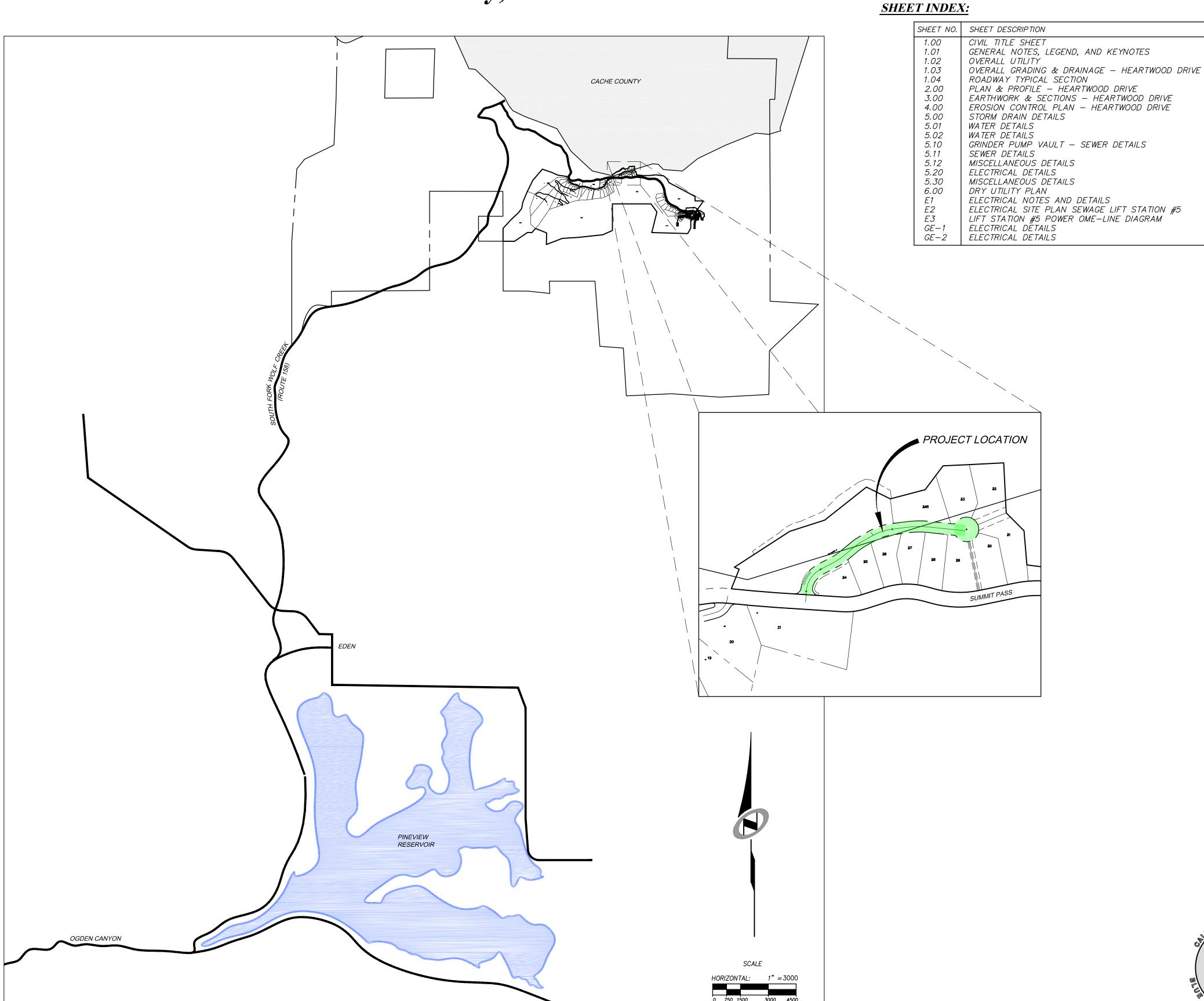
SUMMIT EDEN PHASE 1B ROADWAY AND UTILITY CONSTRUCTION DRAWINGS

Located in Sec 01 T7N R1E Weber County, Utah



2 RWC 1/15/2014 WEBER COU
3 RWC 5/21/2014 FINISH GRAI
4 RWC 7/25/2014 COUNTY CO

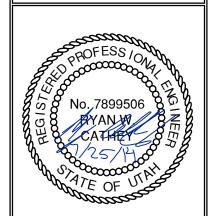
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/IL TITLE SHEET

BEYOND ENGINEERING

5217 SOUTH STATE STREET, SUITE 200
801.743.1300 TEL 801.743.0300 FAX
MURRAY, UT 84107
WWW.NV5.COM



SHEET NUMBER

SCALE

VERTICAL: 1"= NA

HORIZONTAL: 1"= 3000'

JOB NUMBER

SET FORTH BY: GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY OR COUNTY (IF UN-INCORPORATED), INDIVIDUAL PRODUCT MANUFACTURERS, THE DESIGN ENGINEER, AND AMERICAN PUBLIC WORKS ASSOCIATION (APWA). THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR THIS

PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.

TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO CURRENT UDOT TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL

DEVICES. 4. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.

5. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION

REQUIREMENTS BEFORE COMMENCING CONSTRUCTION. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR

MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR

INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF

CONSTRUCTION REQUIRING OBSERVATION. 10. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE

APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.

11. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. 12. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP

ANY QUESTIONS BEFOREHAND. 13. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL

14. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGMEN, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY. 16. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK

CALLED FOR IN THE PLANS AND SPECIFICATIONS. 17. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY HIMSELF BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS HE MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF HIS EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO HIM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, HE SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING HIS BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, HE HAS RELIED AND IS RELYING ON HIS OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON HIS OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR. OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEFMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT HE HAS NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND

SUBMITTING HIS BID. 18. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.

19. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.

20. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS. CONTROL POINTS. REFERENCE POINTS AND ALL SURVEY STAKES. AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

21. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE—TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.

23. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.

24. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.

25. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL—SIZE AS—BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY. SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS—BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS—BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

26. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

GENERAL NOTES CONT.

27. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM. UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.

28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.

29. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 -TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.

30. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON

PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE. 31. CONTRACTOR TO PROVIDE TEMPORARY ADDRESS MARKERS AT THE BUILDING SITE DURING CONSTRUCTION.

UTILITY NOTES

 CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE SERVICE, GAS SERVICE, CABLE, POWER. INTERNET.

EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES

INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.

CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING

CONSTRUCTION OPERATIONS AT HIS EXPENSE. ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET

CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX

OR MANHOLE. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A

SMOOTH FINISH. 8. CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX. 9. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH

BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.

10. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS. 11. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE

ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING AND NO COST CHANGE WILL BE PROVIDED.

12. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.

13. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS. 14. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY

UTILITY LINES.

15. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED. 16. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER

17. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 60" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE. 18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF

OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).

10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES. 19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS

AND TEES. 20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.

NONMETALLIC PIPE. 22. THE CONTRACTOR SHALL NOTIFY NOLTE ASSOCIATES, INC. IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN

21. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL

ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS. 23. UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH

EROSION CONTROL GENERAL NOTES:

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO WEBER COUNTY ORDINANCES AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE COUNTIES. ALSO, INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER. CONSTRUCTION WATER COST TO BE INCLUDED IN BID.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 14 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

15"ø CLIII RCP DRAINAGE PIPE DRAINAGE SWALE ______8"SS _____ |8"ø SDR-35 PVC SEWER PIPE -----8"SS HDPE-----8"ø DR-17 HDPE SEWER PIPE PRESSURE SEWER PIPE ____(2)SS-P ____ (2) JOINT TRENCHED PRESSURE SEWER PIPES

24"ø CLIII RCP DRAINAGE PIPE

18" Ø CLIII RCP DRAINAGE PIPE

DESCRIPTION

| 18" Ø HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) | APWA PLAN NO. 381,382

16" # HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) APWA PLAN NO. 381,382

|14"\dagger HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) |APWA PLAN NO. 381,382

12" HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) APWA PLAN NO. 381.382

| 10" Ø HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) | APWA PLAN NO. 381,382

8" HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) APWA PLAN NO. 381,382

6"ø HDPE DR-13.5 WATER PIPE (UNLESS NOTED OTHERWISE) APWA PLAN NO. 381,382

(3) JOINT TRENCHED PRESSURE—SEWER PIPES ———(4)SS-P ——— (4) JOINT TRENCHED PRESSURE—SEWER PIPES PROPOSED FIRE HYDRANT ASSEMBLY 4' SEWER MANHOLE 5' SEWER MANHOLE STORM DRAIN MANHOLE

CURB INLET BOX FLARED END PIPE SECTION FOR ROUND PIPE 3' X 3' CATCH BASIN PROPOSED ELECTRICAL PULLBOX

PROPOSED PAVEMENT SECTION ADJOINING PROPERTY BOUNDARY ______ WEBER/CACHE COUNTY LINE PROPOSED LOT LINE PROPOSED ROAD RIGHT OF WAY

> PROPOSED ROAD CENTERLINE SURVEY MONUMENT MARKER EXISTING 6" WATER PIPE EXISTING SEWER PIPE EXISTING 4" WATER PIPE

EXISTING SEWER MANHOLE EXISTING ELECTRICAL PULLBOX

NOTE: LEGEND MAY CONTAIN SYMBOLS THAT ARE NOT USED IN PLAN SET.

EROSION CONTROL GENERAL NOTES CONT.: THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND FILE A "NOTICE OF INTENT" WITH THE UTAH DIVISION OF WATER QUALITY.

LEGEND:

SYMBOL / LINETYPE

_____16"W____

_____12"W _____

_____10"W _____

_____8"W ____

_____6"W ____

_____24"SD _____

_____14"W _____

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL VEGETATION IS RE-ESTABLISHED.

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING BI-WEEKLY CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE DOCUMENTED AND COPIES OF THE INSPECTIONS KEPT ON SITE.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE—HALF THE HEIGHT OF BARRIER.

SEDIMENT TRACKED ONTO PAVED ROADS MUST BE CLEANED UP AS SOON AS PRACTICAL. BUT IN NO CASE LATER THAN THE END OF THE NORMAL WORK DAY. THE CLEAN UP WILL INCLUDE SWEEPING OF THE TRACKED MATERIAL, PICKING IT UP, AND DEPOSITING IT TO A CONTAINED AREA.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED

B) TRACKING STRAW PERPENDICULAR TO SLOPES C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

HATCHING INDICATES AREAS TO RECEIVE 4" TOPSOIL AND TO BE SEEDED FOR NATURAL VEGETATION*. AREAS RECEIVING SEEDING FOR NATURAL REVEGETATION MUST BE COVERED WITH AN EROSION CONTROL BLANKET AFTER THE FINAL GRADING AND SEEDING ARE FINISHED. INSTALL NORTH AMERICAN GREEN SC-150 BLANKET OR APPROVED EQUAL FOLLOW MANUFACTURER'S SPECIFICATIONS. INSTALL NORTH AMERICAN GREEN P300 EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.5:1.

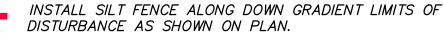


INSTALL 15' X 50' VEHICLE WASH DOWN AREA WITH 1"-2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN.



STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.



INSTALL ORANGE SAFETY FENCING AROUND OUTER LIMITS OF PROJECT PRIOR TO GRADING.

KEYNOTE CALLOUTS

APWA PLAN NO. 381.382

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APWA PLAN NO. 381,382

APWA PLAN NO. 381,382

APWA PLAN NO. 511

APWA PLAN NO. 411

APWA PLAN NO. 411

APWA PLAN NO. 341

APWA PLAN NO. 315

PER DETAIL ON SHEET 5.00

PER DETAIL ON SHEET 5.00

PER IGES GEOTECH REPORT 11/09/12

PER WEBER COUNTY SPECS. SEE SHEET 5.30

(1) 2" WATER SERVICE LATERAL PER DETAIL A/SHEET 5.02 AND APWA STANDARD DRAWING 552 AND SPECIFICATIONS (TYP.)

DETAIL

(2) INSTALL 12"x8" REDUCER PER APWA PLAN NO. 561,562

(3) 8" 11.25 DI BEND PER APWA PLAN NO. 561,562

(4) CONNECT TO EXISTING SEWER STUB WITH PVC PIPE COUPLING SLEEVE

(5) (1)3" IPS DR-17 HDPE PIPE PER APWA PLAN NO. 381,382

(6) 4" SEWER SERVICE LATERAL PER DETAIL B/5.10

(7) FLARED END SECTION PER DETAIL SHEET 5.00

(8) CONNECT TO EXISTING WATER STUB WITH HDPE ELECTRO FUSION COUPLING

(9) STOP SIGN "R1-1" PER MUTCD

(10) INSTALL RD NAME SIGN PER MUTCD

(11) 12" STOP BAR PER MUTCD

(12) ROADSIDE DRAINAGE CHANNEL PER TYPICAL ROADWAY SECTION

(13) REMOVE EXISTING CULVERT

(14) 8" DI TEE PER APWA PLAN NO. 561,562

(15) STUB WATERLINE FOR FUTURE CONNECTION PER APWA PLAN NO. 561,562

(16) 8" 45° DI BEND PER APWA PLAN NO. 561,562

(17) 8" MJxFL GATE VALVE PER APWA PLAN NO. 561,562

(18) STUB AND PLUG SEWER LINE FOR FUTURE CONNECTION. SEE PLANS FOR SIZE.

(19) EXISTING POWER CONDUIT\VAULTS TO BE RELOCATED

(20) AIR RELEASE ASSEMBLY PER APWA DRAWING 575 AND SPECIFICATIONS

(21) INSTALL "NO PARKING" SIGN PER MUTCD

(22) (1)1.5" IPS DR-17 HDPE PIPE PER APWA PLAN NO. 381,382

(23) INSTALL 4" PVC SLEEVE FOR FUTURE 2" GAS LINE, 30" MIN BURY DEPTH. CAP AND MARK BOTH ENDS.

(24) FUTURE 2" GAS LINE

★ SEED MIXTURE FOR REVEGITATION 40% MOUNTAIN BROME (BROMUS MARGINATUS)

25% SLENDER WHEATGRASS (ELYMUS TRACHYCAULUS SSP. TRACHYCAULUS) 5% SHEEP FESCUE (FESTUCA OVINA SPP. DURIUSCULA)

5% ALPINE BLUEGRASS (POA ALPINE)

25% THICKSPIKE WHEATGRASS (ELYMUS LANCEOLATUS SSP. LANCEOLATUS)

SEEDING RATE IS 40 POUNDS PER ACRE.

GEOTECHNICAL REPORT

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND READ A COPY OF THE GEOTECHNICAL REPORT "DESIGN GEOTECHNICAL INVESTIGATION POWDER MOUNTAIN RESORT WEBER, COUNTY, UTAH" PRODUCED BY IGES. IGES PROJECT NUMBER 01628-003, DATED NOVEMBER 9, 2012. CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS AND GUIDELINES FOUND THEREIN.

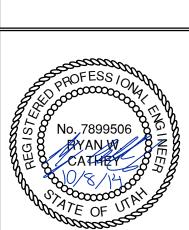


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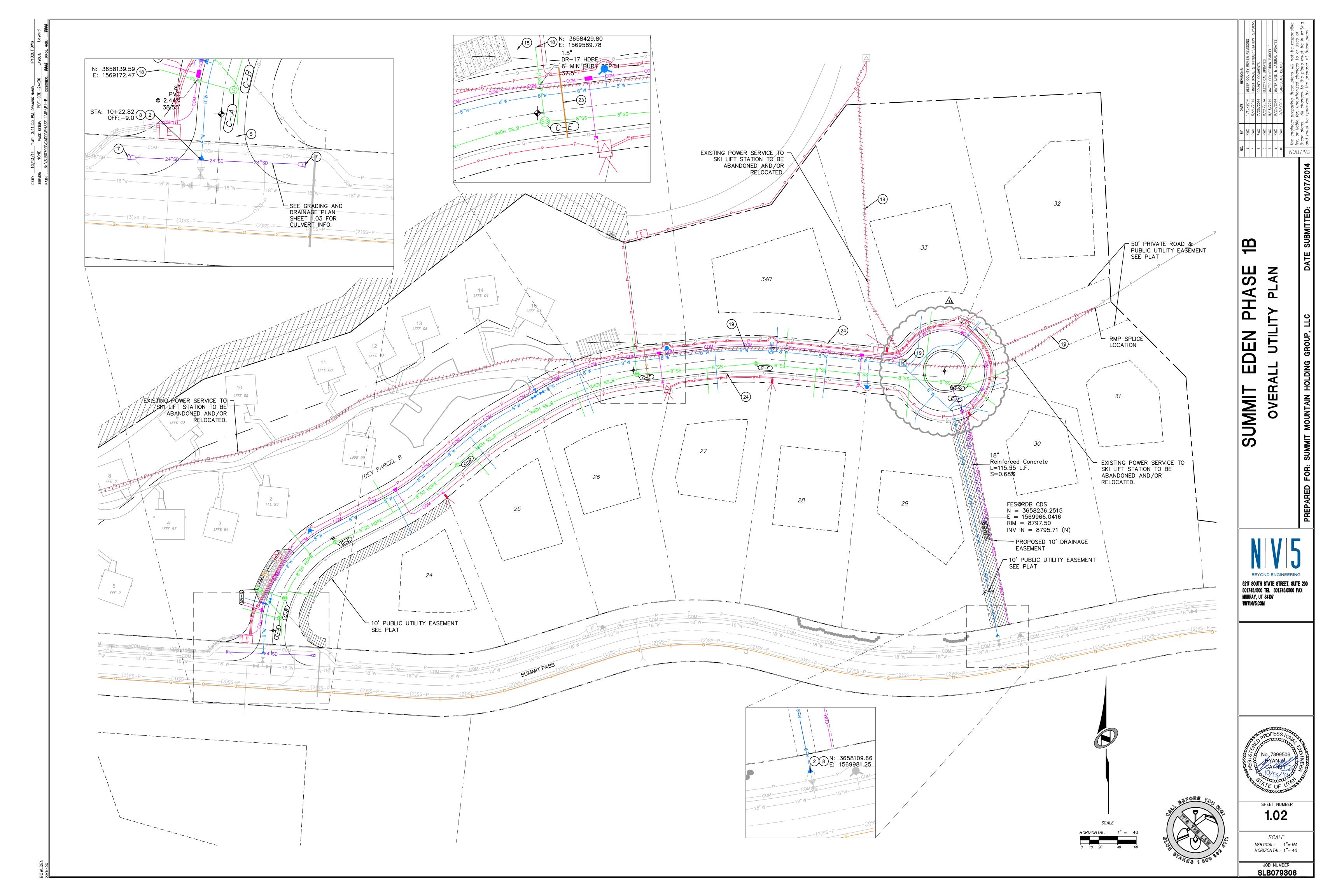
BEYOND ENGINEERING 5217 SOUTH STATE STREET, SUITE 200 801.743.1300 TEL 801.743.0300 FAX MURRAY, UT 84107 WWW.NV5.COM

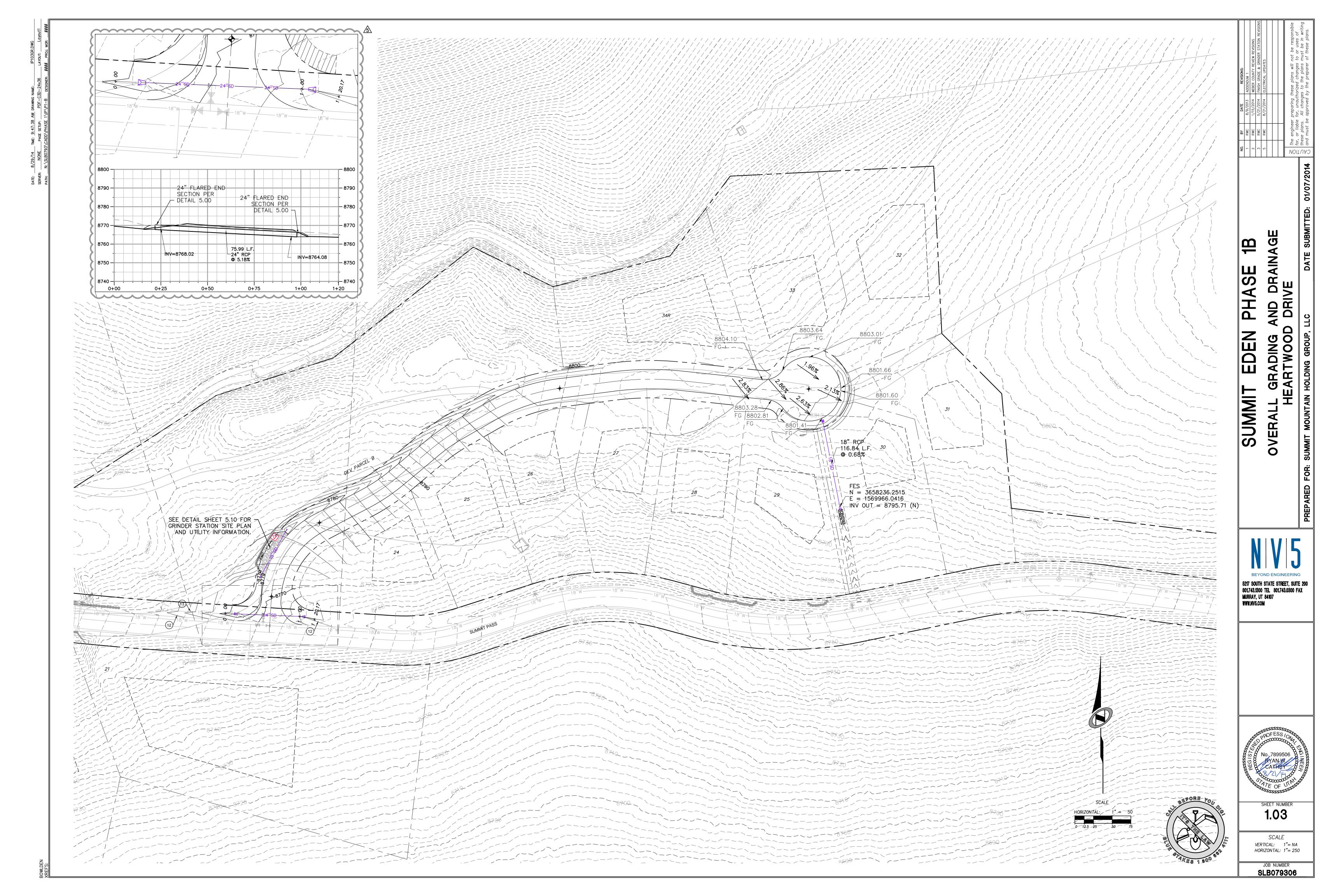


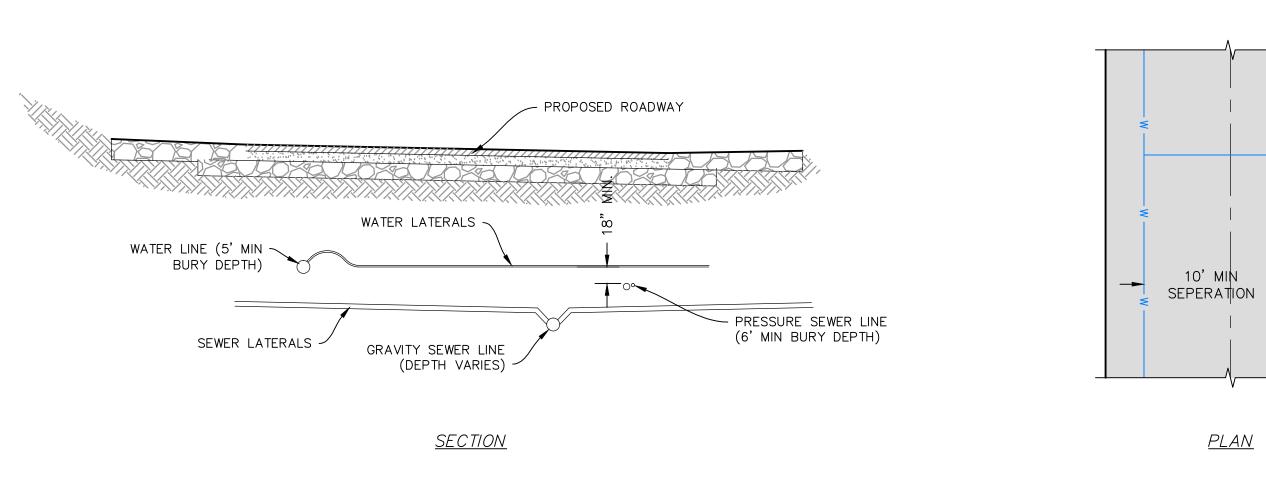
SHEET NUMBER

SCALE VERTICAL: 1"=N/AHORIZONTAL: 1"= N/A

> JOB NUMBER SLB079306







WATER AND SEWER SEPARATION DETAIL



- #4 REBAR @ 18" O.C.

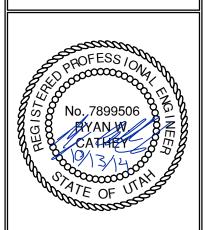
~ PAVEMENT

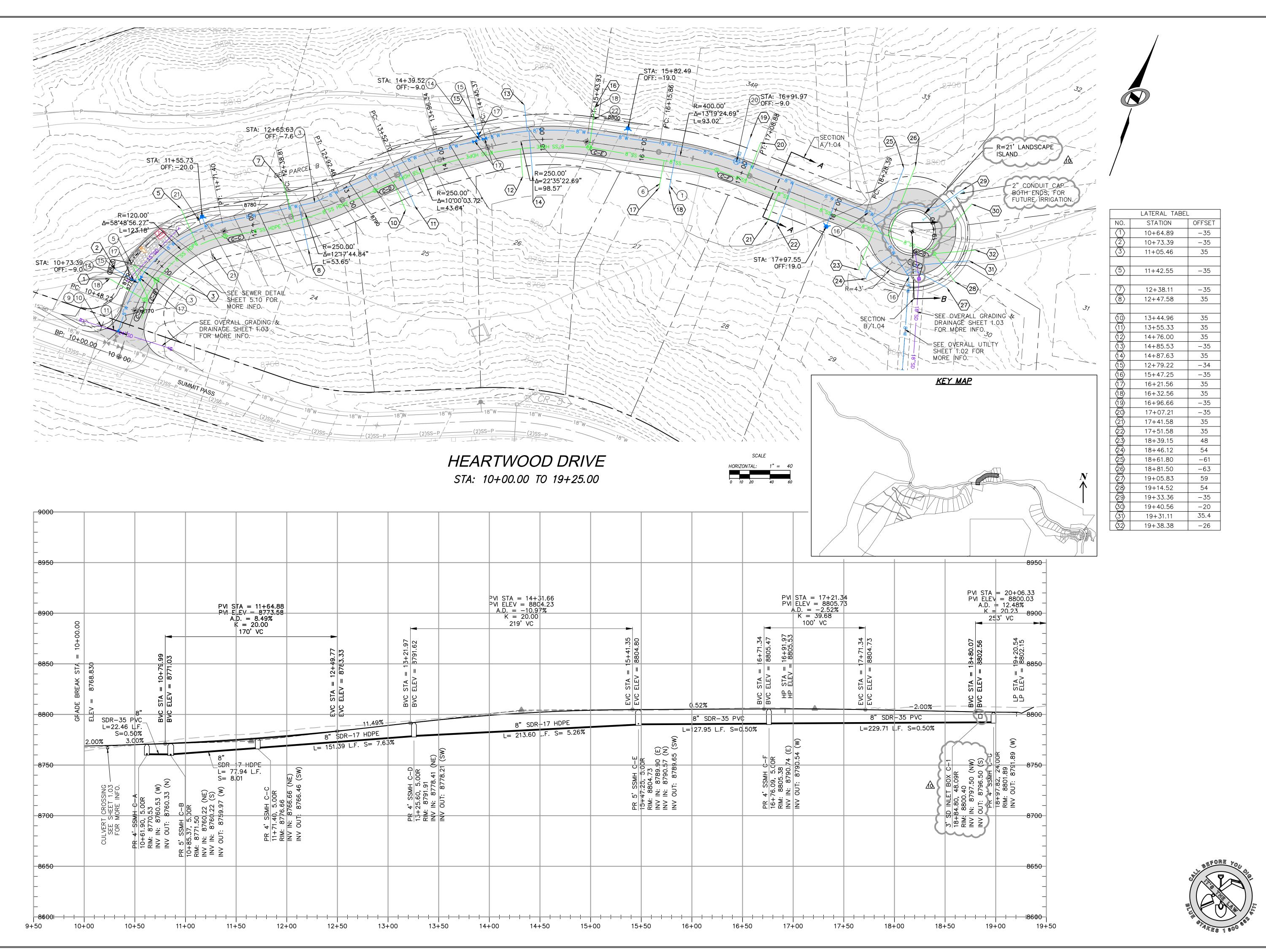
- BASE COURSE

SE HA SUMMIT

NOITUAD

5217 SOUTH STATE STREET, SUITE 200 801.743.1300 TEL 801.743.0300 FAX MURRAY, UT 84107 WWW.NV5.COM

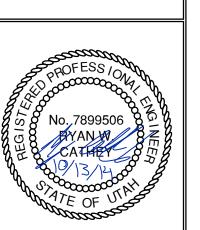




SUMMIT EDEN PHASE 1B
PLAN AND PROFILE
HEARTWOOD DRIVE

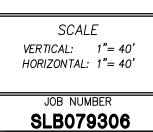
BEYOND ENGINEERING

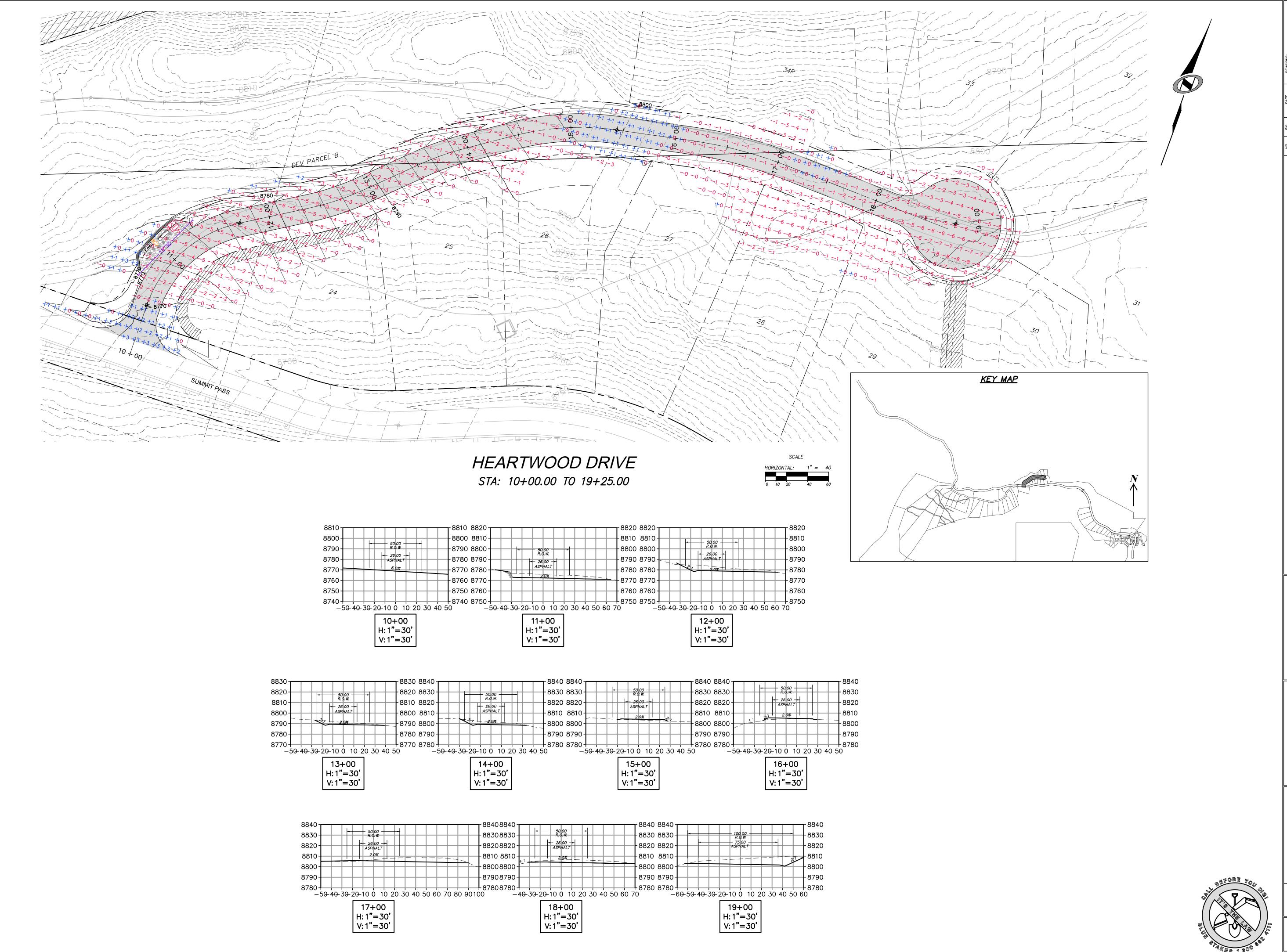
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SHEET NUMBER

2.00





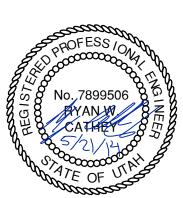
SUMMIT EDEN PHASE 1B

EARTHWORK AND SECTIONS

HEARTWOOD DRIVE

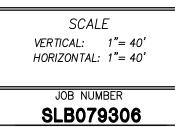
BEYOND ENGINEERING

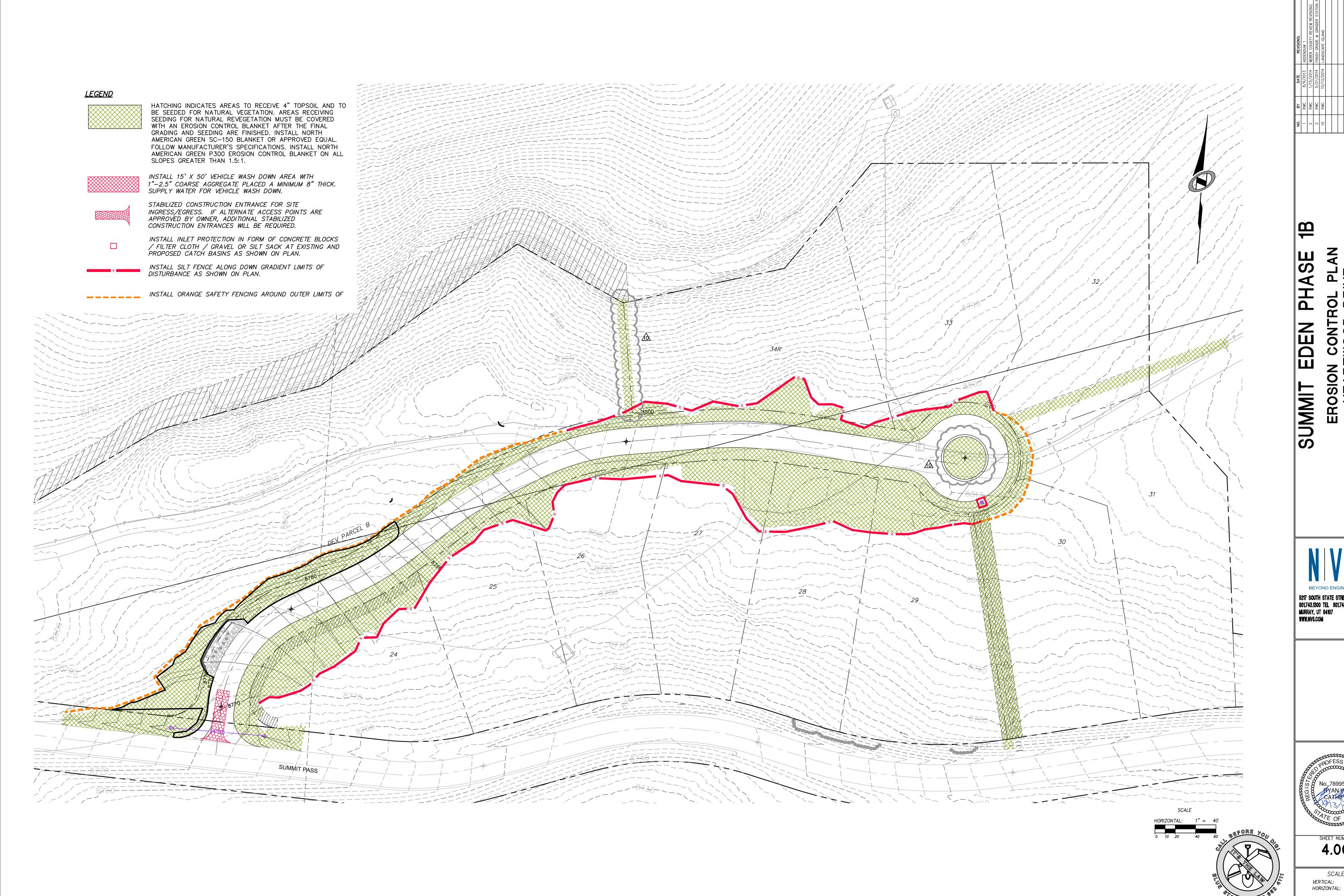
5217 SOUTH STATE STREET, SUITE 200
801743.1300 TEL 801.743.0300 FAX
MURRAY, UT 84107
WWW.NV5.COM

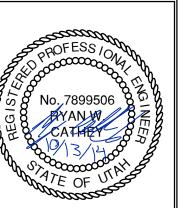


SHEET NUMBER

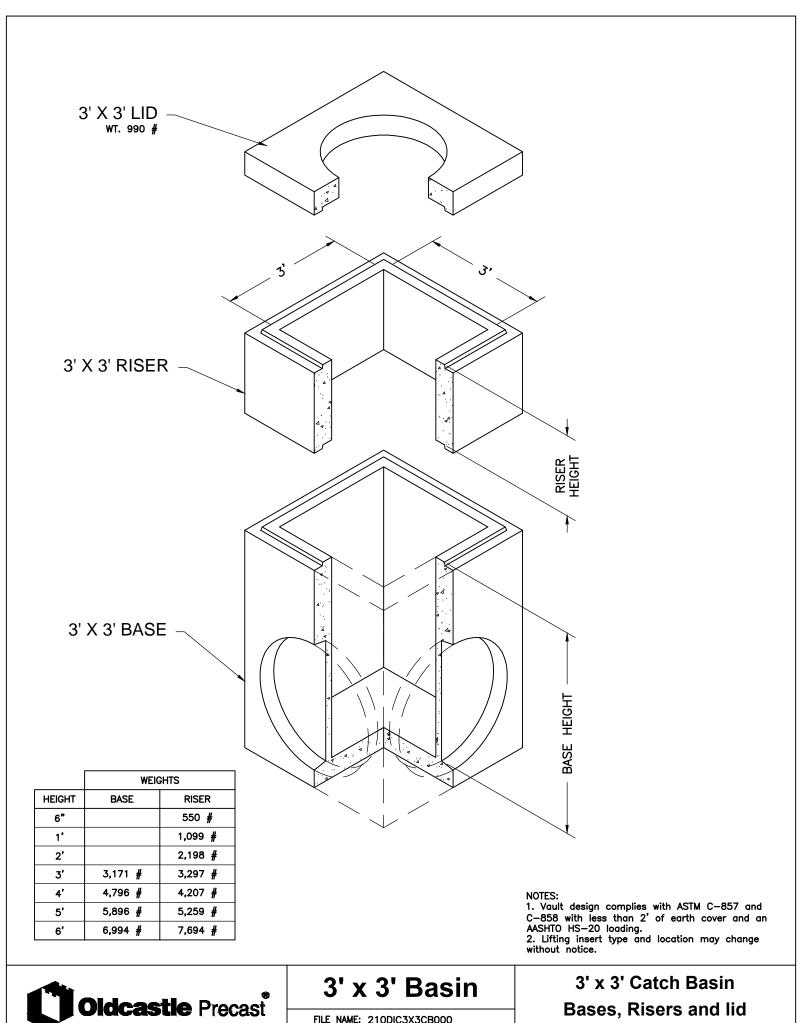
3.00







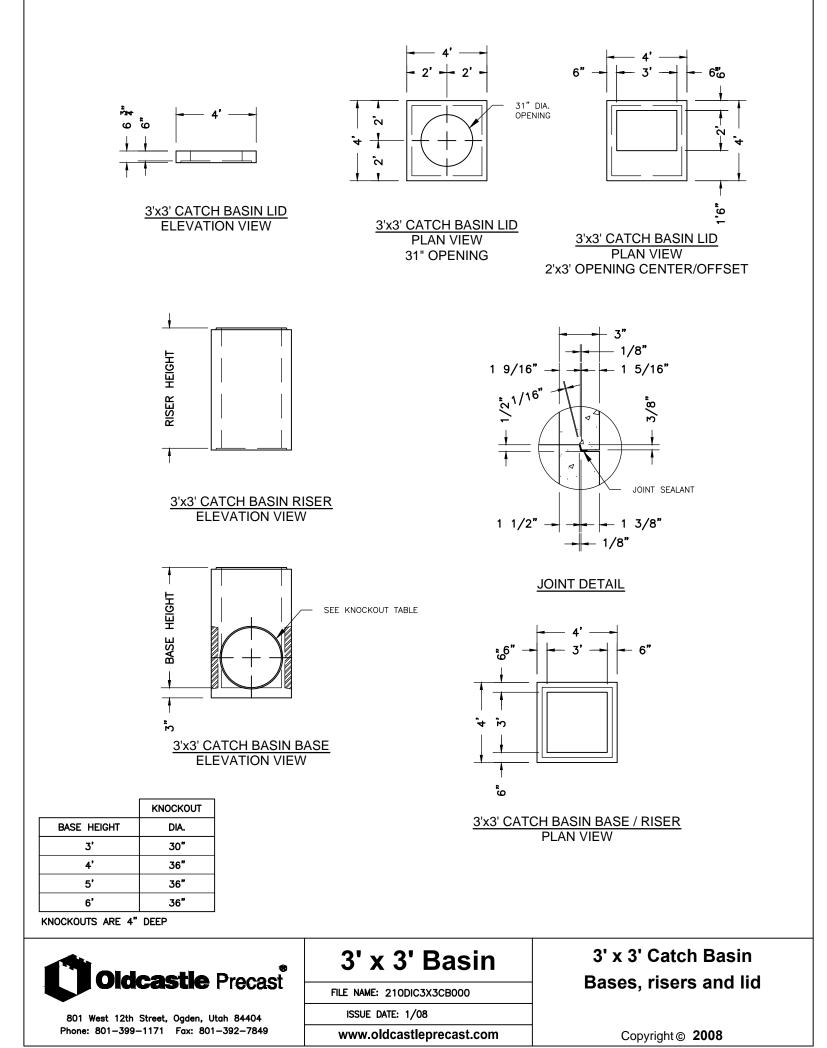
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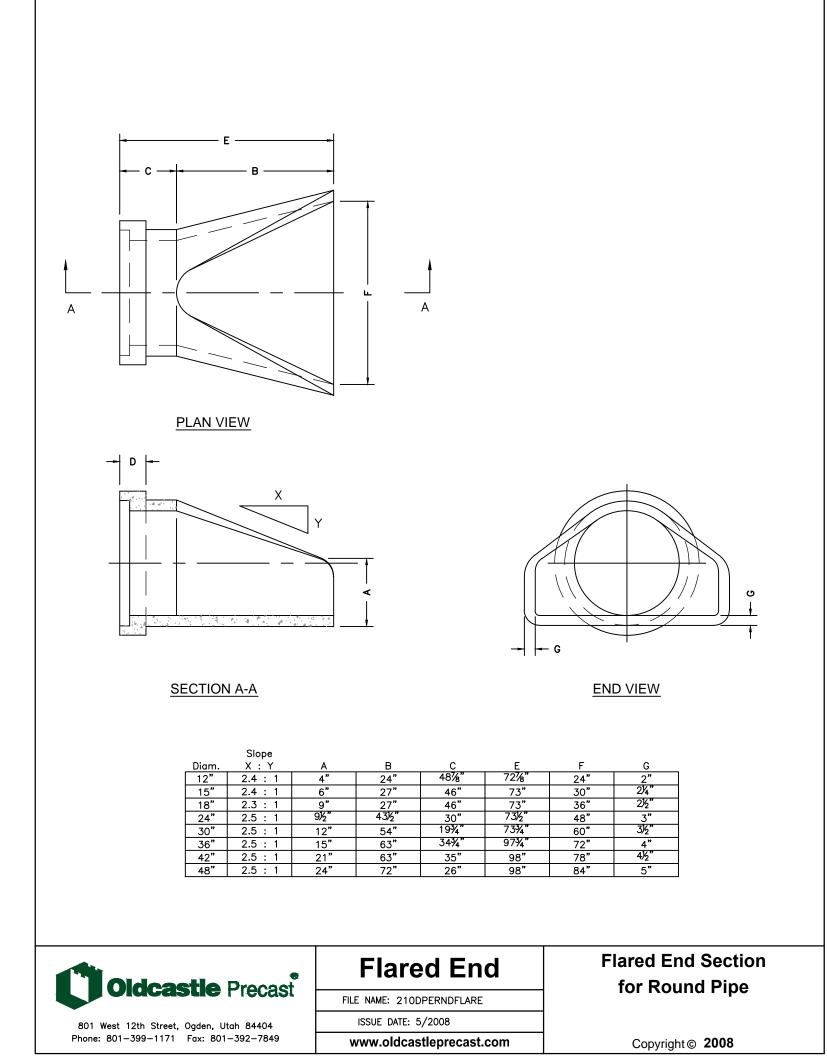


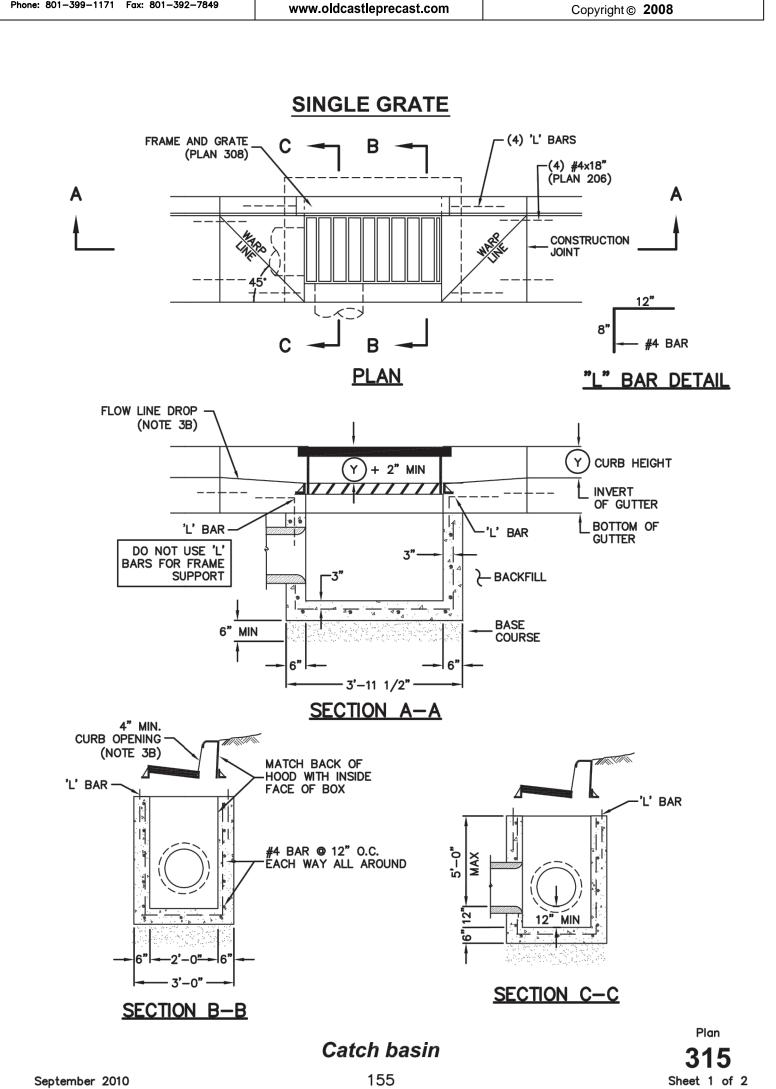
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ISSUE DATE: 1/08

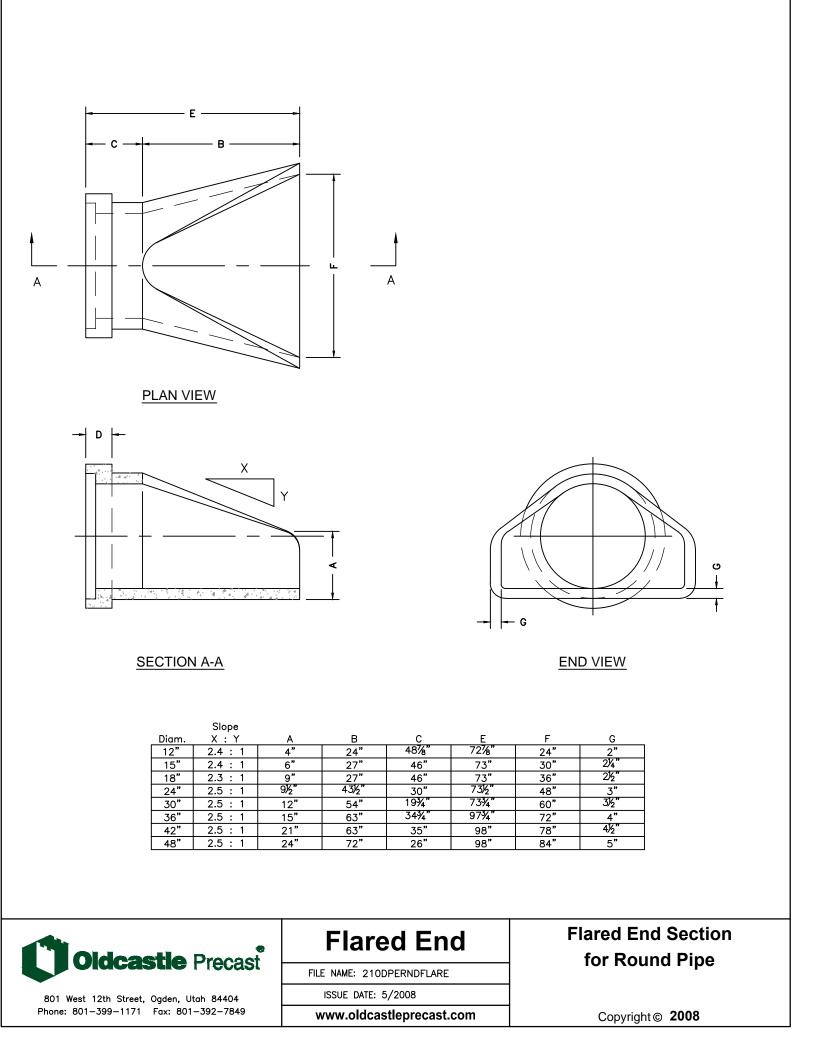
801 West 12th Street, Ogden, Utah 84404 Phone: 801-399-1171 Fax: 801-392-7849

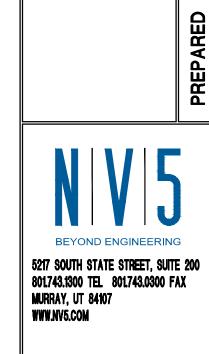






Bases, Risers and lid





NOITUAD

DATE SUBMITTED: 01/07/2014

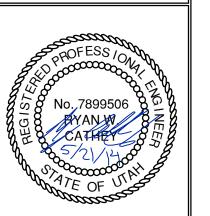
PHASE

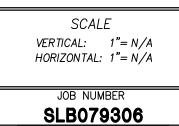
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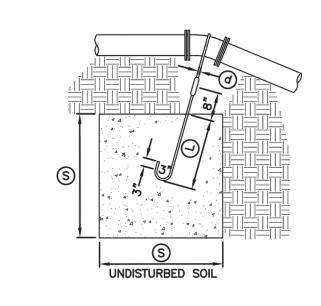
SUMMIT

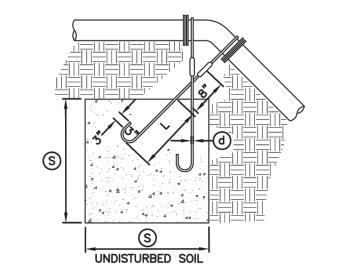
DETAIL

STORM







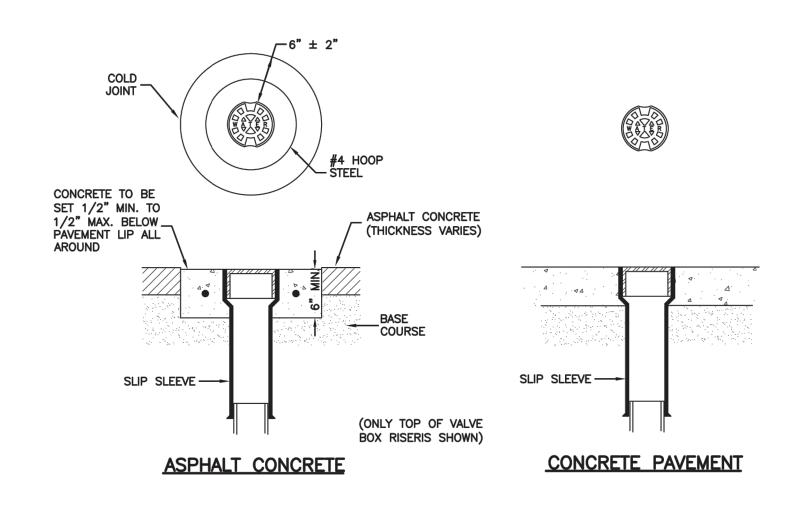


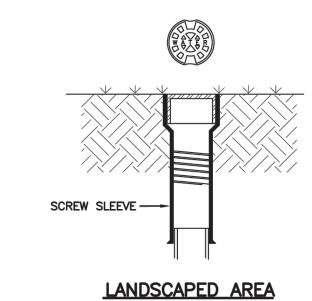
TYPE A RESTRAINT FOR 11 1/4" - 22 1/2" VERTICAL BENDS

TABLE OF DIMENSIONS										
				(y)	(0)	(L)				
PIPE SIZE NOMINAL DIAMETER — INCH	VERTICAL BEND	IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIDE OF CUBE — FEET	DIAMETER OF SHANK OR REBAR RODS — INCH	DEPTH OF ROD CONCRETE — FEET				
4"		1/4°	8	2.0	5/8"	1.5				
4		1/2°	15.6	2.5	5/8"	2.0				
6"	11	1/4°	15.6	2.5	5/8"	2.0				
O		1/2°	34.3	3.25	5/8"	2.0				
8"	11	1/4°	27	3.0	5/8"	2.0				
0	22	1/2°	64	4.0	5/8"	2.0				
12"	11	1/4°	64	4.0	5/8"	2.0				
12	22	1/2°	125	5.0	3/4"	3.0				
16"	11	1/4°	107	4.25	7/8"	3.0				
	22	1/2°	216	6.0	7/8"	3.0				
20"	11	1/4°	138	5.17	1"	3.5				
20	22	1/2°	334	6.94	1"	4.0				
24"	11	1/4°	240	6.22	1"	4.0				
2+	22	1/2°	476	7.81	1"	4.0				
30"		1/4°	369	7.17	1"	4.0				
00		1/2°	733	9.02	1"	4.0				

TYPE B RESTRAINT FOR 45° VERTICAL BENDS

TAI	BLE O	F DI	MEN	SION	IS
			S	d	(L)
PIPE SIZE NOMINAL DIAMETER — INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIDE OF CUBE - FEET	DIAMETER OF SHANK OR REBAR RODS — INCH	DEPTH OF ROD CONCRETE - FEET
4"	45°	1	3.0	5/8" 5/8"	2.0
6"		2.37	4.0	5/8" 5/8"	2.5
8"		3.97	4.75	5/8" 5/8"	3.0
12"		9.04	6.25	5/8" 5/8"	4.0
16"		17.24	7.75	3/4" 3/4"	4.0
20"		26.52	92.17	3/4" 3/4"	4.0
24"		37.82	10.07	3/4"	4.0
30"		58.26	11.63	3/4" 3/4"	4.0





_ 1 1/2" PENTAGON OPERATING NUT (OPENS LEFT) PAINT BONNET PER AWWA C502

— GREEN — CLASS 1 (1000 GPM OR GREATER) ORANGE - CLASS B (500 TO 1000 GPM)
RED - CLASS C (LESS THAN 500 GPM) 1.5 FT CONCRETE COLLAR (PLAN 574) PAINT SPOOLS -FASTEN GEOTEXTILE TO SPOOL WITH-WRAP SEWER - ROCK IN **GEOTEXTILE** THRUST BLOCK DRAIN HOLES (LOCATIONS VARY) - SEWER ROCK GREASE AND SPOOL WHEN SPOOL LENGTH IS GREATER THAN 16 FEET, VERIFY WITH AGENCY IF AN ADDITIONAL VALVE THRUST BLOCK (PLAN 561) IS REQUIRED AT THE HYDRANT

		LEGEND	
No.	*	ITEM	DESCRIPTION
A		FIRE HYDRANT	AWWA C502
B		VALVE BOX WITH LID	2-PIECE CAST IRON
0		GATE VALVE WITH 2" X 2" NUT	AWWA C509
9		TEE WITH 125 # FLANGE	AWWA C110

* FURNISHED BY UTILITY AGENCY

SECTION

ROADWAY SURFACE

(PLAN 413) 60" DECK_

(PLAN 345)

CONCRETE COLLAR_

RESTORATION

USE UN
THREADED
BRASS
PIPING

SERVICE_ SADDLE

August 2010

WATER TIGHT SEAL ALL OPENINGS

Cover collar for water valve box 277

RESTORATION

FRAME AND COVER (PLAN 402)

REDUCER AND UNION OR COUPLING

__1" VACUUM AND AIR RELEASE VALVE

__1" BALL VALVE (200 PSI)

CROSS-SECTION

(PLAN 360)

LANDSCAPED SURFACE

ADJUST TO GRADE

FINISH GRADE

6" WIDE DETECTABLE TAPE

1% SLOPE

__2" SCH 40 PVC 1

__5' dia concrete Riser sections as Needed

__CONCRETE_BASE (PLAN 562)

_ BACKFILL ALL AROUND

SEE DETAIL

DRILL TWO 3/8"D
HOLES IN BOTTOM OF
BEND AND CLAMP ON
SS MESH WITH SS
STRAPS. (OMIT IF IN
WATER TABLE)

_1/4 CU. YD. OF 2"
GRAVEL FOR DRAIN.
WRAP WITH GEOTEXTILE

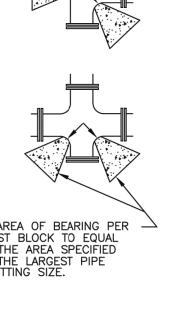
February 2011

Fire hydrant with valve 237

511

Tie-down thrust restraints

269



		<u></u>	·	_	
				- >>	
HRUST	EA OF BLOCK E AREA E LARG ING SIZ	(TO F	NG PER QUAL OFFIED IPE	, \(\)	
IUM BE	EARING	AREA	IN SQ.		
TEES, VALVES DEAD ENDS	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS	
2	3	2	2	2	
4	5.5	3	1.5	1	#4 FDOOK COATED
6.5	9.5	5	2.75	1.5	#4 EPOXY COATED REBAR WITH 12" MIN. — EMBEDMENT
14	20	11	5.5	3	EMIDEDINIEN

#4 EPOXY COATED REBAR WITH 12" MIN. EMBEDMENT	

Direct bearing thi	rust block
239	

561

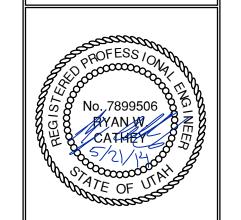












NOITUAD

PHASE

EDEN

SUMMIT

SUMMIT MOUNTAIN

5.01

SCALE VERTICAL: 1"= N/A HORIZONTAL: 1"= N/A JOB NUMBER SLB079306

MINIMUI

OPEN TO AIR. SECURE A No 14 MESH NON-COOORDABLE SCREEN OVER THE OPEN END.— ATTACH WITH STAINLESS STEEL HOSE CLAMP IN VEHICULAR
TRAFFIC AREAS
INSTALL (2) 6"
DIA. CONCRETE
FILLED SCHEDULE DRILL (30) 1/2" DIA. HOLES IN FIVE ROWS AT 6 HOLES PER ROW GALVANIZED STEEL_ ENCLOSURE 40 STEEL PIPE. DRILL 1" DRAIN HOLE-STAINLESS STEEL_ FASTENERS ALL AROUND 15" THICK CONCRETE FOUNDATION

April 1997

20" | 27 | 52 | 28.5 | 14.5 | 16

24" 53 74 41 21 53 30" 81 114 62 32 16

6"

8"

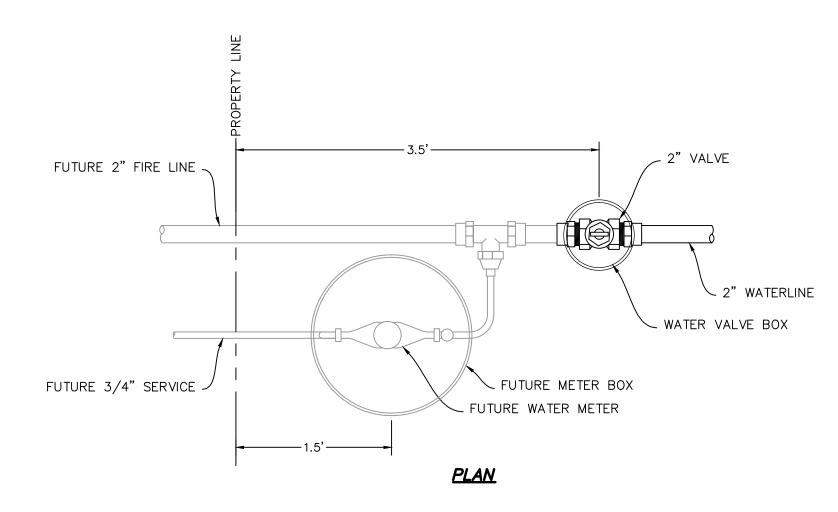
April 1997

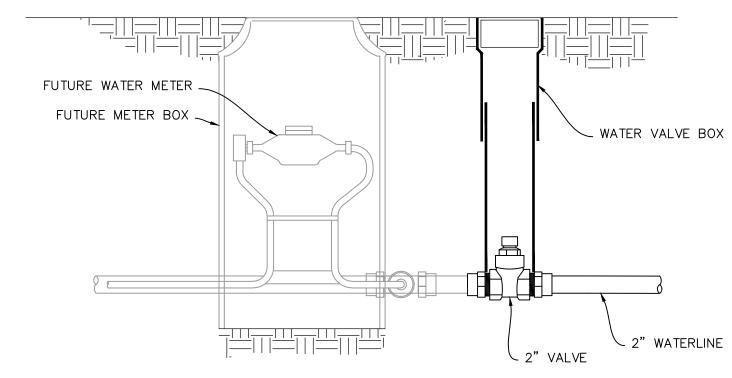
14" | 19 | 26.5 | 14.5 | 7.5 | 4 16" 24 34 18.5 9.5 6

INSTALL THRUST RESTRAINT SEE PLAN No. 562 (TYP) (MJ AND PUSH—ON JOINTS)

562

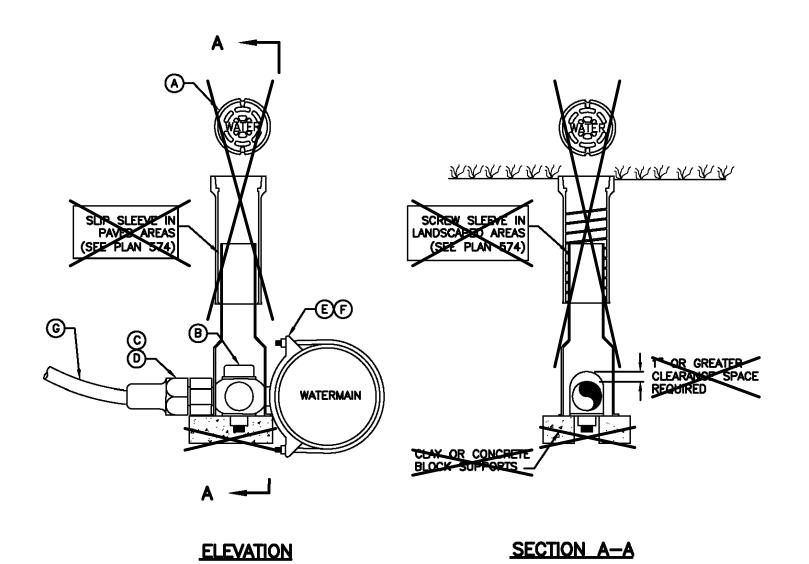
<u>DETAIL</u>





<u>SECTION</u>

NOTE: FUTURE SIZES ARE PRELIMINARY. ACTUAL SIZE TO BE DETERMINED BY BUILDING DESIGNER WATER LATERAL DETAIL



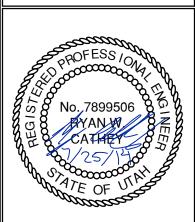
		LEGEND		
No.	*	ITEM	DESCRIPTION	
⊕		VALVE BOX WITH LID	2 PIEGE GAST IRON-	OMIT VALVE BOX
(B)		CORPORATION STOP	BRASS	
0		COPPER ADAPTER		
0		FLARE OR PACK JOINT COPPER ADAPTER		
E		SERVICE SADDLE CLAMP	D.I., A.C., C.I.	
(Ē)		SERVICE SADDLE CLAMP	P.V.C.	
<u> </u>		COPPER PIPE (SERVICE LINE)	TYPE K (SOFT)	
	*	FURNISHED BY UTILITY AGENCY		

1 1/2" and 2" Service taps

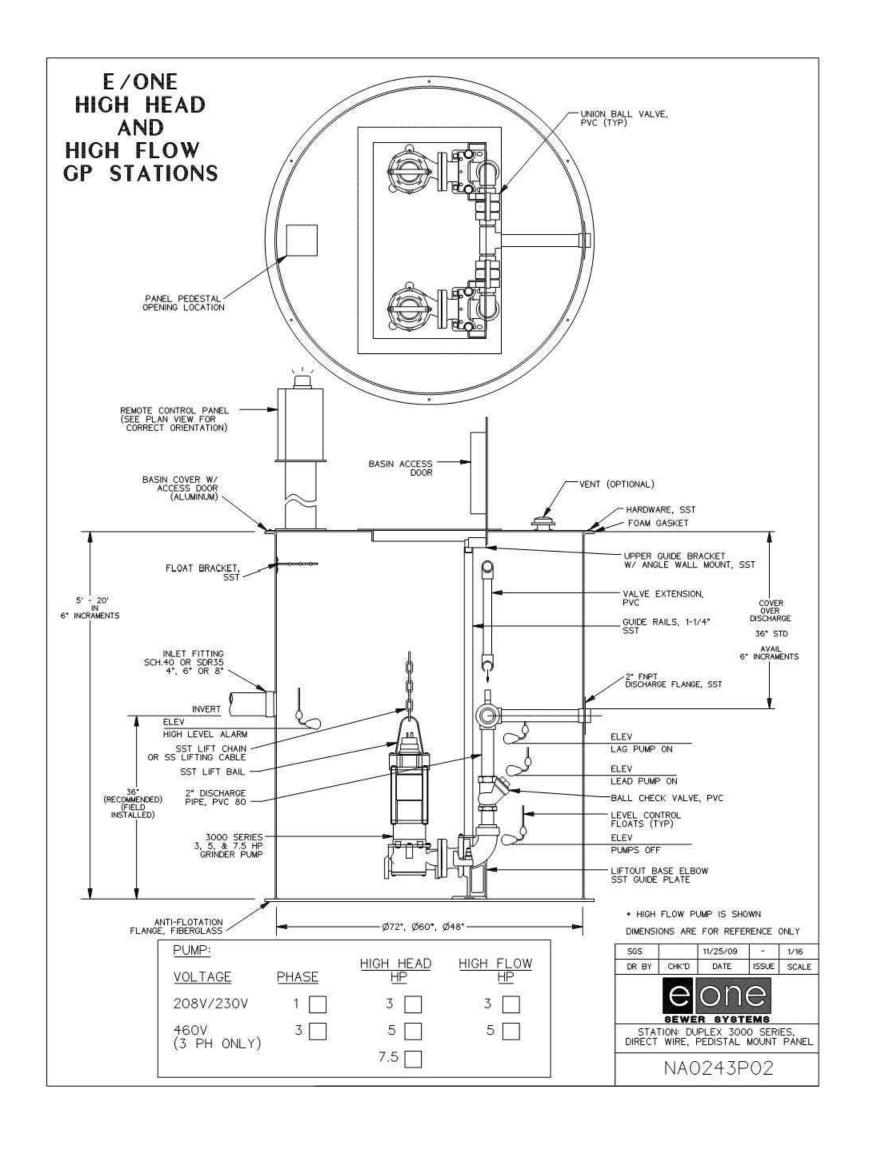
Plan **552**

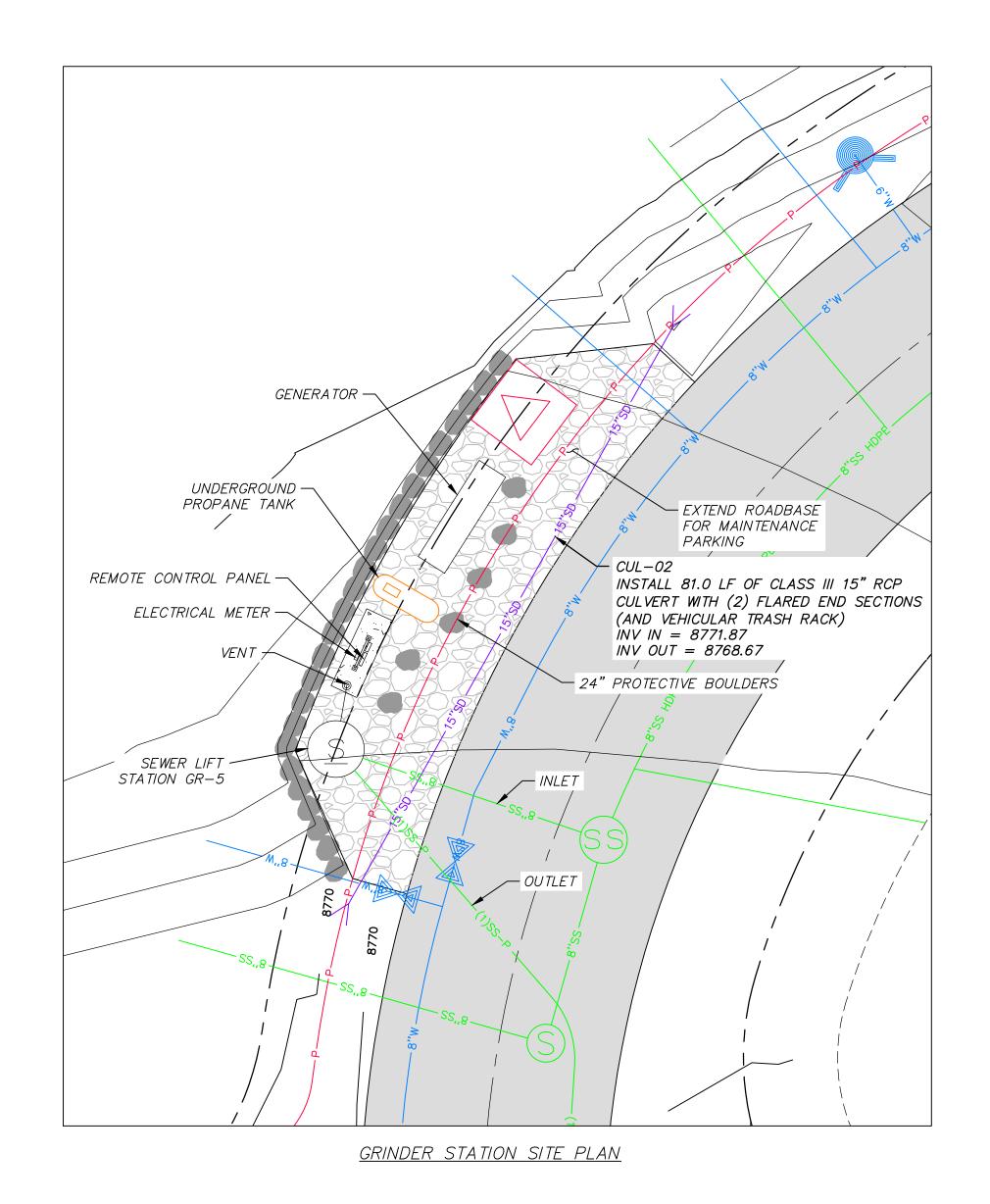
PHASE EDEN SUMMIT

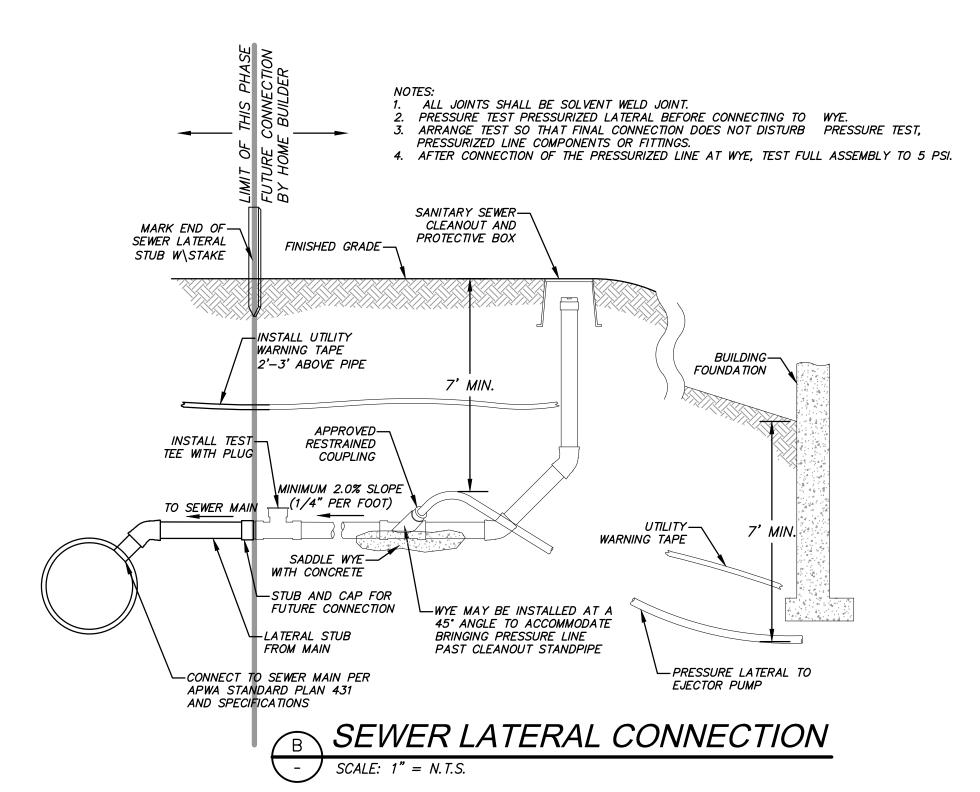
5217 SOUTH STATE STREET, SUITE 200 801,743,1300 TEL 801,743,0300 FAX MURRAY, UT 84107 WWW.NV5.COM







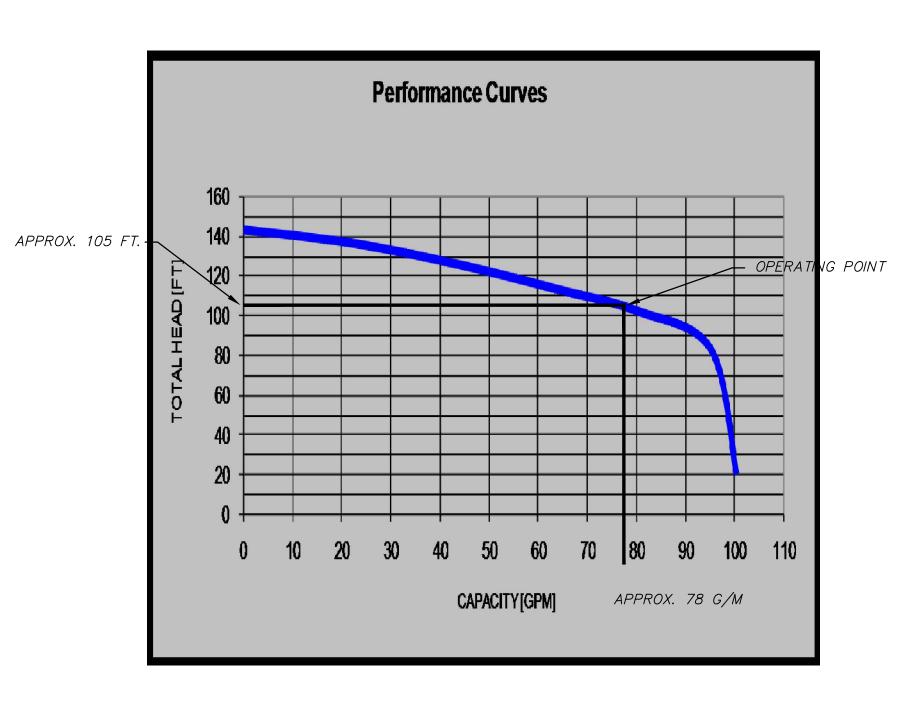




										LEGEND					
PUMP NAME		INVERT IN SIZE	SUMP ELEV	BASIN DIA.	PUMP HEAD	PUMP HP	DISCHARGE DIA	DISCHARGE VELOCITY	MIN STORAGE VOLUME (gal)		PUMP	PEAK FLOW (GPM)	AUTO DIALER	MAIN POWER TRANSFER SWITCH	POWER
GR-5	8759.37	8"	8754.37	72"	105	5	3"	3.66	1050	DUPLEX 3000 SERIES	SUBMERSIBLE GRINDER PLIMP F-ONF 3H51	78	CELLULAR	MANUAL	1 PHASE/240 VOLT

SEWER GRINDER PUMP DETAILS SCALE: 1" = N.T.S.

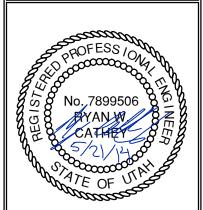
Grinder Station Calculations							
	GR-5						
Head Difference	8754.34-8848.06=93.72 ft.						
Pipe Length	1210 ft.						
Friction Loss	10.81 ft.	·					
Flow Calc.	(26 units)(3.2 People/household)(100 gallons/day/capita)≈5.78 g/m average	•					
Peaking Factor		•					
(Ten States	$Q_{peak}/Q_{ave} = 18 + VP/4 + VP = 4.5 Q_{peak} = 23.0 \text{ g/m}$						
Method)	P= Polulation in Thousands =0						
Pump Curve	See Pump Curve = 78 g/m						

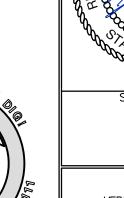




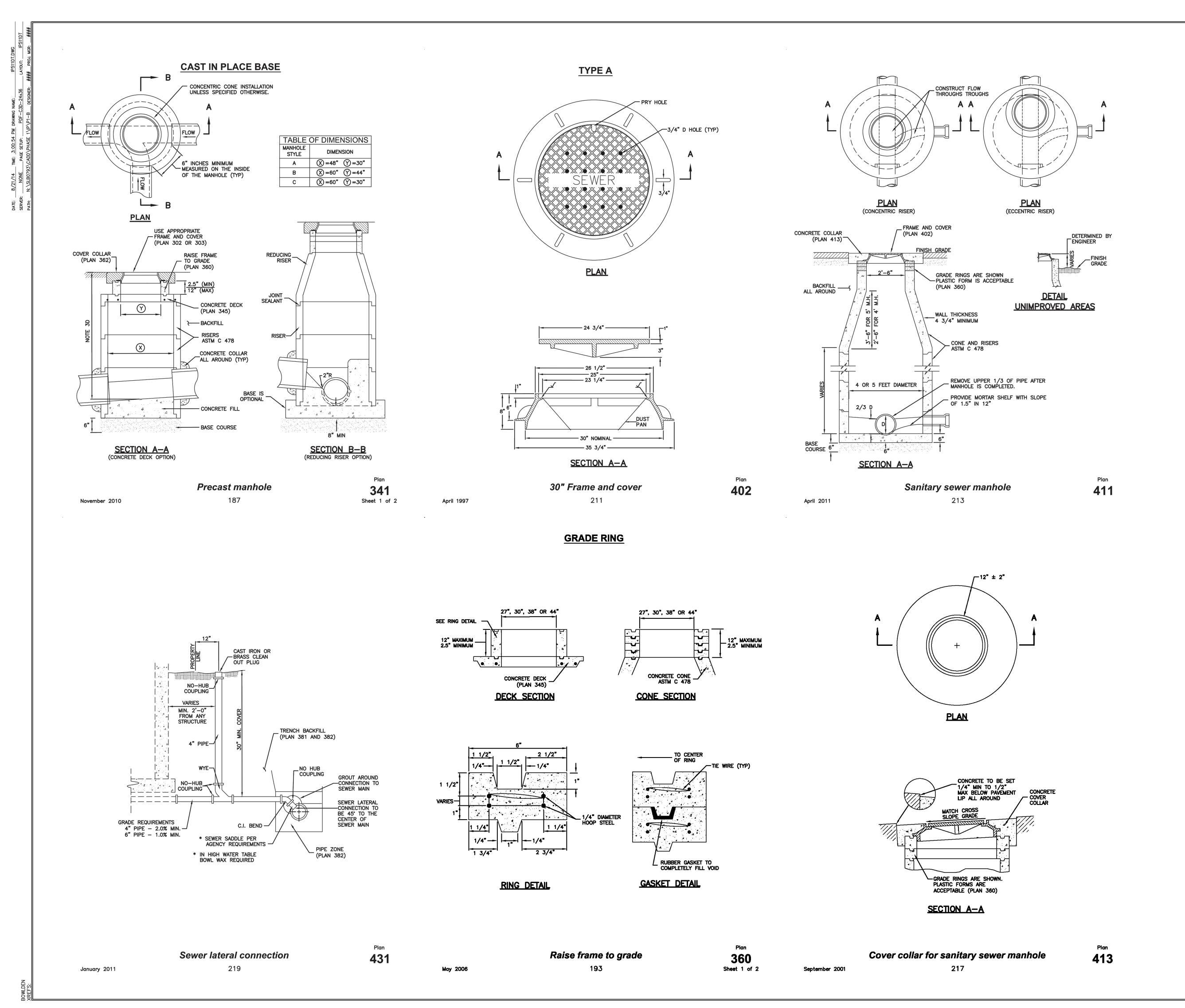
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SHEET NUMBER
5.10



The engineer preparing these plans will not be for, or liable for, unauthorized changes to or these plans. All changes to the preparer of the

ETAILS

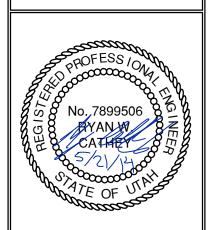
DATE SUBMITTED:

SUMMIT MOUNTAIN

SUMMIT EDEN PHASE
SEWER DETAILS

BEYOND ENGINEERING

5217 SOUTH STATE STREET, SUITE 200
801,743,1300 TEL 801,743,0300 FAX
MURRAY, UT 84107
WWW.NV5.COM



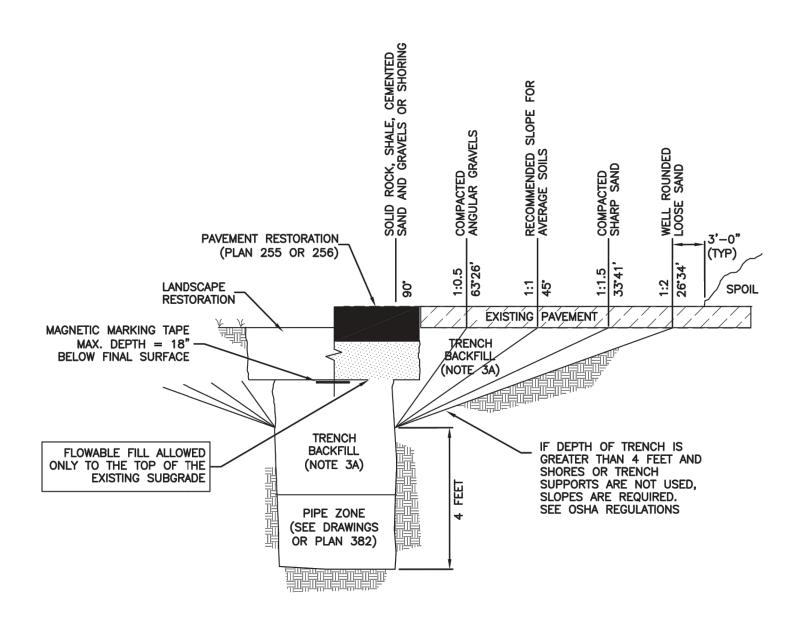
SHEET NUMBER **5.11**

A. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches. B. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.

3. EXECUTION

A. Trench Backfill:

- 1) DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench
- 2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23
- 3) Water jetting is NOT allowed.
- 4) Submission of quality control compaction test result data developed for haunching areas may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
- B. Flowable Fill: When required, place controlled low strength material in the trench, APWA Section 31 05 15. Cure the fill before placing surface restorations.
- C. Surface Restoration:
- 1) Landscaped Surface: Rake to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.
- 2) Paved Surface: Do not install asphalt or concrete surfacing until trench compaction is acceptable to ENGINEER. Follow APWA Section 33 05 25 (asphalt surfacing), or APWA Section 33 05 25 (concrete surfacing).



202

Pipe zone backfill

GENERAL

A. Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.

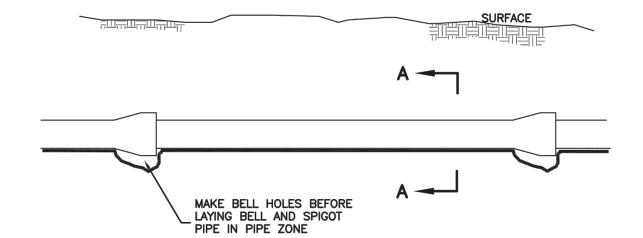
2. PRODUCTS

- 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: APWA Section 03 30 04.
- D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
- E. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

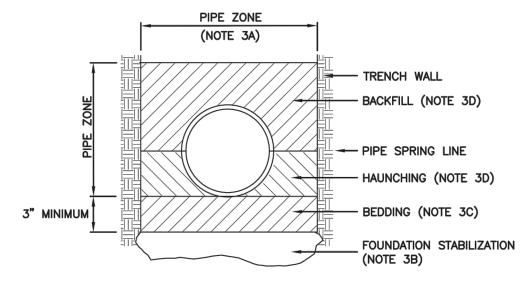
3. EXECUTION

- A. Excavate the Pipe Zone: Width is measured at the pipe spring line and includes any necessary sheathing. Provide width recommended by pipe manufacturer. Follow manufacturer's recommendations when using trench boxes.
- B. Foundation Stabilization: Get ENGINEER's permission before installing common fill. Vibrate to stabilize. Installation of stabilization-separation geotextile will be required to separate backfill material and native subgrade materials if common fill cannot provide a working surface or prevent soils migration.
- C. Base Course:
- 1) Furnish untreated base course material unless specified otherwise by pipe
- manufacturer. 2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23
- 3) When using concrete, provide at least Class 2,000 per APWA Section 03 30 04. D. Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
- 1) 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 unless pipe manufacturer requires more stringent installation.
- 2) Submission of quality control compaction test result data developed for the haunch zone may be requested by ENGINEER at any time. CONTRACTOR is to provide results of tests immediately upon request.
- E. Flowable Fill (when required and if allowed by pipe manufacturer):
- 1) Place the controlled low strength material, APWA Section 31 05 15.
- 2) Prevent pipe flotation by installing in lifts and providing pipe restraints as required by pipe manufacturer.
- 3) Reset pipe to line and grade if pipe "floats" out of position.

Trench backfill 381 203 January 2011



ELEVATION VIEW



SECTION A-A

INSTALLATION

CONCRETE PIPE: FOLLOW ASTM C 1479 "STANDARD PRACTICE FOR INSTALLATION OF PRECAST CONCRETE SEWER, STORM DRAIN, AND CULVERT PIPE USING STANDARD INSTALLATIONS.

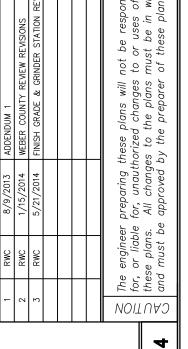
PVC AND HDPE PIPE: FOLLOW ASTM D 2321
"STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY—FLOW

CORRUGATED METAL PIPE: FOLLOW ASTM A 798 VITRIFIED CLAY PIPE: FOLLOW ASTM C 12.

Pipe zone backfill

205

382



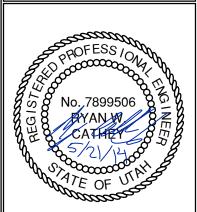
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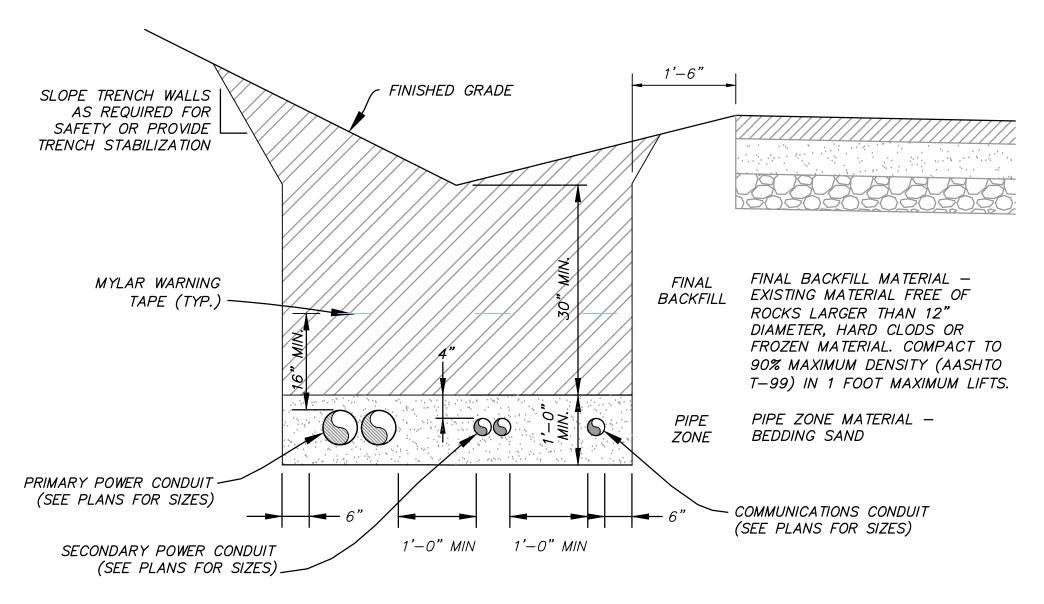




SHEET NUMBER

SCALE VERTICAL: 1"= N/A HORIZONTAL: 1"= N/A

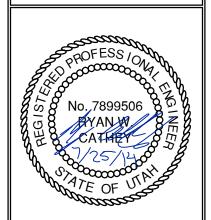
> JOB NUMBER SLB079306



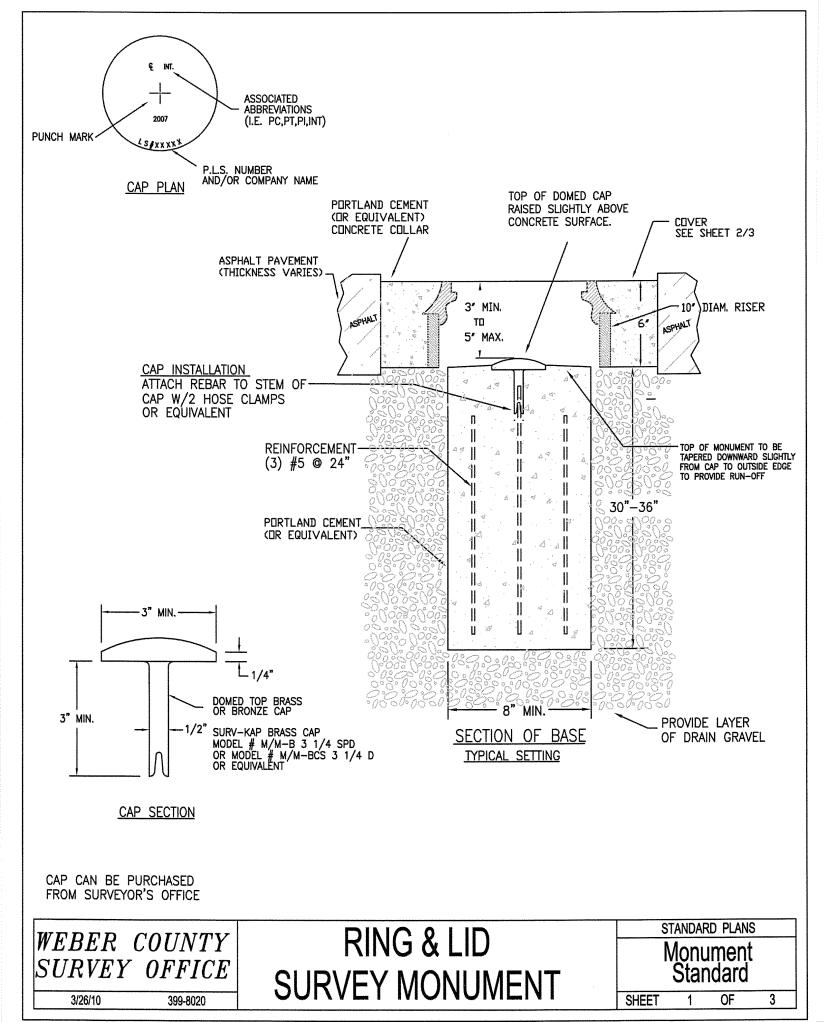
NOTE: EACH CONDUIT REQUIRES 25001b MULE TAPE WITHIN

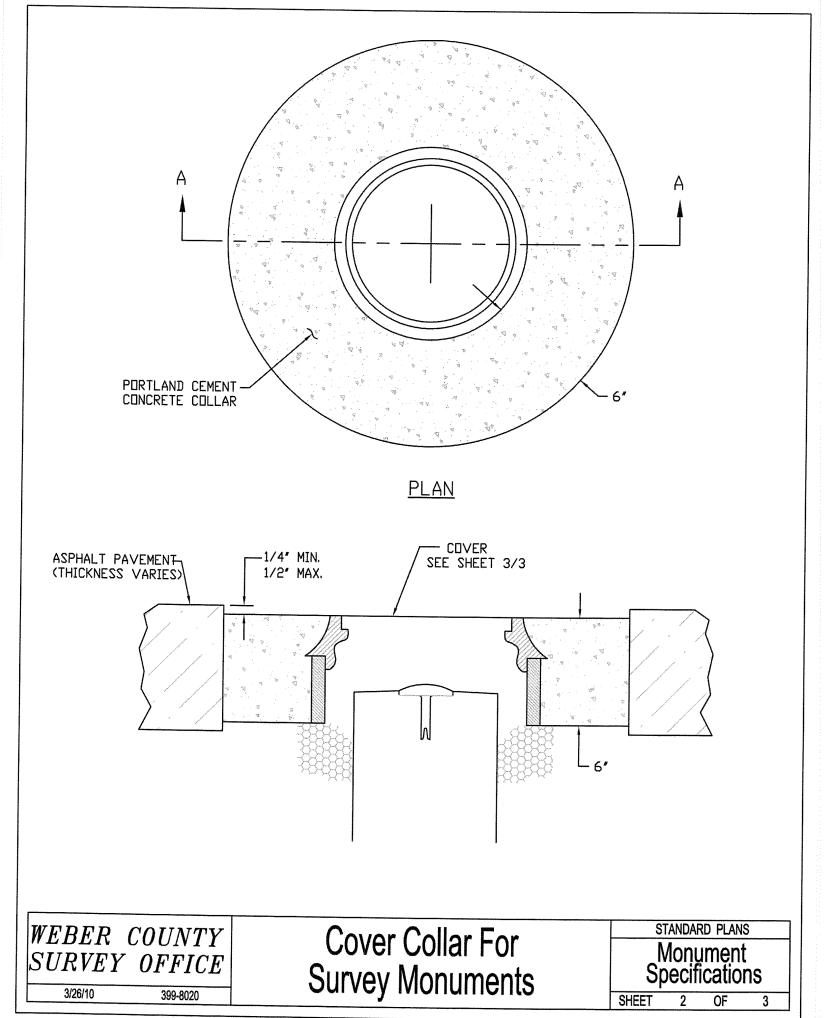


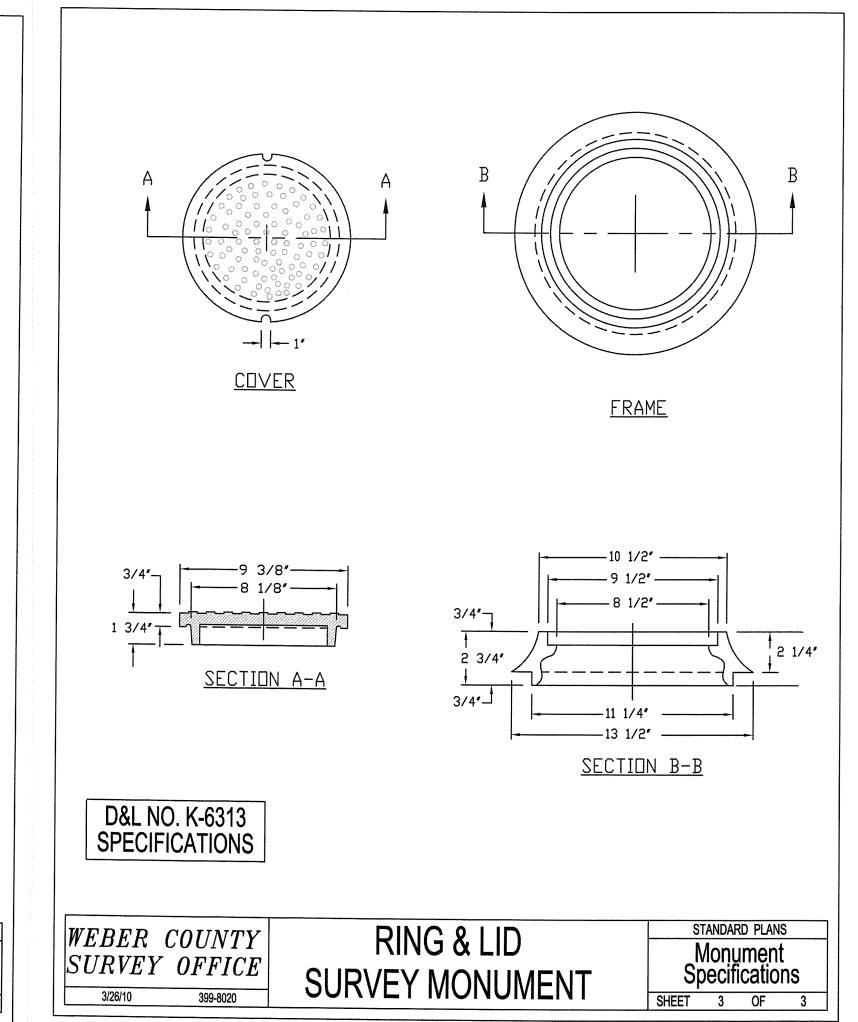
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SHEET NUMBER 5.20







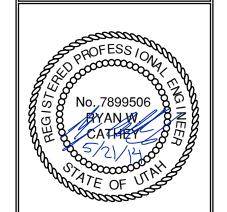


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DATE SUBMITTED: 01/07/2014

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5.30

SCALE VERTICAL: 1"= N/A HORIZONTAL: 1"= N/A

JOB NUMBER SLB079306





