			BREAKER	PHASE	LOAD	A	B
							100	2	MAIN BREAKER		
							-	-	-		
20		FLOW METER / RECORDER	1	20	1	2	20	2	BASE BOARD HEAT	1500	
	900	RECEPTACLES & LIGHT	1	20	3	4	-	-	-		1500
0		~~LIFT STATION~~	2	30	5	6	20	1	PIT RECEPTACLE	180	
	0	-	-	-	7	8					0
750		GENERATOR-JACKET HEATER	2	20	9	10				0	
	750	-	-	-	11	12					0
50		GENERATOR-BATTERY CHARGER	1	20	13	14				0	
	0				15	16					0
820	1650	TOTALS PER PHASE PER SIDE								1680	1500
2500	3150	TOTALS PER PHASE									
	5650	PANEL TOTAL									

NOTES:

1. THE EXISTING LIGHTING PANEL SHALL BE REUSED AS IT IS.
2. THE EXISTING 2P-100A MAIN BREAKER SHALL BE REPLACED WITH A NEW 2P-80A BREAKER TO COMPLY WITH THE LIGHTING TRANSFORMER.
3. THE EXISTING LIGHTING PANEL IS A SIEMENS I-T-E LOAD CENTER CATALOG # G1624MB1100.
4. SEE SHEET P1.0 FOR THE WETWELL AND FLOW METER VAULT LOCATIONS AND THE SIZE OF THE FLOW METER.
5. THE NEW SERVICE SHALL BE CONNECTED AND OPERATIONAL PRIOR TO THE OLD SERVICE BEING DISCONNECTED. THE EXISTING SERVICE CONDUIT SHALL REMAIN IN PLACE AND THE FEEDERS SHALL BE REMOVED BACK TO THE PULL BOX ON THE OUTSIDE OF THE BUILDING.
6. THIS DEVICE IS PROVIDED BY THE PUMP SYSTEM SUPPLIER.
7. THE BREAKERS FOR THE GENERATOR JACKET HEATER AND BATTERY CHARGER ARE NEW AND SHALL BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT.

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RIVER GLEN
LIFT STATION AND FORCE MAIN DESIGN

ELECTRICAL
ONE-LINE DIAGRAMS

SHEET NO.

E1.1