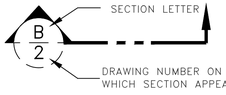
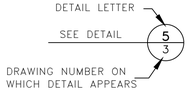
INDEX OF DRAWINGS

SECTION AND DETAIL IDENTIFICATION

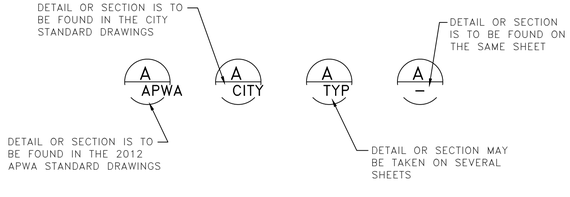
SECTION IDENTIFICATION



DETAIL IDENTIFICATION



NOTE: IF PLAN AND SECTION (OR DETAIL REFERENCE AND DETAIL) ARE SHOWN ON THE SAME DRAWING, THE DRAWING NUMBER IS REPLACED WITH A LINE.



LEGEND

EXISTING	PROPOSED
= MONUMENT	= MONUMENT
= SECTION CORNER	= SECTION CORNER
= BENCHMARK	= BENCHMARK
= RIVET	= RIVET
= ROD & CAP	= ROD & CAP
29.65 = SPOT ELEVATION	29.65 = SPOT ELEVATION
FF=6510.00 = FINISH FLOOR ELEVATION	FF=6510.00 = FINISH FLOOR ELEVATION
FG=6507.75 = FINAL GRADE	FG=6507.75 = FINAL GRADE
FH = FIRE HYDRANT	FH = FIRE HYDRANT
SSMH = SEWER MANHOLE	SSMH = SEWER MANHOLE
SSCO = SEWER CLEANOUT	SSCO = SEWER CLEANOUT
SDMH = STORM DRAIN MANHOLE	SDMH = STORM DRAIN MANHOLE
BP = BOLLARD POLE	BP = BOLLARD POLE
CB = CATCH BASIN	CB = CATCH BASIN
= INLET GRATE	= INLET GRATE
EMH = ELECTRIC MANHOLE	EMH = ELECTRIC MANHOLE
EB = ELECTRIC BOX	EB = ELECTRIC BOX
EM = ELECTRIC METER	EM = ELECTRIC METER
GM = GAS METER	GM = GAS METER
PP = POWER POLE	PP = POWER POLE
LP = LIGHT POLE	LP = LIGHT POLE
TRANS = TRANSFORMER PAD	TRANS = TRANSFORMER PAD
TMH = TELEPHONE MANHOLE	TMH = TELEPHONE MANHOLE
TP = TELEPHONE PEDESTAL	TP = TELEPHONE PEDESTAL
FO = FIBER OPTIC MARKER	GP = GUY WIRE
GP = GUY WIRE	WMH = WATER MANHOLE
WMH = WATER MANHOLE	WV = WATER VALVE
WV = WATER VALVE	WM = WATER METER
WM = WATER METER	MW = MONITOR WELL
MW = MONITOR WELL	SPB = SPRINKLER BOX
SPB = SPRINKLER BOX	RD = ROOF DRAIN
RD = ROOF DRAIN	RV = ROOF VENT
RV = ROOF VENT	= VINYL FENCE
= VINYL FENCE	= CHAIN LINK FENCE
= CHAIN LINK FENCE	= MISCELLANEOUS FENCE
= MISCELLANEOUS FENCE	4230 = CONTOUR MAJOR
4230 = CONTOUR MAJOR	4231 = CONTOUR MINOR
4231 = CONTOUR MINOR	SS = SEWER LINE
SS = SEWER LINE	SD = STORM DRAIN LINE
SD = STORM DRAIN LINE	G = GAS LINE
G = GAS LINE	OP = OVERHEAD POWER LINE
OP = OVERHEAD POWER LINE	EL = BURIED ELECTRIC CABLE
EL = BURIED ELECTRIC CABLE	COM = COMMUNICATION LINE
COM = COMMUNICATION LINE	T = TELEPHONE LINE
T = TELEPHONE LINE	W = CULINARY WATER LINE
W = CULINARY WATER LINE	NPW = IRRIGATION WATER LINE
NPW = IRRIGATION WATER LINE	FL = FIRE LINE
FL = FIRE LINE	SILT = SILT FENCE

ABBREVIATIONS

@	AT
ABUT	ABUTMENT
ASPH	ASPHALT
ADT	AVERAGE DAILY TRAFFIC
APPROX	APPROXIMATELY
AZ	AZIMUTH
BAL	BALANCE
BEG	BEGINNING / BEGIN
BDRY	BOUNDARY
BK	BACK
BKFL	BACKFILL
BLD FLG	BLIND FLANGE
BLDG	BUILDING
BLM	BUREAU OF LAND MANAGEMENT
BM	BENCH MARK
BLK	BLOCK
BOT/BTM	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
CALC	CALCULATED
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
C–C	CENTER TO CENTER
C&G	CURB AND GUTTER
CEM	CEMETERY
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CMP–A	CORRUGATED METAL PIPE–ARCH
COB	CLEAN OUT BOX
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCT
COR	CORNER
CTR	CENTER
CU FT	CUBIC FEET
CU YD	CUBIC YARD
CUL	CULINARY
CULV	CULVERT
CW	CLOCKWISE
D	DEGREE
DET	DETAIL
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DN	DOWN
DWG	DRAWINGS
DWV	DRAIN WASTE VENT
E	EAST
EA	EACH
ELEV/ELV	ELEVATION
ELEC	ELECTRIC
EMB	EMBANKMENT
ENGR	ENGINEER
ENT	ENTRANCE
EO	EDGE OF OIL
EQUIP	EQUIPMENT
EST	ESTIMATE
EW	EACH WAY
EXC	EXCAVATION
EXIST	EXISTING
ES	EXIT SIGN
FEN COR	FENCE CORNER
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH
℄	FLOW LINE
FLR	FLOOR
FL	FLANGE
FT	FEET
FTG	FOOTING
FW	FLAT WASHER
FE	FIRE EXTINGUISHER
FP	FLOOR PENETRATION
G	GAS
GA	GAGE OR GAUGE
GALV	GALVANIZED
GEN	GENERAL
GM	GAS METER
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
HDWL	HEADWALL
H&T	HUB & TACK
HOR/HORZ/HORIZ	HORIZONTAL
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INFO	INFORMATION
IRR	IRRIGATION
INV	INVERT
JCT	JUNCTION
L	LENGTH
LB	POUND
LG	LONG
LIC	LICENSE
LIN	LINEAR / LINEAL
LPG	PROPANE GAS LINE
LS	LAND SURVEYOR
LT	LEFT
LWL	LOW WATER LEVEL
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MKR	MARKER
MH	MANHOLE
MI	MILE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MPH	MILES PER HOUR
NO OR #	NORTH
NPW	NUMBER
NTS	NON–POTABLE WATER NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
O–O	OUTSIDE TO OUTSIDE
OFF REV	OFFICE REVISION
ORIG	ORIGINAL
PVMT	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POC	POINT ON CURVE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PROJ	PROJECT
PROP	PROPERTY
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
POB	POINT OF BEGINNING
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
R	RANGE / RADIUS
RCP	REINFORCED CONCRETE PIPE
RCCP	
RD	ROAD
REF	REFERENCE
REINF	REINFORCED
REQ'D	REQUIRED
REV	REVISION
RP	REFERENCE POINT
RR	RAILROAD
RT	RIGHT / ROUTE
R/W	RIGHT OF WAY
S	SOUTH / SLOPE
SAN	SANITARY
SCH	SCHEDULE
SD	STORM SEWER
SEC COR	SECTION CORNER
SHT	SHEET
SPECS	SPECIFICATIONS
SQ	SQUARE
SQ FT	SQUARE FEET
SQ YD	SQUARE YARD
SS	STAINLESS STEEL
ST	STREET
STL	STEEL
STN STL	STAINLESS STEEL
STA	STATION
STD	STANDARD
STRUCT	STRUCTURE
T	TOWNSHIP / TELEPHONE
TA	TOP OF ASPHALT
TAN	TANGENT
TBC	TOP BACK CURB
TEMP	TEMPORARY
TELE	TELEPHONE / TELEGRAM
TF	TOP OF FOOTING
TP	TELEPHONE POLE
TW/TOW	TOP OF WALL
TOC	TOP OF CONCRETE
TYP	TYPICAL
UG	UNDERGROUND
VBI	VINYL BACK INSULATION
VC	VERTICAL CURVE
VERT	VERTICAL
VIC	VICTAULIC
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
VPC	VERTICAL POINT OF CURVE
VPT	VERTICAL POINT OF TANGENCY
W	WEST / WATER
WM	WATER METER
W/	WITH
W/O	WITHOUT
XING	CROSSING
X–SEC	CROSS SECTION

PROFESSIONAL ENGINEER
02/24/2021
No. 7738648
JOSEPH W. STUART
STATE OF UTAH

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED,
WEBER COUNTY
POWDER MOUNTAIN

Rev. #	Rev. Date	Rev. Desc.

PROJECT NO:	120138
DESIGN BY:	JWS
DRAWN BY:	AWF
CHECKED BY:	JWS
DATE:	2/24/2021

PERMIT SET

COVER SHEET

C-0.1

CIVIL ENGINEER'S SITE & UTILITY NOTES

1. COMPLIANCE:
ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THE MOST RECENT EDITIONS OF THE FOLLOWING: THE INTERNATIONAL PLUMBING CODE, UTAH DRINKING WATER REGULATIONS, APWA STANDARDS & SPECIFICATIONS,CITY PUBLIC WORKS STANDARD PLANS AND CONSTRUCTION SPECIFICATIONS. THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL OF THE ABOVE-MENTIONED DOCUMENTS UNLESS OTHERWISE NOTED AND APPROVED IN WRITING BY THE GOVERNING AUTHORITY.

2. CONTACT:
THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL APPROPRIATE GOVERNMENT AND PRIVATE ENTITIES ASSOCIATED WITH THE PROJECT.

3. PERMITS, FEES AND AGREEMENTS
CONTRACTOR MUST OBTAIN ALL THE NECESSARY PERMITS AND AGREEMENTS, AND PAY ALL APPLICABLE FEES PRIOR TO ANY CONSTRUCTION ACTIVITIES. CONTACT CITY PUBLIC WORKS, STATE, AND COUNTY REGARDING PERMITS AND INSPECTIONS REQUIRED FOR WORK CONDUCTED WITHIN THE PUBLIC RIGHT-OF-WAY. APPLICABLE UTILITY PERMITS MAY INCLUDE MAINLINE EXTENSION AGREEMENTS AND SERVICE CONNECTION PERMITS. ALL UTILITY WORK MUST BE BONDED. ALL CONTRACTORS MUST BE LICENSED TO WORK ON CITY UTILITY MAINS.

4. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NOTES
CONSTRUCTION SITES MUST BE IN COMPLIANCE WITH THE UDEQ POLLUTION DISCHARGE ELIMINATION SYSTEM (NMPDES) STORM WATER PERMIT FOR CONSTRUCTION ACTIVITIES. A COPY OF THE PERMIT'S STORM WATER POLLUTION PREVENTION PLAN MUST BE KEPT ONSITE AT ALL TIMES. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AS SHOWN ON THE SWPPP. THE SWPPP IS CONSIDERED A DYNAMIC DOCUMENT AND MUST CHANGE AS CONDITIONS WARRANT. ADDITIONAL WATER QUALITY AND EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON SITE CONDITIONS.

5. SAFETY
THE CONTRACTOR IS RESPONSIBLE FOR ALL ASPECTS OF SAFETY OF THE PROJECT, AND SHALL MEET ALL OSHA, STATE, COUNTY AND OTHER GOVERNING ENTITY REQUIREMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMING TO LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES, AND FOR THE PROTECTION OF WORKERS.

6. TEMPORARY TRAFFIC CONTROL
TEMPORARY TRAFFIC CONTROL MUST CONFORM TO THE MOST CURRENT EDITION OF MUTCD PART 6 "TEMPORARY TRAFFIC CONTROL" AND CITY CONSTRUCTION SPECIFICATIONS. ALL TRAFFIC LANE CLOSURES AND PEDESTRIAN ROUTE CLOSURES MUST BE APPROVED BY CITY, COUNTY, OR STATE AGENCIES A MINIMUM OF 24 HOURS PRIOR TO BEGINNING WORK. THE CONTRACTOR MUST ALSO CONFORM TO CITY, NMDOT, COUNTY, OR OTHER APPLICABLE GOVERNING ENTITIES REQUIREMENTS FOR TRAFFIC CONTROL. MAINTAIN EMERGENCY ACCESS TO THE SITE AND ACCESS TO SURROUNDING FIRE HYDRANTS AT ALL TIMES.

7. SURVEY CONTROL
CONTRACTOR MUST PROVIDE A REGISTERED LAND SURVEYOR OR PERSONS UNDER SUPERVISION OF A REGISTERED LAND SURVEYOR TO SET STAKES FOR ALIGNMENT AND GRADE OF EACH UTILITY AND SITE IMPROVEMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS, REFERENCE MARKS, AND PROPERTY MARKERS WITHIN THE PROJECT SITE. CONTACT THE COUNTY SURVEYOR FOR MONUMENT LOCATIONS. ALL ELEVATIONS SHALL BE REFERENCED TO THE BENCHMARK ELEVATION AS PROVIDED ON THE APPROVED PLANS.

8. QUALITY CONTROL
WHERE TWO OR MORE STANDARDS ARE SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE CITY PUBLIC WORKS SPECIFICATION FIRST AND THE MOST STRINGENT REQUIREMENT SECOND. REFER UNCERTAINTIES AND REQUIREMENTS TO THE PROJECT ENGINEER FOR CLARIFICATION.

9. DUST CONTROL
THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL ACCORDING TO THE GOVERNING ENTITY STANDARDS. USE OF HYDRANT WATER OR PUMPING FROM CITY-OWNED CANALS OR STORM DRAINAGE FACILITIES IS NOT ALLOWED FOR DUST CONTROL ACTIVITIES WITHOUT WRITTEN APPROVAL BY THE PUBLIC WORKS DIRECTOR.

10. DEWATERING
ALL ON-SITE DEWATERING ACTIVITIES MUST BE APPROVED IN WRITING BY PUBLIC UTILITIES. PROPOSED OUTFALL LOCATIONS AND ESTIMATED FLOW VOLUME CALCULATIONS MUST BE SUBMITTED TO PUBLIC UTILITIES FOR REVIEW AND APPROVAL. ADEQUATE MEASURES MUST BE TAKEN TO REMOVE ALL SEDIMENT PRIOR TO DISCHARGE. PUBLIC UTILITIES MAY REQUIRE ADDITIONAL MEASURES FOR SEDIMENT CONTROL AND REMOVAL.

THE CONTRACTOR MUST KEEP ALL EXCAVATIONS FREE FROM GROUNDWATER BY DEWATERING. THE CONTRACTOR MUST DISPOSE OF WATER SO AS NOT TO CAUSE A MENACE TO PUBLIC HEALTH, OR BECOME A NUISANCE. THE GROUNDWATER SHALL BE DRAWN DOWN TO 12" BELOW THE MINIMUM EXCAVATION. DEWATERING SHALL CONTINUE UNTIL FILL HAS BEEN PLACED AND COMPACTED A MINIMUM OF 24" ABOVE THE STATIC GROUNDWATER LEVEL. THE CONTRACTOR SHALL CONFORM TO BEST MANAGEMENT PRACTICES FOR REMOVING GROUNDWATER AS PER THE UPDES PERMIT.

11. PROJECT LIMITS
THE CONTRACTOR IS REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE APPROVED PROJECT LIMITS. THIS INCLUDES, BUT IS NOT LIMITED TO, VEHICLE AND EQUIPMENT STAGING, MATERIAL STORAGE AND LIMITS OF TRENCH EXCAVATION. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN PERMISSION AND/OR EASEMENTS FROM THE APPROPRIATE GOVERNING ENTITY AND/OR INDIVIDUAL PROPERTY OWNER(S) FOR WORK OR STAGING OUTSIDE OF THE PROJECT LIMITS.

12. DAMAGE TO EXISTING UTILITIES
THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE, CAUSED BY ANY CONDITION INCLUDING SETTLEMENT, TO EXISTING UTILITIES FROM WORK PERFORMED AT OR NEAR EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT ALL EXISTING PUBLIC AND PRIVATE ROADWAYS AND UTILITY FACILITIES. DAMAGE TO EXISTING FACILITIES CAUSED BY THE CONTRACTOR, MUST BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE, TO THE SATISFACTION OF THE OWNER OF SAID FACILITIES.

13. UTILITY LOCATIONS
CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND AVOIDING ALL UTILITIES AND SERVICE LATERALS, AND FOR REPAIRING ALL DAMAGE THAT OCCURS TO THE UTILITIES DUE TO THE CONTRACTOR'S ACTIVITIES. CONTRACTOR IS TO VERIFY LOCATION, DEPTH, SIZE, MATERIAL AND OUTSIDE DIAMETERS OF UTILITIES IN THE FIELD BY POTHOLING IN ORDER TO IDENTIFY POTENTIAL CONFLICTS, AND PROBLEMS WITH FUTURE CONSTRUCTION ACTIVITIES. EXISTING UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM PUBLIC UTILITIES' MAPS AND MUST BE ASSUMED AS APPROXIMATE; REQUIRING FIELD VERIFICATION. CONTACT BLUE STAKES OR APPROPRIATE OWNER FOR COMMUNICATION, GAS, TELEPHONE, FIBER OPTIC, CABLE, AND/OR PRIVATE UTILITY LOCATIONS.

14. UTILITY RELOCATIONS
FOR UTILITY CONFLICTS REQUIRING MAINLINE RELOCATIONS, THE CONTRACTOR MUST NOTIFY THE APPLICABLE UTILITY COMPANY, OR USER, A MINIMUM OF 2-WEEKS IN ADVANCE. A ONE-WEEK MINIMUM NOTIFICATION IS REQUIRED FOR CONFLICTS REQUIRING THE RELOCATION OF SERVICE LATERALS. ALL RELOCATIONS ARE SUBJECT TO APPROVAL FROM THE APPLICABLE UTILITY COMPANY AND/OR USER.

15. FIELD CHANGES
NO ROADWAY, UTILITY ALIGNMENT OR GRADE CHANGES ARE ALLOWED FROM THE APPROVED CONSTRUCTION PLANS/DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE PUBLIC WORKS DIRECTOR. CHANGES TO HYDRANT LOCATIONS AND/OR FIRE LINES MUST BE REVIEWED AND APPROVED BY THE FIRE DEPARTMENT (AS APPLICABLE TO THE PROJECT) AND PUBLIC WORKS.

16. PUBLIC NOTICE TO PROJECTS IN THE PUBLIC WAY
FOR APPROVED PROJECTS THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND DISTRIBUTE WRITTEN NOTICE TO ALL RESIDENTS LOCATED WITHIN THE PROJECT AREA AT LEAST 72-HOURS PRIOR TO CONSTRUCTION. WORK TO BE CONDUCTED WITHIN COMMERCIAL OR INDUSTRIAL AREAS MAY REQUIRE A LONGER NOTIFICATION PERIOD, AND ADDITIONAL CONTRACTOR COORDINATION WITH PROPERTY OWNERS. THE WRITTEN NOTICE IS TO BE APPROVED BY THE PUBLIC WORKS DIRECTOR OR CITY ENGINEER.

17. PUBLIC NOTICE FOR WATER MAIN SHUT DOWNS
THE PUBLIC WORKS DEPARTMENT AND CITY ENGINEER MUST APPROVE ALL WATER MAIN SHUTDOWNS. ONCE APPROVED, THE CONTRACTOR MUST NOTIFY ALL AFFECTED USERS BY WRITTEN NOTICE A MINIMUM OF 48-HOURS (RESIDENTIAL) AND 72-HOURS (COMMERCIAL/INDUSTRIAL) PRIOR TO THE WATER MAIN SHUT DOWN. PUBLIC WORKS MAY REQUIRE LONGER NOTICE PERIODS.

18. WATER AND SEWER SEPARATION
IN ACCORDANCE WITH UTAH'S DEPARTMENT OF HEALTH REGULATIONS, A MINIMUM TEN-FOOT HORIZONTAL AND 1.5-FOOT VERTICAL (WITH WATER ON TOP) SEPARATION IS REQUIRED. IF THESE CONDITIONS CANNOT BE MET, STATE AND PUBLIC WORKS APPROVAL IS REQUIRED. ADDITIONAL CONSTRUCTION MEASURES WILL BE REQUIRED FOR THESE CONDITIONS.

19. SEWER MAIN AND LATERAL CONSTRUCTION REQUIREMENTS
PUBLIC WORKS MUST INSPECT ALL SEWER CONNECTIONS. ALL SEWER LATERALS 6-INCHES AND SMALLER MUST WYE INTO THE MAINS PER PUBLIC WORKS REQUIREMENTS. A MINIMUM 4-FOOT BURY DEPTH IS REQUIRED ON ALL SEWER MAINS AND LATERALS.

THE CONTRACTOR MUST PROVIDE AIR PRESSURE TESTING OF SEWER MAINS IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATIONS AND PUBLIC WORKS REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE SEWER LATERAL WATER TESTING AS REQUIRED BY THE PUBLIC WORKS DIRECTOR OR INSPECTOR. ALL PIPES SUBJECT TO WATER TESTING SHALL BE FULLY VISIBLE TO THE INSPECTOR DURING TESTING. TESTING MUST BE PERFORMED IN THE PRESENCE OF A PUBLIC WORKS REPRESENTATIVE. ALL VISIBLE LEAKAGE MUST BE REPAIRED TO THE SATISFACTION OF THE PUBLIC WORKS ENGINEER OR INSPECTOR.

20. WATER AND FIRE MAIN AND SERVICE CONSTRUCTION REQUIREMENTS
PUBLIC WORKS MUST INSPECT AND APPROVE ALL FIRE AND WATER SERVICE CONNECTIONS. A MINIMUM 3-FOOT SEPARATION IS REQUIRED BETWEEN ALL WATER AND FIRE SERVICE TAPS INTO THE MAIN. ALL CONNECTIONS MUST BE MADE MEETING PUBLIC WORKS REQUIREMENTS. A 7-FOOT MINIMUM BURY DEPTH (FINAL GRADE TO TOP OF PIPE) IS REQUIRED ON ALL WATER/FIRE LINES UNLESS OTHERWISE APPROVED BY PUBLIC UTILITIES. WATER LINE THRUST BLOCK AND RESTRAINTS ARE REQUIRED AS PER PUBLIC WORKS STANDARDS DRAWINGS AND CONSTRUCTION SPECIFICATIONS. ALL EXPOSED NUTS AND BOLTS WILL BE COATED WITH CHEVRON FM1 GREASE, PLUS A MINIMUM 8 MIL THICKNESS PLASTIC. PROVIDE STAINLESS STEEL NUTS, BOLTS, AND WASHERS FOR HIGH GROUNDWATER/ SATURATED CONDITIONS AT FLANGE FITTINGS, ETC.

ALL WATERLINE INSTALLATIONS AND TESTING TO BE ACCOMPLISHED IN ACCORDANCE WITH PUBLIC WORKS STANDARDS AND SPECIFICATIONS, INCLUDING UTAH STATE DRINKING WATER STANDARDS, AWWA SPECIFICATIONS, AND ALL OTHER APPLICABLE UPWS, ASTM, AND ANSI SPECIFICATIONS RELEVANT TO THE INSTALLATION AND COMPLETION OF THE PROJECT.

ALL NEW WATER MAINS OR APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651-99. THE SPECIFICATION SHALL INCLUDE DETAILED PROCEDURES FOR THE ADEQUATE FLUSHING, DISINFECTION, AND MICROBIOLOGICAL TESTING OF ALL WATER MAINS. ON ALL NEW AND EXTENSIVE DISTRIBUTION SYSTEM CONSTRUCTION, EVIDENCE OF SATISFACTORY DISINFECTION SHALL BE PROVIDED TO THE UTAH DIVISION OF DRINKING WATER. SAMPLES FOR COLIFORM ANALYSES SHALL BE COLLECTED AFTER DISINFECTION IS COMPLETE AND THE SYSTEM IS REFILLED WITH POTABLE WATER. A STANDARD HETEROTROPHIC PLATE COUNT IS ADVISABLE. THE USE OF WATER FOR CULINARY PURPOSES SHALL NOT COMMENCE UNTIL THE BACTERIOLOGIC TESTS INDICATE THE WATER TO BE FREE FROM CONTAMINATION.

CONTRACTOR IS TO INSTALL WATER SERVICE LINES, METER YOKES, AND/OR ASSEMBLIES AND METER BOXES WITH LIDS LOCATED AS APPROVED ON THE PLANS, AND PER APPLICABLE PUBLIC UTILITIES DETAIL DRAWINGS. METER BOXES ARE TO BE PLACED IN THE PARK STRIPS PERPENDICULAR TO THE WATERMAIN SERVICE TAP CONNECTION. ALL WATER METERS, CATCH BASINS, CLEANOUT BOXES, MANHOLES, DOUBLE CHECK VALVE DETECTOR ASSEMBLIES, REDUCED PRESSURE DETECTOR ASSEMBLIES, AND BACKFLOW PREVENTION DEVICES MUST BE LOCATED OUTSIDE OF ALL APPROACHES, DRIVEWAYS, PEDESTRIAN WALKWAYS, AND OTHER TRAVELED WAYS UNLESS OTHERWISE APPROVED ON PLANS.

BACKFLOW PREVENTERS ARE REQUIRED ON ALL IRRIGATION AND FIRE SPRINKLING TAPS PER PUBLIC UTILITIES AND FIRE DEPARTMENT REQUIREMENTS.

21. GENERAL WATER, SEWER AND STORM DRAIN REQUIREMENTS
NO CHANGE IN DESIGN OF UTILITY LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF CITY PUBLIC WORKS OR OTHER AUTHORITY HAVING JURISDICTION OVER THAT UTILITY.

NO SUBSTITUTES IN PIPE DIAMETER DIFFERENT FROM THOSE SHOWN ON THIS PLAN WILL BE PERMITTED UNLESS SUBMITTED TO AND APPROVED BY THE CITY PUBLIC WORKS, OR OTHER AUTHORITY HAVING JURISDICTION OVER THAT UTILITY.

ALL MANHOLES, HYDRANTS, VALVES, CLEAN-OUT BOXES, CATCH BASINS, METERS, ETC. MUST BE RAISED OR LOWERED TO FINAL GRADE PER PUBLIC WORKS STANDARDS, AND INSPECTOR REQUIREMENTS. CONCRETE COLLARS MUST BE CONSTRUCTED ON ALL MANHOLES, CLEANOUT BOXES, CATCH BASINS AND VALVES PER PUBLIC WORKS STANDARDS. ALL MANHOLE, CATCH BASIN, OR CLEANOUT BOX CONNECTIONS MUST BE MADE WITH THE PIPE CUT FLUSH WITH THE INSIDE OF THE BOX, AND GROUTED OR SEALED. ALL MANHOLE, CLEANOUT BOX OR CATCH BASIN DISCONNECTIONS MUST BE REPAIRED AND GROUTED WATERTIGHT.

CONTRACTOR SHALL NOT ALLOW ANY SURFACE WATER, GROUNDWATER OR DEBRIS TO ENTER THE NEW, OR EXISTING PIPE DURING CONSTRUCTION.

22. TRENCH BACKFILL
PIPE BEDDING AND TRENCH BACKFILL SHALL CONFORM TO PUBLIC WORKS STANDARDS. PLACE BACKFILL IN 8-INCH MAXIMUM LIFTS AND COMPACT TO 95% MAXIMUM DRY DENSITY AS PER ASTM D1557. THE PIPE SHALL BE LAID ON 6-INCH MINIMUM SAND BED. THE BACKFILL MATERIAL FOR THE PIPE ZONE SHALL BE A-1 SOILS, FREE FROM STONES, CLODS AND OTHER DELETERIOUS MATERIALS.

THE BOTTOM OF ALL UTILITY TRENCHES SHALL BE COMPACTED THOROUGHLY PRIOR TO PLACING PIPE. IF ROCK IS ENCOUNTERED AT DESIGN GRADE, OR A SOFT OR SOGGY BOTTOM IS ENCOUNTERED, THE TRENCH BOTTOM SHALL BE OVEREXCAVATED AND SUITABLE MATERIAL PLACED AND COMPACTED TO BOTTOM OF TRENCH GRADE.

COMPACTION REPORTS ON ALL TRENCHES SHALL BE SUBMITTED TO THE PROJECT ENGINEER, CITY ENGINEER, AND/OR OWNER'S REPRESENTATIVE BY THE MATERIALS TESTER, WHICH CERTIFIES THAT TRENCH BACKFILL WAS COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT, IN ACCORDANCE WITH EARTHWORK SPECIFICATIONS AND PUBLIC WORKS SPECIFICATIONS.

23. SITE CONSTRUCTION
ALL EXISTING ASPHALT TO BE CUT SHALL BE SAW CUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.

GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS ON SITE. CONTRACTORS SHALL HAVE VISITED AND BECOME FAMILIAR WITH THE PROJECT SITE.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE SITE CLEANUP INCLUDING DEBRIS, SCRAP, AND WASTE FROM SUBCONTRACTORS, AND INSTALLERS.

BEFORE BEGINNING ANY CUTTING OR DEMOLITION, THE CONTRACTOR SHALL HAVE REVIEWED THE SITE AND CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE CONTINUING.

CONTRACTOR SHALL PROVIDE PAVEMENT MARKINGS JUST PRIOR TO PROJECT COMPLETION. PAINT STRIPING SHALL CONSIST OF PAINTED LINES AND SYMBOLS IN ACCORDANCE WITH MUTCD STANDARDS & SPECIFICATIONS.

24. CONCRETE (CIVIL WORK ONLY)

ALL WORK SHALL CONFORM TO ACI AND ADA STANDARDS & SPECIFICATIONS.
FINE BROOM FINISH REQUIRED ON EXTERIOR FLATWORK.

CONCRETE COVER

CASE	COVER (IN)
COLUMNS GIRDERS AND BEAMS	1 1/2
CONCRETE PLACED AGAINST EARTH	3
CONCRETE PLACED IN FORMS, EXPOSED TO WEATHER OR EARTH	2
SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER	1

REINFORCING MATERIAL TABLE

REINFORCING ELEMENT	ASTM	Fy (KSI)	Fu (KSI)	COMMENTS
TYPICAL REINFORCING	A706	60	80	**
WELDED & FIELD BENT	A706	60	80	-
WELDED WIRE, SMOOTH	A185	65	75	-
WELDED WIRE, DEFORMED	A497	70	80	-

** OR SEISMICALLY QUALIFIED ASTM A615 REBAR PER ACI 318-05 SECTION

CONCRETE MIX TABLE

CONCRETE MIX TYPE	INTENDED USE	28 DAY STRENGTH, f`c (KSI)	CONCRETE WEIGHT	MAX W/C RATIO, INCLUDING FLY ASH	MIN CEMENT MATERIAL (#/CY), INCLUDING FLY ASH	MAX AGGREGATE SIZE (IN)	SLUMP LIMITS (IN)	TOTAL AIR CONTENT (%) +/- 1 1/2%	CEMENT TYPE	REQUIRED ADMIXTURES	OTHER REQUIREMENTS
1	FOOTINGS	4	NWC	0.45	470	1	4	-	II/V	-	FLY ASH REQD
2	GRADE BEAMS, PILASTERS	4	NWC	0.45	517	1	4	6	II/V	AIR ENTRAINING	FLY ASH REQD
3	ALL CONCRETE EXPOSED TO WEATHER, OR DEICERS (SLABS AND WALLS)	5	NWC	0.4	564	1	4	6	II/V	AIR ENTRAINING, WATER REDUCING	FLY ASH REQD
4	INTERIOR SLABS ON GRADE	4	NWC	0.45	517	1	4	NOT PERMITTED	II/V	-	FLY ASH REQD
5	ALL CONCRETE OTHERWISE NOT SPECIFIED	4	NWC	0.45	517	1	4	6	II/V	AIR ENTRAINING	FLY ASH REQD

25. GRADING/EARTHWORK
THE GRADING CONTRACTOR SHALL OBTAIN A COPY OF THE SITE GEOTECHNICAL REPORT, AND FOLLOW ALL RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER.

NO GRADE CHANGES WILL BE PERMITTED FROM THAT SHOWN AND APPROVED ON THIS PLAN WITHOUT RESUBMITTING THE PROPOSED CHANGES TO THE OWNER AND/OR HIS REPRESENTATIVE.

COMPACTION OF MATERIALS PLACED AT THE SITE SHOULD EQUAL OR EXCEED THE FOLLOWING DENSITIES WHEN COMPARED TO THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557:

FOOTINGS = (SEE STRUCTURAL DRAWINGS)
PAVEMENT = 95%
LANDSCAPING = 90%

26. PAVEMENT
PAVEMENT STRUCTURAL SECTION FOR THE AUTOMOBILE PARKING, MANEUVERING AREAS AND LIGHT TO MEDIUM TRUCK AREAS SHALL CONSIST OF 4 INCHES OF ASPHALT SURFACE COURSE OVER 6 INCHES OF BASE COURSE OVER A PREPARED SUBGRADE, OR SELECT FILL. THE GRANULAR BASE SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. ALL CONCRETE SLABS SHALL CONSIST OF A 6" PORTLAND CEMENT CONCRETE SLAB OVER A PREPARED SUBGRADE OR SELECT FILL.

PAVEMENT MATERIALS SHOULD MEET THE UTAH DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR GRADATION & QUALITY. (1/2" AGGREGATE REQUIRED IN PARKING AREAS)

27. AS-BUILT DRAWINGS
THE CONTRACTOR MUST MAINTAIN A SET OF COMPLETE PLANS ON THE SITE AT ALL TIMES. THE CONTRACTOR MUST MARK IN RED INK DEVIATIONS FROM THE APPROVED SET OF DRAWINGS, INCLUDING:

ALIGNMENT OR GRADE CHANGES
DRAINAGE CHANGES SUCH AS LOCATION, FLOWLINE, STRUCTURE, SIZE, ETC.
SURFACE CHANGES SUCH AS DITCHES, PAVING, CURBS, SIDEWALKS, ETC.
UTILITY CHANGES, RELOCATIONS, OR CONFLICTS
ITEMS OR UTILITIES NOT SHOWN ON THE APPROVED SET OF PLANS
LIST ALTERNATE CONSTRUCTION METHODS
STRUCTURAL CONFLICTS OR RELOCATION OF EXISTING WALLS, UTILITY POLES, ETC.

THE CONTRACTOR MUST PROVIDE THE PROJECT ENGINEER OR OWNER'S REPRESENTATIVE WITH A COMPLETE SET OF AS-BUILT PLANS FOR CITY RECORDS.

PROFESSIONAL ENGINEER
02/24/2021
No. 7738648
JOSEPH W. STUART
STATE OF UTAH

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED,
WEBER COUNTY
POWDER MOUNTAIN

Rev. #	Rev. Date	Rev. Desc.

PROJECT NO:	120138
DESIGN BY:	JWS
DRAWN BY:	AWF
CHECKED BY:	JWS
DATE:	2/24/2021

CIVIL NOTES

C-0.2

PERMIT SE

STANDARD SET Owner 000000
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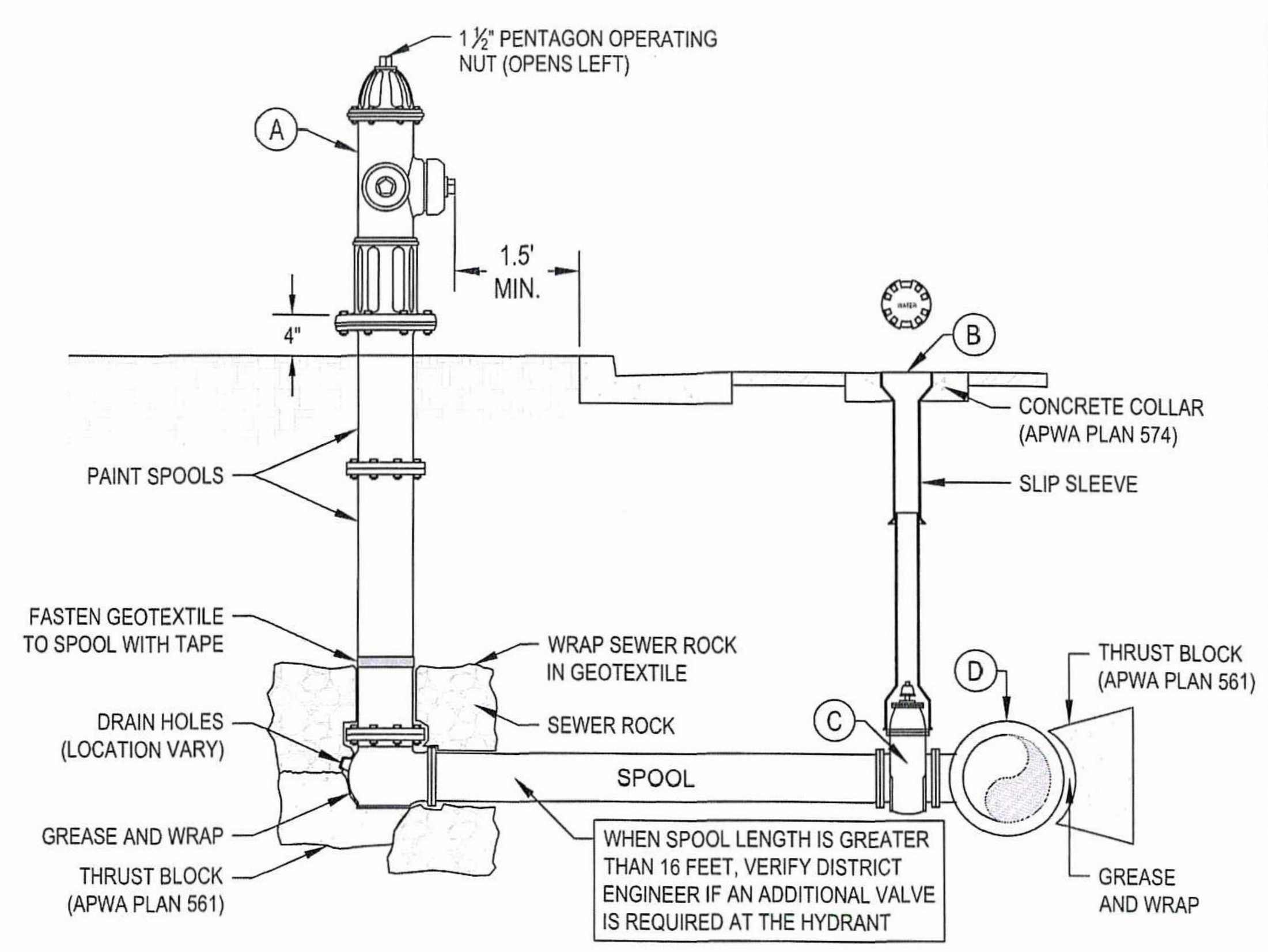


LEGEND

No.	*	ITEM	DESCRIPTION
A		FIRE HYDRANT	MUELLER SUPER CENTURION
B		VALVE BOX WITH LID	2-PIECE CAST IRON
C		GATE VALVE WITH 2"x2" NUT	AWWA C509
D		TEE WITH 125# FLANGE	AWWA C110

* FURNISHED BY UTILITY AGENCY

SECTION

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | FIRE HYDRANT WITH VALVE | PLAN NO. 511S

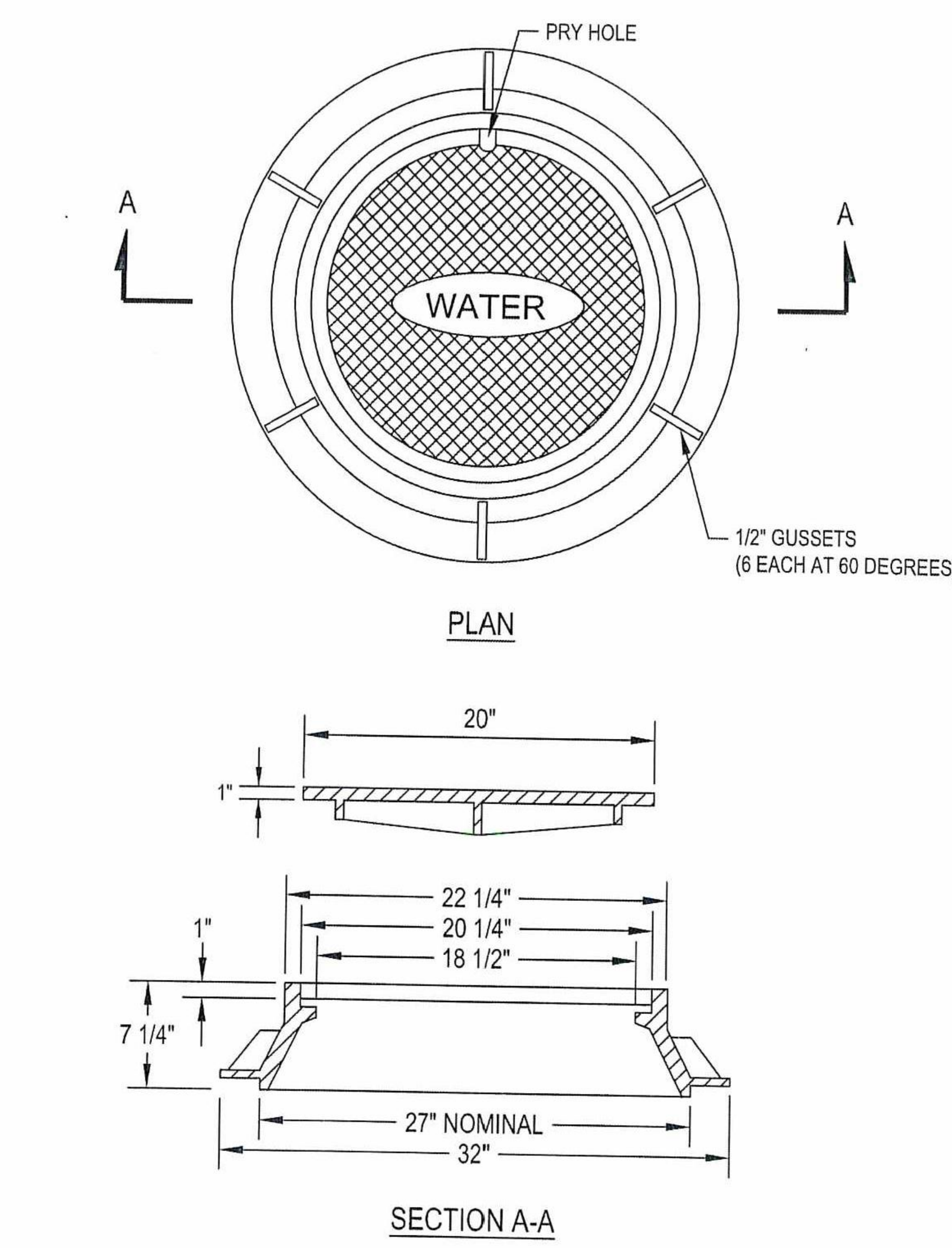
FIRE HYDRANT WITH VALVE

1. **GENERAL**
   A. BEFORE BACKFILLING, SECURE INSPECTION BY ENGINEER.
   B. ADDITIONAL REQUIREMENTS ARE SPECIFIED IN APWA SECTION 33 11 00.

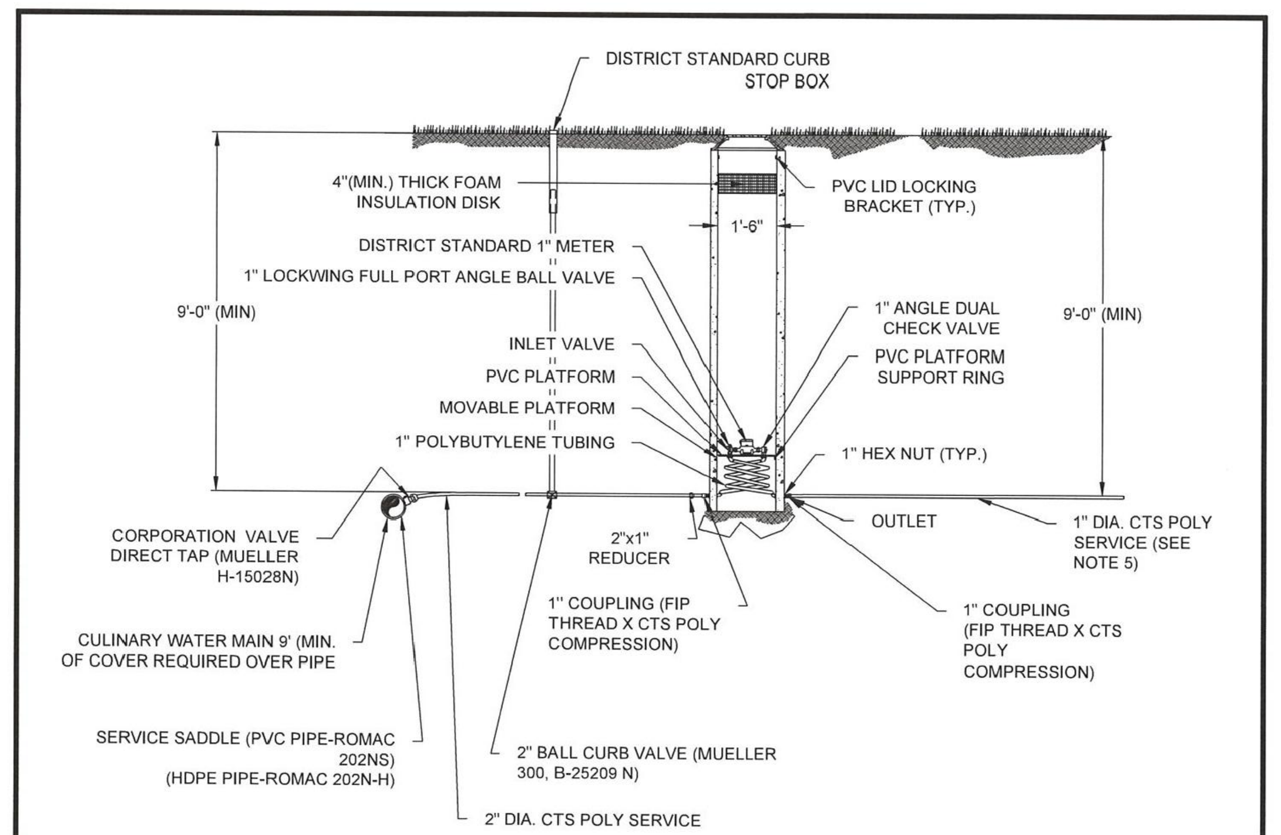
2. **PRODUCTS**
   A. HYDRANT: DRY BARREL, AWWA C502.
   B. THRUST BLOCK: CONCRETE CLASS 4000, APWA SECTION 03 30 04
   C. REINFORCEMENT: DEFORMED, 60KSI YIELD GRADE STEEL, ASTM A 615.
   D. BACKFILL: APWA SECTION 31 05 13. MAXIMUM PARTICLE SIZE 2-INCHES.
      1) SEWER ROCK: ASTM SIZE No. 3 (2" TO 1") OR LARGER.
      2) OTHER TYPE OF COMMON FILL: CONTRACTOR'S CHOICE.
   E. GEOTEXTILE: STABILIZATION-SEPARATION FABRIC, APWA SECTION 31 05 19.

3. **EXECUTION**
   A. INSTALLATION:
      1) PROVIDE AT LEAST 1 CUBIC YARD OF SEWER ROCK AROUND DRAIN HOLE AT BASE OF HYDRANT SPOOL. WRAP GEOTEXTILE AROUND SEWER ROCK AND TAPE GEOTEXTILE TO HYDRANT SPOOL TO PREVENT SILTING OF SEWER ROCK.
      2) PAINT FIRE HYDRANT RED.
      3) APPLY NON-OXIDE GREASE TO ALL BURIED METAL SURFACES. WRAP WITH POLYETHYLENE SHEET AND TAPE WRAP.
      4) NOTIFY FIRE DEPARTMENT AS SOON AS HYDRANT IS PLACE IN SERVICE.
   B. THRUST BLOCKS:
      1) BEFORE POURING CONCRETE, WRAP PIPE SYSTEM WITH POLYETHYLENE SHEET TO PREVENT BONDING OF CONCRETE TO PIPE SYSTEM.
      2) REQUIRED FOR FLANGE OR WELDED PIPE SYSTEMS UNLESS APPROVED BY DISTRICT ENGINEER.
   C. BACKFILL:
      1) MAXIMUM LIFT THICKNESS IS 8-INCES BEFORE COMPACTION. COMPACTION IS 95 PERCENT OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | FIRE HYDRANT WITH VALVE | PLANNO. 511S



POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | 27" FRAME AND WATER COVER | PLAN NO. 502S



NOTES:

1. METER BOXES SHALL BE 18" DIA. BY 96" DEEP MUELLER-THERMAL-COIL PVC BOXES FOR 1" SINGLE METERS (MUELLER 330CS1896FBBSN)
2. POLYETHYLENE PIPE FOR WATER SERVICES SHALL BE PE 3408 TUBING, SDR-9, COPPER TUBING SIZE AND NSF APPROVED FOR POTABLE WATER.
3. METER SHALL BE INSTALLED IN HORIZONTAL ALIGNMENT, WITH METER FACING UP, ONLY.
4. ALL PIPE, FITTING, AND VALVES SHALL COMPLY WITH NSF STANDARD NO.14 FOR USE WITH POTABLE WATER.
5. THE CUSTOMER IS RESPONSIBLE FOR PROPERLY SIZING THE SERVICE TO DELIVER FLOWS REQUIRED FOR FIRE SPRINKLER SYSTEMS. THE SERVICE FROM THE METER TO THE BUILDING CAN BE UPSIZED FROM 1" DIAMETER IF NECESSARY. CONNECTING FIRE SPRINKLER LINES TO THE 2" SERVICE BEFORE THE METER MAY BE APPROVED BY THE DISTRICT ENGINEER ONLY IF THE REQUIRED FIRE SPRINKLER CANNOT BE DELIVERED THROUGH THE METER.
6. THE DEVELOPER IS RESPONSIBLE FOR INSTALLATION OF THE SERVICE FROM THE MAIN TO THE METER BOX, INCLUDING THE SERVICE SADDLE, CORP STOP, CURB STOP BOX, AND METER BOX.
7. BASED UPON OBSERVATIONS DURING WINTER CONDITIONS, THE DISTRICT HAS DETERMINED THAT 9' (MIN) OF COVER OVER WATER MAINS AND SERVICES IS REQUIRED TO PROTECT AGAINST FREEZING.

TYPICAL METER PIT DETAIL | DATE: JUNE 2020 | GILSON ENGINEERING Consulting Engineers & Surveyors | POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

COORDINATION SET - NOT FOR CONSTRUCTION

DRI

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PROFESSIONAL ENGINEER 02/24/2021 No. 7736648 JOSEPH W. STUART STATE OF UTAH

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED, WEBER COUNTY POWDER MOUNTAIN

Rev. #	Rev. Date	Rev. Desc.

PROJECT NO:	120138
DESIGN BY:	JWS
DRAWN BY:	AWF
CHECKED BY:	JWS
DATE:	2/24/2021

CIVIL DETAILS

C-5.1

STANDARD SET Owner ####
2/24/2021 1:29:21 PM2/24/2021

Direct bearing thrust block

1. **GENERAL**
   A. Thrust design for pipe sizes or configurations not shown require special design.
   B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
   C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
   D. Before backfilling around thrust block, secure inspection of installation by ENGINEER.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Thrust Bocks: Concrete Class 4000, APWA Section 03 30 04.
   D. Grease: Non-oxide poly-FM.

3. **EXECUTION**
   A. Pour concrete against undisturbed soil.
   B. Pipe Joints: Do not cover with concrete. Leave completely accessible.
   C. Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
   D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
   E. Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

Direct bearing thrust block

1. GENERAL
   A. Thrust design for pipe sizes or configurations not shown require special design.
   B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
   C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
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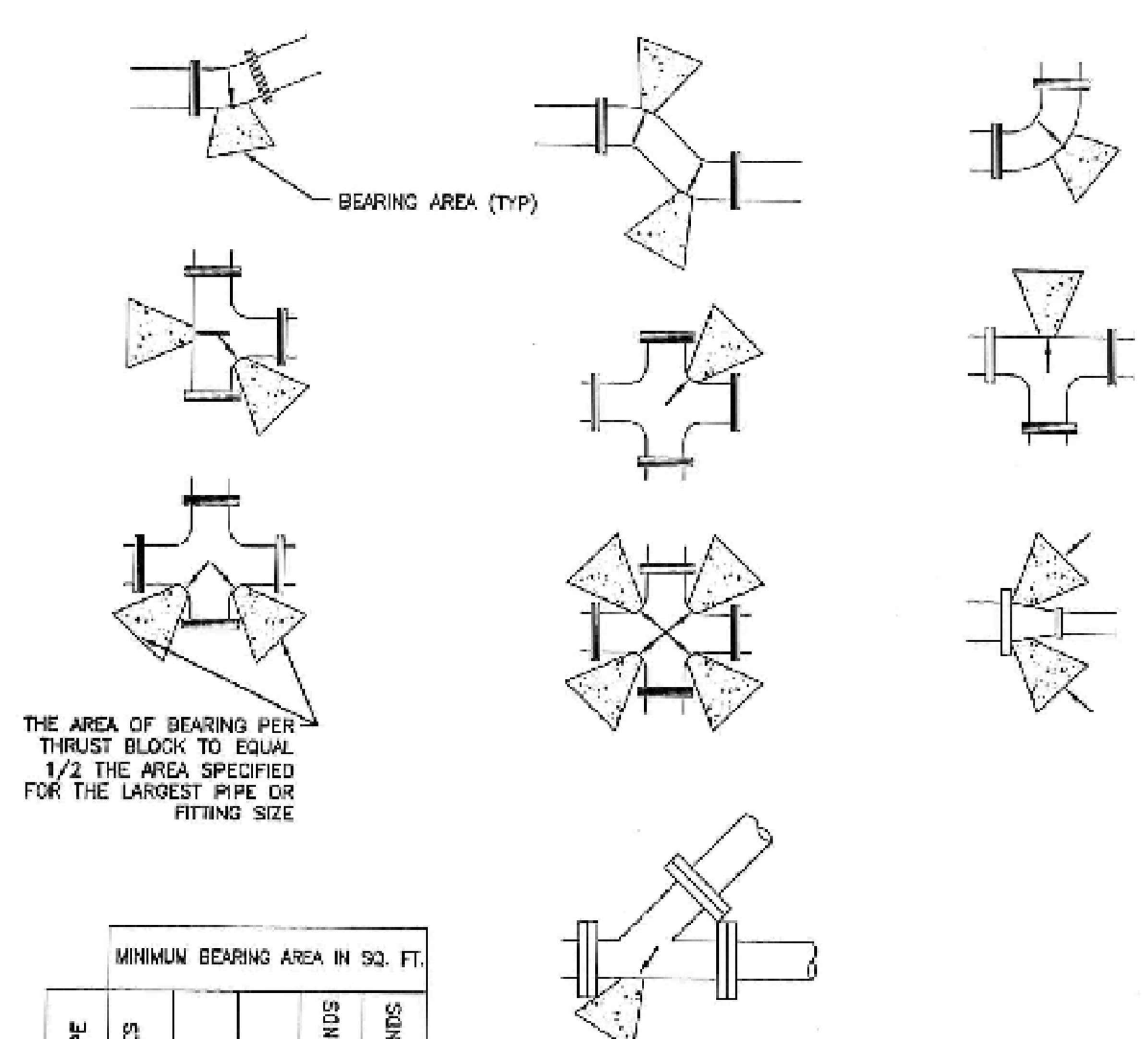
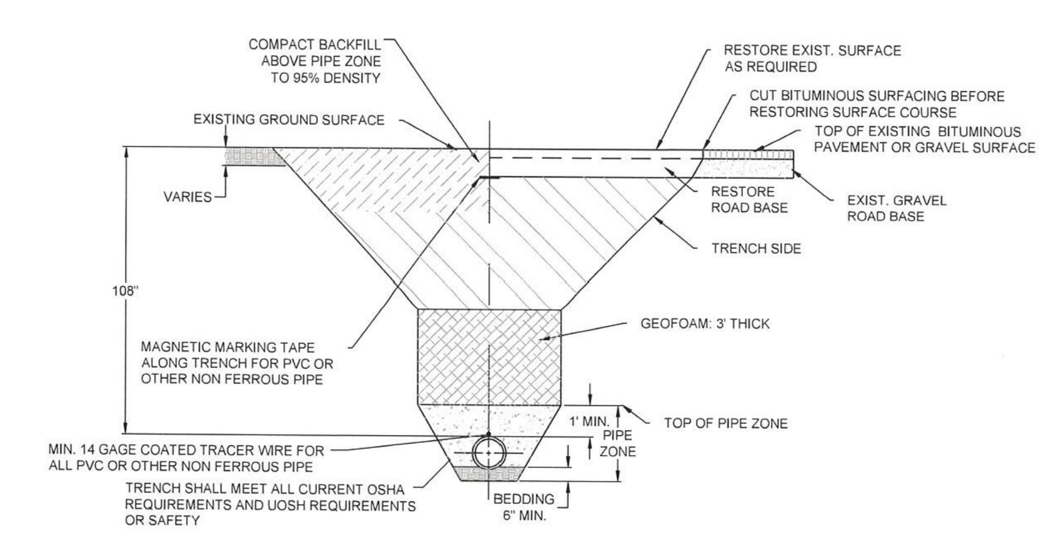
266



SIZE OF PIPE	MINIMUM BEARING AREA IN SQ. FT. TEES, VALVES DEAD ENDS	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	1.5	1
8"	6.5	9.5	5	2.75	1.5
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	16
24"	53	74	41	21	53
30"	81	114	62	32	16

Direct bearing thrust block



CROSS-SECTION: TYPICAL TRENCH

SAFE BEARING LOADS

SOIL TYPE	SAFE BEARING LOAD (lb/ft)
SAND	1000
SAND & GRAVEL	1500
SAND & GRAVEL CEMENTED WITH CLAY	2000
SHALE	5000

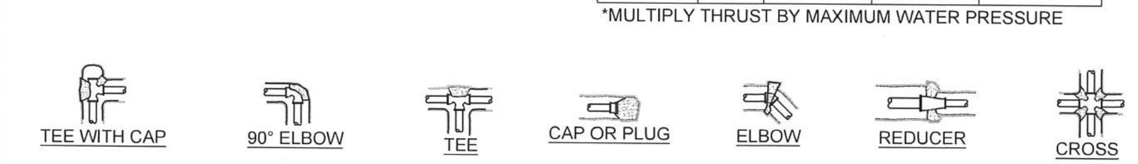
SAFE BEARING LOAD FORMULA

THRUST BLOCK AREA AGAINST TRENCH WALL (SQUARE FEET) = THRUST ON FITTING / SAFE BEARING LOAD OF SOIL

THRUST ON FITTINGS

POUNDS @ 1 POUND PER SQUARE INCH OF WATER PRESSURE*				
PIPE SIZE	TEES	90° BENDS	45° BENDS	22.5° BENDS
4"	18.5	26.1	14.2	7.2
6"	38	53.7	29.1	14.7
8"	65.8	93	50.4	25.5
10"	107.5	152	82.4	41.7
12"	153.1	216.4	117.2	59.4
14"	183.8	260.0	141.0	71.5
16"	237.8	336.3	182.8	92.7
18"	298.6	422.3	229.7	116.5

*MULTIPLY THRUST BY MAXIMUM WATER PRESSURE



CONCRETE THRUST BLOCK DETAILS

NOTES:

1. WATER LINES 12 INCHES AND LARGER SHALL BE DUCTILE IRON CLASS-51.
2. WATER LINES 10 INCHES AND SMALLER SHALL BE PVC AWWA C900 CLASS 200.
3. VALVES 12 INCHES AND LARGER SHALL BE BUTTERFLY VALVES.
4. WHENEVER POSSIBLE "HOT TAP" CONNECTIONS REQUIRED. HOT TAP VALVE TO BE SUPPORTED DURING CONNECTION. CONTRACTOR TO NOTIFY CITY 24 HOURS IN ADVANCE OF MAKING CONNECTION.
5. PIPE ZONE SHALL BE BACKFILLED WITH 3/4" GRAVEL MATERIAL.
6. TRACING WIRE TO BE BROUGHT OUTSIDE OF BOTTOM PORTION OF VALVE BOX AND INSIDE TOP TO SURFACE.
7. FURNISH AND INSTALL POLY-WRAP ON DUCTILE IRON PIPE. POLY-WRAP MAY BE DELETED WHERE DIRECTED BY CITY ENGINEER.
8. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.
9. SEE WT-2 FOR PIPE BEDDING SPECIFICATIONS

WATERLINE TRENCH DETAIL

DATE: JUNE 2020
DRAWING NAME: WT-1
DRAWN BY: BP/JM
CHECKED: APPROVED:

GILSON ENGINEERING
Consulting Engineers & Surveyors
12401 SOUTH 450 EAST BUILDING C, UNIT 2, DRAPER, UT 84020
PHONE: (801) 571-9414 FAX: (801) 571-9449

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT

COORDINATION SET - NOT FOR CONSTRUCTION

DRI

PROFESSIONAL ENGINEER
02/24/2021
No. 7736648
JOSEPH W. STUART
STATE OF UTAH

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED, WEBER COUNTY
POWDER MOUNTAIN

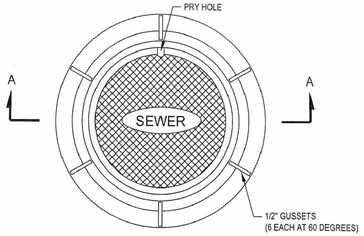
Rev. #	Rev. Date	Rev. Desc.

PROJECT NO:	120138
DESIGN BY:	JWS
DRAWN BY:	AWF
CHECKED BY:	JWS
DATE:	2/24/2021

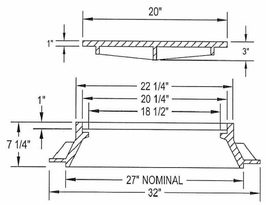
CIVIL DETAILS

C-5.2

STANDARD SET Owner ####
2/24/2021 1:28:21 PM2/24/2021

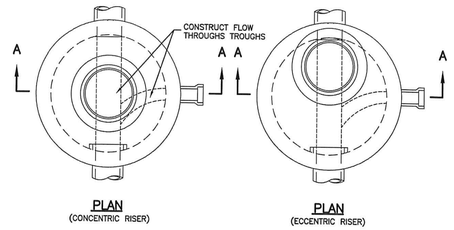


PLAN



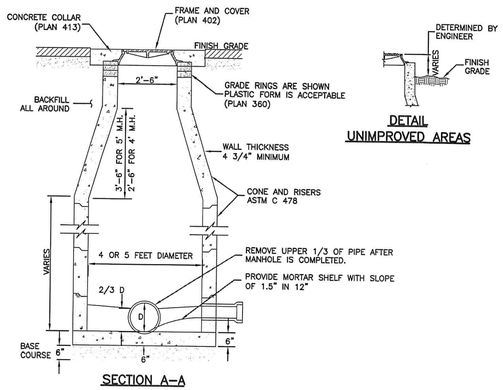
SECTION A-A

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT	27" FRAME AND SEWER COVER	PLAN NO. 402S



PLAN
(CONCENTRIC RISER)

PLAN
(ECCENTRIC RISER)



SECTION A–A

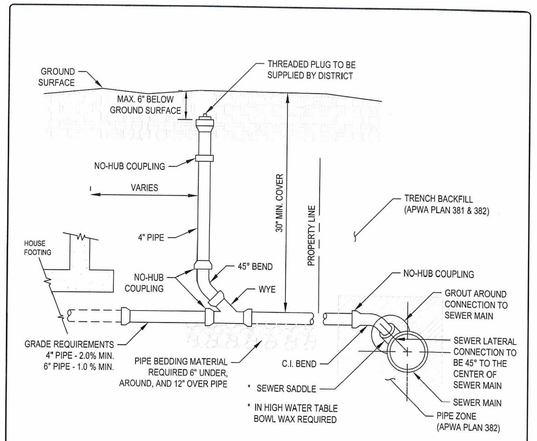
DETAIL
UNIMPROVED AREAS

Sanitary sewer manhole

1. **GENERAL**
   - A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
   - B. Manhole size.
     1) Diameter is 4 feet: For sewers under 12" diameter.
     2) Diameter is 5 feet: For sewers 12" and larger, or when 3 or more pipes intersect the manhole.

2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Concrete: Class 4000, APWA Section 03 30 04.
   - D. Riser and Reducing Riser: ASTM C 478.
   - E. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
   - F. Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
   - G. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

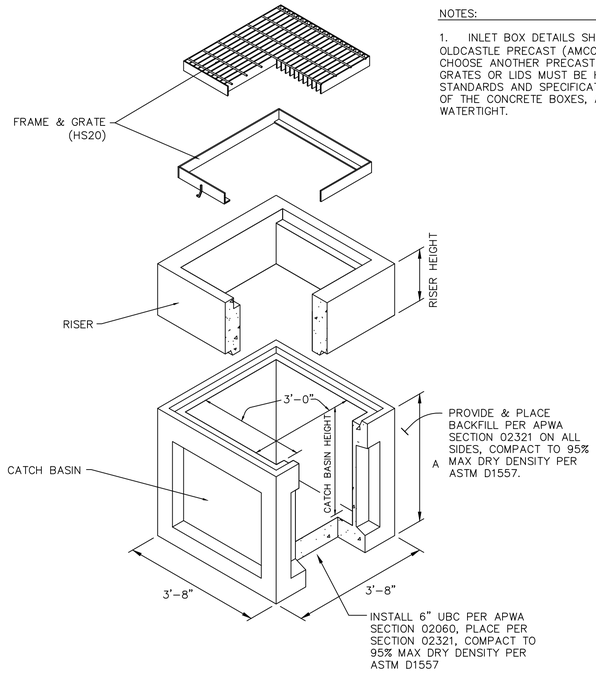
3. **EXECUTION**
   - A. Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
   - B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   - C. Invert Cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
   - D. Pipe Connections: Grout around all pipe openings.
   - E. Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
   - F. Joints: Place flexible gasket-type sealant in all riser joints. Finish with grout.
   - G. Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
   - H Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
   - I. Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.



NOTES:

1. ALL SERVICES SHALL BE 4" DIAMETER MINIMUM AND SHALL BE EXTENDED FROM MAIN LINES TO 10' INSIDE OF PROPERTY LINES.
2. TIE IN TO SEWER MAIN SHALL BE WITNESSED BY DISTRICT.
3. ALL PIPING SHALL BE INSPECTED BY DISTRICT PRIOR TO BACKFILL.
4. PROTECT CLEANOUT FROM DEBRIS UNTIL PLUG IS PROVIDED.
5. LOCATE ADDITIONAL CLEANOUTS AS REQUIRED BY CODE @ 100' INTERVALS.

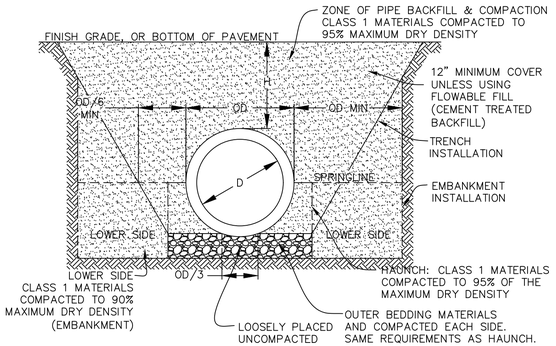
POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT	SEWER LATERAL CONNECTION	PLAN NO. 431S



NOTES:

1. INLET BOX DETAILS SHOWN ON THESE PLANS WERE PROVIDED BY OLDCASTLE PRECAST (AMCOR) AS A COURTESY. CONTRACTOR MAY CHOOSE ANOTHER PRECAST MANUFACTURER. HOWEVER, ALL BOXES, GRATES OR LIDS MUST BE HS20 RATED AND INSTALLED AS PER APWA STANDARDS AND SPECIFICATIONS. THIS INCLUDES BACKFILL AND BEDDING OF THE CONCRETE BOXES, AND GROUTING ALL PIPE CONNECTIONS WATERTIGHT.

1 / C107 AMCOR PRECAST 3'X3' CATCH BASIN – ISOMETRIC VIEW
NO SCALE



NOTES:
1 CONCRETE PIPE INSTALLATION MUST CONFORM TO GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, APWA STD'S & THE AMERICAN CONCRETE PIPE ASSOCIATION DESIGN MANUAL.
2 COMPACT BACKFILL AS SHOWN PROVIDE SUFFICIENT TRENCH WIDTH TO FIT COMPACTION EQUIPMENT.
3 FILL AND COMPACT HAUNCH AREAS UNDER PIPE ACCORDING TO SPECIFICATIONS. REMOVE ANY VOIDS WITHOUT DISTURBING THE PIPE FROM SPECIFIED LINE AND GRADE.
4 SEAL ALL CONNECTIONS TO JUNCTION BOXES, MANHOLES AND INLETS AS PER MANUFACTURER'S RECOMMENDATIONS.
5 PROTECT PIPE DURING CONSTRUCTION. REMOVE AND REPLACE DAMAGED PIPE.
6 REMOVE ALL UNSTABLE OR UNYIELDING SOILS AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

2 / C107 CONCRETE PIPE TRENCH DETAIL (ONSITE PIPE/TYPE 1 INSTALLATION)
NO SCALE

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED,
WEBER COUNTY
POWDER MOUNTAIN

COORDINATION SET - NOT FOR CONSTRUCTION

Rev. #	Rev. Date	Rev. Desc.

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DRAWN BY:	AWF
CHECKED BY:	JWS
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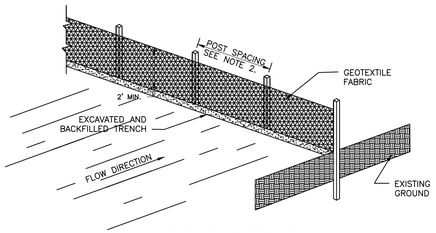
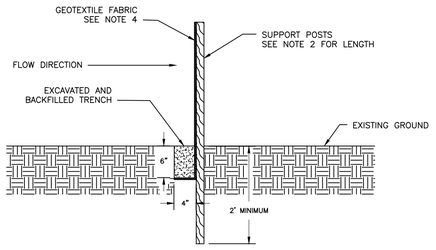
CIVIL DETAILS

C-5.3



SILT FENCE ISOMETRIC VIEW



SILT FENCE TYPICAL SECTION

NOTES:

1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED, AND COMPACTED TO THE EXISTING GROUND SURFACE.
2. WOODEN SUPPORT POSTS SHALL BE A MINIMUM DIMENSION OF 1–1/8" x 1–1/8" AIR OR KILN DRIED OF HICKORY OR OAK AND 4 FEET LONG. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAL FOOT AND 5 FEET LONG. POST SPACING SHALL BE A MAXIMUM OF 8 FEET FOR WOVEN FABRIC AND 3 FEET FOR NON–WOVEN FABRIC.
3. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH 0.5 INCH STAPLES IN AT LEAST 3 PLACES, OR WITH WOODEN LATH AND NAILS. ATTACHMENT TO STEEL POSTS WILL BE BY WIRE FASTENERS OR 50 POUND PLASTIC TIE STRAPS ON THE UPSLOPE SIDE.
4. THE GEOTEXTILE FABRIC SHALL CONSIST OF EITHER WOVEN OR NON–WOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE. NON–WOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT BONDED, RESIN BONDED, OR COMBINATIONS THEREOF. ALL FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:

TEST REQUIREMENT	METHOD	VALUE *
MINIMUM GRAB TENSILE STRENGTH IN THE MACHINE DIRECTION	ASTM D 4632	120 LBS.
MINIMUM GRAB TENSILE STRENGTH IN THE CROSS MACHINE DIRECTION	ASTM D 4632	100 LBS.
MAXIMUM APPARENT OPENING SIZE EQUIVALENT STANDARD SIEVE	ASTM D 4751	NO. 30
MINIMUM PERMITTIVITY	ASTM D 4491	0.05 SEC^{-1}
MAXIMUM PERMITTIVITY	ASTM D 4491	0.135 SEC^{-1} OR 10 gpm/sq ft at 50 mm constant head.
MINIMUM ULTRAVIOLET STABILITY PERCENTAGE OF STRENGTH RETAINED AFTER 500 HOURS OF EXPOSURE	ASTM D 4355	70%

* ALL NUMERICAL VALUES REPRESENT MINIMUM/MAXIMUM AVERAGE ROLL VALUES. (FOR EXAMPLE, THE AVERAGE OF MINIMUM TEST RESULTS ON ANY ROLL IN A LOT SHOULD MEET OR EXCEED THE MINIMUM SPECIFIED VALUES.)

1 / C109 SILT FENCE DETAIL
NO SCALE

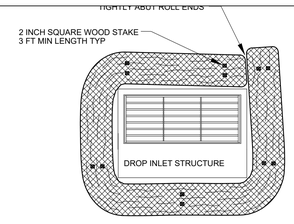
NON–IRRIGATED EROSION CONTROL SEED MIX

COMMON NAME	LB/LIVE SEED/ACRE
SLENDER WHEATGRASS	3.00
INDIAN RICEGRASS–NEZPAR	3.00
BLUEBUNCH WHEATGRASS	3.00
SANDBERG BLUEGRASS	0.50
FOURWING SALTBRUSH	1.00
ANTELOPE BITIERBRUSH	1.00
MOUNTAIN BIG SAGE	1.00
TOTAL	10.50 LB/ACRE

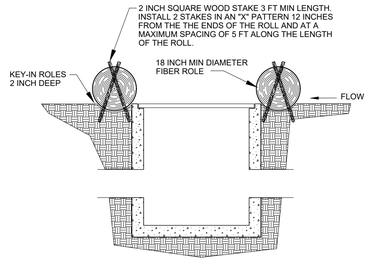
NON–IRRIGATED WILDFLOWER SEED MIX

COMMON NAME	LB/LIVE SEED/ACRE
GLOBEMALLOW–GOOSEBERRY LEAF	0.50
ROCKY MOUNTAIN BEEPLANT	2.00
SULFUR FLOWER	2.00
SCARLET GILIA	1.00
NORTHERN SWEETVETCH	0.50
MAPLE GROVE BLUE FLAX	0.50
WHITE EVENING PRIMROSE	0.50
PALMER PENSTEMON	0.50
WASATCH PENSTEMON	0.50
SCARLET GLOBEMALLOW	0.50
TOTAL	8.50 LB/ACRE

2 / C109 LONG TERM EROSION CONTROL SEED MIX
NO SCALE



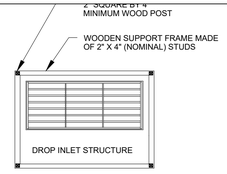
FIBER ROLL
DROP INLET BARRIER PLAN



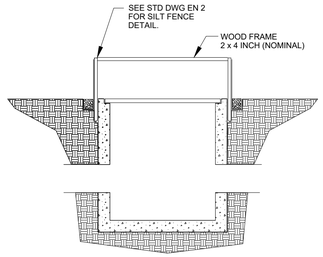
SECTION

NOTES:

1. KEY-IN FIBER ROLLS 2 INCH DEEP AROUND THE PERIMETER OF THE DROP INLET STRUCTURE AND STAKE AS SHOWN.
2. OVERLAP THE ENDS OF THE FIBER ROLL AT LEAST 18 INCHES.
3. CONSTRUCT ROLLS IN MEDIAN AREAS SO THAT THE TOPS OF THE ROLLS ARE NOT HIGHER THAN THE ADJACENT ROADWAY.
4. MAINTAIN A PROPERLY FUNCTIONING FIBER LOG BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
5. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE CITY, OR REMOVE FROM PROJECT.



SILT FENCE
DROP INLET BARRIER PLAN

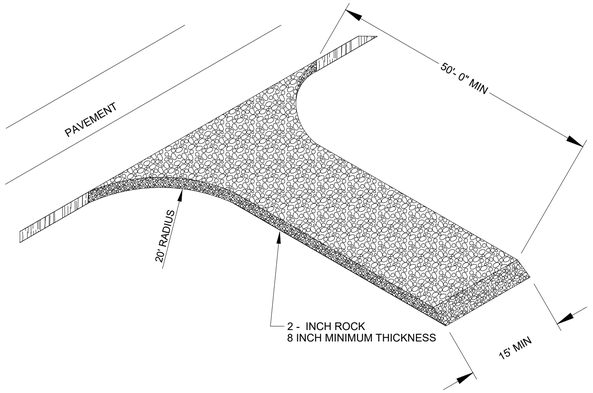


SECTION

NOTES:

1. ENTRENCH THE BOTTOM 18 INCH OF SILT FENCE SECURELY IN THE GROUND AROUND THE PERIMETER OF THE DROP INLET.
2. DRIVE POSTS AT EACH CORNER OF THE INLET STRUCTURE. PLACE ANOTHER POST(S) BETWEEN THEM IF THE DISTANCE BETWEEN CORNER POSTS EXCEEDS 4 FT.
3. CROSS-BRACE THE TOPS OF ALL POSTS WITH A WOODEN FRAME MADE OF 2 x 4 STUDS. USE NAILS OR SCREWS FOR FASTENING.
4. CONSTRUCT SILT FENCE IN MEDIAN AREAS SO THAT THE TOPS OF THE SILT FENCE ARE NOT HIGHER THAN THE ADJACENT ROADWAY.
5. MAINTAIN A PROPERLY FUNCTIONING SILT FENCE BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
6. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE CITY, OR REMOVE FROM PROJECT.

3 / C109 INLET PROTECTION DETAILS
NTS

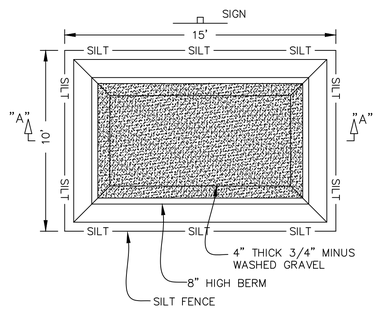


STABILIZED CONSTRUCTION ENTRANCE

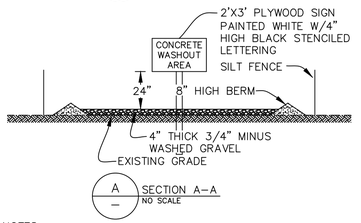
4 / C109 STABILIZED CONSTRUCTION ENTRANCED – DETAIL
NO SCALE

NOTES FOR STABLILIZED CONSTRUCTION ENTRANCE:

1. PLACE STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. MAINTAIN A PROPERLY FUNCTIONING CONSTRUCTION ENTRANCE THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS HAVE BEEN PAVED.
3. DO NOT ALLOW VEHICLES LEAVING THE CONSTRUCTION SITE TO TRACK MUD ONTO PAVED ROADS.



6 / C109 CONCRETE WASHOUT DETAIL
NO SCALE

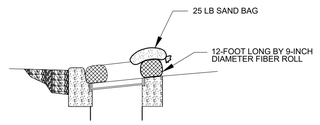


A / – SECTION A–A
NO SCALE

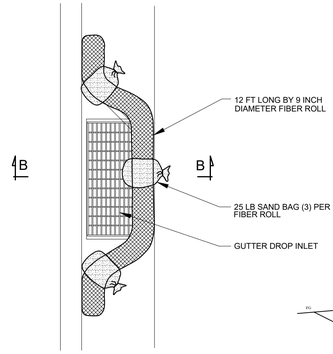
NOTES:
DO NOT WASH OUT CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS OR STREAMS

WHEN WASHING CONCRETE TO REMOVE FINE PARTICLES, AVOID CREATING RUNOFF, ONLY WASH CONCRETE EQUIPMENT IN DESIGNATED AREAS.

INSPECT AND MAINTAIN CONCRETE WASHOUT AREA WEEKLY AND REMOVE HARDENED CONCRETE ON A REGULAR BASIS.



SECTION B-B

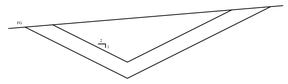


GUTTER INLET BARRIER PLAN

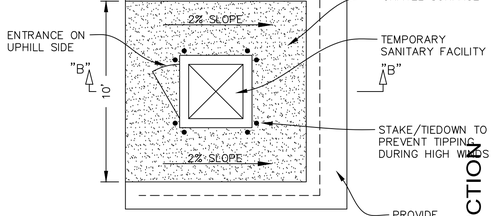
NOTES FOR GUTTER INLET BARRIER:

1. PLACE FIBER ROLL AND SAND BAGS AS SHOWN AROUND GUTTER INLETS AND AVOID PLACING THE BARRIER IN THE TRAVEL LANE.
2. USE GUTTER INLET BARRIERS ONLY WHERE THERE IS THE POTENTIAL OF SEDIMENT FROM NON-STABILIZED AREAS GETTING INTO THE INLET.
3. MAINTAIN A PROPERLY FUNCTIONING GUTTER INLET BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
4. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE CITY, OR REMOVE FROM PROJECT.

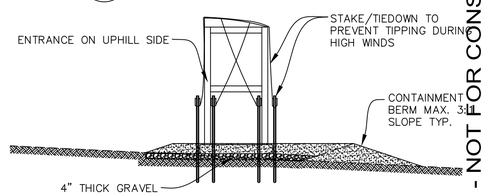
5 / C109 GUTTER INLET PROTECTION DETAIL
NTS



6 / C108 SWALE DTL. – TYP.
NO SCALE



7 / C109 TEMPORARY SANITARY FACILITY DETAIL
NO SCALE



B / – SECTION A–A
NO SCALE

NOTES:
PORTABLE TOILETS MUST BE MAINTAINED IN GOOD WORKING ORDER WITH DAILY OBSERVATION FOR LEAK DETECTION

REGULAR WASTE COLLECTION MUST BE ARRANGED WITH LICENSED SERVICE.

ALL WASTE COLLECTION MUST BE DEPOSITED IN A SANITARY SEWER SYSTEM FOR TREATMENT WITH APPROPRIATE AGENCY APPROVAL

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JOSEPH W. STUART
STATE OF UTAH

JACOBS LADDER DEV.

MICHAEL MOYAL

UNINCORPORATED,
WEBER COUNTY
POWDER MOUNTAIN

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PROJECT NO:	120138
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DRAWN BY:	AWF
CHECKED BY:	JWS
DATE:	2/24/2021

CIVIL DETAILS

C-5.4

STANDARD SET Owner ####
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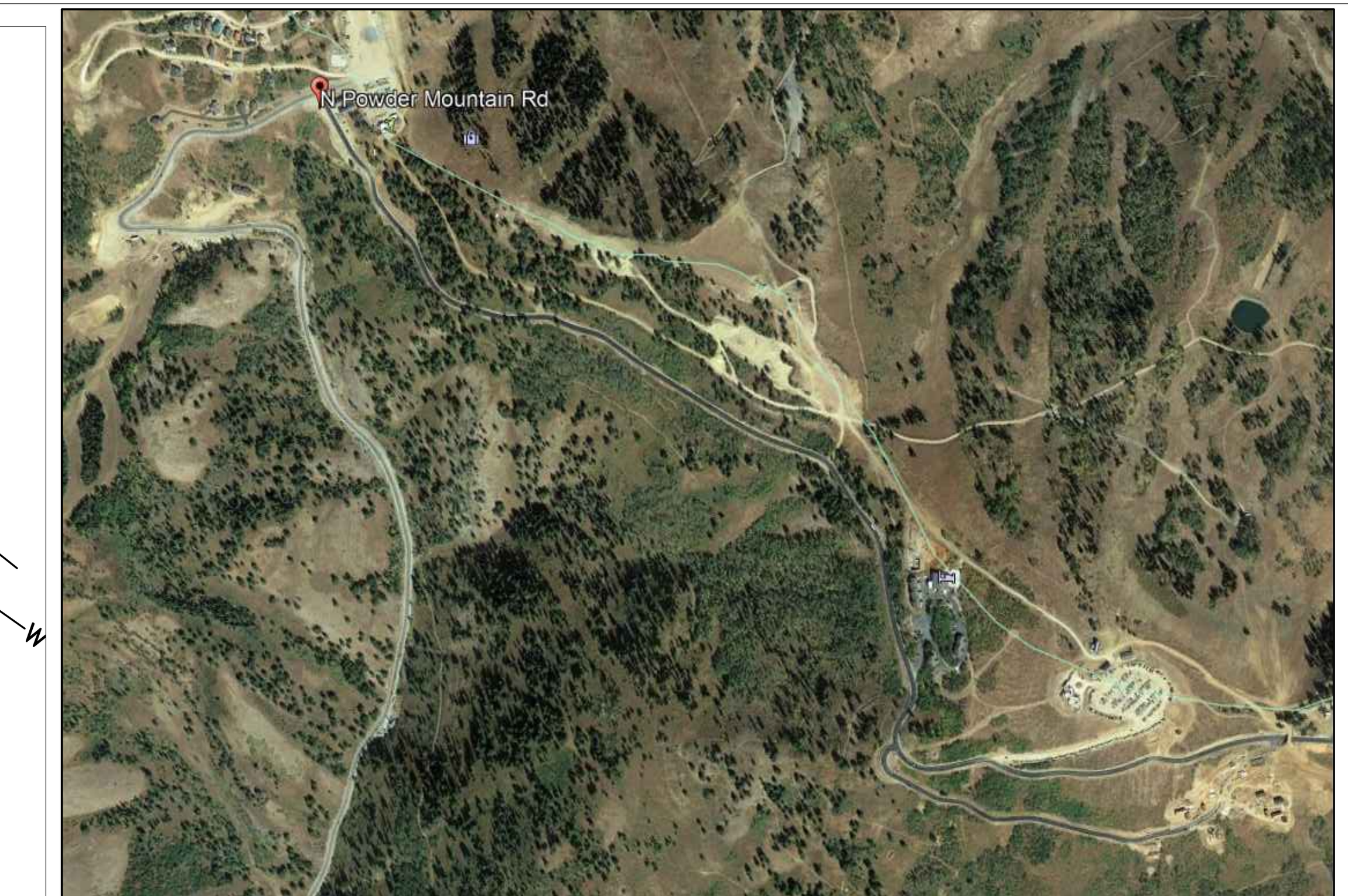
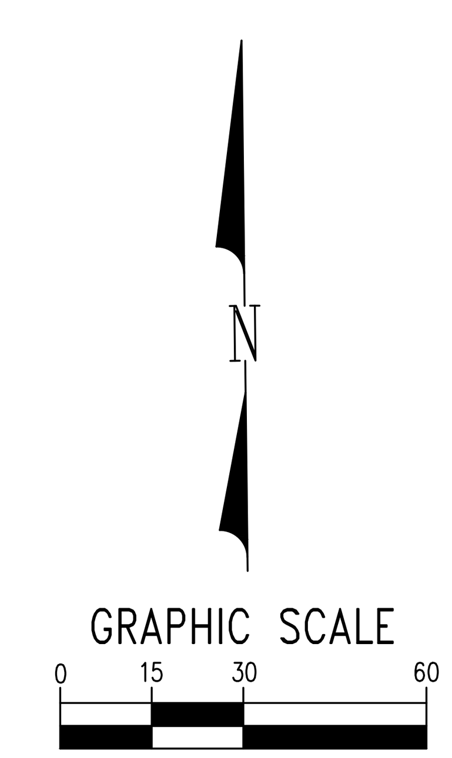
2/24/2021



NOT TO SCALE

VICINITY MAP

PROJECT LOCATION



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TOPO SURVEY

C-1.1

STANDARD SET Owner 000000
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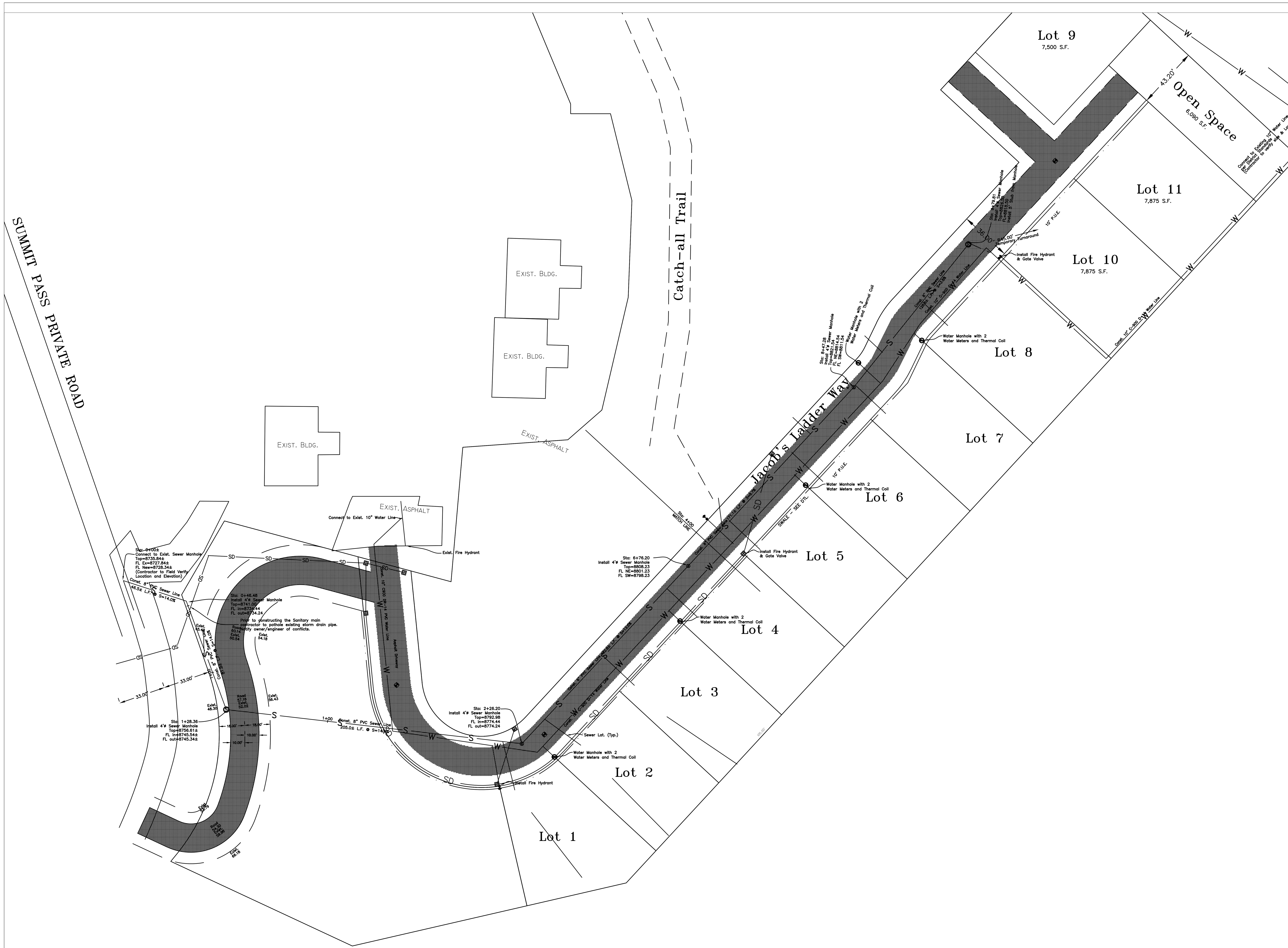

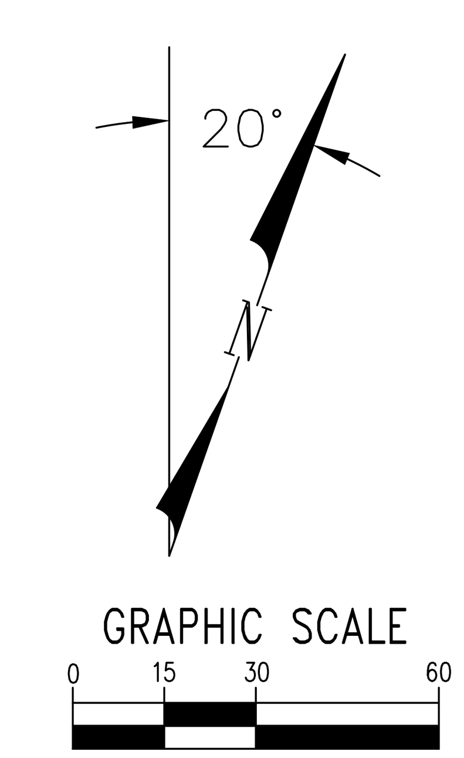

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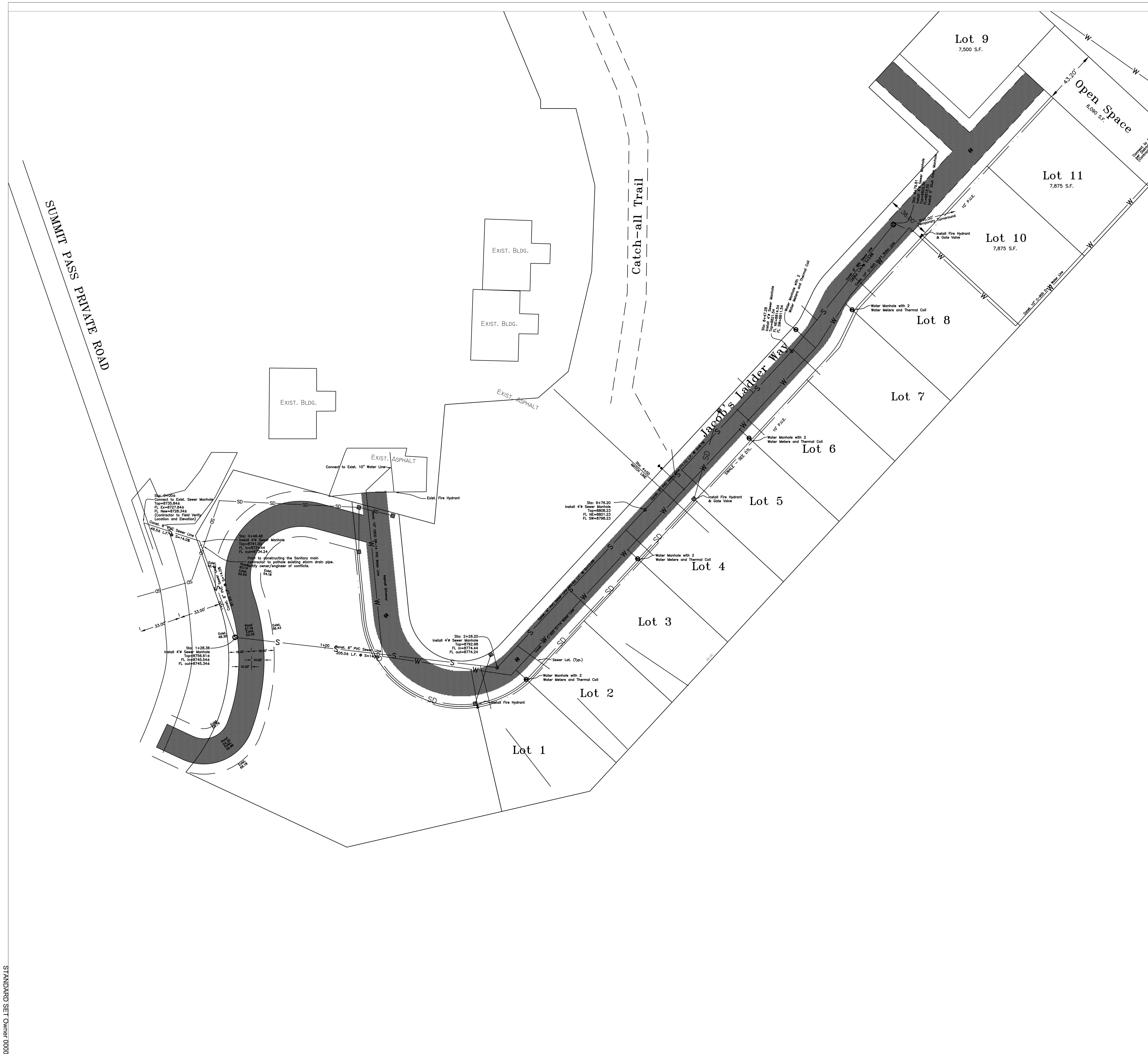
SITE PLAN

C-1.2



Lot 9
7,500 S.F.
Open Space
6,090 S.F.
43.20'
Lot 11
7,875 S.F.
Lot 10
7,875 S.F.
Lot 8
Lot 7
Lot 6
Lot 5
Lot 4
Lot 3
Lot 2
Lot 1
Jacob's Ladder Way
Catch-all Trail
SUMMIT PASS PRIVATE ROAD
EXIST. BLDG.
EXIST. BLDG.
EXIST. BLDG.
EXIST. ASPHALT
EXIST. ASPHALT
Connect to Exist. 10" Water Line
Exist. Fire Hydrant
Install Fire Hydrant & Gate Valve
Water Manhole with 2 Water Meters and Thermal Coil
Sewer Lat. (Typ.)
Install Fire Hydrant
Prior to constructing the Sanitary main contractor to pothole existing storm drain pipe. Notify owner/engineer of conflicts.
Sta: 6+76.20
Install 4'Ø Sewer Manhole
Top=8808.23
FL NE=8801.23
FL SW=8795.23
Sta: 2+26.20
Install 4'Ø Sewer Manhole
Top=8782.98
FL In=8774.44
FL out=8774.24
Sta: 1+28.36
Install 4'Ø Sewer Manhole
Top=8756.61±
FL In=8745.54±
FL out=8745.34±

JACOBS LADDER DEV.

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UTILITY PLAN

C-1.3

COORDINATION SET - NOT FOR CONSTRUCTION

STANDARD SET Owner 000000
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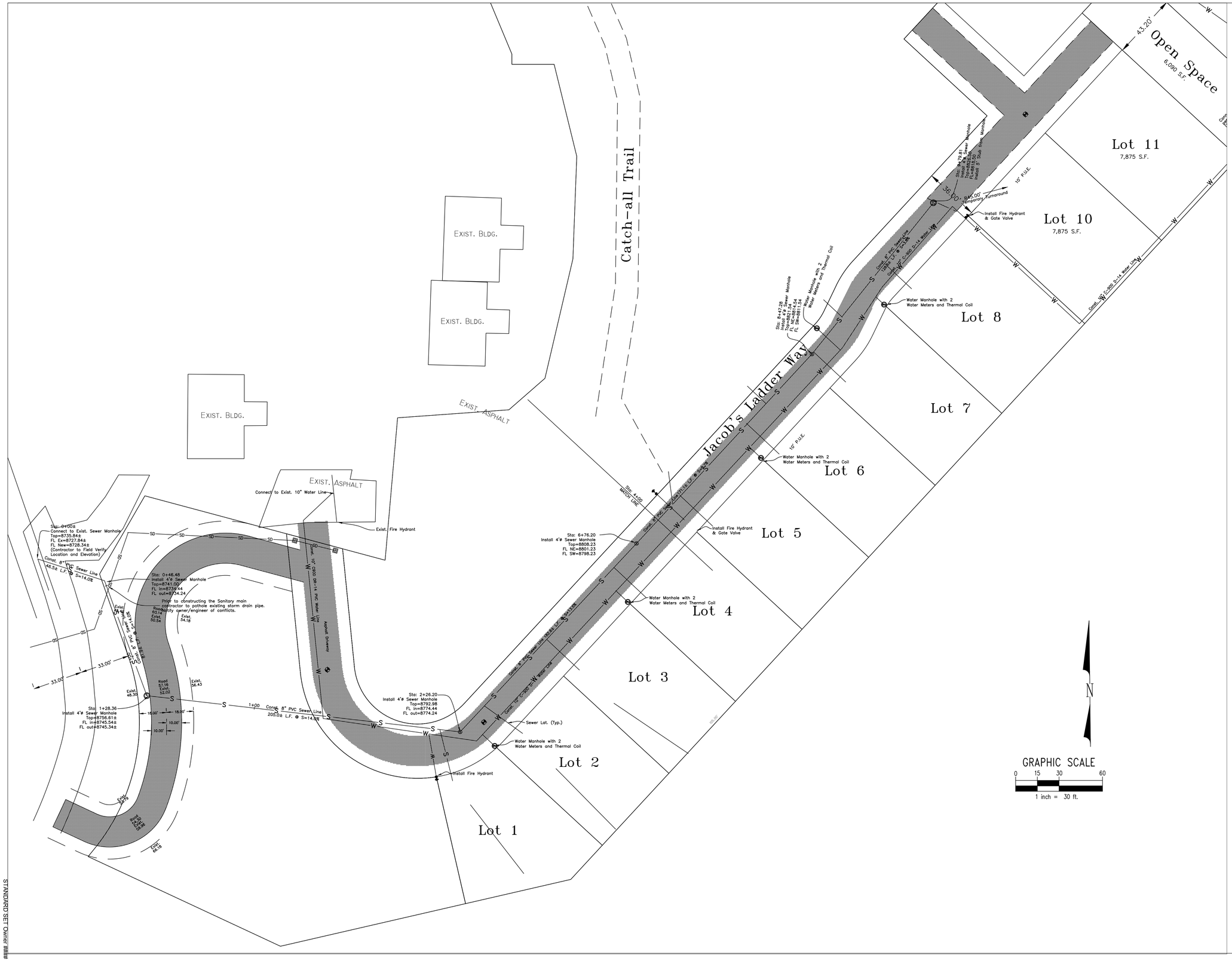

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GRADING PLAN

C-1.4

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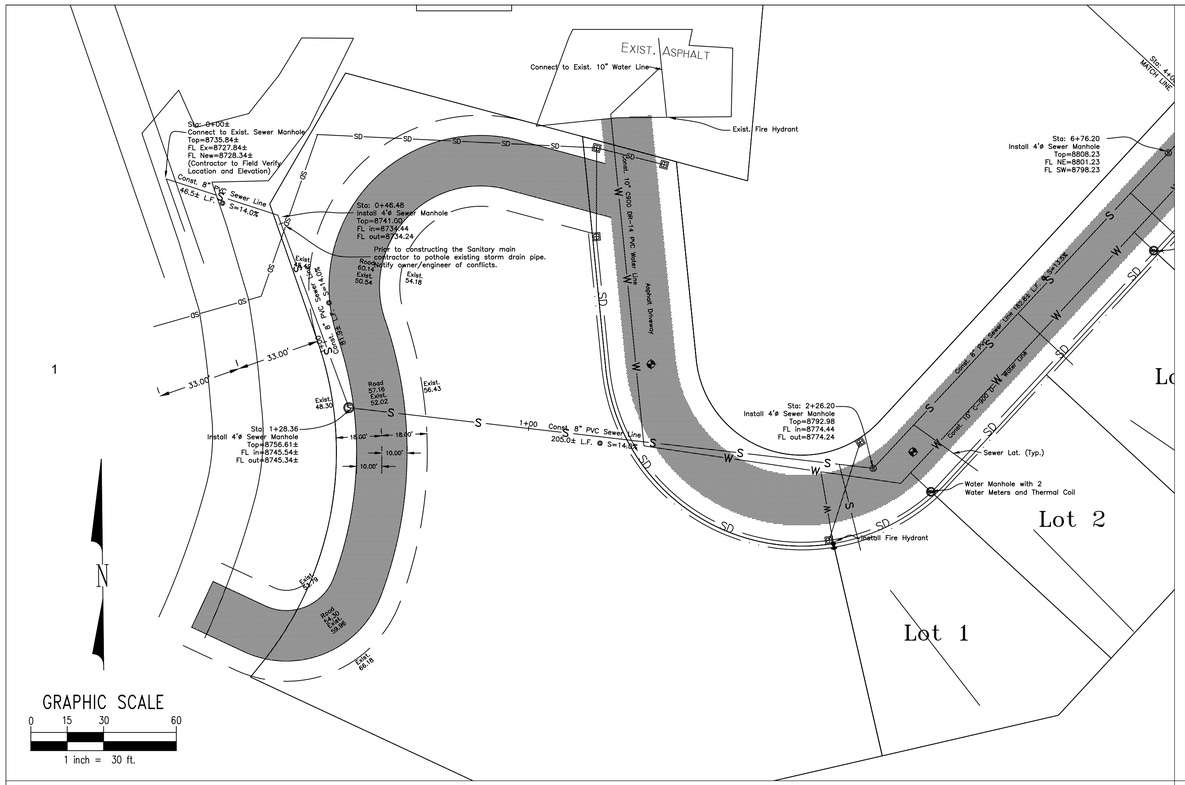
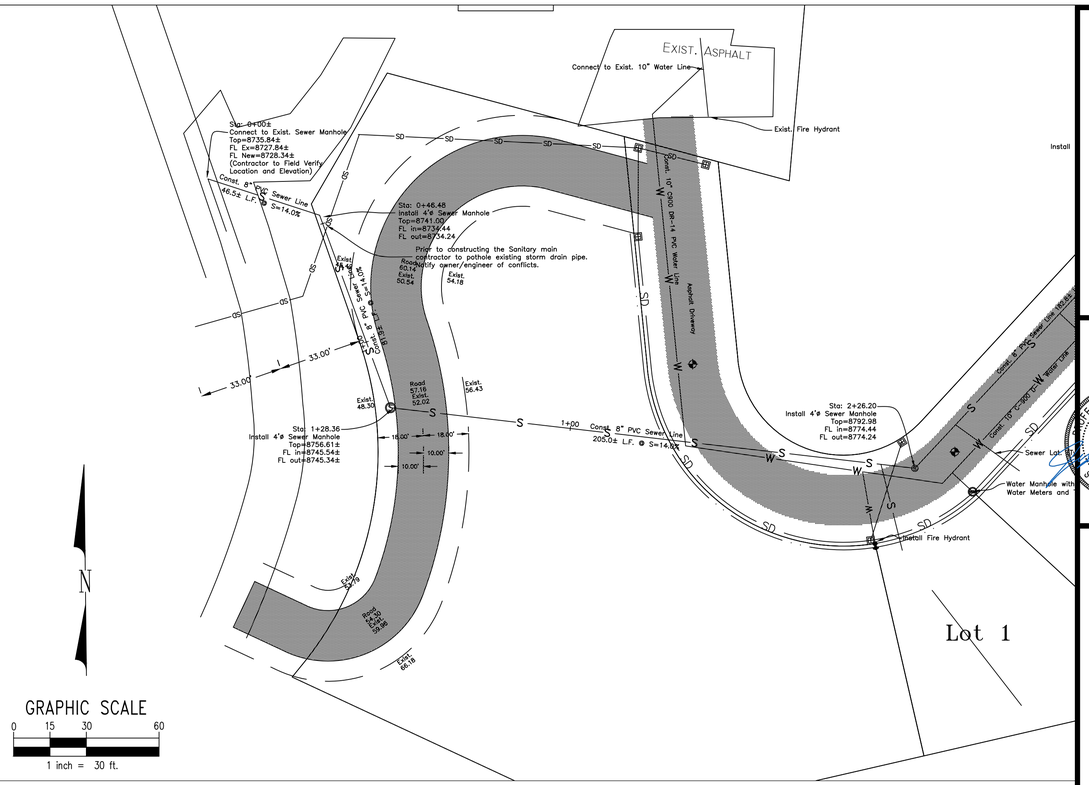
2/24/2021



1

SANITARY MAIN PROFILE

HORIZ SCALE: 1" = 30'; VERT SCALE: 1" = 10'



ACCESS ROAD

HORIZ SCALE: 1" = 30'; VERT SCALE: 1" = 10'

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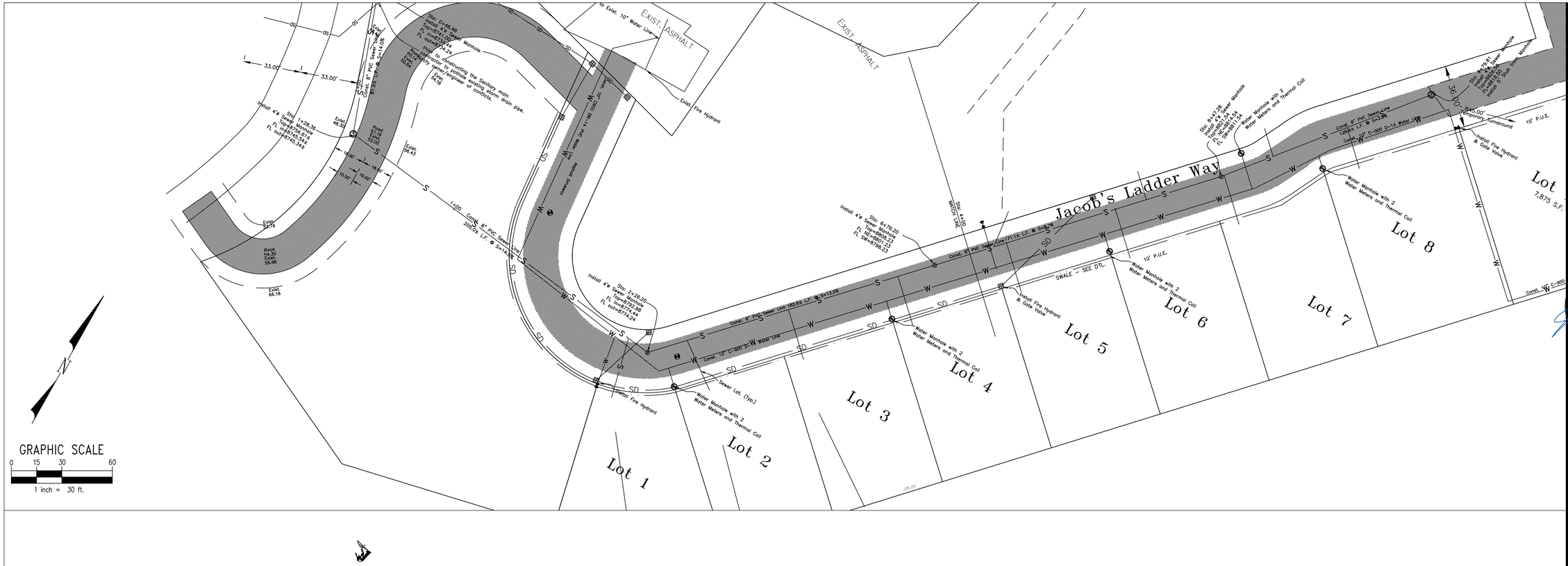
PLAN & PROFILE

C-1.5



JACOBS LADDER ROAD PROFILE

HORIZ SCALE: 1" = 30"; VERT SCALE: 1" = 10'

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PLAN & PROFILE

C-1.6

STANDARD SET Owner ####
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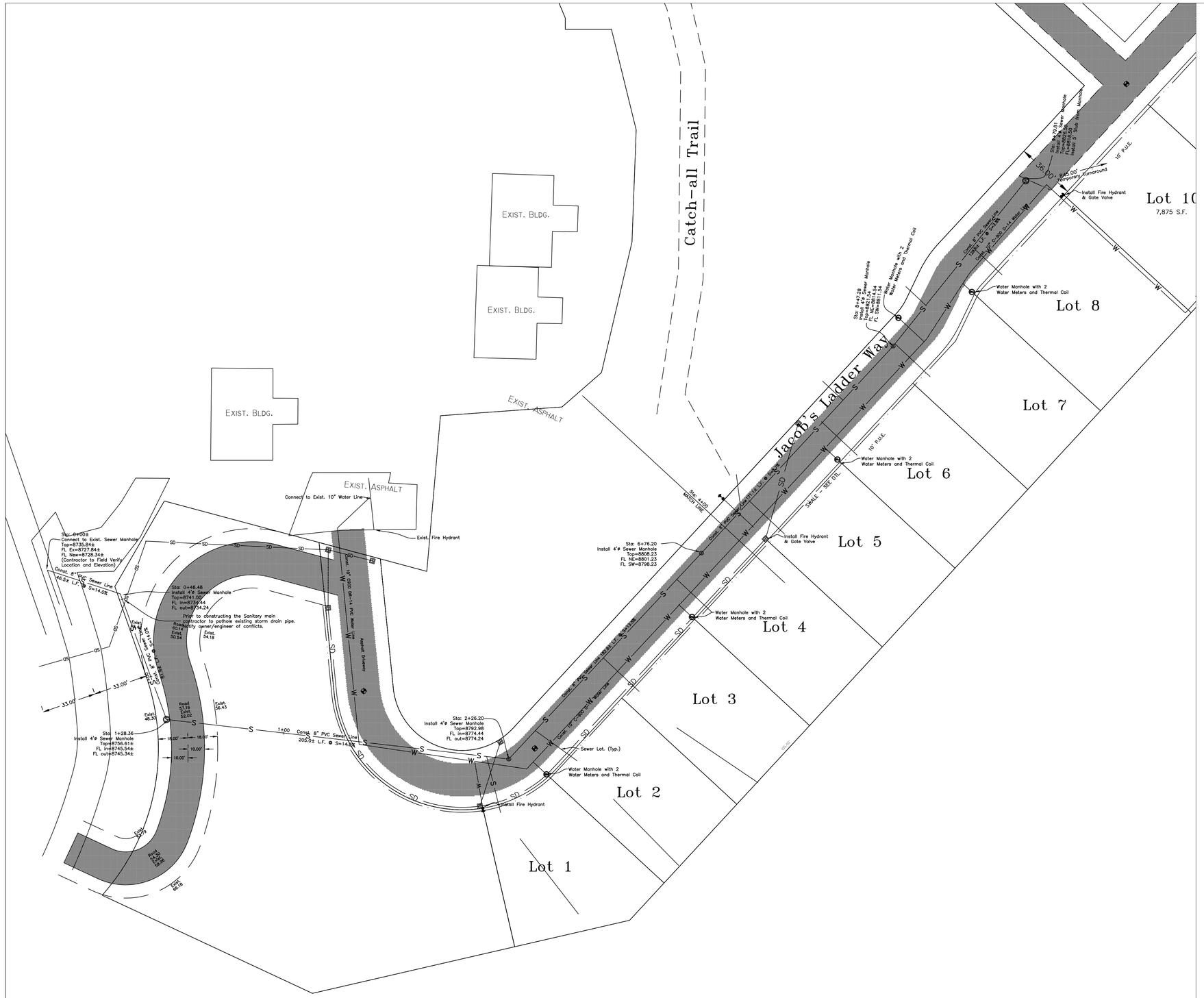

N

GRAPHIC SCALE

0 15 30 60

1 inch = 30 ft.

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JACOBS LADDER DEV.

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SWPPP

C-1.7

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2/24/2021