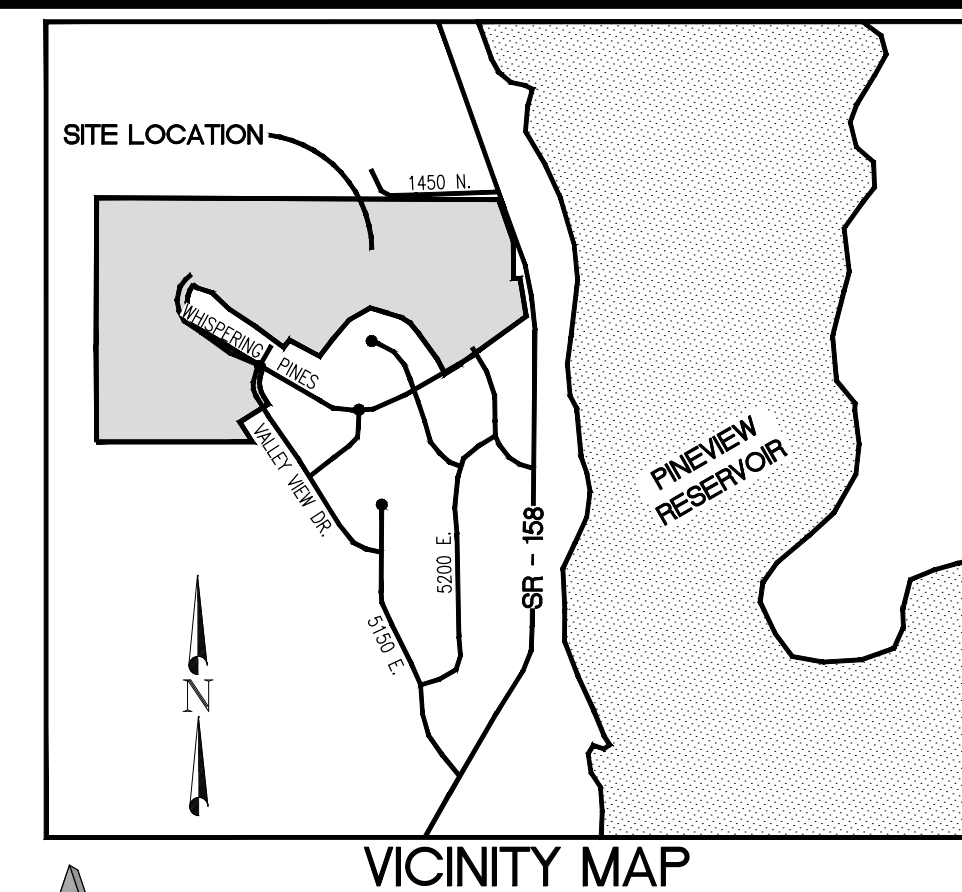


# HARBOR VIEW ESTATES CLUSTER SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 10, AND THE SOUTH HALF OF SECTION 3  
TOWNSHIP 6 NORTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN,  
WEBER COUNTY, UTAH, JANUARY 2021



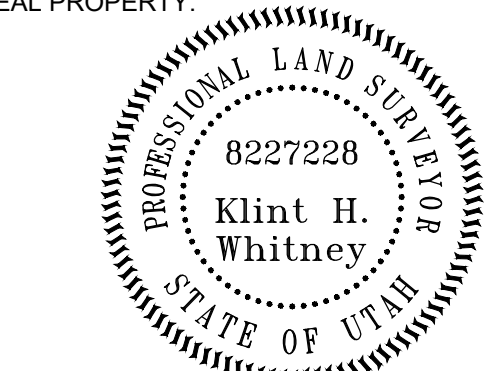
VICINITY MAP

**BOUNDARY DESCRIPTION**  
A PART OF THE NORTHEAST QUARTER OF SECTION 10 AND A PART OF THE SOUTH HALF OF SECTION 3, TOWNSHIP 6 NORTH, RANGE 1 EAST OF THE SALT LAKE BASE AND MERIDIAN. BEGINNING AT A POINT ON THE NORTHERLY BOUNDARY LINE OF THE RESERVE AT CRIMSON RIDGE CLUSTER SUBDIVISION PHASE 1 BEING LOCATE NORTH 90°00'00" EAST 798.17 FEET AND SOUTH 00°00'00" EAST 37.80 FEET FROM THE NORTH QUARTER CORNER OF SECTION 10, TOWNSHIP 6 NORTH, RANGE 1 EAST, OF THE SALT LAKE BASE AND MERIDIAN (BASIS OF BEARING BEING THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 6 NORTH, RANGE 1 EAST, OF THE SALT LAKE BASE AND MERIDIAN SOUTH 89°38'41" EAST), RUNNING THENCE NORTH 35°45'52" WEST 57.86 FEET, THENCE ALONG THE ARC OF A 295.00 FOOT RADIUS CURVE TO THE RIGHT 35.65 FEET, HAVING A CENTRAL ANGLE OF 06°53'30", CHORD BEARS NORTH 32°18'07" WEST 35.63 FEET; THENCE NORTH 51°37'53" EAST 278.93 FEET; THENCE NORTH 40°13'06" WEST 607.64 FEET; THENCE NORTH 40°42'22" WEST 310.19 FEET; THENCE NORTH 48°18'19" WEST 386.26 FEET; THENCE SOUTH 29°21'53" WEST 358.34 FEET; THENCE ALONG THE ARC OF A 25.00 FOOT RADIUS CURVE TO THE RIGHT 27.00 FEET, HAVING A CENTRAL ANGLE OF 61°52'36", CHORD BEARS NORTH 76°58'27" WEST 25.71 FEET; THENCE NORTH 45°02'30" WEST 210.44 FEET; THENCE ALONG THE ARC OF A 250.00 FOOT RADIUS CURVE TO THE LEFT 41.41 FEET, HAVING A CENTRAL ANGLE OF 09°29'22", CHORD BEARS NORTH 49°04'50" WEST 41.36 FEET; THENCE NORTH 64°06'26" EAST 152.56 FEET; THENCE NORTH 23°18'36" EAST 250.13 FEET TO AN EXISTING FENCE LINE. THENCE ALONG SAID EXISTING FENCE LINE THE FOLLOWING THREE (3) COURSES: (1) SOUTH 89°36'44" EAST 101.63 FEET; (2) SOUTH 89°28'56" EAST 436.43 FEET; (3) NORTH 89°31'33" EAST 508.87 FEET TO THE WEST RIGHT-OF-WAY LINE OF HIGHWAY 158; THENCE ALONG SAID WEST RIGHT-OF-WAY LINE THE FOLLOWING FOUR (4) COURSES: (1) SOUTH 19°31'57" EAST 403.00 FEET; (2) SOUTH 00°13'57" EAST 333.69 FEET; (3) SOUTH 89°36'59" EAST 58.25 FEET; (4) SOUTH 09°26'55" EAST 347.95 FEET TO THE NORTH BOUNDARY LINE OF SAID RESERVE AT CRIMSON RIDGE PHASE 1; THENCE LONG SAID NORTH BOUNDARY LINE SOUTH 54°14'07" WEST 537.83 FEET TO THE POINT OF BEGINNING, CONTAINING 19.478 ACRES.  
ALSO AND TOGETHER WITH A PART OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 6 NORTH, RANGE 1 EAST, OF THE SALT LAKE BASE AND MERIDIAN. BEGINNING AT A POINT ON THE WEST LINE OF SAID NORTHWEST QUARTER BEING LOCATED SOUTH 00°20'41" EAST 601.40 FEET ALONG THE WEST LINE OF SAID NORTHWEST QUARTER; RUNNING THENCE SOUTH 85°42'49" EAST 1304.26 FEET TO THE BOUNDARY LINE OF SAID RESERVE AT CRIMSON RIDGE PHASE 1; THENCE ALONG THE BOUNDARY LINE OF SAID RESERVE AT CRIMSON RIDGE PHASE 1 FOLLOWING TWO (2) COURSES: (1) SOUTH 32°00'00" EAST 213.36 FEET; (2) NORTH 90°00'00" WEST 1412.00 FEET TO THE WEST LINE OF SAID NORTHWEST QUARTER; THENCE ALONG THE WEST LINE OF SAID NORTHWEST QUARTER NORTH 00°20'41" WEST 278.43 FEET TO THE POINT OF BEGINNING, CONTAINING 7.09 ACRES.

## SURVEYOR'S CERTIFICATE

I, KLINT H. WHITNEY, DO HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH AND THAT I HOLD CERTIFICATE NO. 8227228 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT; I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS I HAVE COMPLETED A SURVEY OF THE PROPERTY AS SHOWN AND DESCRIBED ON THIS PLAT, AND HAVE SUBDIVIDED SAID PROPERTY INTO LOTS AND STREETS, TOGETHER WITH EASEMENTS, HEREAFTER TO BE KNOWN AS HARBOR VIEW ESTATES CLUSTER SUBDIVISION IN ACCORDANCE WITH SECTION 17-23-17 AND HAVE VERIFIED ALL MEASUREMENTS; THAT THE REFERENCE MONUMENTS SHOWN HEREON ARE LOCATED AS INDICATED AND ARE SUFFICIENT TO RETRACE OR REESTABLISH THIS SURVEY; THAT ALL LOTS MEET THE REQUIREMENTS OF THE LAND USE CODE; AND THAT THE INFORMATION SHOWN HEREIN IS SUFFICIENT TO ACCURATELY ESTABLISH THE LATERAL BOUNDARIES OF THE HEREIN DESCRIBED TRACT OF REAL PROPERTY.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.



KLINT H. WHITNEY, PLS NO. 8227228

## OWNER'S DEDICATION

WE THE UNDERSIGNED OWNERS OF THE HEREIN DESCRIBED TRACT OF LAND, DO HEREBY SET APART AND SUBDIVIDE THE SAME INTO LOTS AND STREETS (PRIVATE STREETS, PRIVATE RIGHT OF WAY) AS SHOWN ON THE PLAT AND NAME SAID TRACT HARBOR VIEW ESTATES CLUSTER SUBDIVISION AND DO HEREBY DEDICATE TO PUBLIC USE ALL THOSE PARTS OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS STREETS, THE SAME TO BE USED AS PUBLIC THOROUGHFARES, AND ALSO TO DEDICATE AND RESERVE UNTO THEMSELVES, THEIR HEIRS, THEIR GRANTEEES AND ASSIGNS, A RIGHT-OF-WAY TO BE USED IN COMMON WITH ALL OTHERS WITHIN SAID SUBDIVISION (AND THOSE ADJOINING SUBDIVISIONS THAT MAY BE SUBDIVIDED BY THE UNDERSIGNED OWNERS, THEIR SUCCESSORS, OR ASSIGNS) ON, OVER AND ACROSS ALL THOSE PORTIONS OR PARTS OF SAID TRACT OF LAND DESIGNATED ON SAID PLAT AS PRIVATE STREETS (PRIVATE RIGHTS OF WAY) AS ACCESS TO THE INDIVIDUAL LOTS, TO BE MAINTAINED BY A LOT (UNIT) OWNERS ASSOCIATION WHOSE MEMBERSHIP CONSISTS OF SAID OWNERS, THEIR GRANTEEES, SUCCESSORS, OR ASSIGNS, AND ALSO TO GRANT AND CONVEY TO THE SUBDIVISION LOT (UNIT) OWNERS ASSOCIATION, ALL THOSE PART OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS COMMON AREAS OR OPEN SPACE TO BE USED FOR RECREATIONAL AND OPEN SPACE PURPOSES FOR THE BENEFIT OF EACH LOT (UNIT) OWNERS ASSOCIATION MEMBER IN COMMON WITH ALL OTHERS IN THE SUBDIVISION AND ALSO GRANT AND DEDICATE TO WEBER COUNTY A PERPETUAL OPEN SPACE RIGHT AND EASEMENT ON AND OVER THE COMMON AREAS OR OPEN SPACE TO GUARANTEE TO WEBER COUNTY THAT THE COMMON AREAS REMAIN OPEN AND UNDEVELOPED EXCEPT FOR APPROVED RECREATIONAL, PARKING AND OPEN SPACE PURPOSES AND ALSO TO BE USED FOR STORM WATER DETENTION BASINS AND OTHER STORM DRAIN OR DRAINAGE PURPOSES AND FOR A SEWER EFFLUENT DRAINAGE FIELD TO BE MAINTAINED AND OPERATED BY WEBER COUNTY AND ALSO TO GRANT AND DEDICATE A PERPETUAL RIGHT AND EASEMENT OVER, UPON AND UNDER THE LANDS DESIGNATED HEREON AS PUBLIC UTILITY, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF PUBLIC UTILITY SERVICE LINES, STORM DRAINAGE FACILITIES, IRRIGATION CANALS OR FOR THE PERPETUAL PRESERVATION OF WATER CHANNELS IN THEIR NATURAL STATE WHICHEVER IS APPLICABLE AS MAY BE AUTHORIZED BY THE GOVERNING AUTHORITY, WITH NO BUILDINGS OR STRUCTURES BEING ERRECTED WITHIN SUCH EASEMENTS AND ALSO GRANT, DEDICATE AND CONVEY LANDS DESIGNATED ON THE PLAT AS POWER EASEMENT TO ROCKY MOUNTAIN POWER, A DIVISION OF PACIFIC CORP. THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF POWER LINES WITH NO BUILDINGS OR STRUCTURES BEING ERRECTED WITHIN SUCH EASEMENTS AND ALSO GRANT, DEDICATE AND CONVEY LANDS DESIGNATED ON THE PLAT AS WATERLINE EASEMENT TO CRIMSON RIDGE WATER COMPANY, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF WATER LINES WITH NO BUILDINGS OR STRUCTURES BEING ERRECTED WITHIN SUCH EASEMENTS AND ALSO GRANT, DEDICATE AND CONVEY LANDS DESIGNATED ON THE PLAT AS IRRIGATION EASEMENT TO CRIMSON RIDGE WATER COMPANY, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF IRRIGATION LINES WITH NO BUILDINGS OR STRUCTURES BEING ERRECTED WITHIN SUCH EASEMENTS AND ALSO GRANT, DEDICATE AND CONVEY LANDS DESIGNATED ON THE PLAT AS SEPTIC TANK EASEMENT TO PINEVIEW WEST SEWER IMPROVEMENT DISTRICT, THE SAME TO BE USED FOR MAINTENANCE AND REGULAR INSPECTIONS AND DO HEREBY DEDICATE, GRANT AND CONVEY TO WEBER COUNTY, UTAH, OR ITS DESIGNEE, ALL THOSE PARTS OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS TRAILS THE SAME TO BE USED AS PUBLIC OPEN SPACE.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.

B & H INVESTMENT PROPERTIES LLC

BY: STEVEN FENTON (OWNER/MANAGER)

BY: KEVIN DEPPE (OWNER/MANAGER)

## ACKNOWLEDGEMENT

STATE OF UTAH )  
COUNTY OF WEBER )  
On this \_\_\_\_\_ day of \_\_\_\_\_, 2021, personally appeared before me Steven Fenton, whose identity is personally known to me (or proven on the basis of satisfactory evidence) and who by me duly sworn/affirmed, did say that he/she is the Owner/Manager of B & H INVESTMENT PROPERTIES LLC, and that said document was signed by him/her in behalf of said Corporation by Authority of its Bylaws, or (Resolution of its Board of Directors), and said Kevin Deppe acknowledged to me that said Corporation executed the same.

STAMP NOTARY PUBLIC STAMP NOTARY PUBLIC

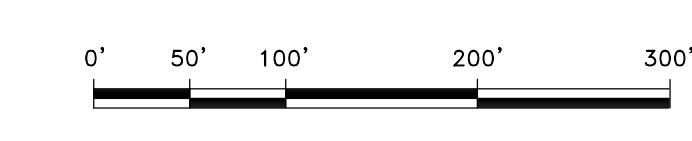
DEVELOPER: B&H INVESTMENT PROPERTIES LLC 110 WEST 1700 NORTH CENTERTVILLE, UTAH 84014 801-295-4193	S1 3	COUNTY RECORDER
<b>GARDNER ENGINEERING</b> CIVIL • LAND PLANNING MUNICIPAL • LAND SURVEYING 5150 SOUTH 875 EAST OGDEN, UT OFFICE: 801-476-0202 FAX: 801-476-0066		ENTRY NO. _____ FEE PAID _____ FILED FOR AND RECORDED _____ AT _____ IN BOOK _____ OF OFFICIAL _____ RECORDS, PAGE _____ RECORDED _____ FOR _____ COUNTY RECORDER _____ BY: _____

We may want to use a different label rather than R because of the definition of an R lot in our ordinance.

Snow storage easement at the end of the cul-de-sac 20X40 min. Its hard to turn pushing snow.

Probably do not need a snow storage in this area. The purpose is to keep from having a driveway or utility installed right where the snow can be pushed.

If this is going to be public there will need to be an agreement on the island.



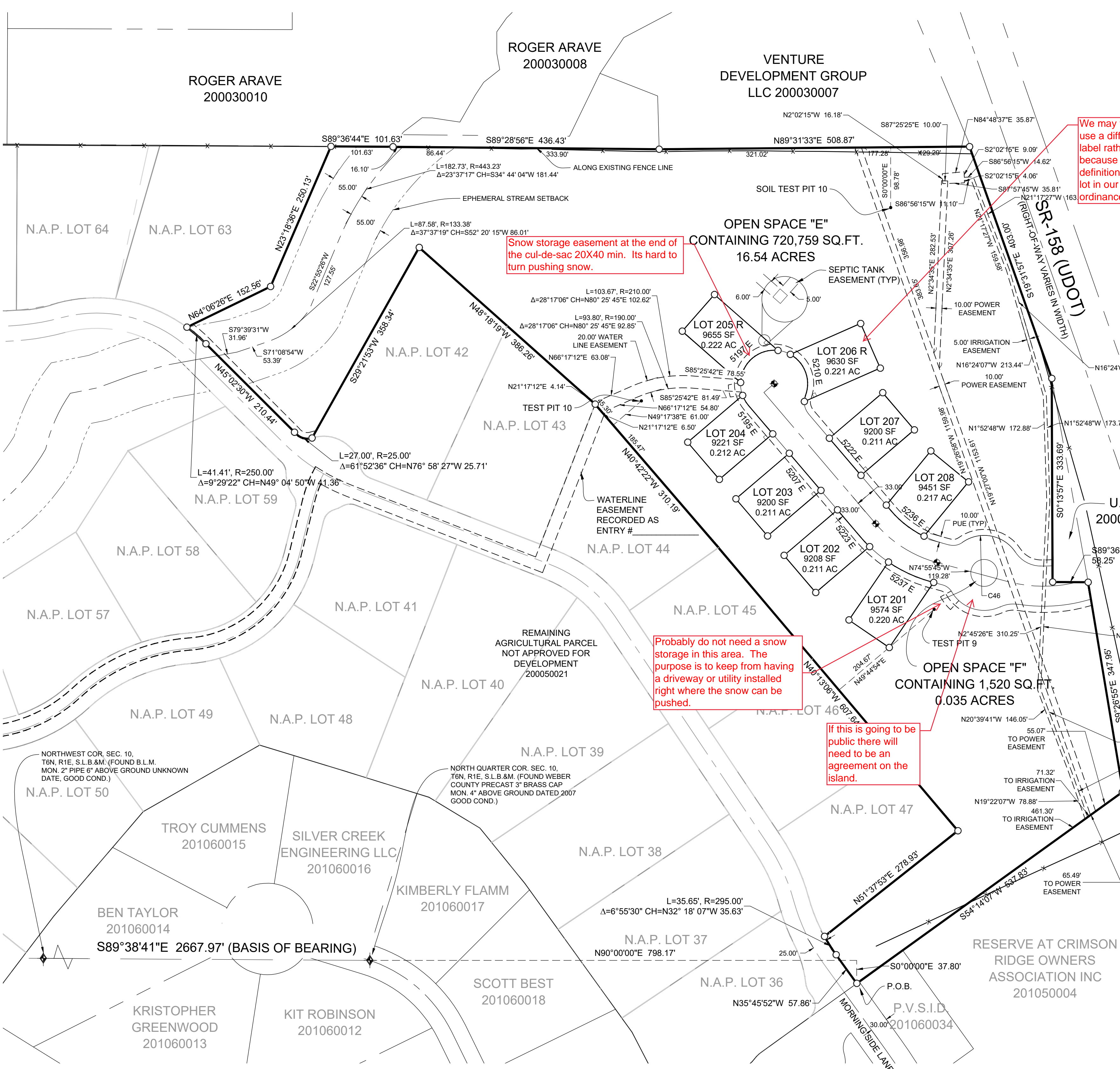
- Scale in Feet  
1" = 100'
- LEGEND**
- WEBER COUNTY MONUMENT AS NOTED
  - SET 24" REBAR AND CAP MARKED GARDNER ENGINEERING
  - STREET CENTERLINE MONUMENT TO BE SET
  - SUBDIVISION BOUNDARY
  - LOT LINE
  - CENTER LINE
  - ADJACENT PARCEL
  - SECTION LINE
  - EASEMENT
  - EXISTING FENCE

## NOTES

- SUBJECT PROPERTY FALLS WITHIN FEMA FLOOD ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AND ZONE "D" - AREAS IN WHICH FLOOD HAZARDS ARE UNDETERMINED BUT POSSIBLE. PER FEMA MAP NO. 48057C0239E WITH AN EFFECTIVE DATE OF DECEMBER 16, 2015. CLUSTER SUBDIVISION SETBACKS: FRONT: 20'; SIDE: 8'; REAR: 20'
- N.A.P. STANDS FOR "NOT A PART OF THIS SUBDIVISION." HOMEOWNERS ARE REFERRED TO THE GEOTECHNICAL STUDY "GEOTECHNICAL INVESTIGATION PROPOSED CRIMSON RIDGE - PHASES 2 & 3 5129 EAST WHISPERING PINES LANE EDEN, UTAH" PREPARED BY APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC. ON SEPTEMBER 15, 2020 WITH A PROJECT NUMBER OF 1200541. HOUSE CONSTRUCTION SHALL CONFORM TO REPORT PARAMETERS. HOMEOWNERS ARE ENCOURAGED TO SEEK GEOTECHNICAL ON-SITE EVALUATION AS DEEMED DESIRABLE PER REPORT. FOR SOIL TEST PIT LOGS REFER TO THE ABOVE MENTIONED GEOTECHNICAL REPORT.
- LOTS WITH "R" INDICATE BASEMENTS AND FOUNDATION DRAINS ARE RESTRICTED.

## NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO CREATE A EIGHT LOT SUBDIVISION ON THE PROPERTY AS SHOWN AND DESCRIBED HEREON. THE SURVEY WAS ORDERED BY B&H INVESTMENTS PROPERTIES. THE CONTROL USED TO ESTABLISH THE BOUNDARY WAS THE EXISTING WEBER COUNTY SURVEY MONUMENTATION AS SHOWN AND NOTED HEREON. THE BASIS OF BEARING IS THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 6 NORTH, RANGE 1 EAST, OF THE SALT LAKE BASE AND MERIDIAN WHICH BEARS SOUTH 89°38'41" EAST WEBER COUNTY, UTAH NORTH, NAD 83 STATE PLANE GRID BEARING. THE DEDICATED PLAT OF THE RESERVE AT CRIMSON RIDGE CLUSTER SUBDIVISION PHASE 1 RECORDED AS ENTRY NUMBER 2199115 WAS ALSO USED TO ESTABLISH THE BOUNDARY.



<b>WEBER COUNTY SURVEYOR</b> I HEREBY CERTIFY THAT THE WEBER COUNTY SURVEYOR'S OFFICE HAS REVIEWED THIS PLAT AND ALL CONDITIONS FOR APPROVAL BY THIS OFFICE HAVE BEEN SATISFIED. THE APPROVAL OF THIS PLAT BY THE WEBER COUNTY SURVEYOR DOES NOT RELIEVE THE LICENSED LAND SURVEYOR WHO EXECUTED THIS PLAT FROM THE RESPONSIBILITIES AND/OR LIABILITIES ASSOCIATED THEREWITH. SIGNED THIS _____ DAY OF _____, 2021. _____ COUNTY SURVEYOR	<b>WEBER COUNTY ATTORNEY</b> I HAVE EXAMINED THE FINANCIAL GUARANTEE AND OTHER DOCUMENTS ASSOCIATED WITH THIS SUBDIVISION PLAT AND IN MY OPINION THEY CONFORM WITH THE COUNTY ORDINANCE APPLICABLE THERETO AND NOW IN FORCE AND EFFECT. SIGNED THIS _____ DAY OF _____, 2021. _____ COUNTY ATTORNEY	<b>WEBER COUNTY ENGINEER</b> I HEREBY CERTIFY THAT THE REQUIRED PUBLIC IMPROVEMENT STANDARDS AND DRAWINGS FOR THIS SUBDIVISION CONFORM WITH COUNTY STANDARDS AND THE AMOUNT OF THE FINANCIAL GUARANTEE IS SUFFICIENT FOR THE INSTALLATION OF THESE IMPROVEMENTS. SIGNED THIS _____ DAY OF _____, 2021. _____ COUNTY ENGINEER	<b>WEBER COUNTY COMMISSION ACCEPTANCE</b> THIS IS TO CERTIFY THAT THIS SUBDIVISION PLAT, THE DEDICATION OF STREETS AND OTHER PUBLIC WAYS AND FINANCIAL GUARANTEE OF PUBLIC IMPROVEMENTS ASSOCIATED WITH THIS SUBDIVISION THEREON ARE HEREBY APPROVED AND ACCEPTED BY THE COMMISSIONERS OF WEBER COUNTY, UTAH. SIGNED THIS _____ DAY OF _____, 2021. _____ CHAIRMAN, WEBER COUNTY COMMISSION ATTEST: _____ NAME/TITLE	<b>WEBER COUNTY PLANNING COMMISSION APPROVAL</b> THIS IS TO CERTIFY THAT THIS SUBDIVISION WAS DULY APPROVED BY THE WEBER COUNTY PLANNING COMMISSION. SIGNED THIS _____ DAY OF _____, 2021. _____ CHAIRMAN, WEBER COUNTY PLANNING COMMISSION	<b>WEBER - MORGAN HEALTH DEPARTMENT</b> I DO HEREBY CERTIFY THAT THE SOILS, PERCOLATION RATES, AND SITE CONDITION FOR THIS SUBDIVISION HAVE BEEN INVESTIGATED BY THIS OFFICE AND ARE APPROVED FOR ON-SITE WASTEWATER DISPOSAL SYSTEMS. SIGNED THIS _____ DAY OF _____, 2021. _____ DIRECTOR WEBER-MORGAN HEALTH DEPT.
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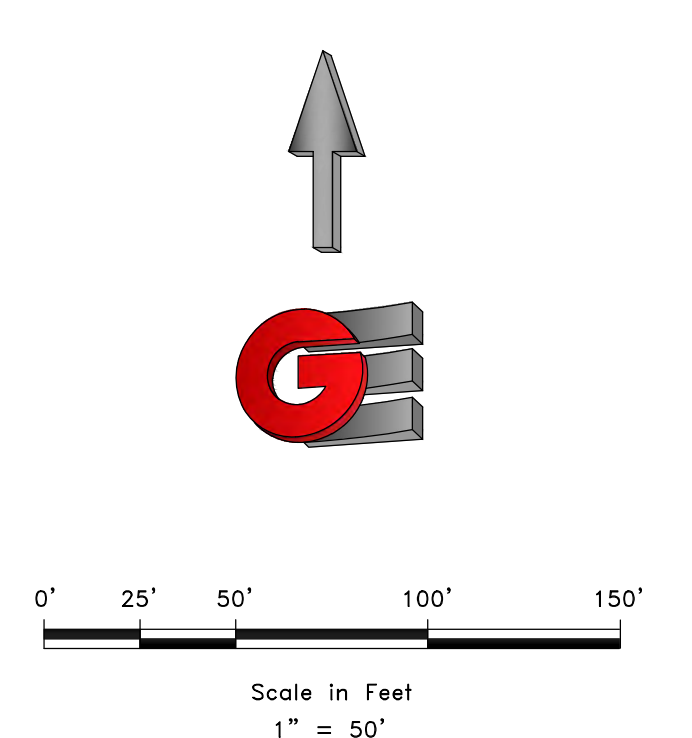
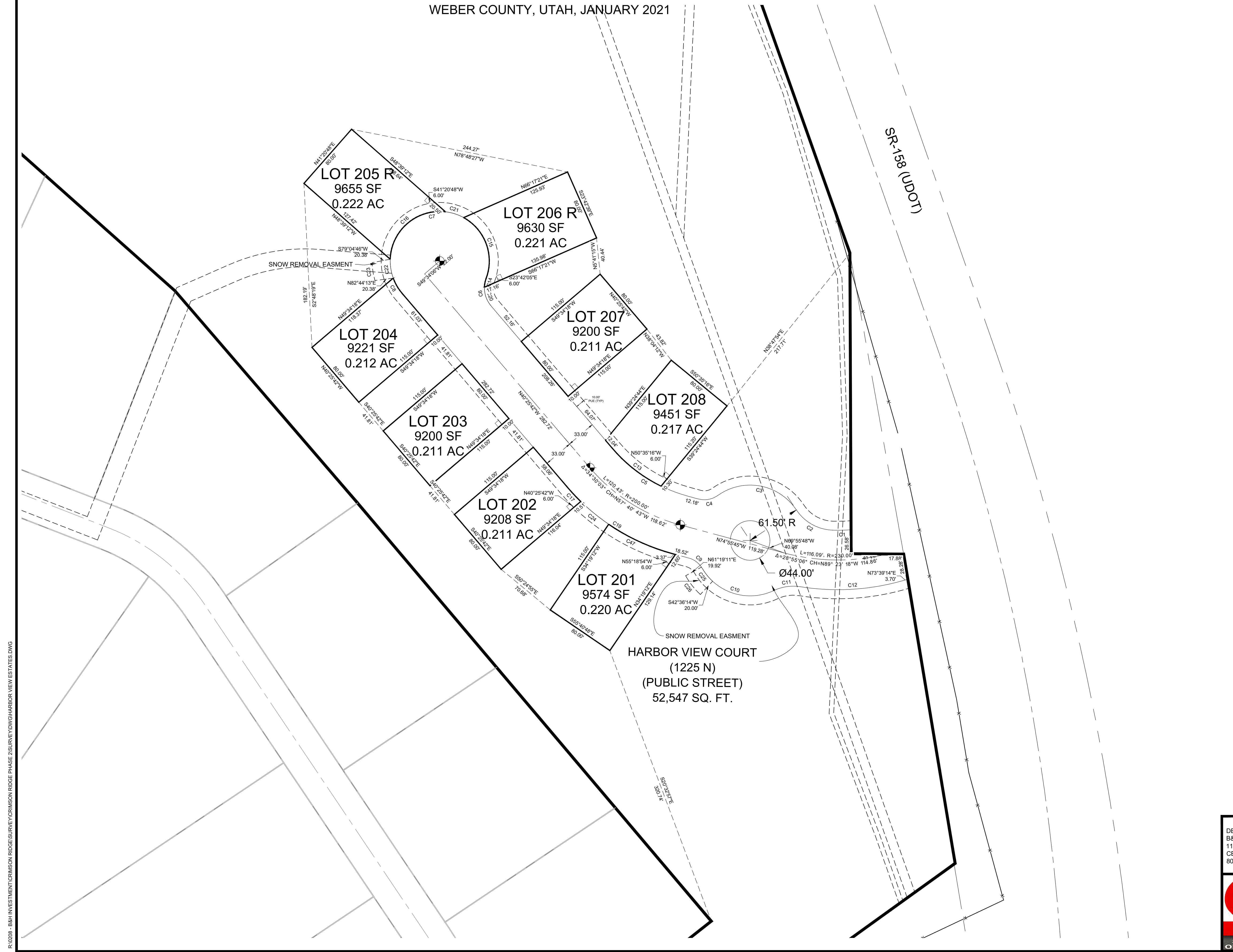
FIGURE 2 - B&H INVESTMENT PROPERTIES CRIMSON RIDGE PHASE 2 SURVEY (DO NOT HARBOUR VIEW ESTATES) DWG



# HARBOR VIEW ESTATE CLUSTER SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 10, AND THE SOUTH HALF OF SECTION 3  
TOWNSHIP 6 NORTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN,  
WEBER COUNTY, UTAH, JANUARY 2021

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	20.46	197.00	5.95	N88° 43' 59"E	20.45
C2	47.89	50.00	54.88	S60° 51' 09"E	46.08
C3	99.24	61.50	92.46	S79° 38' 26"E	88.82
C4	22.23	25.00	50.94	N79° 36' 04"E	21.50
C5	100.56	167.00	34.50	S57° 40' 43"E	99.05
C6	32.02	30.00	61.16	S9° 50' 52"E	30.52
C7	231.50	55.00	241.16	N80° 09' 05"E	94.70
C8	19.36	55.00	20.17	S30° 20' 36"E	19.26
C9	19.50	25.00	44.69	N52° 35' 00"W	19.01
C10	91.43	61.50	85.18	N72° 49' 31"W	83.24
C11	30.13	50.00	34.53	S81° 51' 10"W	29.68
C12	116.89	263.00	25.46	S86° 23' 10"W	115.93
C13	68.66	167.00	23.56	N52° 12' 24"W	68.18
C14	9.87	32.94	17.17	N11° 17' 51"E	9.84
C15	78.60	55.00	81.88	N20° 12' 24"W	72.08
C16	90.72	55.00	94.51	S49° 19' 47"W	80.78
C17	21.97	233.00	5.40	N43° 07' 48"W	21.97
C19	140.30	233.00	34.50	N57° 40' 43"W	138.19
C20	22.14	30.00	42.29	N19° 16' 59"W	21.64
C21	21.38	55.00	22.27	N72° 16' 49"W	21.24
C22	21.44	55.00	22.33	S9° 05' 29"E	21.30
C23	20.06	75.00	15.32	S9° 05' 30"E	20.00
C24	40.05	233.00	9.85	S50° 45' 21"E	40.00
C25	18.42	61.50	17.16	S38° 49' 00"E	18.35
C26	26.62	81.50	18.72	S38° 02' 18"E	26.50
C47	78.28	233.00	19.25	N65° 18' 17"W	77.91



- LEGEND**
- ◆ WEBER COUNTY MONUMENT AS NOTED
  - SET 24" REBAR AND CAP MARKED GARDNER ENGINEERING
  - SUBDIVISION BOUNDARY
  - LOT LINE
  - CENTER LINE
  - - - ADJACENT PARCEL
  - - - SECTION LINE
  - - - EASEMENT
  - X — EXISTING FENCE LINE

DEVELOPER: B&H INVESTMENT PROPERTIES LLC 110 WEST 1700 NORTH CENTERVILLE, UTAH 84014 801-295-4193	<b>S2</b> <b>3</b>	COUNTY RECORDER ENTRY NO. _____ FEE PAID _____ FILED FOR AND RECORDED _____ AT _____ IN BOOK _____ OF OFFICIAL RECORDS, PAGE _____ RECORDED FOR _____ COUNTY RECORDER BY: _____
		<b>GARDNER ENGINEERING</b> CIVIL • LAND PLANNING MUNICIPAL • LAND SURVEYING 5150 SOUTH 375 EAST OGDEN, UT OFFICE: 801-476-0202 FAX: 801-476-0066

P:\0208 - B&H INVESTMENT\CRIMSON RIDGE\PHASE 2\SURVEY\DWG\HARBOR VIEW ESTATES.DWG

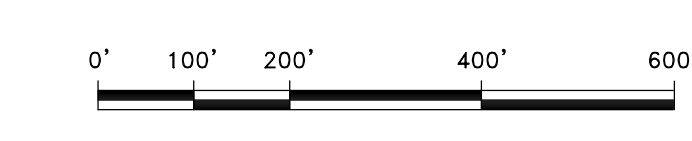
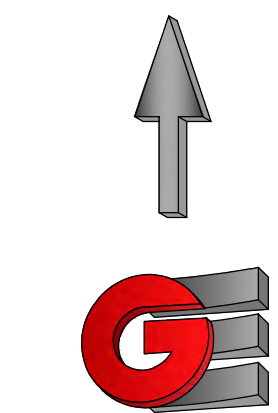
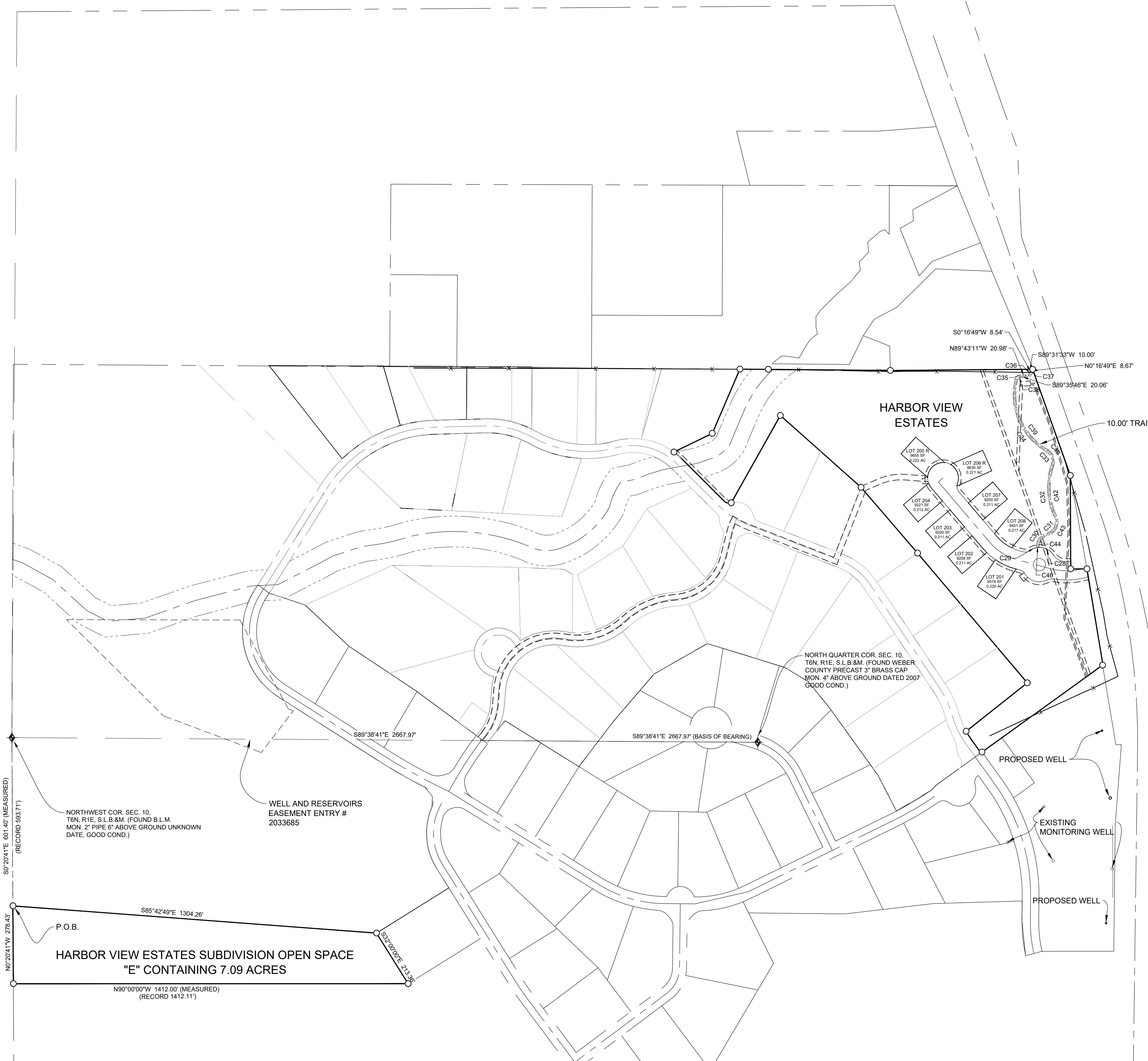


# HARBOR VIEW ESTATES

## CLUSTER SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 10, AND THE SOUTH HALF OF SECTION 3  
TOWNSHIP 6 NORTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN,  
WEBER COUNTY, UTAH, JANUARY 2021

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C28	60.97	61.50	56.80	N61° 48' 43"W	58.50
C29	28.26	61.50	26.33	N67° 17' 39"E	28.01
C30	70.29	48.27	83.43	S35° 11' 39"W	64.24
C31	78.13	41.72	107.30	S20° 47' 46"W	67.21
C32	177.42	241.98	42.01	S3° 36' 30"E	173.47
C33	68.82	43.61	90.43	S19° 20' 09"E	61.90
C34	294.15	234.41	71.90	S22° 54' 04"E	275.22
C35	31.80	25.90	70.35	S49° 46' 39"W	29.84
C36	15.71	10.00	90.00	S45° 16' 49"W	14.14
C37	31.42	20.00	90.00	N45° 16' 49"E	28.28
C38	19.53	15.90	70.35	N49° 46' 39"E	18.32
C39	280.35	224.55	71.53	N22° 48' 02"W	262.49
C40	84.61	53.61	90.43	N19° 20' 09"W	76.10
C42	167.21	233.62	41.01	N3° 36' 57"W	163.66
C43	97.10	51.72	107.57	N20° 55' 43"E	83.46
C44	56.20	38.27	84.15	N35° 07' 20"E	51.29
C46	10.02	61.50	9.33	N85° 07' 22"E	10.01



- LEGEND**
- ◆ WEBER COUNTY MONUMENT AS NOTED
  - SET 24" REBAR AND CAP MARKED GARDNER ENGINEERING
  - SUBDIVISION BOUNDARY
  - LOT LINE
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  - - - ADJACENT PARCEL
  - - - SECTION LINE
  - - - EASEMENT
  - - - EXISTING FENCE LINE
  - ▨ TRAIL

NORTHWEST COR. SEC. 10,  
T6N, R1E, S.L.B.&M. (FOUND B.L.M.  
MON. 2" PIPE 6" ABOVE GROUND UNKNOWN  
DATE, GOOD COND.)

WELL AND RESERVOIRS  
EASEMENT ENTRY #  
2033685

NORTH QUARTER COR. SEC. 10,  
T6N, R1E, S.L.B.&M. (FOUND WEBER  
COUNTY PRECAST 3" BRASS CAP  
MON. 4" ABOVE GROUND DATED 2007  
GOOD COND.)

P.O.B.  
HARBOR VIEW ESTATES SUBDIVISION OPEN SPACE  
"E" CONTAINING 7.09 ACRES

P:\0208 - B&H INVESTMENT\CRIMSON RIDGE\PHASE 2\SURVEY\DWG\HARBOR VIEW ESTATES.DWG

DEVELOPER: B&H INVESTMENT PROPERTIES LLC 110 WEST 1700 NORTH CENTERVILLE, UTAH 84014 801-295-4193	<b>S3</b> <b>3</b>	COUNTY RECORDER ENTRY NO. _____ FEE PAID _____ FILED FOR AND RECORDED _____ AT _____ IN BOOK _____ OF OFFICIAL RECORDS, PAGE _____ RECORDED FOR _____ COUNTY RECORDER BY: _____
		<p><b>GARDNER ENGINEERING</b> CIVIL • LAND PLANNING MUNICIPAL • LAND SURVEYING 5150 SOUTH 375 EAST OGDEN, UT OFFICE: 801.476.0202 FAX: 801.476.0066</p>



# THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. - PH. 2A, 2B & 2C & HARBOR VIEW ESTATES SUBDIVISION WEBER COUNTY, UTAH

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. - PH. 2A, 2B, & 2C  
& HARBOR VIEW ESTATES SUBDIVISION  
CONSTRUCTION DOCUMENTS

## TRAFFIC CONTROL & SAFETY NOTES

1. BARRICADING AND DETOURING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CURRENT STATE OF UTAH DEPARTMENT OF TRANSPORTATION MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, AND THE CURRENT WEBER COUNTY STANDARD DRAWING, AND SHALL BE APPROVED BY THE WEBER COUNTY ENGINEER PRIOR TO ANY WORK.
2. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE WEBER COUNTY TRAFFIC ENGINEER, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.
3. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.
4. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE WEBER COUNTY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL.
5. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE WEBER COUNTY TRAFFIC ENGINEER
6. TRAFFIC CONTROL DEVICES (TCDs) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.

## UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.

## NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS". THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL 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 ENGINEER.

## SANITARY SEWER GENERAL NOTES

1. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN CONFORMANCE WITH STATE STANDARDS, HEALTH DEPARTMENT STANDARDS AND WEBER COUNTY STANDARDS AND SPECIFICATIONS.
2. ALL GRAVITY SANITARY SEWER LINES SHALL BE SDR-35 PVC MATERIAL. SEWER LINE CONSTRUCTION AND MATERIALS SHALL CONFORM TO ASTM STANDARDS AND SPECIFICATIONS.
3. DISTANCES SHOWN ON PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT.
4. RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATION. PIPELINE CONTRACTOR SHALL USE PRECAST CONCRETE ADJUSTMENT RINGS, GROUT AND STEEL SHIMS TO ADJUST THE MANHOLE FRAME TO THE REQUIRED FINAL GRADE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS. ALL FRAMES SHALL BE ADJUSTED TO FINAL GRADE.
5. ALL SANITARY SEWER MAIN TESTING SHALL BE IN ACCORDANCE WITH THE WEBER COUNTY STANDARDS AND SPECIFICATIONS. COPIES OF ALL TEST RESULTS SHALL BE PROVIDED TO THE PUBLIC WORKS SANITARY SEWER DEPARTMENT HEAD PRIOR TO FINAL ACCEPTANCE.
6. COMPACTION TESTING OF ALL TRENCHES WITH THE PROJECT SITE MUST BE ATTAINED AND RESULTS SUBMITTED TO THE WEBER COUNTY ENGINEER PRIOR TO FINAL ACCEPTANCE.
7. CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING STRUCTURES AND IMPROVEMENTS DURING INSTALLATION OF SANITARY SEWER LINE.
8. WHERE CONNECTION TO EXISTING UTILITY IS PROPOSED, CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION AND NOTIFY OWNER/ENGINEER IF LOCATION AND ELEVATION OF EXISTING UTILITY VARIES FROM THE DESIGN.
9. CAMERA TESTING AND PRESSURE TESTING PER WEBER COUNTY STANDARD.
10. CONTRACTOR IS TO INSTALL BENTONITE CLAY CUTOFF COLLARS AS SHOWN IN PLAN AND PROFILE SHEETS.
11. ALL SEWER PIPE TO MANHOLE CONNECTIONS TO USE KOR-N-SEAL CONNECTORS.

### DEVELOPERS:

STEVE FENTON  
6130 E. LAST CAMP CIR.  
SLC, UT 84108  
801-535-4055

KEVIN DEPPE  
110 W. 1700 N.  
CENTERVILLE, UT 84014  
801-535-4032



## GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION OF SITE IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE WEBER COUNTY ENGINEER, PLANNING, CODES AND SPECIFICATIONS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE DESIGNATED PUBLIC WORKS INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.
4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH WEBER COUNTY AND ALL UTILITY COMPANIES INVOLVED WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE.
5. THE CONTRACTOR SHALL HAVE ONE (1) COPY OF APPROVED PLANS, AND ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON SITE AT ALL TIMES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
7. IF DURING THE CONSTRUCTION PROCESS CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED AND RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT DRAWINGS ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE WEBER COUNTY INSPECTOR AT ALL TIMES.
11. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF WATER LINES AND DRY UTILITIES.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL UTILITY RELOCATIONS CONSISTENT WITH THE CONTRACTORS SCHEDULE FOR THIS PROJECT, WHETHER SHOWN OR NOT SHOWN AS IT RELATES TO THE CONSTRUCTION ACTIVITIES CONTEMPLATED IN THESE PLANS.

## SWPPP GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AS REQUIRED BY WEBER COUNTY AND STATE.
2. ALL STRUCTURAL EROSION MEASURES SHALL BE INSTALLED AS SHOWN ON THE SWPPP PLAN, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING.

## STORM SEWER GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:  
A) OBTAIN ALL REQUIRED PERMITS FROM WEBER COUNTY OR REGULATORY AGENCIES, INCLUDING PERMITS TO WORK IN THE RIGHT-OF-WAY.  
B) RESTORATION OF EXISTING IMPROVEMENTS INCLUDING BUT NOT LIMITED TO FENCES, SOD, LANDSCAPING, PAVEMENT, SPRINKLER SYSTEM.  
C) VERIFICATION AND PROTECTION OF ALL EXISTING IMPROVEMENTS WITHIN THE LIMITS OF CONSTRUCTION.  
D) PROVIDING AS-BUILT DRAWINGS TO WEBER COUNTY AND THE ENGINEER.  
E) ALL PERMITTING, DEVELOPMENT, LOCATION, CONNECTION AND INSPECTION AND SCHEDULING FOR SUCH.
2. ALL STORM SEWER CONNECTIONS SHALL BE IN CONFORMANCE WITH COUNTY STANDARDS AND SPECIFICATIONS.
3. RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATION. PIPELINE CONTRACTOR SHALL USE PRECAST CONCRETE ADJUSTMENT RINGS, GROUT, AND STEEL SHIMS TO ADJUST THE MANHOLE FRAME TO THE REQUIRED FINAL GRADE IN CONFORMANCE WITH WEBER COUNTY STANDARDS AND SPECIFICATIONS AND PLANS. ALL FRAMES SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO PLACEMENT OF ASPHALT PAVING.
4. COMPACTION OF ALL TRENCHES WITHIN THE PROJECT SITE MUST BE ATTAINED AND COMPACTION RESULTS SUBMITTED TO THE ENGINEER AND WEBER COUNTY PRIOR TO FINAL ACCEPTANCE.
5. ALL STORM DRAIN PIPES IN WEBER COUNTY RIGHT-OF-WAY SHALL BE RCP CL III.
6. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH THE PAVEMENT AND SHALL HAVE TRAFFIC BEARING LIDS. ALL STORM SEWER LIDS SHALL BE LABELED "STORM DRAIN".
7. WHERE CONNECTION TO EXISTING UTILITY IS PROPOSED, CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION AND NOTIFY OWNER/ENGINEER IF LOCATION AND ELEVATION OF EXISTING UTILITY VARIES FROM THE DESIGN.

ALL IMPROVEMENTS TO CONFORM TO CURRENT WEBER COUNTY STANDARDS AND SPECIFICATIONS  
CULINARY WATER IMPROVEMENTS TO CONFORM TO CRIMSON RIDGE WATER COMPANY UTILITY STANDARDS AND SPECIFICATIONS

## GENERAL GRADING NOTES

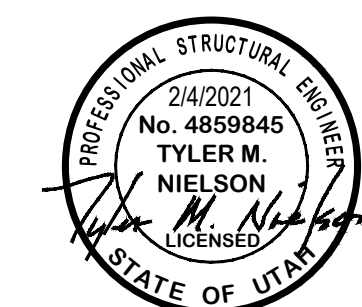
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APWA STANDARDS AND SPECIFICATION FOR PUBLIC WORKS AND WEBER COUNTY STANDARDS. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND ENTRIES. FINISHED GRADE AT FOUNDATION FOR WOOD FRAMED STRUCTURES SHALL BE 8 INCHES BELOW TOP OF FOUNDATION AND DRAINAGE SHALL BE A MINIMUM OF 5% WITHIN 10 FEET FROM THE BUILDING.
2. MAXIMUM SLOPES SHALL BE 3:1 FOR CUT AND FILL UNLESS OTHERWISE NOTED.
3. COMPACTION REQUIREMENTS AND TESTING SHALL BE PERFORMED TO MEET WEBER COUNTY STANDARDS.
4. NO FILL SHALL BE PLACED UNTIL VEGETATION HAS BEEN REMOVED AND SUB-GRADE PREPARED PER THE SOILS REPORT.
5. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
6. CONTRACTOR SHALL COMPLY WITH STORM WATER POLLUTION PREVENTION PLAN BY INSTALLING BMP'S PRIOR TO COMMENCEMENT OF EXCAVATION ACTIVITIES. CONTACT THE WEBER COUNTY INSPECTOR FOR INSPECTION.
7. ALL RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ALL SUBSEQUENT REPORTS, ADDENDUM ETC. SHALL BE CONSIDERED A PART OF THIS GRADING PLAN AND SHALL BE COMPLIED WITH.
8. THE CONTRACTOR SHALL CONTACT BLUE STAKES FOR LOCATION MARKING PRIOR TO COMMENCING EXCAVATION ACTIVITIES.
9. WEBER COUNTY MAY REQUIRE A PRE-CONSTRUCTION MEETING BEFORE A PERMIT IS ISSUED.
10. STREETS ADJACENT TO THE PROJECT SHALL BE CLEAN AT ALL TIMES.
11. CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR ALL REQUIRED INSPECTIONS.
12. PRIOR TO TAKING WATER FROM A WEBER COUNTY FIRE HYDRANT, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE WATER UTILITY TO OBTAIN A WATER METER.

## CULINARY WATER GENERAL NOTES

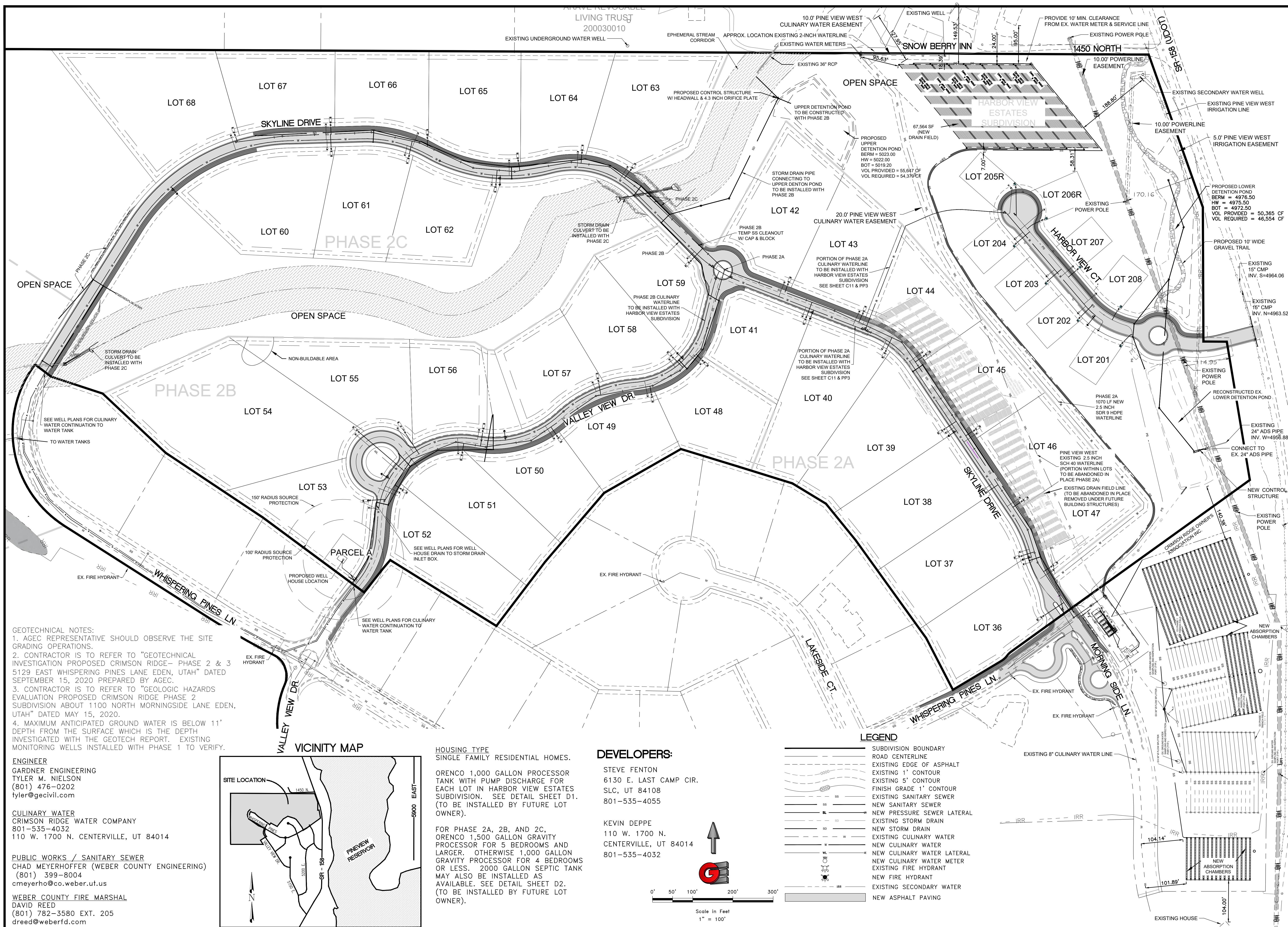
1. ALL INSTALLATION AND MATERIALS SHALL CONFORM TO CRIMSON RIDGE WATER COMPANY STANDARDS, SPECIFICATIONS AND PLANS. AVAILABLE UPON REQUEST.
2. BEFORE AN DURING BACK FILL OPERATIONS, CONSTRUCTION WORK WILL BE INSPECTED BY A REPRESENTATIVE OF CRIMSON RIDGE WATER COMPANY.
3. THRUST BLOCKING IS REQUIRED AT ALL BENDS AND FITTINGS. TIE RODS SHALL BE USED AT ALL BENDS AND FITTINGS WHERE THRUST BLOCKS DO NOT BEAR AGAINST UNDISTURBED SOIL.
4. ALL WATERLINES AT SEWER CROSSINGS SHALL BE LOCATED ABOVE AND HAVE AN 18-INCH VERTICAL SEPARATION FROM THE SEWER PIPE. IF THIS IS NOT PROVIDED, THE WATERLINE SHALL BE INSTALLED WITH 20 L.F. OF CONCRETE CASING CENTERED OVER THE SEWER PIPE.
5. DISINFECTION TESTS IS REQUIRED PER WATER COMPANY SPECIFICATIONS.
6. A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET SHALL BE MAINTAINED FROM SANITARY SEWER MAINS.
7. UNLESS OTHERWISE SPECIFIED, ALL WATERLINES SHALL BE AWWA C900 PVC CLASS 200 PIPE, PER ASTM D2241. WASHOUT ASSEMBLIES SHALL CONSIST OF A KUPFERLE FOUNDRY CO. 2" BLOW-OFF HYDRANT (OR WATER COMPANY APPROVED EQUIV.) PLACED IN A BOX LOCATED IN THE PARK STRIP. WATER LINES SHALL BE ADJUSTED IN DEPTH AND GATE VALVES IN LOCATIONS AS NOT TO INTERFERE WITH STORM DRAIN CROSSINGS.
8. CONTRACTOR SHALL LOCATE VALVES PRIOR TO CONNECTION WITH EXISTING SYSTEM, BUT SHALL NOT OPERATE ANY VALVE WITHOUT PERMISSION FROM THE WATER UTILITY.
9. ALL WATER MAINS, VALVES, FIRE HYDRANTS, SERVICES AND APPURTENANCES SHALL BE INSTALLED, TESTED, AND APPROVED PRIOR TO PAVING.
10. THERE SHALL BE A WATER SUPPLY TO THE DEVELOPMENT BEFORE ANY WOOD CONSTRUCTION STARTS.
11. THE WATER UTILITY REQUIRES THE USE OF CORROSION RESISTANT MATERIALS FOR ALL CULINARY WATER IMPROVEMENTS. SPECIFICALLY, ROMAC BLUE BOLTS OR STAINLESS STEEL BOLTS MUST BE USED ON ALL FITTINGS. FURTHER, ALL METAL FITTINGS SHALL BE POLY WRAPPED.

### SHEET INDEX

COVER SHEET  
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C2 - OVERALL SHEET LAYOUT  
C3 - ENTRY ACCESS DEMO  
C4 - ENTRY ACCESS REGRADING  
C5 - DRAINAGE CALCS  
C6 - EFFLUENT TREATMENT FACILITY  
C7 - SEWER DRAIN FIELD EXPANSION  
C8 - DRIP SYSTEM & DETENTION PONDS  
C9 - SWPPP  
C10 - OPEN SPACE PRESERVATION PLAN  
C11 - OVERALL GRADING PLAN (WITH PHASED WORK)  
PP1 - SKYLINE DRIVE - PLAN AND PROFILE  
PP2 - SKYLINE DRIVE - PLAN AND PROFILE  
PP3 - SKYLINE DRIVE - PLAN AND PROFILE  
PP4 - SKYLINE DRIVE - PLAN AND PROFILE  
PP5 - VALLEY VIEW DRIVE - PLAN AND PROFILE  
PP6 - VALLEY VIEW DRIVE - PLAN AND PROFILE  
PP7 - HARBOR VIEW COURT - PLAN AND PROFILE  
PP8 - SR-158 (UDOT) - PLAN AND PROFILE  
D1 - ORENCO DETAILS (HARBOR VIEW ESTATES SUBDIVISION)  
D2 - SEPTIC DETAILS PHASE 2A, 2B & 2C  
D3 - EFFLUENT TREATMENT FACILITY DETAILS  
D4 - EFFLUENT AND AIR POD DETAILS  
D5 - EFFLUENT TREATMENT - ABSORPTION BED DETAILS  
D6 - EFFLUENT TREATMENT FACILITY DRIP SYSTEM DETAILS  
D7 - MISC. DETAILS  
D8 - MISC. DETAILS







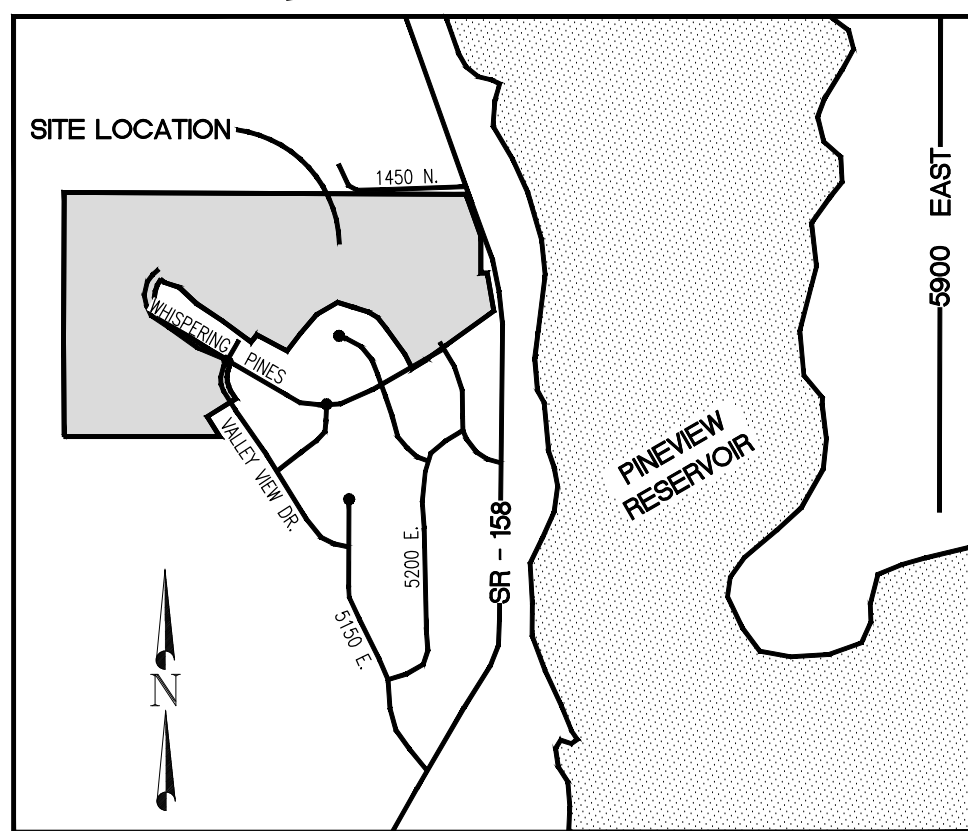
**GEOTECHNICAL NOTES:**  
 1. AGEC REPRESENTATIVE SHOULD OBSERVE THE SITE GRADING OPERATIONS.  
 2. CONTRACTOR IS TO REFER TO "GEOTECHNICAL INVESTIGATION PROPOSED CRIMSON RIDGE- PHASE 2 & 3 5129 EAST WHISPERING PINES LANE EDEN, UTAH" DATED SEPTEMBER 15, 2020 PREPARED BY AGEC.  
 3. CONTRACTOR IS TO REFER TO "GEOLOGIC HAZARDS EVALUATION PROPOSED CRIMSON RIDGE PHASE 2 SUBDIVISION ABOUT 1100 NORTH MORNINGSIDE LANE EDEN, UTAH" DATED MAY 15, 2020.  
 4. MAXIMUM ANTICIPATED GROUND WATER IS BELOW 11' DEPTH FROM THE SURFACE WHICH IS THE DEPTH INVESTIGATED WITH THE GEOTECH REPORT. EXISTING MONITORING WELLS INSTALLED WITH PHASE 1 TO VERIFY.

**ENGINEER**  
 GARDNER ENGINEERING  
 TYLER M. NIELSON  
 (801) 476-0202  
 tyler@gecivil.com

**CULINARY WATER**  
 CRIMSON RIDGE WATER COMPANY  
 801-535-4032  
 110 W. 1700 N. CENTERVILLE, UT 84014

**PUBLIC WORKS / SANITARY SEWER**  
 CHAD MEYERHOFFER (WEBER COUNTY ENGINEERING)  
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 cmeyerho@co.weber.ut.us

**WEBER COUNTY FIRE MARSHAL**  
 DAVID REED  
 (801) 782-3580 EXT. 205  
 dreed@weberfd.com

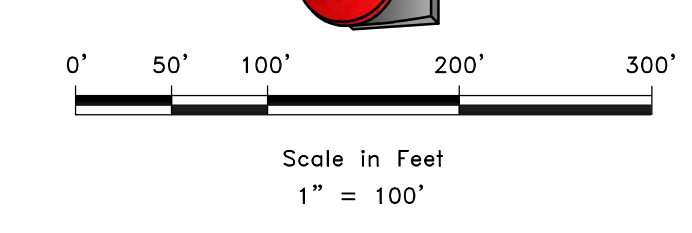
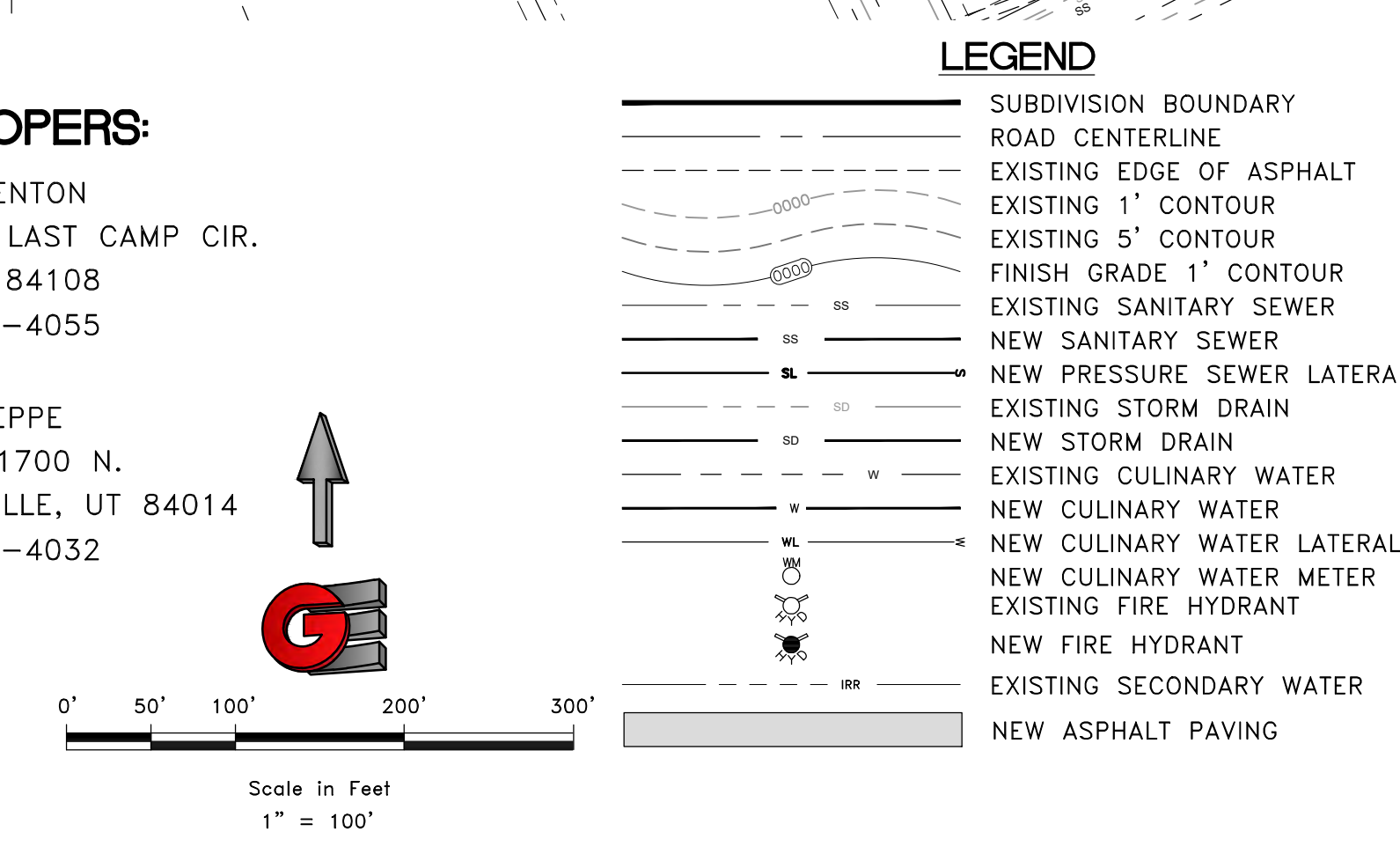


**HOUSING TYPE**  
 SINGLE FAMILY RESIDENTIAL HOMES.

**DEVELOPERS:**  
 STEVE FENTON  
 6130 E. LAST CAMP CIR.  
 SLC, UT 84108  
 801-535-4055

KEVIN DEPPE  
 110 W. 1700 N.  
 CENTERVILLE, UT 84014  
 801-535-4032

FOR PHASE 2A, 2B, AND 2C,  
 ORENCO 1,500 GALLON GRAVITY PROCESSOR FOR 5 BEDROOMS AND LARGER. OTHERWISE 1,000 GALLON GRAVITY PROCESSOR FOR 4 BEDROOMS OR LESS. 2000 GALLON SEPTIC TANK MAY ALSO BE INSTALLED AS AVAILABLE. SEE DETAIL SHEET D2. (TO BE INSTALLED BY FUTURE LOT OWNER).



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REVISIONS	DATE	DESCRIPTION		

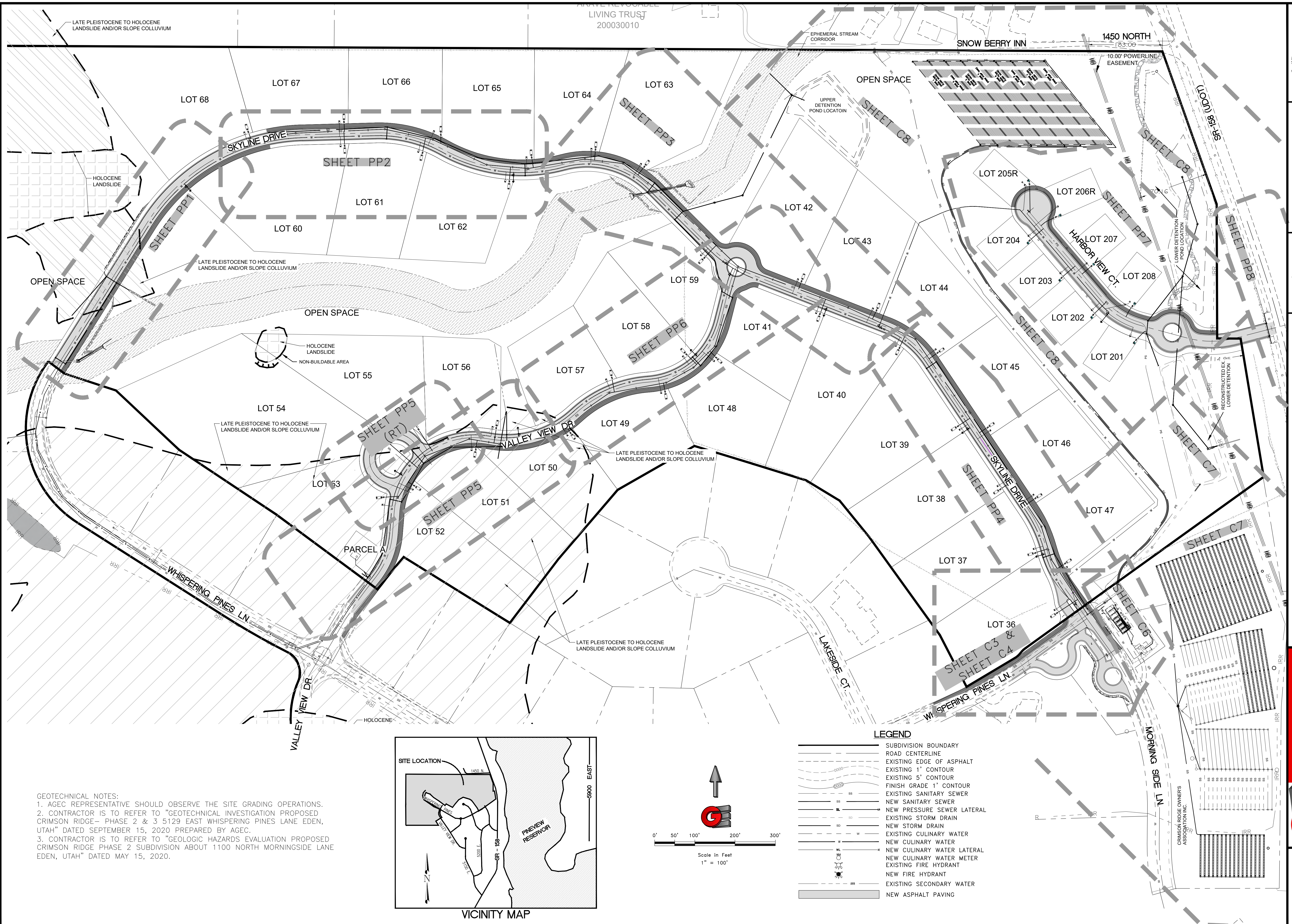
PROFESSIONAL STRUCTURAL ENGINEER  
 2/5/2021  
 No. 4859845  
 TYLER M. NIELSON  
 INV. S=4964.06  
 LICENSED  
 STATE OF UTAH

**OVERALL UTILITY PLAN**  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

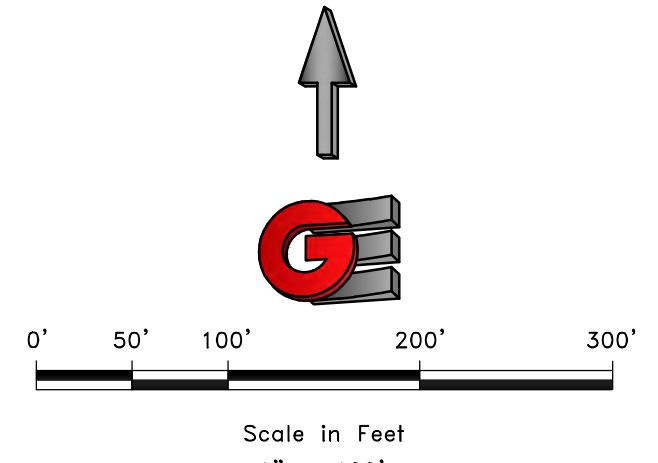
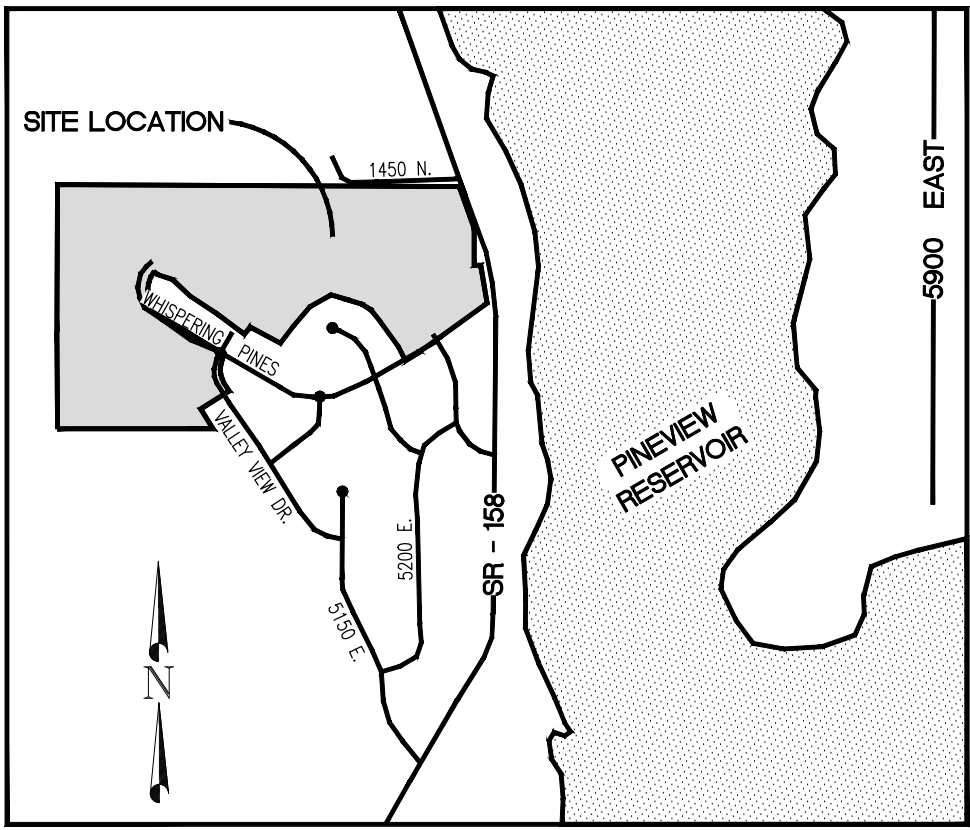
**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0202 FAX: 801.476.0866

Q1





**GEOTECHNICAL NOTES:**  
 1. AGEC REPRESENTATIVE SHOULD OBSERVE THE SITE GRADING OPERATIONS.  
 2. CONTRACTOR IS TO REFER TO "GEOTECHNICAL INVESTIGATION PROPOSED CRIMSON RIDGE- PHASE 2 & 3 5129 EAST WHISPERING PINES LANE EDEN, UTAH" DATED SEPTEMBER 15, 2020 PREPARED BY AGEC.  
 3. CONTRACTOR IS TO REFER TO "GEOLOGIC HAZARDS EVALUATION PROPOSED CRIMSON RIDGE PHASE 2 SUBDIVISION ABOUT 1100 NORTH MORNINGSIDE LANE EDEN, UTAH" DATED MAY 15, 2020.

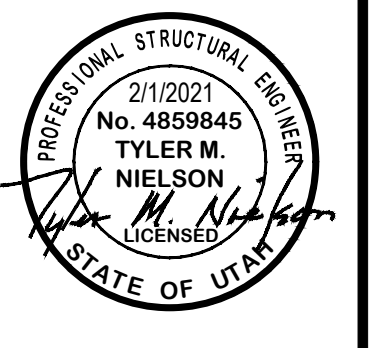


- LEGEND**
- SUBDIVISION BOUNDARY
  - ROAD CENTERLINE
  - EXISTING EDGE OF ASPHALT
  - EXISTING 1' CONTOUR
  - EXISTING 5' CONTOUR
  - FINISH GRADE 1' CONTOUR
  - EXISTING SANITARY SEWER
  - NEW SANITARY SEWER
  - NEW PRESSURE SEWER LATERAL
  - EXISTING STORM DRAIN
  - NEW STORM DRAIN
  - EXISTING CULINARY WATER
  - NEW CULINARY WATER
  - NEW CULINARY WATER LATERAL
  - NEW CULINARY WATER METER
  - EXISTING FIRE HYDRANT
  - NEW FIRE HYDRANT
  - EXISTING SECONDARY WATER
  - NEW ASPHALT PAVING

SCALE	1" = 100'
DATE	2/1/2021
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CHECKED	TAM

REVISIONS	DESCRIPTION
DATE	

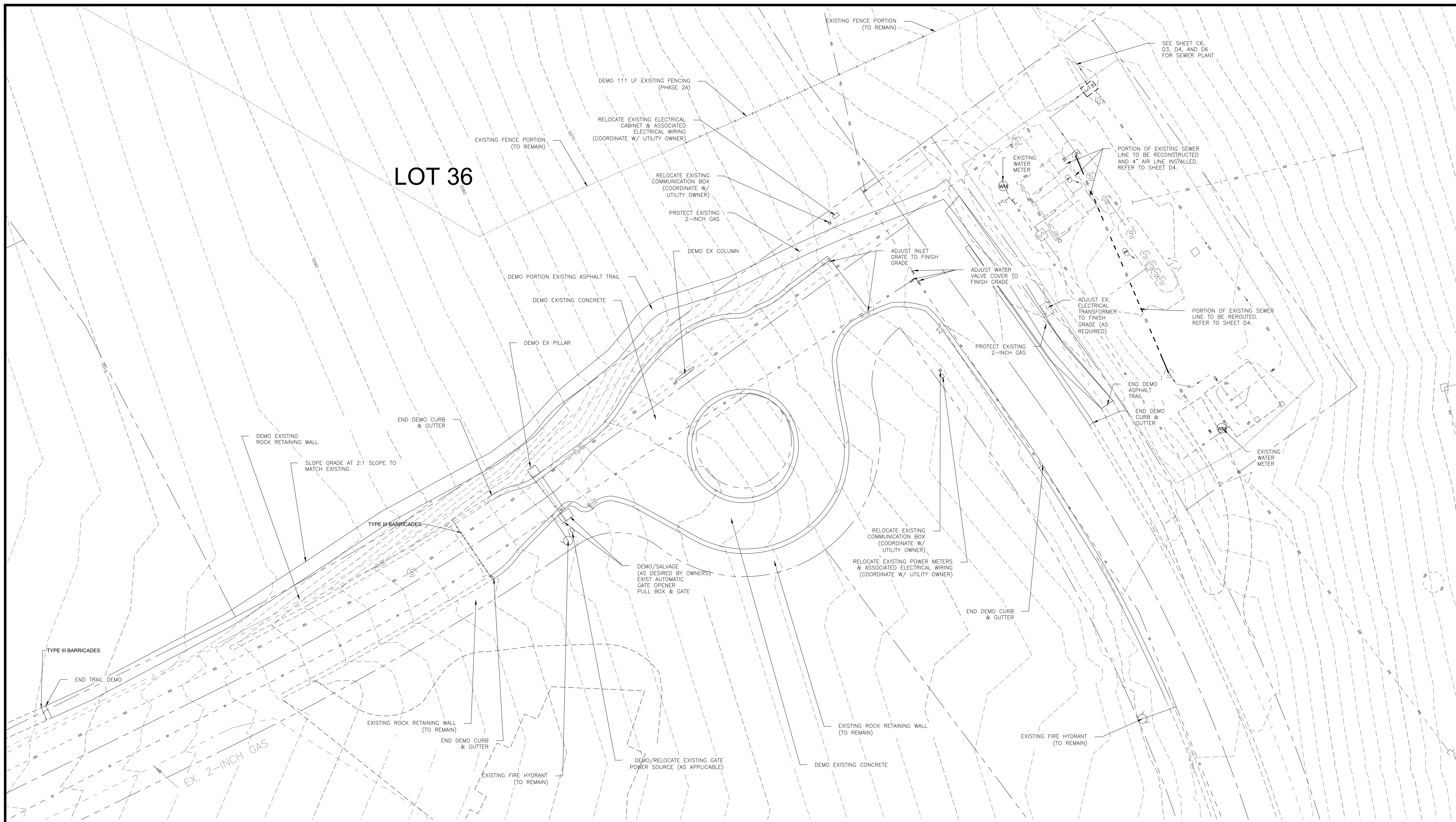
DWG: R10208 - BAH INVESTMENT, CRIMSON RIDGE, DESIGN, DWG, CRIMSON RIDGE - CDS.DWG



**OVERALL SHEET LAYOUT**  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

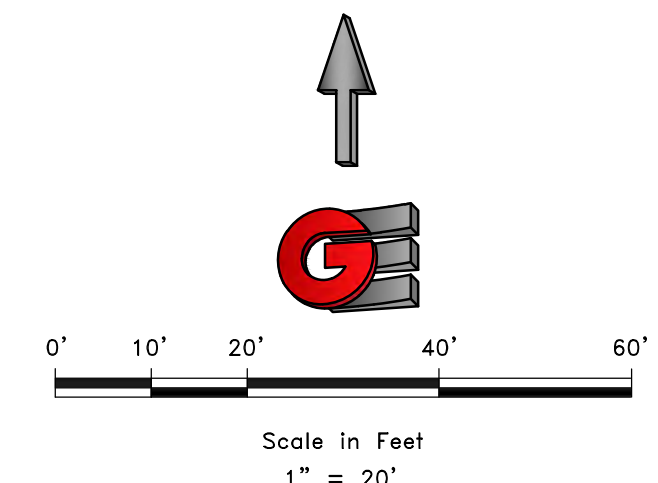
**GARDNER ENGINEERING**  
 CIVIL • LAND PLANNING  
 MUNICIPAL • LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0202 FAX: 801.476.0066





**LEGEND**

	SUBDIVISION BOUNDARY
	ROAD CENTERLINE
	EXISTING EDGE OF ASPHALT
	EXISTING 1' CONTOUR
	EXISTING 5' CONTOUR
	FINISH GRADE 1' CONTOUR
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	NEW PRESSURE SEWER LATERAL
	EXISTING STORM DRAIN
	NEW STORM DRAIN
	EXISTING CULINARY WATER
	NEW CULINARY WATER
	NEW CULINARY WATER LATERAL
	NEW CULINARY WATER METER
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	EXISTING SECONDARY WATER
	NEW ASPHALT PAVING

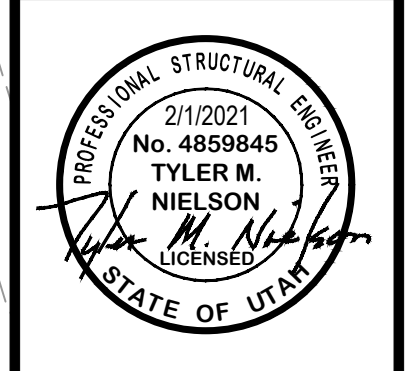


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REVISIONS	DATE	DESCRIPTION

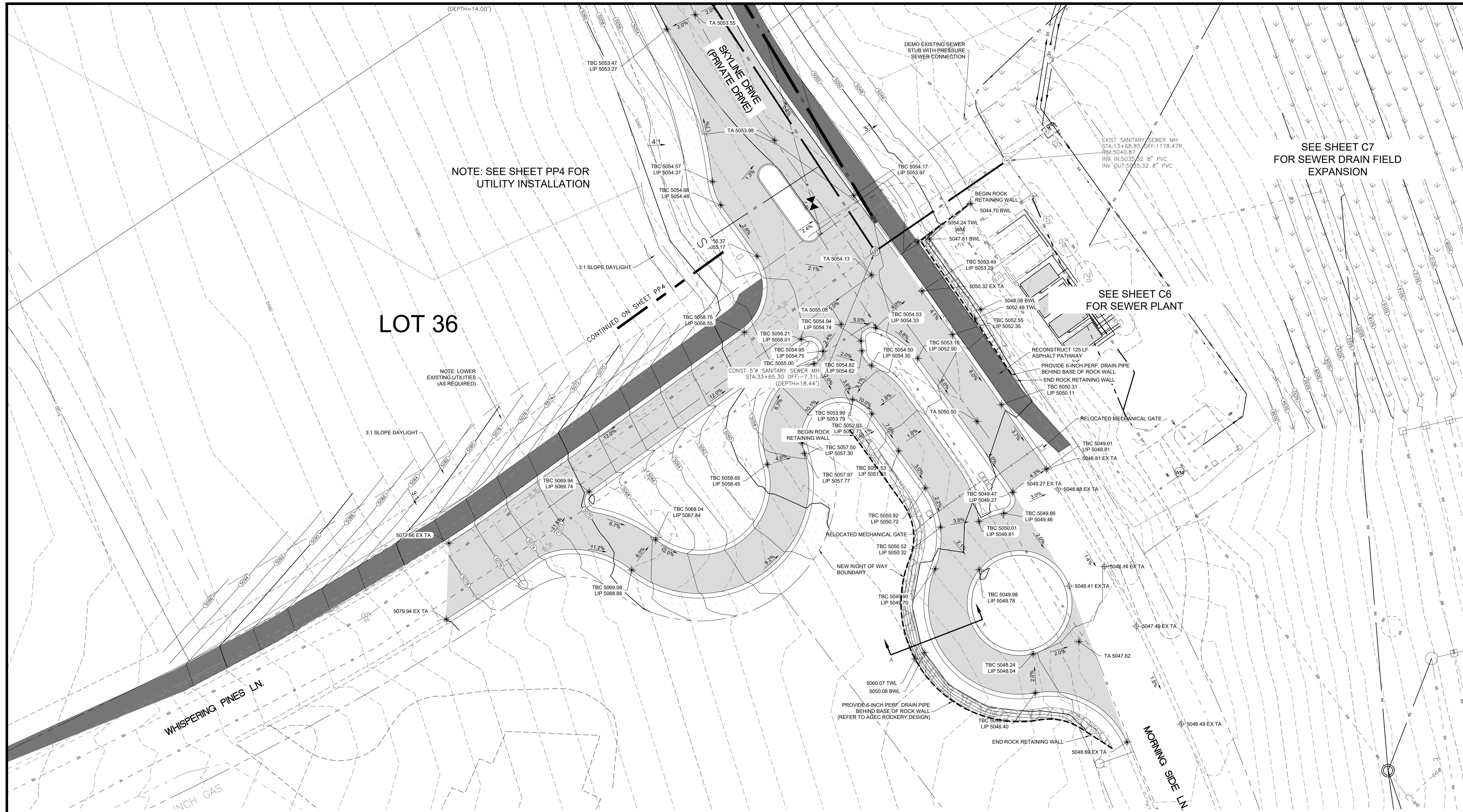
DWG: R:\0208 - BAH INVESTMENT\CRIMSON RIDGE\DESIGN\DWG\CRIMSON RIDGE - CDS.DWG



**ENTRY ACCESS DEMO**  
**THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2**  
**1250 NORTH 5200 EAST**  
**EDEN, WEBER COUNTY, UTAH**

**GARDNER ENGINEERING**  
 CIVIL • LAND PLANNING  
 MUNICIPAL • LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0202 FAX: 801.476.0066





NOTE: SEE SHEET PP4 FOR UTILITY INSTALLATION

LOT 36

NOTE: LOWER EXISTING UTILITIES (AS REQUIRED)

CONTINUED ON SHEET PP 4

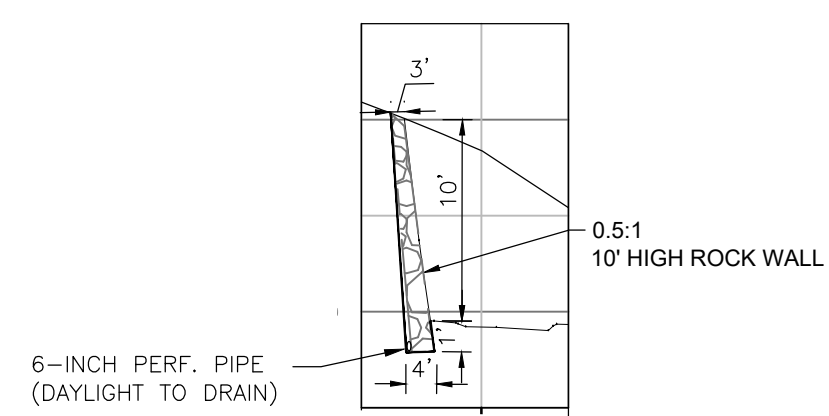
SEE SHEET C6 FOR SEWER PLANT

SEE SHEET C7 FOR SEWER DRAIN FIELD EXPANSION

WHISPERING PINES LN.

MORNING SIDE LN.

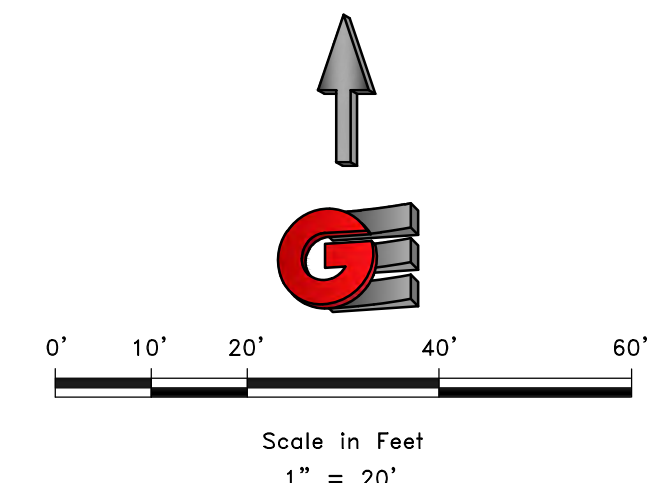
INCH GAS



CROSS SECTION VIEW A-A (SEE GEOTECH NOTE 4, 5, 6. ON SHEET PP1)

**LEGEND**

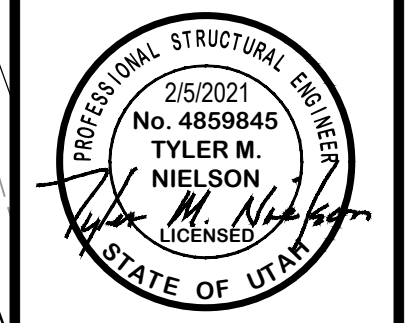
	SUBDIVISION BOUNDARY
	ROAD CENTERLINE
	EXISTING EDGE OF ASPHALT
	EXISTING 1' CONTOUR
	EXISTING 5' CONTOUR
	FINISH GRADE 1' CONTOUR
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	NEW PRESSURE SEWER LATERAL
	EXISTING STORM DRAIN
	NEW STORM DRAIN
	EXISTING CULINARY WATER
	NEW CULINARY WATER
	NEW CULINARY WATER LATERAL
	NEW CULINARY WATER METER
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	EXISTING SECONDARY WATER
	NEW ASPHALT PAVING
	6" DEPTH CUT AREA, OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL PLACEMENT (HYDRO SEED IN DESIGNATED PHASE)
	HYDRO SEED FILL SLOPES IN DESIGNATED PHASE



SCALE: 1" = 20'

REVISIONS	DESCRIPTION
DATE	2/9/2021
DESIGN	BRD/WJS
DRAWN	BRD/WJS
CHECKED	TAN

DWG: R-0208 - BAH INVESTMENT, CRIMSON RIDGE, DESIGN, DRW, CRIMSON RIDGE - CDS.DWG

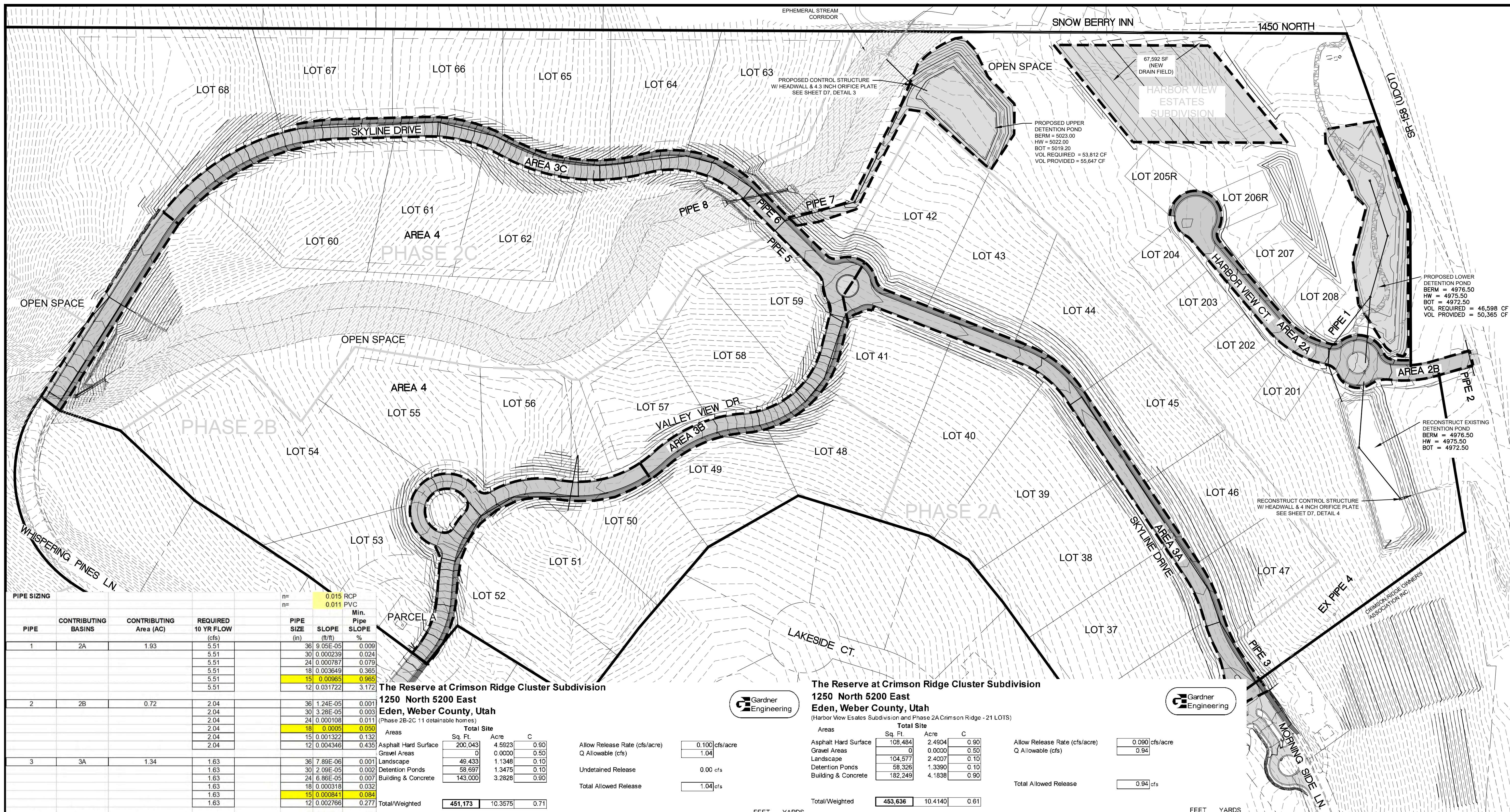


ENTRY ACCESS REGRADING  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
 CIVIL • LAND PLANNING  
 MUNICIPAL • LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0202 FAX: 801.476.0066

C4





**PIPE SIZING**

PIPE	CONTRIBUTING BASINS	CONTRIBUTING Area (AC)	REQUIRED 10 YR FLOW (cfs)	PIPE SIZE (in)	SLOPE (ft/ft)	Min. Pipe Slope %
1	2A	1.93	5.51	36	0.015	0.009
			5.51	30	0.00239	0.024
			5.51	24	0.00787	0.079
			5.51	18	0.003649	0.365
			5.51	15	0.00665	0.985
2	2B	0.72	2.04	36	1.24E-05	0.001
			2.04	30	3.28E-05	0.003
			2.04	24	0.000108	0.011
			2.04	18	0.0005	0.050
			2.04	15	0.001322	0.132
3	3A	1.34	1.63	36	7.89E-06	0.001
			1.63	30	2.08E-05	0.002
			1.63	24	6.86E-05	0.007
			1.63	18	0.000318	0.032
			1.63	15	0.000841	0.084
4	1 (Ex.), 3A	5.93	5.58	36	9.26E-05	0.009
			5.58	30	0.000245	0.024
			5.58	24	0.000805	0.081
			5.58	18	0.003735	0.373
			5.58	15	0.009875	0.988
5	3B	1.29	1.62	36	7.8E-06	0.001
			1.62	30	2.06E-05	0.002
			1.62	24	6.78E-05	0.007
			1.62	18	0.000315	0.031
			1.62	15	0.000832	0.083
6	3C	1.88	2.59	36	2E-05	0.002
			2.59	30	5.28E-05	0.005
			2.59	24	0.000174	0.017
			2.59	18	0.000806	0.081
			2.59	15	0.00213	0.213
7	3B, 3C	3.18	4.21	36	5.28E-05	0.005
			4.21	30	0.00014	0.014
			4.21	24	0.00059	0.046
			4.21	18	0.002127	0.213
			4.21	15	0.005624	0.562
8	Upstream+Area 4	23.05	596.00	72	0.026226	2.623
			596.00	60	0.069347	6.935
			596.00	54	0.121638	12.164
			596.00	48	0.227973	22.797
			596.00	36	1.057361	105.736

**The Reserve at Crimson Ridge Cluster Subdivision**  
**1250 North 5200 East**  
**Eden, Weber County, Utah**  
 (Phase 2B-2C 11 detainable homes)

Areas	Sq. Ft.	Acres	C
Asphalt Hard Surface	200,043	4.5923	0.80
Gravel Areas	0	0.0000	0.50
Landscape	49,433	1.1348	0.10
Detention Ponds	58,697	1.3475	0.10
Building & Concrete	143,000	3.2828	0.90
<b>Total/Weighted</b>	<b>451,173</b>	<b>10.3575</b>	<b>0.71</b>

Allow Release Rate (cfs/acre)	Q Allowable (cfs)
0.100 cfs/acre	1.04
Undetained Release	0.00 cfs
<b>Total Allowed Release</b>	<b>1.04 cfs</b>

**The Reserve at Crimson Ridge Cluster Subdivision**  
**1250 North 5200 East**  
**Eden, Weber County, Utah**  
 (Harbor View Estates Subdivision and Phase 2A Crimson Ridge - 21 LOTS)

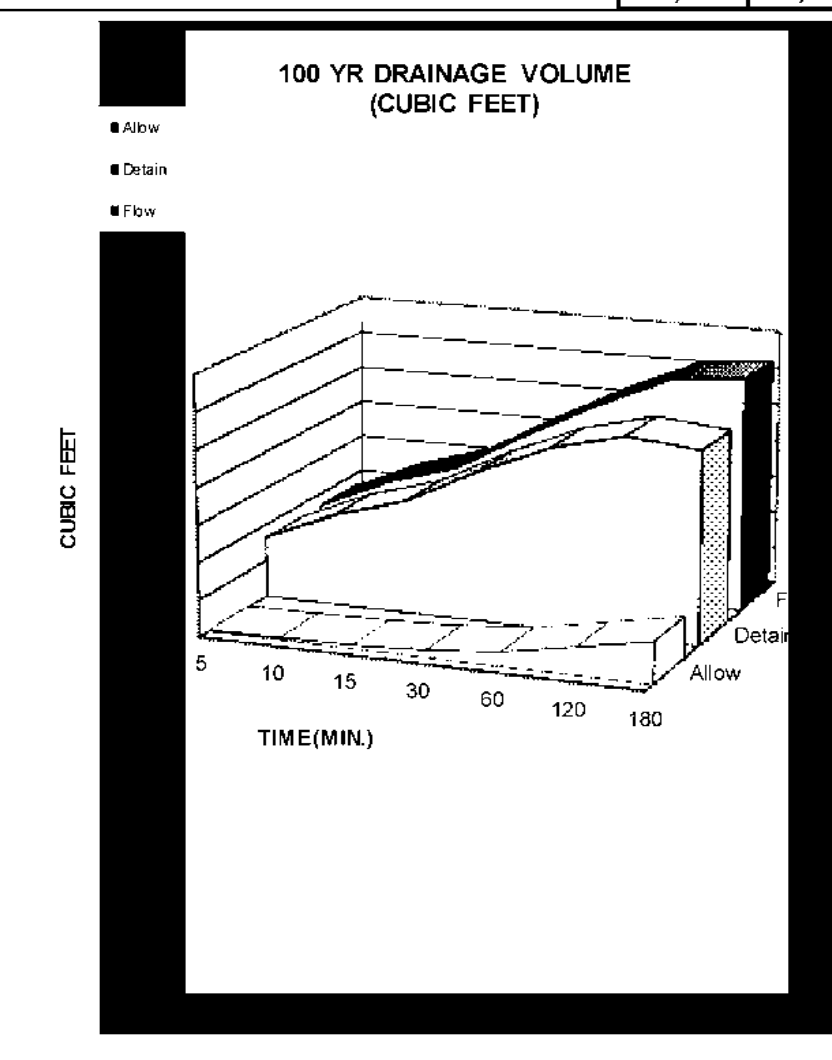
Areas	Sq. Ft.	Acres	C
Asphalt Hard Surface	108,484	2.4904	0.90
Gravel Areas	0	0.0000	0.50
Landscape	104,577	2.4007	0.10
Detention Ponds	58,326	1.3390	0.10
Building & Concrete	182,249	4.1838	0.90
<b>Total/Weighted</b>	<b>453,636</b>	<b>10.4140</b>	<b>0.61</b>

Allow Release Rate (cfs/acre)	Q Allowable (cfs)
0.090 cfs/acre	0.94
<b>Total Allowed Release</b>	<b>0.94 cfs</b>

**100 yr**

Runoff Vol (cf)	1" Inch / Hr	Total Vol (cf)	Detain Vol (cf)
311	7.57	16,660	16,349
621	5.76	25,353	24,731
932	4.76	31,427	30,496
1,864	3.21	42,387	40,522
3,729	1.99	52,554	48,825
7,457	1.16	61,269	53,812
11,186	0.797	63,144	51,958
22,372	0.452	71,622	49,249
44,744	0.286	90,636	45,892
89,488	0.166	105,214	15,725

NOAA - Atlas 14



**Orifice Calculation**

H = 4.5 Maximum water height (ft)  
 Q = 1.04 Flowrate out of orifice (cfs)  
 Cc = 0.62 Coefficient of Contraction  
 Cv = 0.98 Coefficient of Velocity  
 Area = 0.100 Orifice Area (ft<sup>2</sup>)  
 I1 = 3.14  
 g = 32.17 Gravitational Constant  
 d = 4.29 Orifice Diameter (in)  
 d = 4.27 Orifice

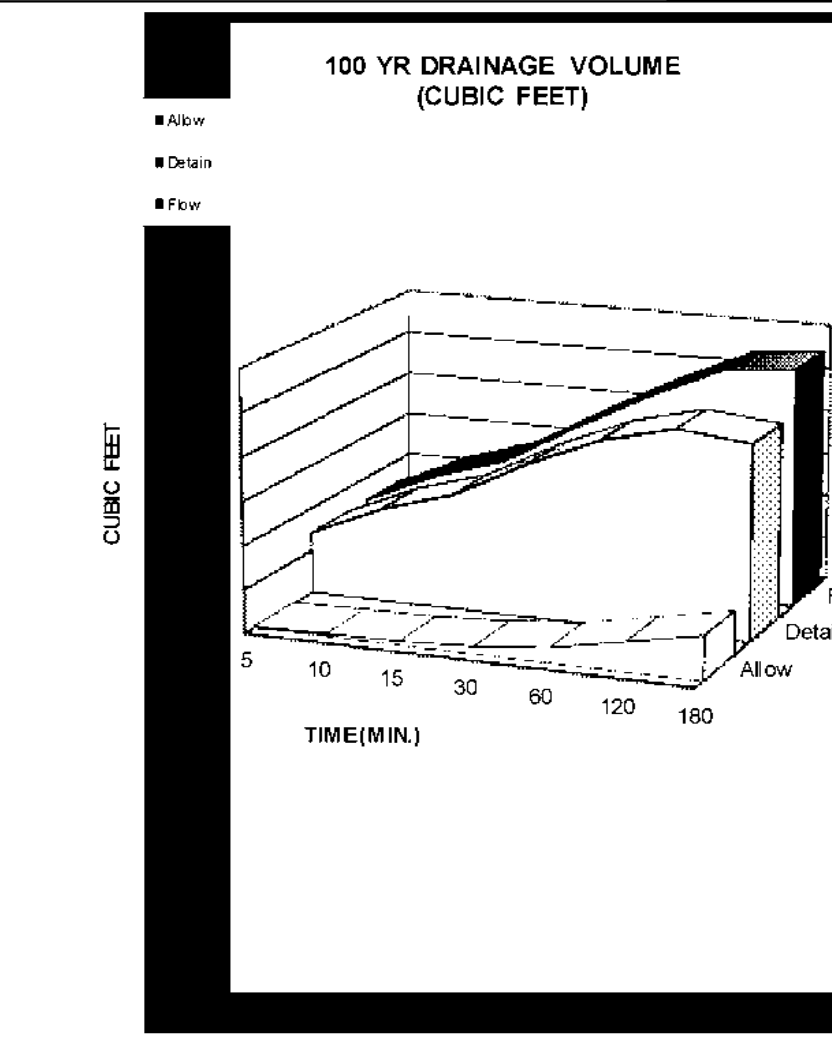
**100 yr**

Runoff Vol (cf)	1" Inch / Hr	Total Vol (cf)	Detain Vol (cf)
281	7.57	14,491	14,210
562	5.76	22,052	21,491
842	4.76	27,335	26,493
1,685	3.21	36,868	35,184
3,369	1.99	45,712	42,343
6,739	1.16	53,293	46,554
10,108	0.797	54,924	44,816
20,216	0.452	62,297	42,081
40,432	0.286	78,836	38,404
80,864	0.166	91,516	10,653

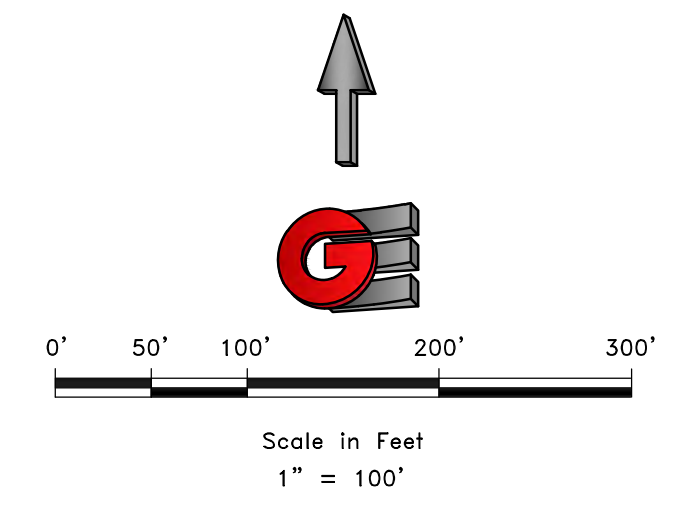
NOAA - Atlas 14

**Orifice Calculation**

H = 7.5 Maximum water height (ft)  
 Q = 0.94 Flowrate out of orifice (cfs)  
 Cc = 0.62 Coefficient of Contraction  
 Cv = 0.98 Coefficient of Velocity  
 Area = 0.070 Orifice Area (ft<sup>2</sup>)  
 I1 = 3.14  
 g = 32.17 Gravitational Constant  
 d = 3.59 Orifice Diameter (in)  
 d = 3 3/5 Orifice



EXISTING LOWER POND ORIFICE DESIGN SIZE = 19.8 INCH = 2.14 SF AREA  
 ADDITIONAL AREA FOR HARBOR VIEW ESTATES AND CRIMSON RIDGE PHASE 2A = 0.07 SF (FOR 0.1 CFS/ACRE RELEASE)  
 LOWER POND NEW ORIFICE = 20.2 INCH = 2.21 SF  
 (SEE SHEET D7, DETAIL 4 FOR NEW CONTROL STRUCTURE DETAIL)



SCALE: 1" = 100'

DATE: 1/26/2021  
 DESIGN: BRD/WJS  
 DRAWN: BRD/WJS  
 CHECKED: TAN

REVISIONS

DATE	DESCRIPTION

PROFESSIONAL STRUCTURAL ENGINEER  
 1/26/2021  
 No. 4859845  
 TYLER M. NIELSON  
 LICENSED  
 STATE OF UTAH

DWG: R-0208 - BAH INVESTMENT, CRIMSON RIDGE, DESIGN, DRW, CRIMSON RIDGE - CDS.DWG

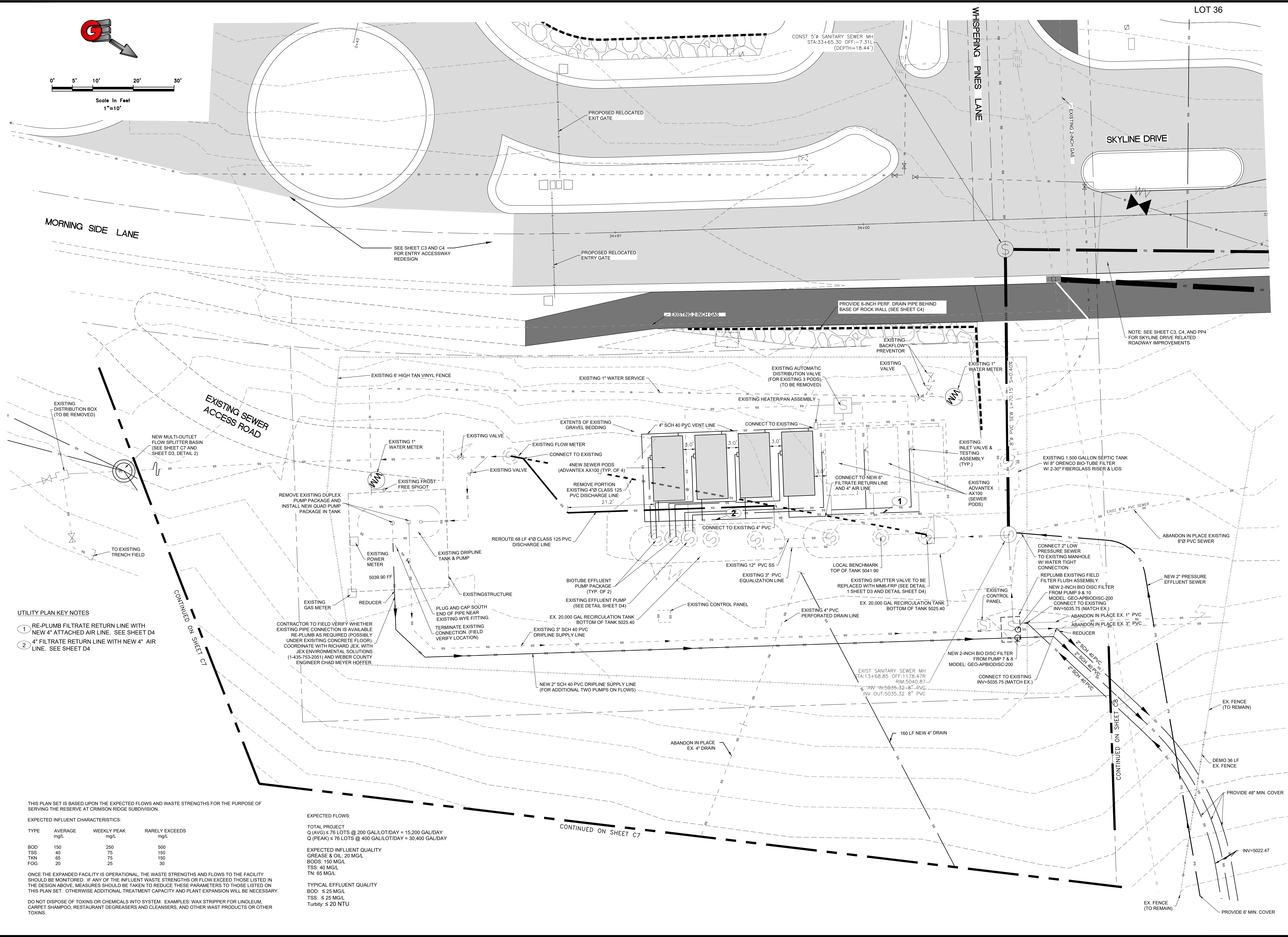
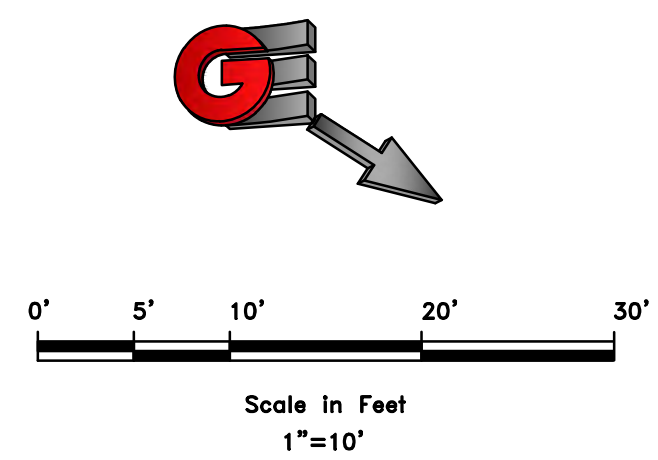
**DRAINAGE CALCS**

**THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2**  
**1250 NORTH 5200 EAST**  
**EDEN, WEBER COUNTY, UTAH**

**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0202 FAX: 801.476.0866

**C5**





- UTILITY PLAN KEY NOTES**
- 1 RE-PLUMB FILTRATE RETURN LINE WITH NEW 4" ATTACHED AIR LINE. SEE SHEET D4
  - 2 4" FILTRATE RETURN LINE WITH NEW 4" AIR LINE. SEE SHEET D4

THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND WASTE STRENGTHS FOR THE PURPOSE OF SERVING THE RESERVE AT CRIMSON RIDGE SUBDIVISION.

EXPECTED INFLUENT CHARACTERISTICS:

TYPE	AVERAGE mg/L	WEEKLY PEAK mg/L	RARELY EXCEEDS mg/L
BOD	150	250	500
TSS	40	75	150
TKN	65	75	150
FOG	20	25	30

EXPECTED FLOWS:  
 TOTAL PROJECT  
 Q (AVG) ≤ 76 LOTS @ 200 GAL/LOT/DAY = 15,200 GAL/DAY  
 Q (PEAK) ≤ 76 LOTS @ 400 GAL/LOT/DAY = 30,400 GAL/DAY

EXPECTED INFLUENT QUALITY  
 GREASE & OIL: 20 MG/L  
 BODS: 150 MG/L  
 TSS: 40 MG/L  
 TN: 65 MG/L

TYPICAL EFFLUENT QUALITY  
 BOD: ≤ 25 MG/L  
 TSS: ≤ 25 MG/L  
 Turbidity: ≤ 20 NTU

ONCE THE EXPANDED FACILITY IS OPERATIONAL, THE WASTE STRENGTHS AND FLOWS TO THE FACILITY SHOULD BE MONITORED. IF ANY OF THE INFLUENT WASTE STRENGTHS OR FLOW EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THIS PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

DO NOT DISPOSE OF TOXINS OR CHEMICALS INTO SYSTEM. EXAMPLES: WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, RESTAURANT DEGREASERS AND CLEANSERS, AND OTHER WAST PRODUCTS OR OTHER TOXINS.

SCALE: 1"=10'

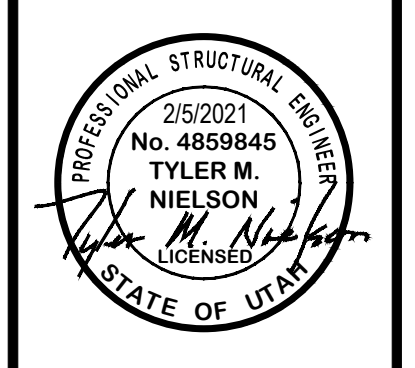
DATE: 2/5/2021

DESIGN: BBD/MUS

DRAWN: BBD/MUS

CHECKED: TMN

DMG: R\19208 - BBAH INVESTMENT\CRIMSON RIDGE\DESIGN\DWG\CRIMSON RIDGE - C05.DWG



EFFLUENT TREATMENT FACILITY

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2

1250 NORTH 5200 EAST

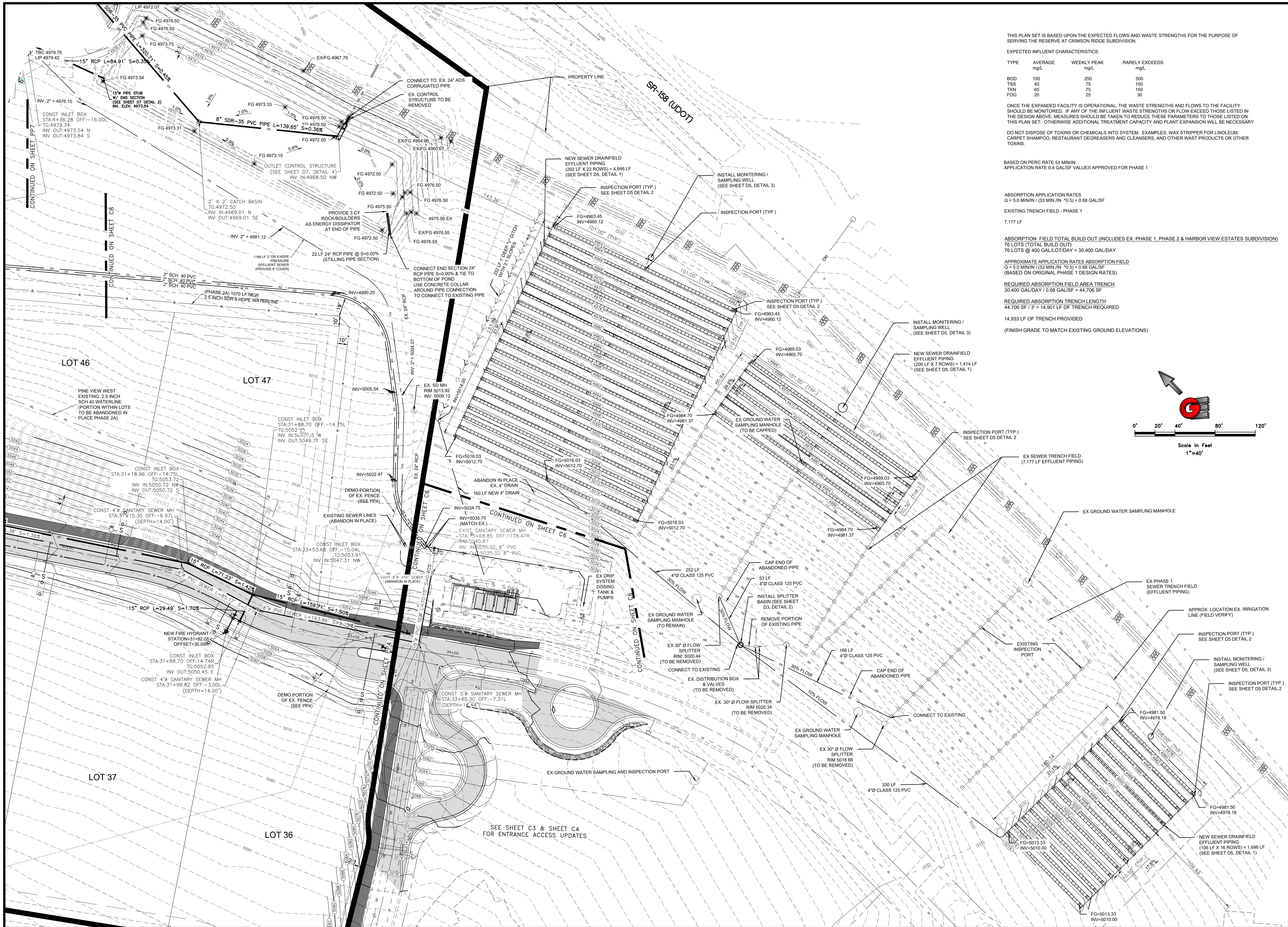
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**

CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801-476-0202 FAX: 801-476-0066





THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND WASTE STRENGTHS FOR THE PURPOSE OF SERVING THE RESERVE AT CRIMSON RIDGE SUBDIVISION.

EXPECTED INFLUENT CHARACTERISTICS:

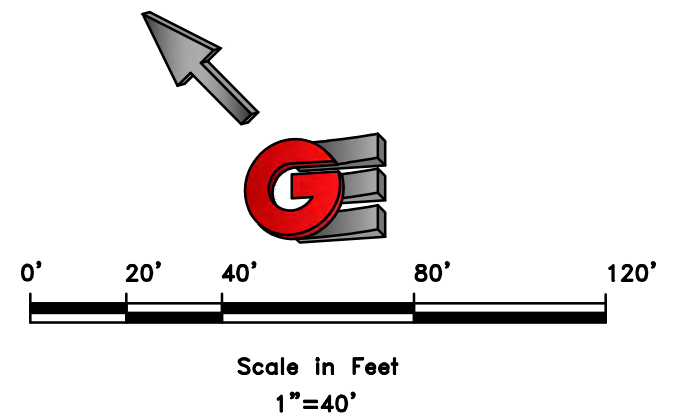
TYPE	AVERAGE mg/L	WEEKLY PEAK mg/L	RARELY EXCEEDS mg/L
BOD	150	250	500
TSS	40	75	150
TKN	65	75	150
FOG	20	25	30

ONCE THE EXPANDED FACILITY IS OPERATIONAL, THE WASTE STRENGTHS AND FLOWS TO THE FACILITY SHOULD BE MONITORED. IF ANY OF THE INFLUENT WASTE STRENGTHS OR FLOW EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THIS PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

DO NOT DISPOSE OF TOXINS OR CHEMICALS INTO SYSTEM. EXAMPLES: WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, RESTAURANT DEGREASERS AND CLEANSERS, AND OTHER WASTE PRODUCTS OR OTHER TOXINS.

BASED ON PERC RATE 53 MIN/IN APPLICATION RATE 0.4 GAL/SF VALUES APPROVED FOR PHASE 1

ABSORPTION APPLICATION RATES  
 Q = 5.0 MIN/IN / (53 MIN/IN \* 0.5) = 0.68 GAL/SF  
 EXISTING TRENCH FIELD - PHASE 1  
 7,177 LF  
 ABSORPTION FIELD TOTAL BUILD OUT (INCLUDES EX. PHASE 1, PHASE 2 & HARBOR VIEW ESTATES SUBDIVISION)  
 76 LOTS (TOTAL BUILD OUT)  
 76 LOTS @ 400 GALLON/DAY = 30,400 GAL/DAY  
 APPROXIMATE APPLICATION RATES ABSORPTION FIELD  
 Q = 5.0 MIN/IN / (53 MIN/IN \* 0.5) = 0.68 GAL/SF (BASED ON ORIGINAL PHASE 1 DESIGN RATES)  
 REQUIRED ABSORPTION FIELD AREA TRENCH  
 30,400 GAL/DAY / 0.68 GAL/SF = 44,706 SF  
 REQUIRED ABSORPTION TRENCH LENGTH  
 44,706 SF / 3' = 14,902 LF OF TRENCH REQUIRED  
 14,933 LF OF TRENCH PROVIDED  
 (FINISH GRADE TO MATCH EXISTING GROUND ELEVATIONS)



REVISIONS	DESCRIPTION
DATE	



SEWER DRAIN FIELD EXPANSION  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801-476-0202 FAX: 801-476-0066



THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND WASTE STRENGTHS FOR THE PURPOSE OF SERVING THE RESERVE AT CRIMSON RIDGE SUBDIVISION.

EXPECTED INFLUENT CHARACTERISTICS:

TYPE	AVERAGE mg/L	WEEKLY PEAK mg/L	RARELY EXCEEDS mg/L
BOD	150	250	500
TSS	40	75	150
TKN	65	75	150
FOG	20	25	30

ONCE THE EXPANDED FACILITY IS OPERATIONAL, THE WASTE STRENGTHS AND FLOWS TO THE FACILITY SHOULD BE MONITORED. IF ANY OF THE INFLUENT WASTE STRENGTHS OR FLOW EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THIS PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

DO NOT DISPOSE OF TOXINS OR CHEMICALS INTO SYSTEM. EXAMPLES: WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, RESTAURANT DEGREASERS AND CLEANSERS, AND OTHER WASTE PRODUCTS OR OTHER TOXINS.

**DRIP SYSTEM DESIGN**

- PERCOLATION RATE = 21.8 MIN/INCH
- ALLOWED APPLICATION RATE = 0.45 GAL/SF/DAY
- TOTAL FLOW TO BE DISPERSED
- 76 LOTS @ 400 GAL/LOT/DAY = 30,400 GAL/DAY
- REQUIRED DRIP SYSTEM AREA (30,400 GAL/DAY / (0.45 GAL/SF/DAY)) = 67,556 SF
- 67,556 SF / 2 = 33,778 LF OF DRIP TUBING
- 8 ZONES (33,778 / 4,222 LF / ZONE)
- EMITTER COVERS 4 SF (4 SF / (0.45 GAL/SF/DAY)) = 1.8 GAL / DAY (PER EMITTER)
- EMITTER SUPPLIES 0.53 GAL/HR (PER EMITTER)
- TOTAL TIME TO BE APPLIED EACH DAY (1.8 GAL/DAY) / (0.53 GAL/HR) = 3.4 HR/DAY = 204 MIN/DAY
- RUN TIME RANGE 5 MINUTE DOSE CYCLE TO 10 MINUTE DOSE CYCLE

**DOSEING REQUIREMENTS**

- 21 CYCLES/DAY/ZONE
- 210 MIN/DAY / 21 CYCLES/DAY / ZONE = 10 MINUTES / CYCLE / ZONE AREA

**ZONE AREAS**

- 8 ZONES
- TOTAL REQUIRED DRIP SYSTEM AREA = 67,556 SF / 8 ZONES = 8,445 SF / ZONE (8,445 SF / ZONE) (0.45 GAL/DAY/SF) = 3,810 GPD / ZONE
- (3,810 GPD / ZONE) / (21 CYCLES/DAY) = 181 GAL / CYCLE
- (181 GAL / CYCLE) / (10 MINUTE / CYCLE) = 18 GAL / MINUTE
- DESIGNED 16 ROWS PER ZONE WITH 266 LF PER ROW FOR A TOTAL OF 4,266 LF

OPERATING FLOW RATE PER ZONE = 18 GAL/MINUTE  
FLOW RATE PER ZONE FLUSHING AT 0.5 FEET/SEC = 35 GAL/MINUTE

FLOW RATE PER ZONE RETURNING DURING A FLUSH CYCLE = 35 GAL/MINUTE - 18 GAL/MINUTE = 17 GAL/MINUTE

**PUMP REQUIREMENTS**

DRIP IRRIGATION SYSTEM  
DOSING TANK

HEAD  
ELEVATION HEAD 5018-5024.50 (PUMP) = 6.5'  
FRICTION LOSS IN 3" PVC SCH 40 @ 40 GAL/MIN  
(0.2" 1888/100) = 3.8'

FITTINGS (EQUIVALENT PIPE LENGTH)  
4" 45' = 414.0' = 16 LF  
1" 90" = 112.0' = 12 LF  
VALVE = 11.9 LF

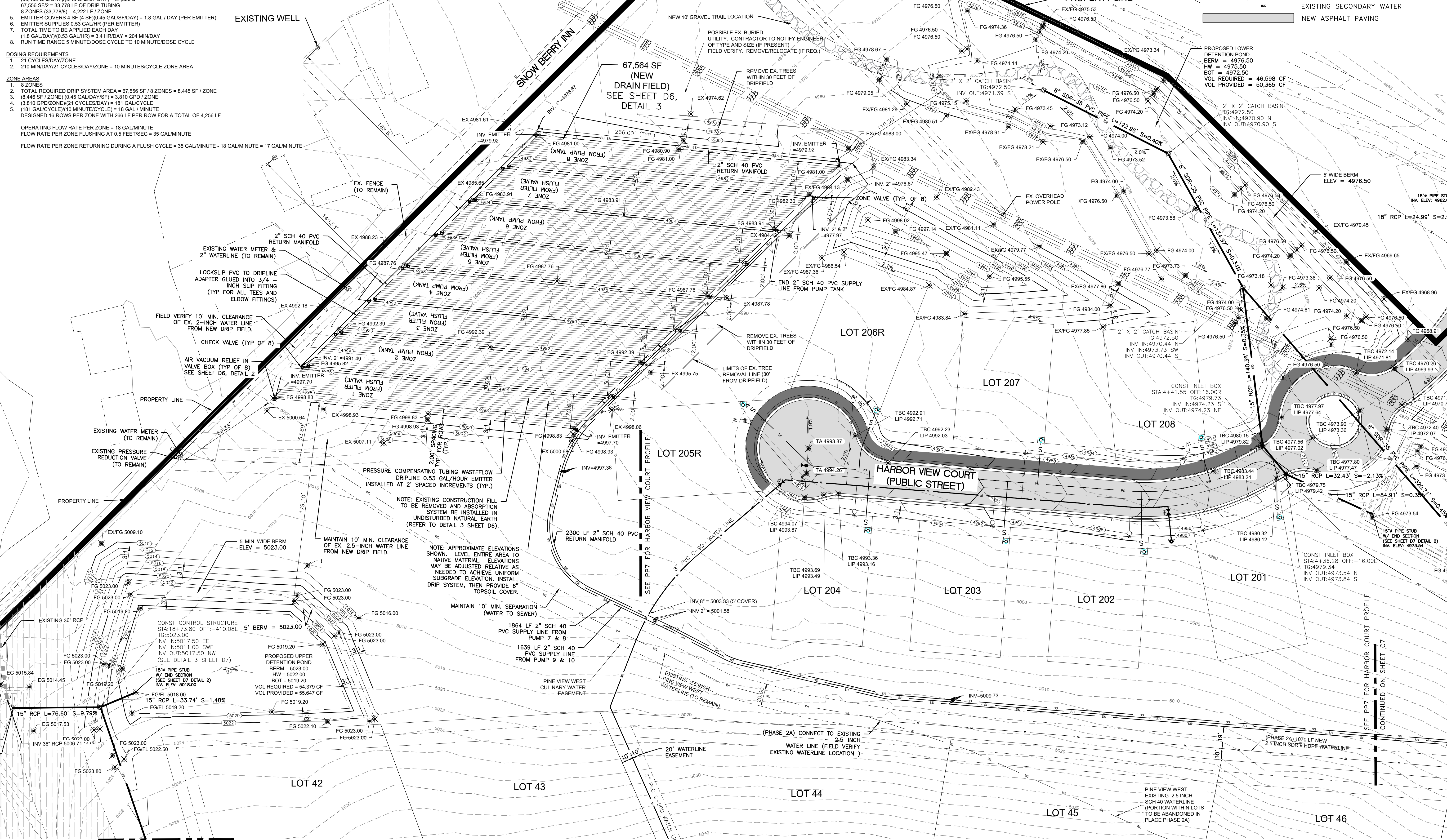
TOTAL = 39.9' \* 0.2/100 = 0.08

PRESSURE @ END OF PIPE (20PSI) = 20' \* 31.46 FEET  
TOTAL HEAD = 43 FEET  
(EXISTING PUMP DESIGNED FOR 96 FEET HEAD)

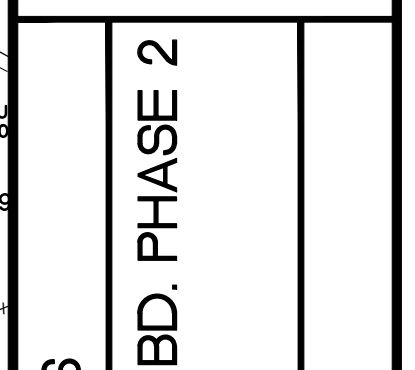
**PUMP CYCLE**

ZONE 1 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 2 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 3 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 4 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 5 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 6 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 7 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS  
ZONE 8 PUMP ON 10 MINUTES  
PUMP OFF 3 MINUTES 20 SECONDS

REPEAT CYCLE  
(TOTAL RUN TIME / CYCLE = 80 MINUTES)  
(TOTAL OFF TIME / CYCLE = 26 MINUTES 40 SECONDS)  
(EXISTING AUTOMATIC FLUSH SYSTEM FOR EVERY 100 CYCLES AT END OF EVERY CYCLE FLUSH GEOWELL SPIN CLEAN FILTER FOR 10 SECONDS).



REVISIONS	DESCRIPTION
DATE	



DRIP SYSTEM + DETENTION PONDS  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING

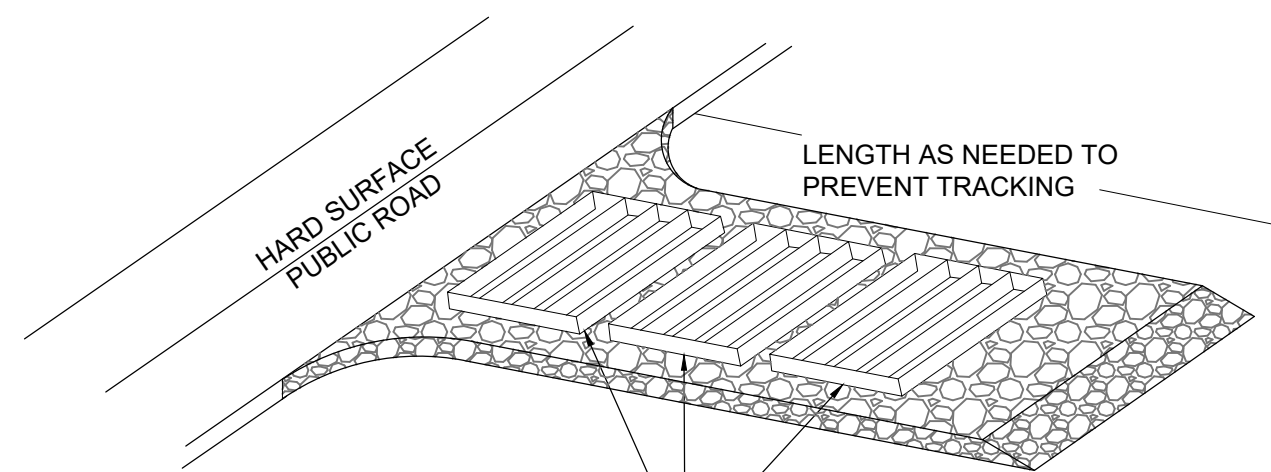
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801.476.0202 FAX: 801.476.0066

C8



**EROSION CONTROL NOTES:**

1. SANDBAGS WILL BE PLACED AT DISCHARGE LOCATIONS TO CONTAIN AND DIVERT STORM WATER THROUGH THE INLET PROTECTION.
2. AN EARTHEN BERM 6" HIGH WILL BE CONSTRUCTED TO CONTAIN THE STORM WATER AND DIVERT IT TO DISCHARGE AREAS.
3. STORM WATER WILL BE DISCHARGED INTO AN EXISTING DRAINAGE SYSTEM. EXISTING LINES SHALL BE INSPECTED PRIOR TO CERTIFICATE OF OCCUPANCY AND CLEANED IF NECESSARY.
4. THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONFORM TO ALL STATE DIVISION OF ENVIRONMENTAL PROTECTION REGULATIONS.



A SERIES OF STEEL PLATES (3 OR MORE) WITH RUMBLE STRIPS OR MIN. 3" COARSE AGGREGATE.

**ENTRANCE STABILIZATION NOTES:**

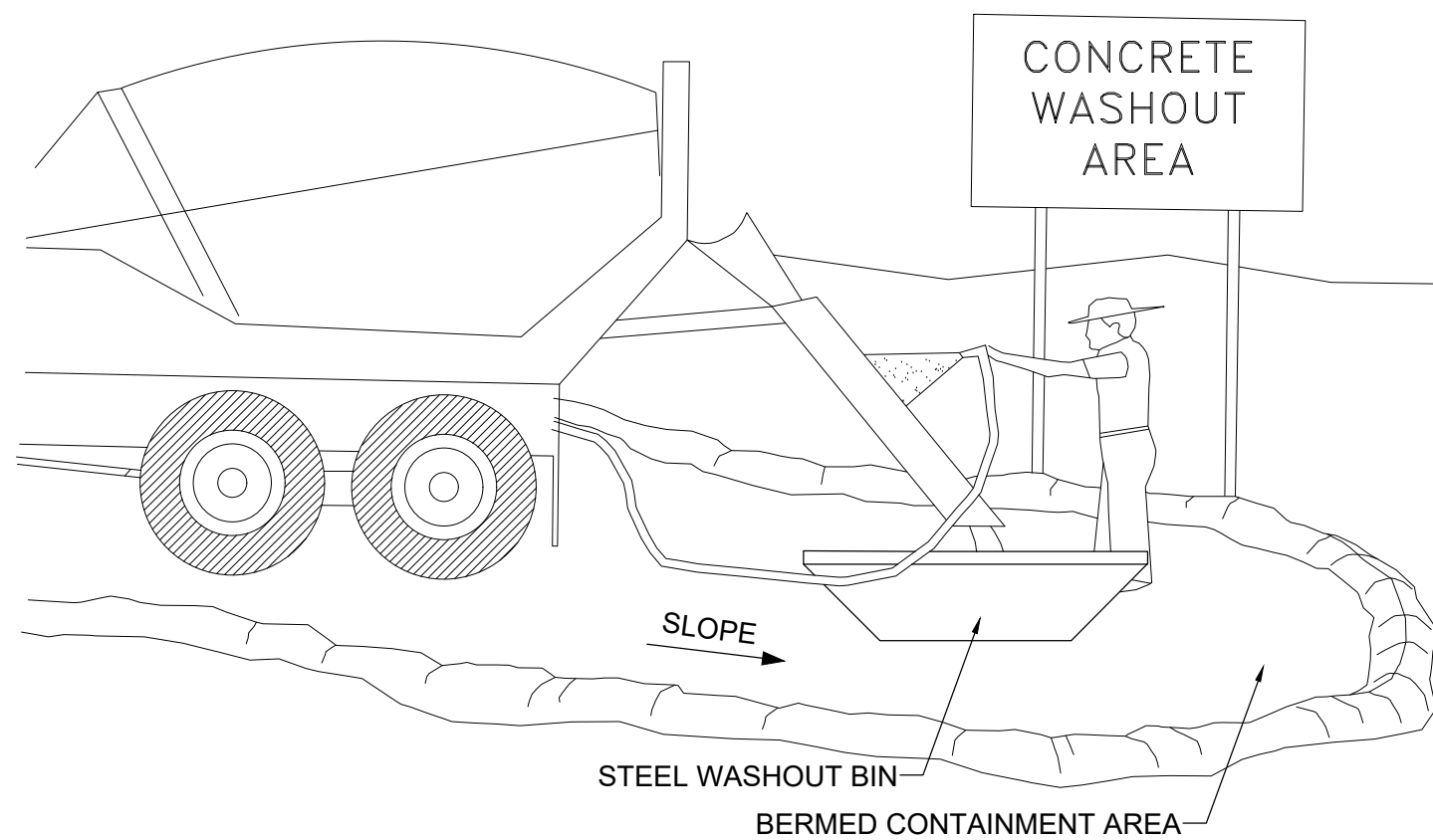
1. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE STORM DRAIN SYSTEMS. DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
  - a. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY AND SIDEWALK OR PARKING AREA.
  - b. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS" AND/OR MIN. 3" COARSE AGGREGATE WITH LENGTH, WIDTH AND THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED SURFACES.
3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
4. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.

**STREET MAINTENANCE NOTES:**

1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.

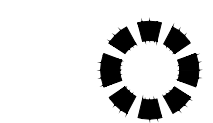
**NOTE:**

CONTRACTOR SHALL COMPLETE AND SUBMIT A STATE NOTICE OF INTENT (NOI) AND A STORM WATER POLLUTION PREVENTION PLAN BOOKLET

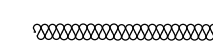


**NOTES:**

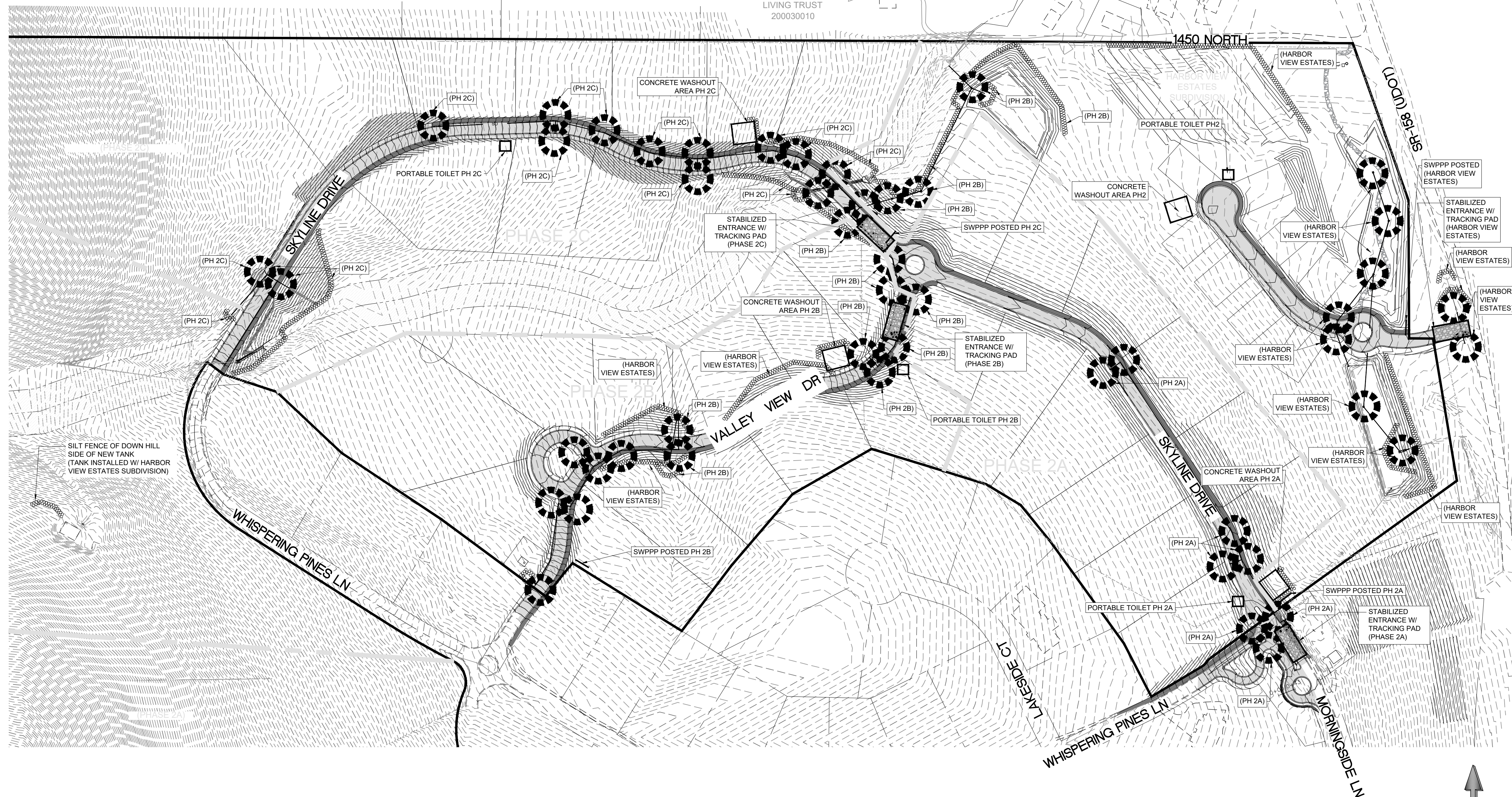
1. EXCESS AND WASTE CONCRETE SHALL BE DISPOSED OF OFF SITE OR AT DESIGNATED AREAS ONLY.
2. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.
3. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS ONSITE, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED.
4. ONSITE CONCRETE WASHOUT CONTAINMENT FACILITY SHALL BE A STEEL BIN OR APPROVED ALTERNATE.
5. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP AND DISPOSED OF PROPERLY.



INLET PROTECTION (EITHER OPTION)

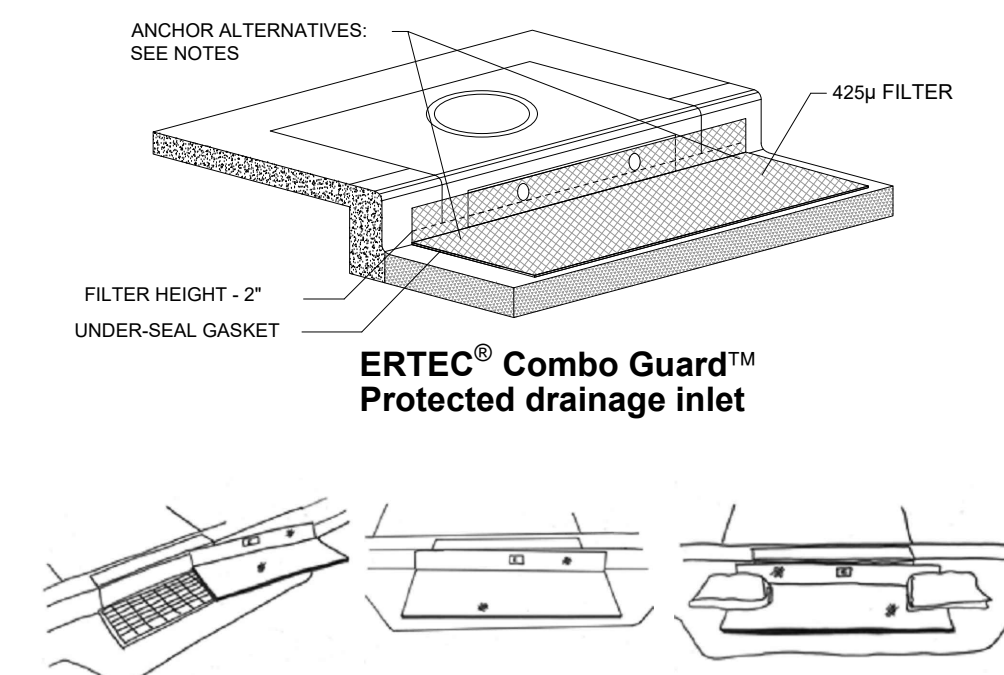


SILT FENCE



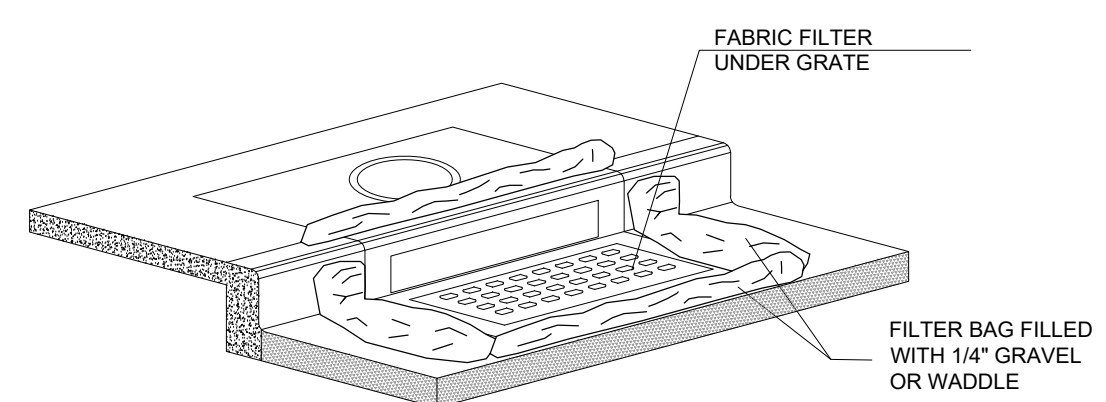
**INSTALLATION NOTES**

1. PLACEMENT: PLACE CG TIGHTLY AGAINST CURB OPENING AND COVER ENTIRE GRATE. CG SHOULD EXTEND AT LEAST 2 INCHES PAST GRATE TOWARDS STREET.
2. OVERLAP FOR LONG OPENINGS: OVERLAP CG UNITS AT LONGER OPENINGS.
3. ANCHOR: ANCHOR CG SO THAT WATER CANNOT FLOW BEHIND IT.
4. ALTERNATE ANCHOR METHODS: A) INSTALL GRAVEL BAGS AT EACH SIDE OF CG - HALF-ON AND HALF-OFF THE EDGES. USE HALF-FILLED GRAVEL BAGS (15 OR 20 LBS). ROUND ROCK IS RECOMMENDED. OR B) ATTACH WITH 16 GAUGE TIE-WIRE. CUT WIRE TO 18" LENGTH. AT EACH CORNER OF CG, FEED ONE END OF WIRE DOWN THROUGH CG, AROUND GRATE BAR, AND BACK UP THRU CG, ABOVE GROUND. TWIST WIRES SEVERAL TIMES, CUT-OFF EXCESS. OR C) FASTEN WITH CONCRETE ANCHORS/NAILS AT THE OUTSIDE EDGES OF CG.



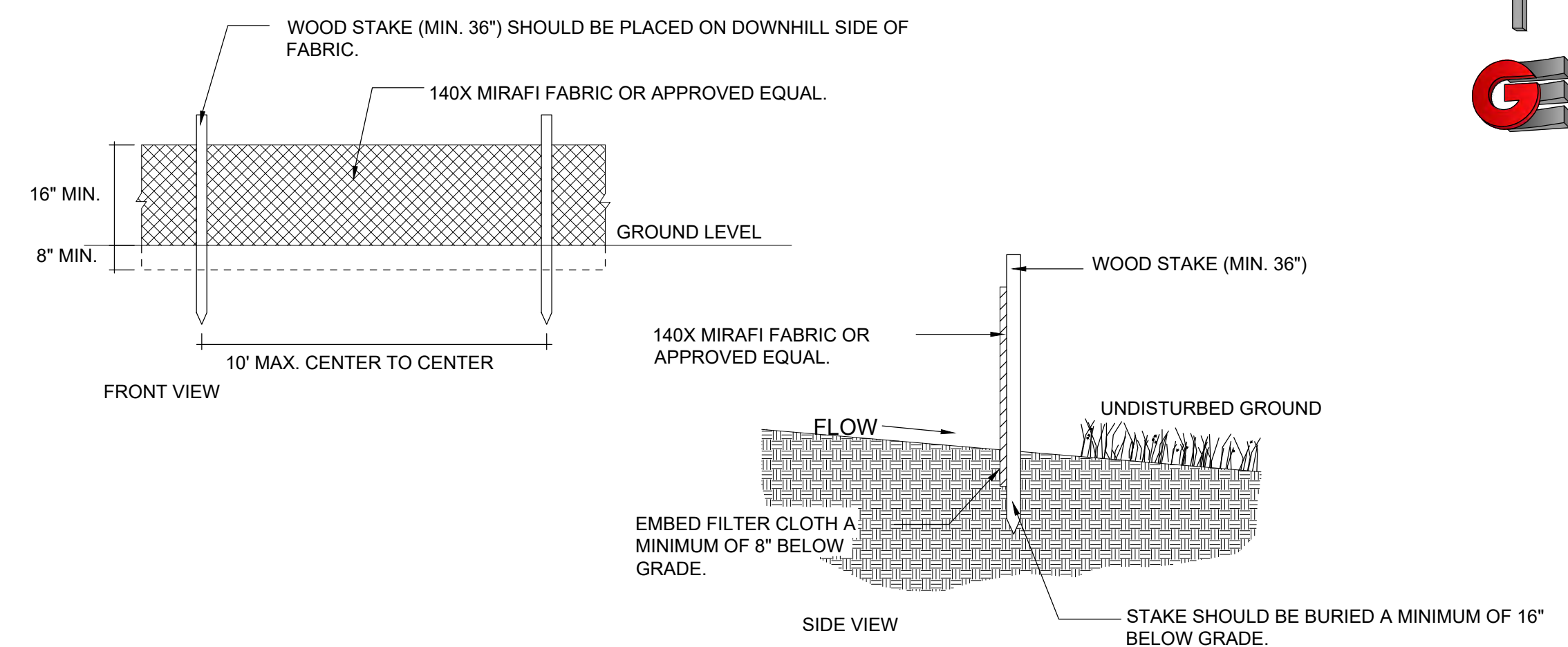
1A INLET PROTECTION - OPTION 1

Scale: NTS



1B INLET PROTECTION - OPTION 2

Scale: NTS



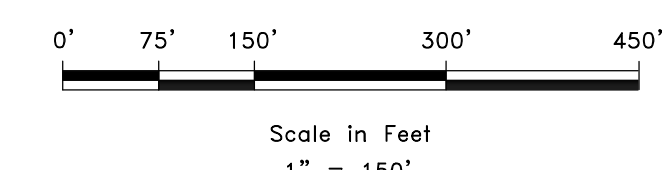
2 SILT FENCE

Scale: NTS

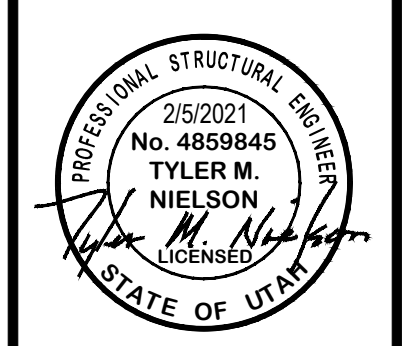
**DEVELOPERS:**

STEVE FENTON  
6130 E. LAST CAMP CIR.  
SLC, UT 84108  
801-535-4055

KEVIN DEPPE  
110 W. 1700 N.  
CENTERTVILLE, UT 84014  
801-535-4032

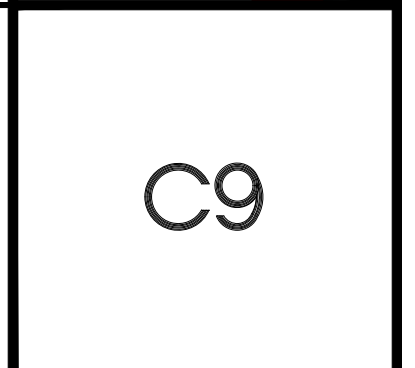


SCALE: 1"=60'	DATE: 2/5/2021	DESIGN: BBD/MUS	DRAWN: BBD/MUS	CHECKED: TMN
REVISIONS		DESCRIPTION		
DATE				



SWPPP  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING  
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801-476-0202 FAX: 801-476-0066

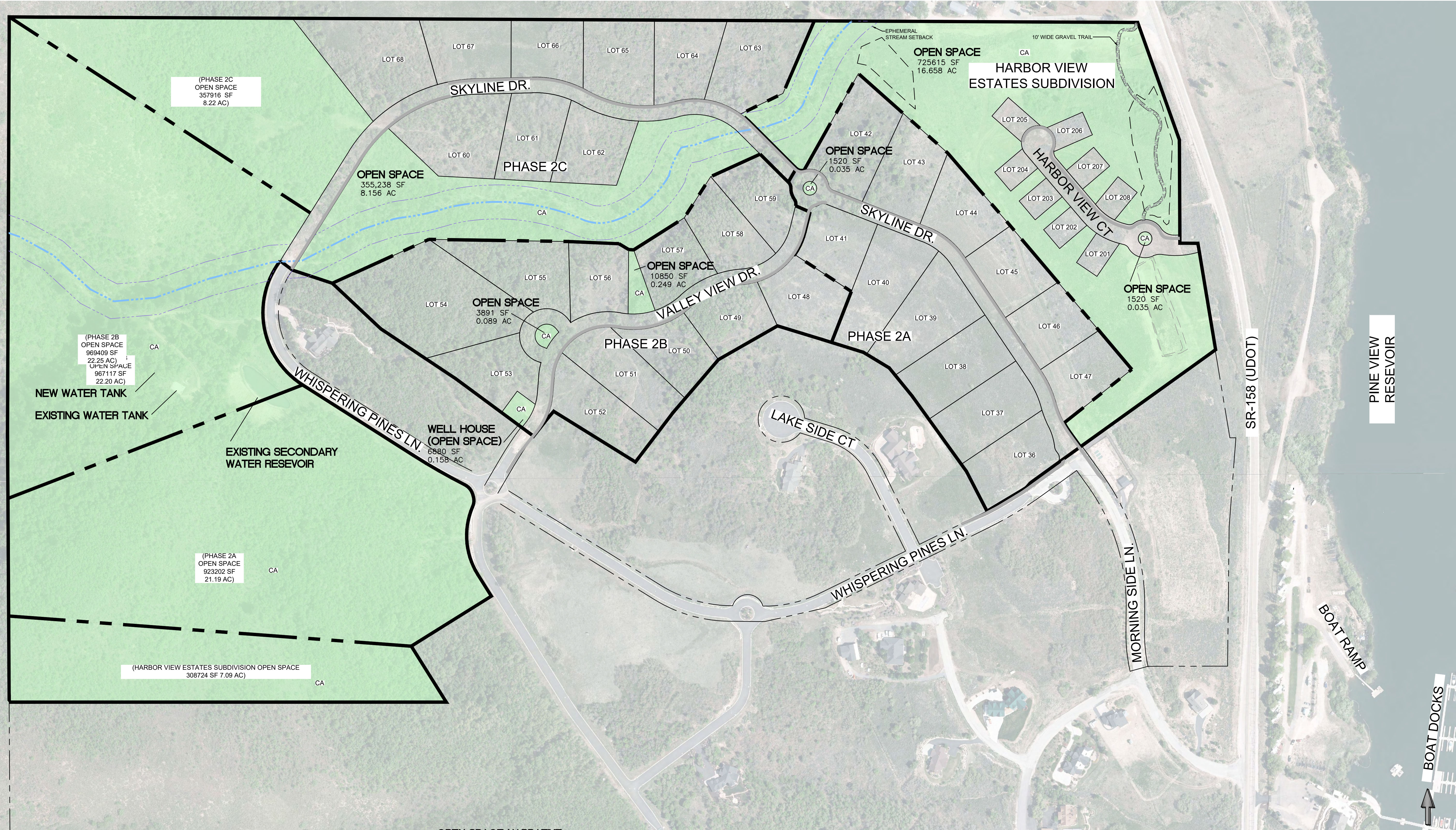


C9

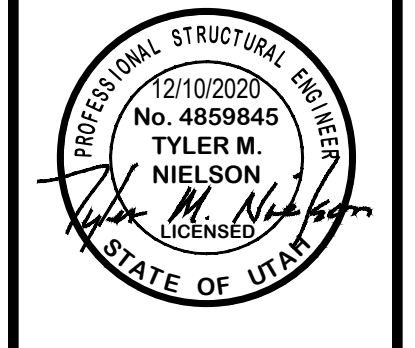


# OPEN SPACE PRESERVATION PLAN

## THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. - PHASE 2A, 2B, 2C + HARBOR VIEW ESTATES SUBDIVISION



REVISIONS	DATE	DESCRIPTION



OPEN SPACE PRESERVATION PLAN  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD.  
 + HARBOR VIEW ESTATES SUBDIVISION  
 1250 NORTH 5200 EAST  
 OGDEN VALLEY, WEBER, UTAH

**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801.476.0502 FAX: 801.476.0066

### OPEN SPACE TABLE

PHASE (LOTS)	AREA (AC)	OPEN SPACE (AC)	COMBINED PHASE PERCENTAGE
* (8 LOTS)	26.68	23.78	89.14% (HARBOR VIEW ESTATES SUBDIVISION)
2A (12 LOTS)	37.94	21.23	69.66% (*-2A)
2B (12 LOTS)	40.22	22.75	64.63% (*-2B)
2C (9 LOTS)	31.38	16.37	61.80% (*-2C)

\* = INITIAL PHASE IS HARBOR VIEW SUBDIVISION

### OPEN SPACE NARRATIVE:

- ALL OPEN SPACE AREAS TO BE MAINTAINED BY THE HOA. AREAS WEST OF SKYLINE DRIVE AND WHISPERING PINES LANE ARE TO BE PRESERVED AS NATURAL OPEN SPACE AREAS WITH THE EXCEPTION OF AREAS WHERE WATER TANK IS CURRENTLY INSTALLED AND NEW WATER TANK WILL BE INSTALLED AS A PART OF THIS DEVELOPMENT. IN THESE AREAS ANY DISTURBED AREAS WILL BE RESEEDED WITH A NATIVE SEED MIX TO HELP RE-ESTABLISH THE EXISTING LANDSCAPING. THESE OPEN SPACE AREAS WILL BE ACCESSIBLE FOR RESIDENTS OF THIS DEVELOPMENT TO UTILIZE FOR LIGHT FOOT TRAFFIC. EXISTING VEGETATION AND MATURE TREES WILL BE PRESERVED AND AREA CAN BE UTILIZED BY WILDLIFE.
- COMMON AREAS NEAR THE EPHEMERAL STREAM CORRIDOR WILL BE PRESERVED AS EXISTING NATURAL AREAS. ANY LOG REMOVAL OR OTHER DEBRIS WHERE PIPES CROSS UNDER A ROADWAY WILL BE MAINTAINED TO PREVENT LOGS FROM PLUGGING UP DESIGNED STORM WATER GOING UNDER ROADWAYS. AREAS NEAR THE EPHEMERAL STREAM SHALL ALSO BE ACCESSIBLE TO ALL RESIDENTS OF THIS DEVELOPMENT TO UTILIZE FOR LIGHT FOOT TRAFFIC. EXISTING VEGETATION AND MATURE TREES WILL BE PRESERVED AND AREA CAN BE UTILIZED BY WILDLIFE.
- SMALLER COMMON AREAS WITHIN THE DEDICATED ROADWAY SHALL BE MAINTAINED BY THE HOA IN AN ATTRACTIVE MANNER AS DESIRED BY THE HOA. THESE AREAS ARE FOR AESTHETICALLY VISIBLE FEATURES FOR THIS DEVELOPMENT.

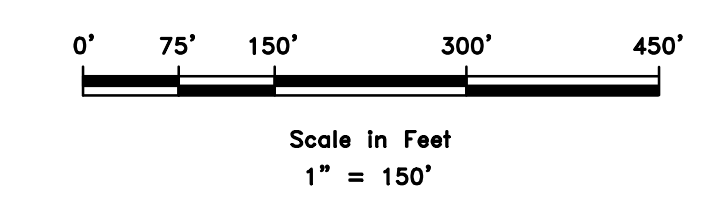
### DEVELOPERS:

STEVE FENTON  
 6130 E. LAST CAMP CIR.  
 SLC, UT 84108  
 801-535-4055

KEVIN DEPPE  
 110 W. 1700 N.  
 CENTERVILLE, UT 84014  
 801-535-4032

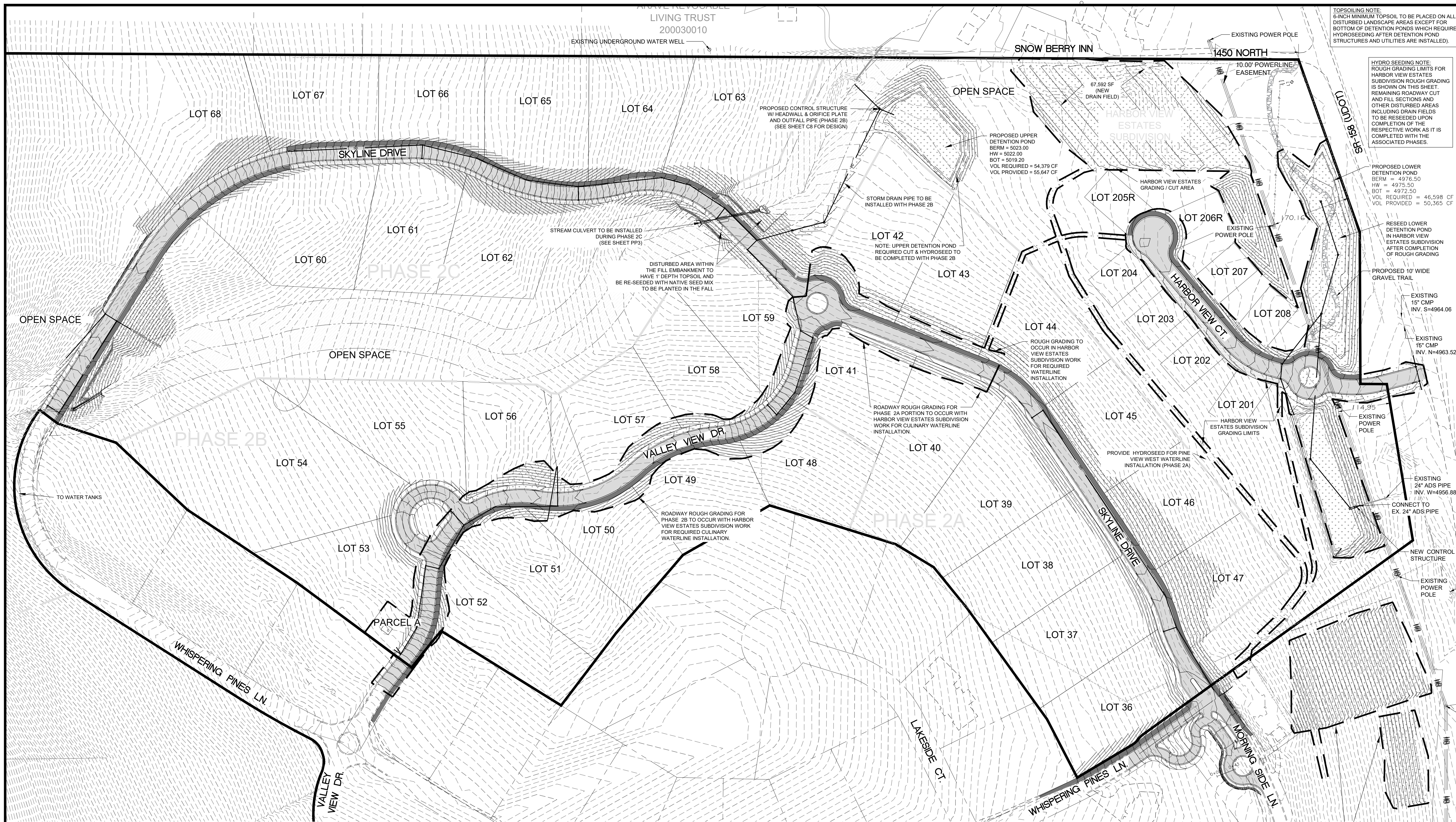
### LEGEND:

OPEN SPACE AREAS -



C10





**TOPSOILING NOTE:**  
6-INCH MINIMUM TOPSOIL TO BE PLACED ON ALL DISTURBED LANDSCAPE AREAS EXCEPT FOR BOTTOM OF DETENTION PONDS WHICH REQUIRE HYDROSEEDING AFTER DETENTION POND STRUCTURES AND UTILITIES ARE INSTALLED.

**HYDRO SEEDING NOTE:**  
ROUGH GRADING LIMITS FOR HARBOR VIEW ESTATES SUBDIVISION ROUGH GRADING IS SHOWN ON THIS SHEET. REMAINING ROADWAY CUT AND FILL SECTIONS AND OTHER DISTURBED AREAS INCLUDING DRAIN FIELDS TO BE RESEEDED UPON COMPLETION OF THE RESPECTIVE WORK AS IT IS COMPLETED WITH THE ASSOCIATED PHASES.

**PROPOSED UPPER DETENTION POND**  
BERM = 5023.00  
HW = 5022.00  
BOT = 5019.20  
VOL REQUIRED = 54,379 CF  
VOL PROVIDED = 55,647 CF

**PROPOSED LOWER DETENTION POND**  
BERM = 4976.50  
HW = 4975.50  
BOT = 4972.50  
VOL REQUIRED = 46,598 CF  
VOL PROVIDED = 50,365 CF

**RESEED LOWER DETENTION POND**  
IN HARBOR VIEW ESTATES SUBDIVISION AFTER COMPLETION OF ROUGH GRADING

**PROPOSED 10' WIDE GRAVEL TRAIL**

**EXISTING 15" CMP**  
INV. S=4964.06

**EXISTING 16" CMP**  
INV. N=4963.52

**EXISTING 14.95"**  
EXISTING POWER POLE

**EXISTING 24" ADS PIPE**  
INV. W=4956.88

**CONNECT TO EX. 24" ADS PIPE**

**NEW CONTROL STRUCTURE**

**EXISTING POWER POLE**

**CHAMBER ABSORPTION SYSTEM**  
TO BE INSTALLED IN HARBOR VIEW ESTATES SUBDIVISION

**EARTHWORK NEAT LINE QUANTITIES**  
HARBOR VIEW ESTATES SUBDIVISION (INCLUDES HARBOR VIEW ESTATES SUBDIVISION WITH EXCEPTION OF UPPER DETENTION POND. ALSO INCLUDES PHASE 2B AND PORTION OF PHASE 2A ROUGH GRADING):  
UNADJUSTED CUT VOLUME (RAW) = 25,793 CY  
UNADJUSTED FILL VOLUME = 30,255 CY  
ADJUSTED FILL VOLUME (FOR IMPORTED PAVEMENT SECTION AND TRAILS) = 25,195

HARBOR VIEW ESTATES (W/PH 2B AND PORTION OF PH 2A) OVERALL NET CUT = 599 CY

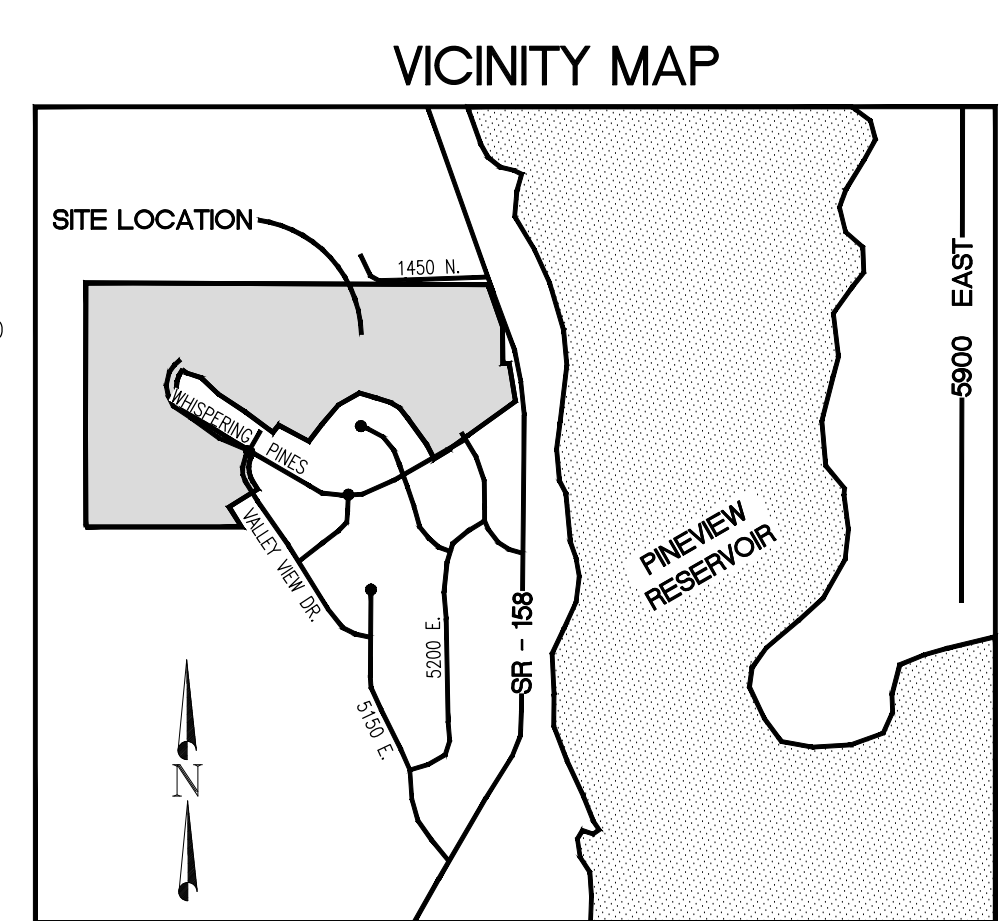
TOPSOIL REMOVAL, STOCKPILING & RESPREADING TOPSOIL, 6-INCH OVEREX FOR CUT EMBANKMENTS AND GRAVEL TRAIL (IS INCIDENTAL TO EARTHWORK CUT AND FILL)

ESTIMATED SEWER POD & CHAMBER ADDITIONAL CUT DURING HARBOR VIEW ESTATES WORK = 3,031 CY (EXCESS CUT TO BE STOCKPILED ON LOT 42)

(FUTURE AND REMAINING PORTION OF PHASES FOR EARTHWORK)

	PHASE 2A	PHASE 2B	PHASE 2C
CUT	5,783 CY	2,488 CY	19,298 CY
FILL	8,679 CY	3,489 CY	24,958 CY
ADJUSTED FILL	6,138 CY	3,079 CY	21,110 CY

(OVERALL NET CUT FOR REMAINING PHASES 870 CY CUT  
(SOIL SHRINKAGE FACTOR OR UTILITY TRENCHING SPOILS QUANTITIES NOT CALCULATED).



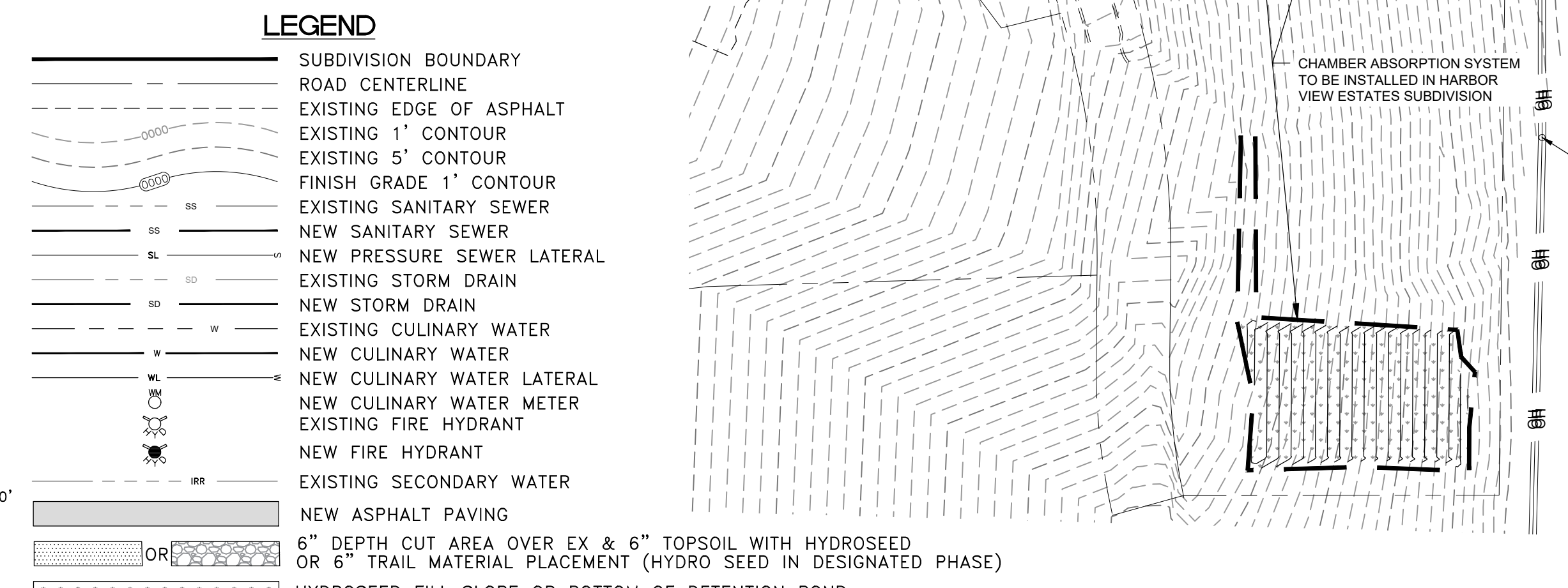
**DEVELOPERS:**

STEVE FENTON  
6130 E. LAST CAMP CIR.  
SLC, UT 84108  
801-535-4055

KEVIN DEPPE  
110 W. 1700 N.  
CENTERVILLE, UT 84014  
801-535-4032

**ENGINEER**  
GARDNER ENGINEERING  
TYLER M. NIELSON  
(801) 476-0202  
tyler@gecivil.com

**Scale in Feet**  
1" = 100'



SCALE: 1" = 100'

DATE: 2/9/2021

DESIGN: BBD/WJS

DRAWN: BBD/WJS

CHECKED: TMN

DWG: R-0208 - BAH INVESTMENT, CRIMSON RIDGE, DESIGN, CIVIL, CRIMSON RIDGE - CDS.DWG

**PROFESSIONAL STRUCTURAL ENGINEER**  
2/5/2021  
No. 4859845  
TYLER M. NIELSON  
LICENSED  
STATE OF UTAH

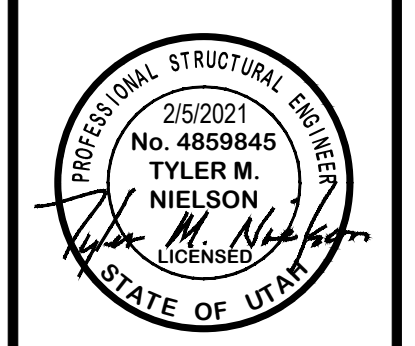
**OVERALL GRADING PLAN (WITH PHASED WORK)**  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING  
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801.476.0202 FAX: 801.476.0066

**C11**



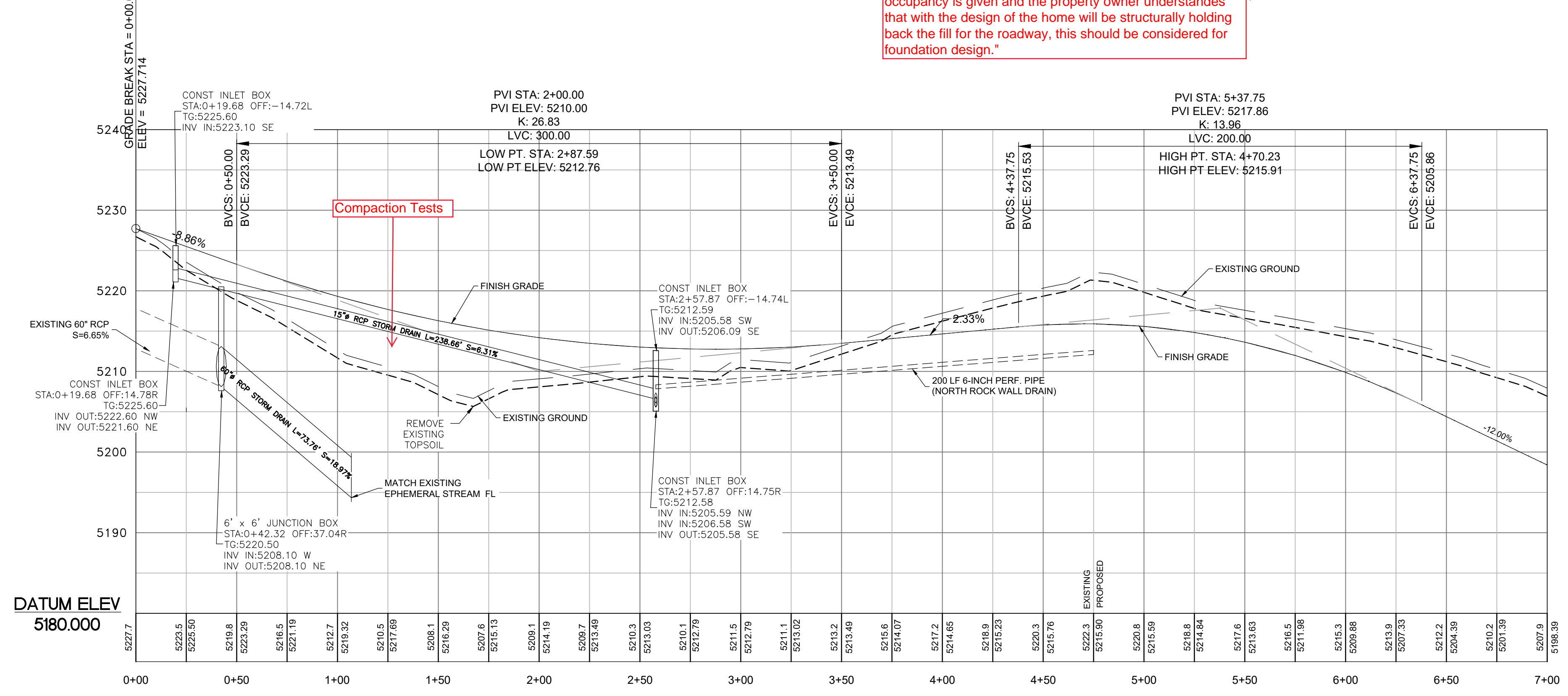
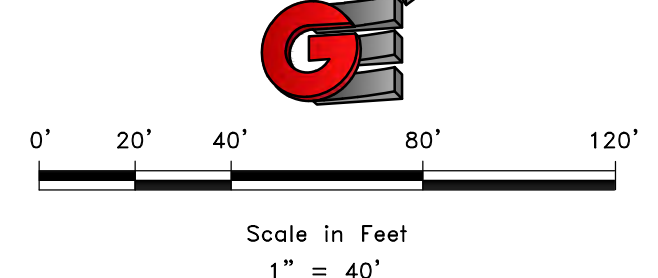
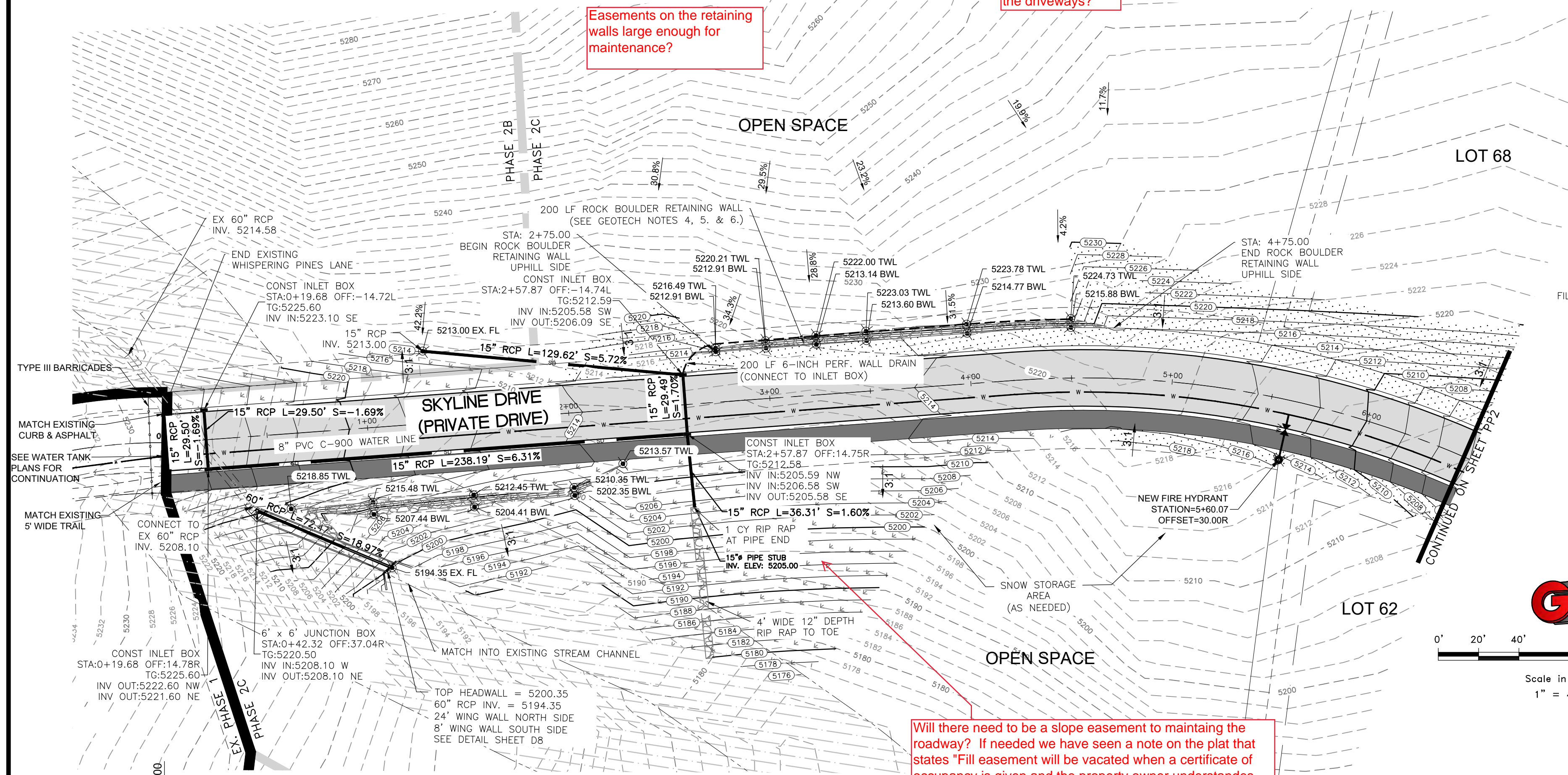
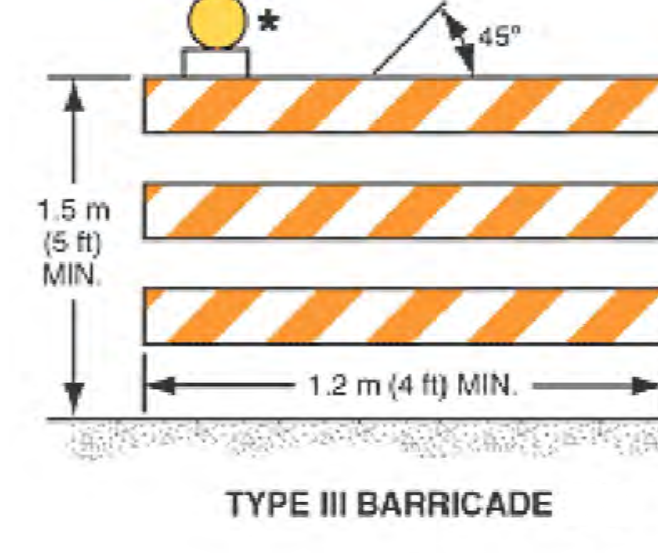
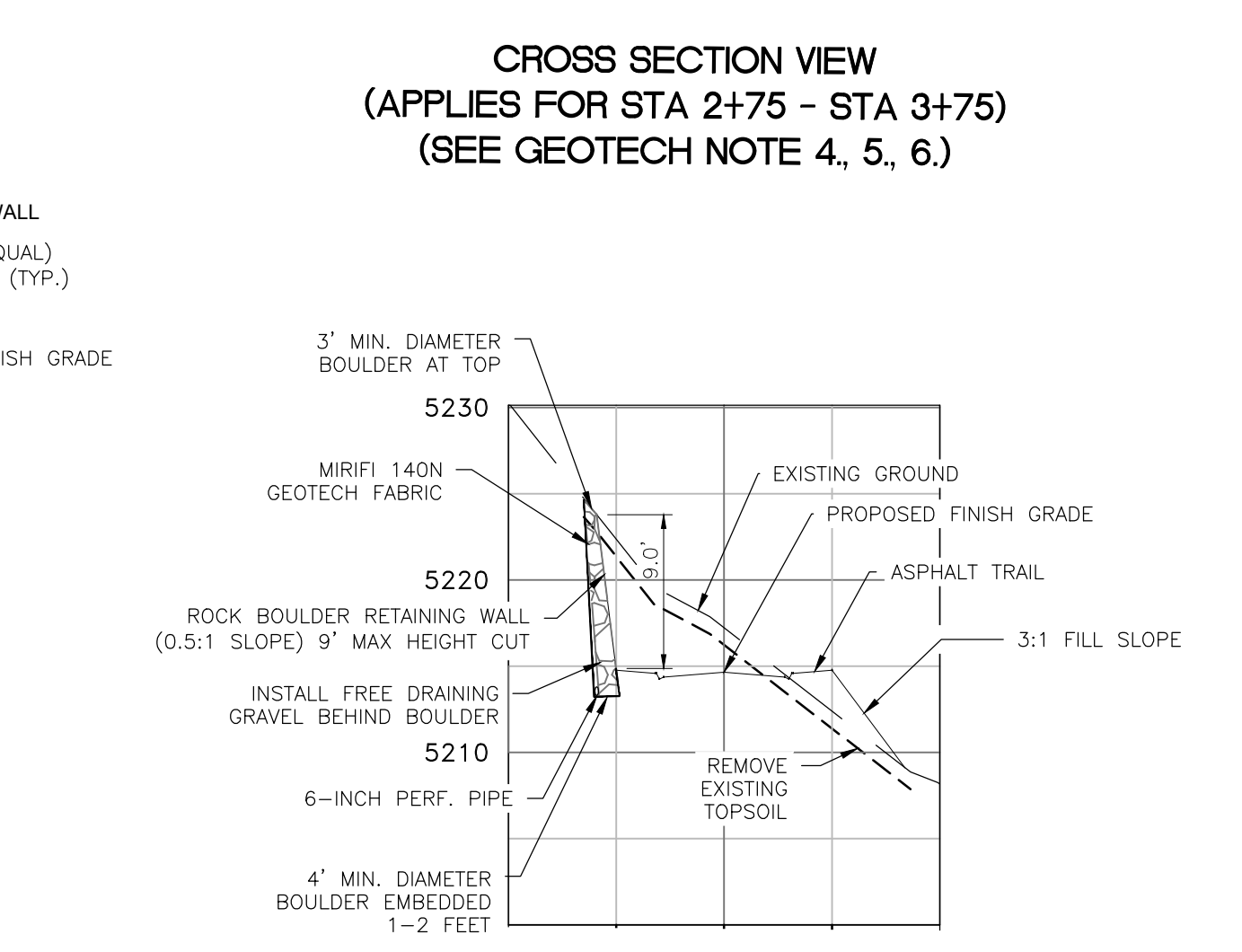
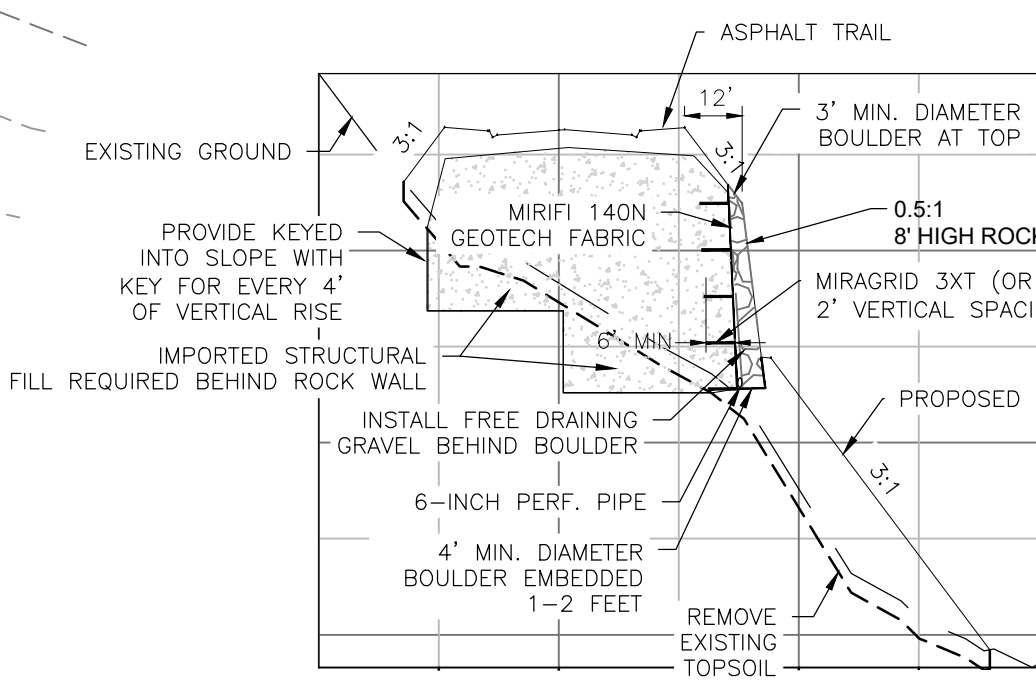
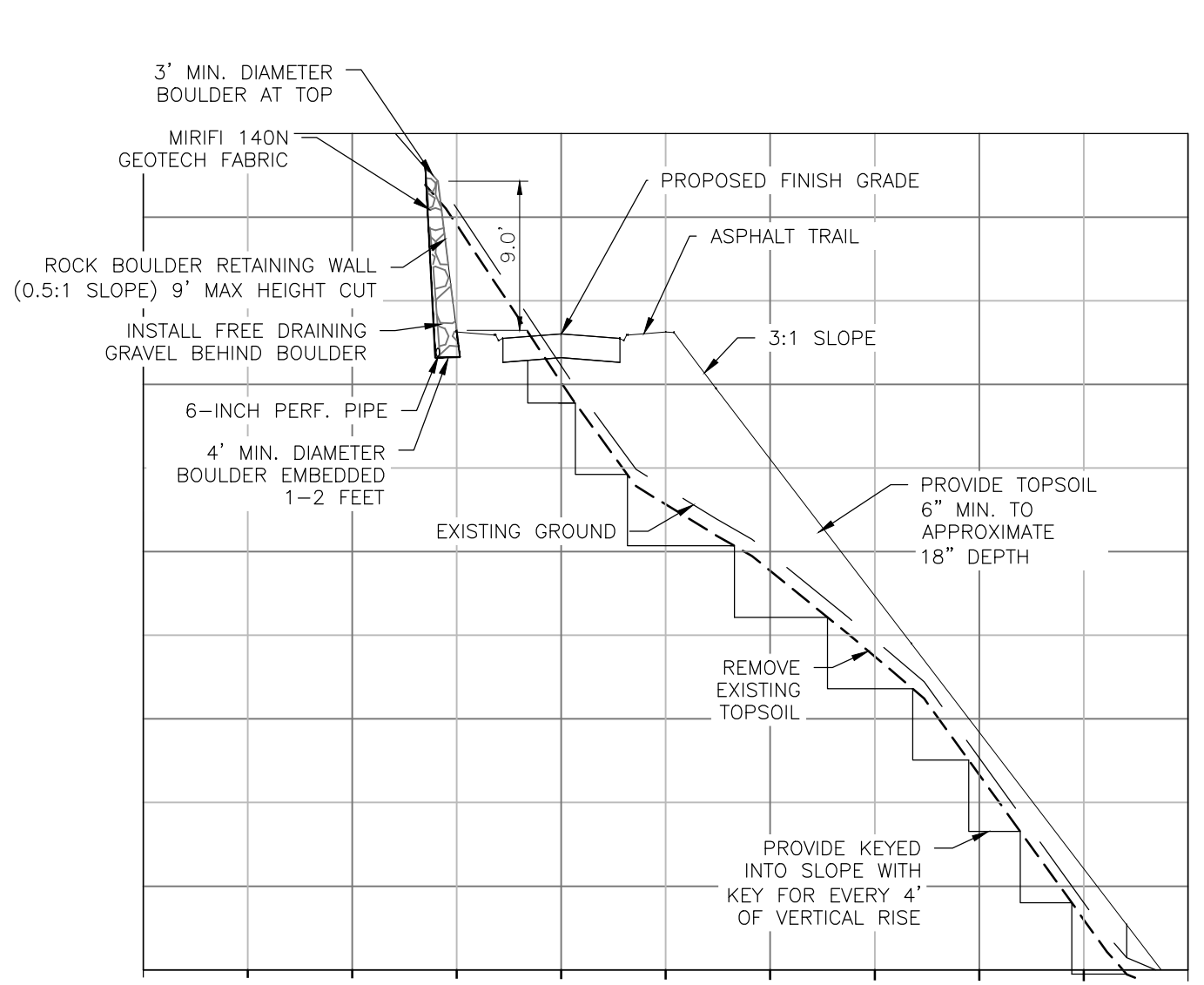
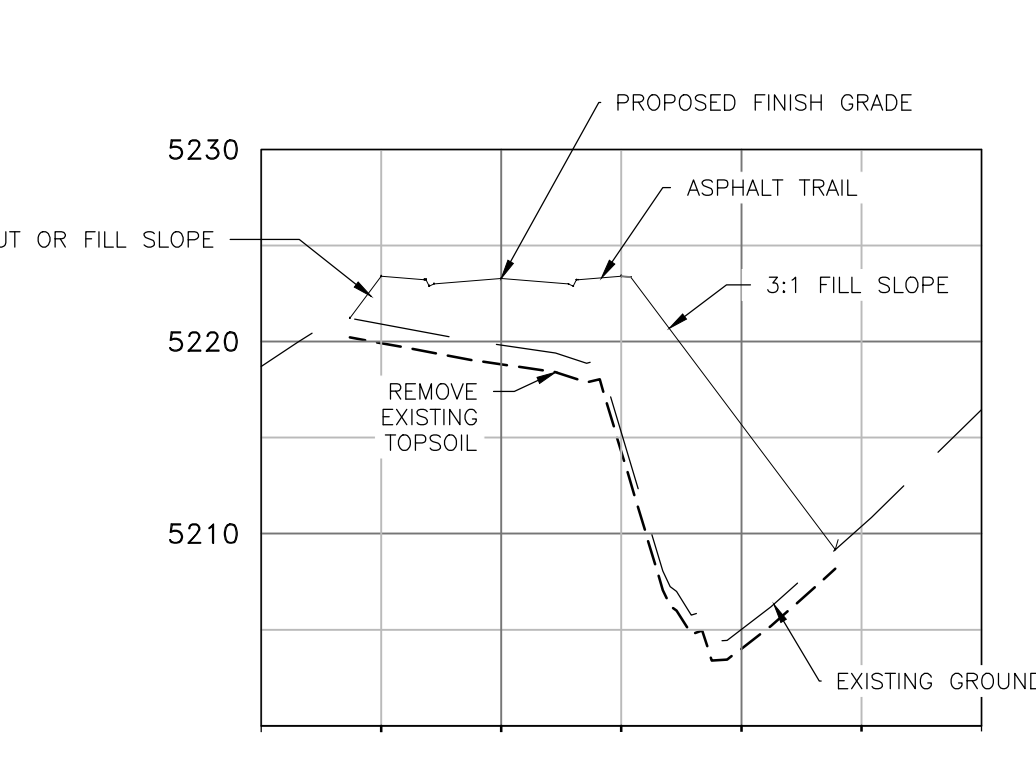
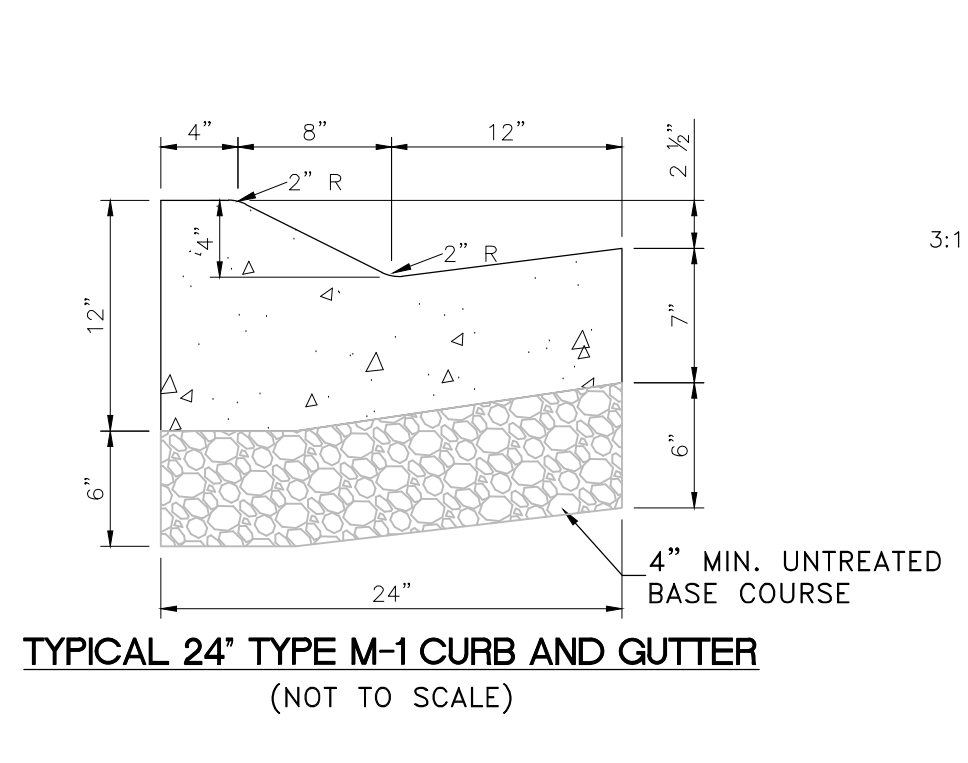
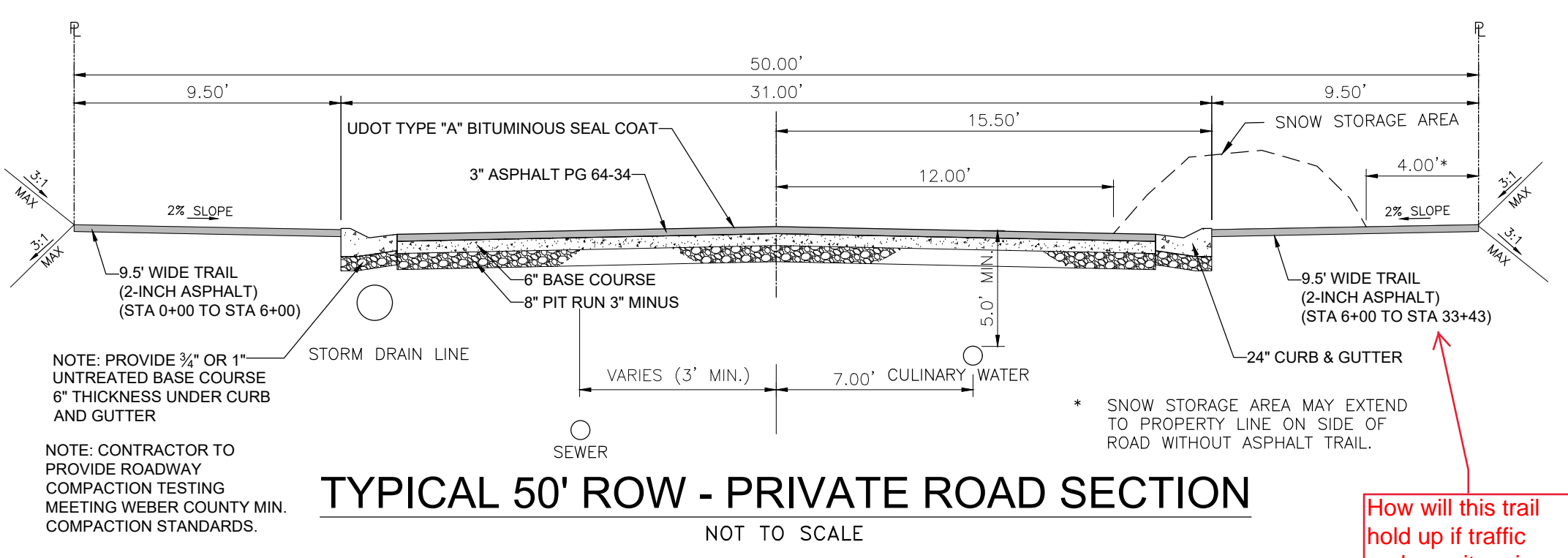
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REVISIONS	DATE	DESCRIPTION		



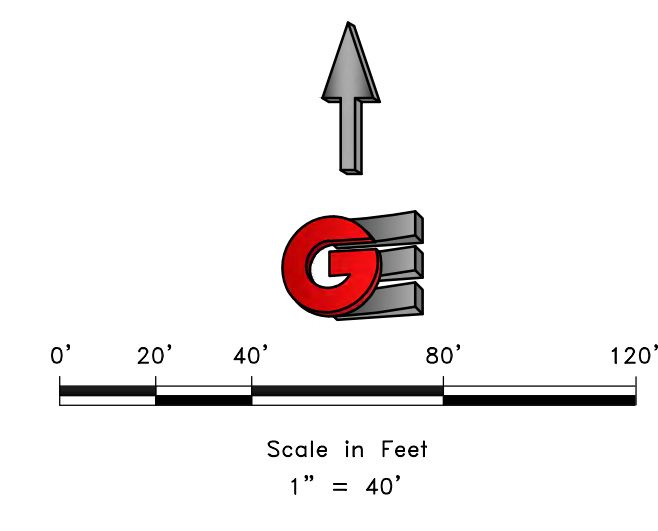
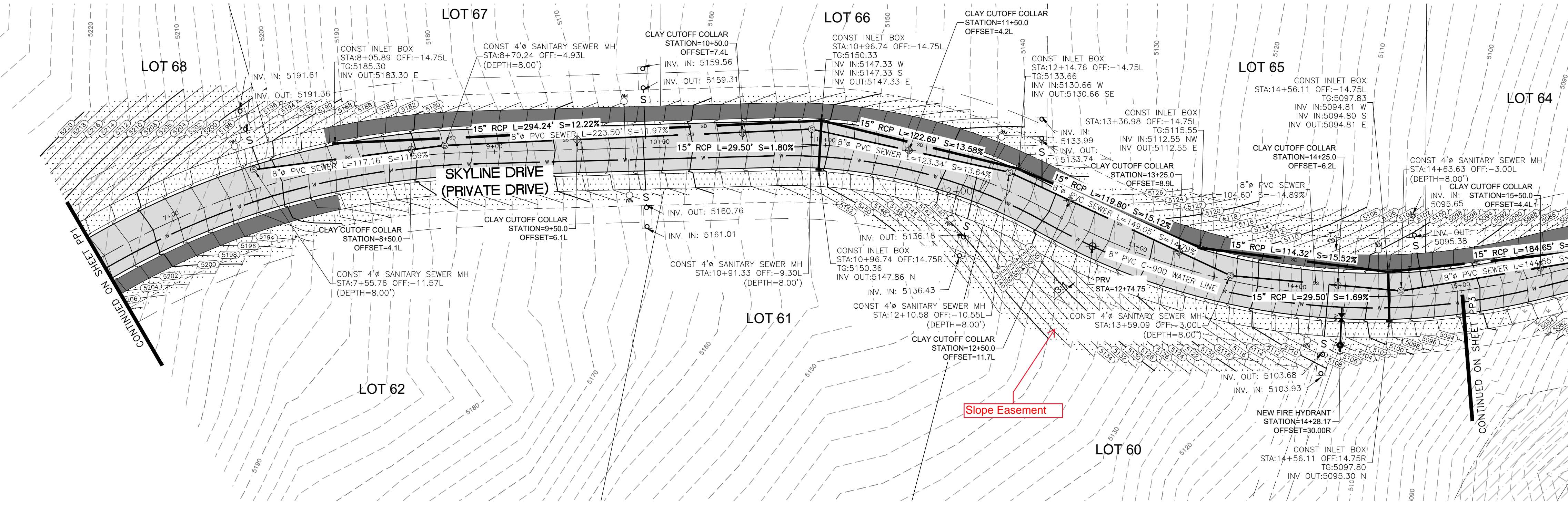
SKYLINE DRIVE - PLAN AND PROFILE  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
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PP1

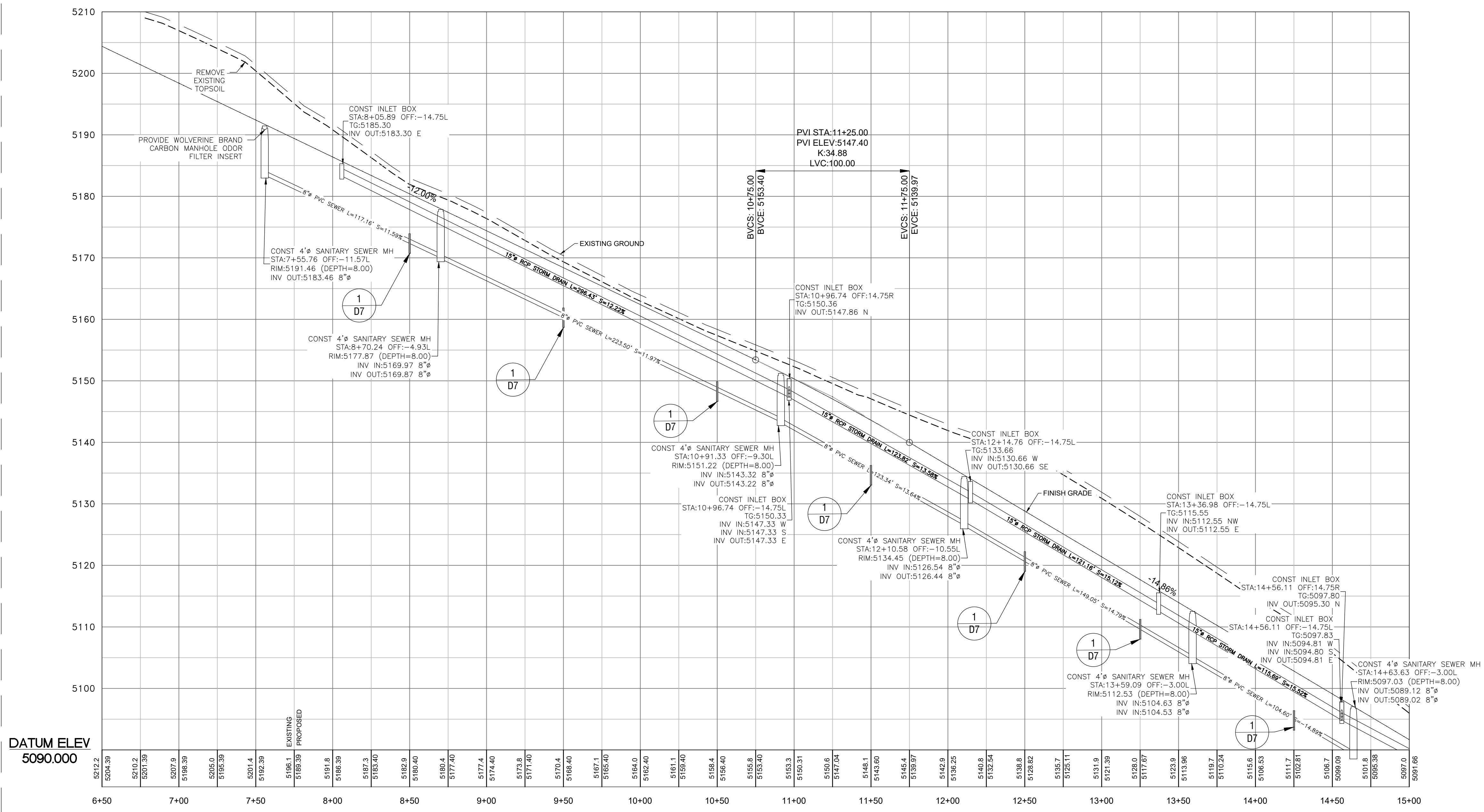






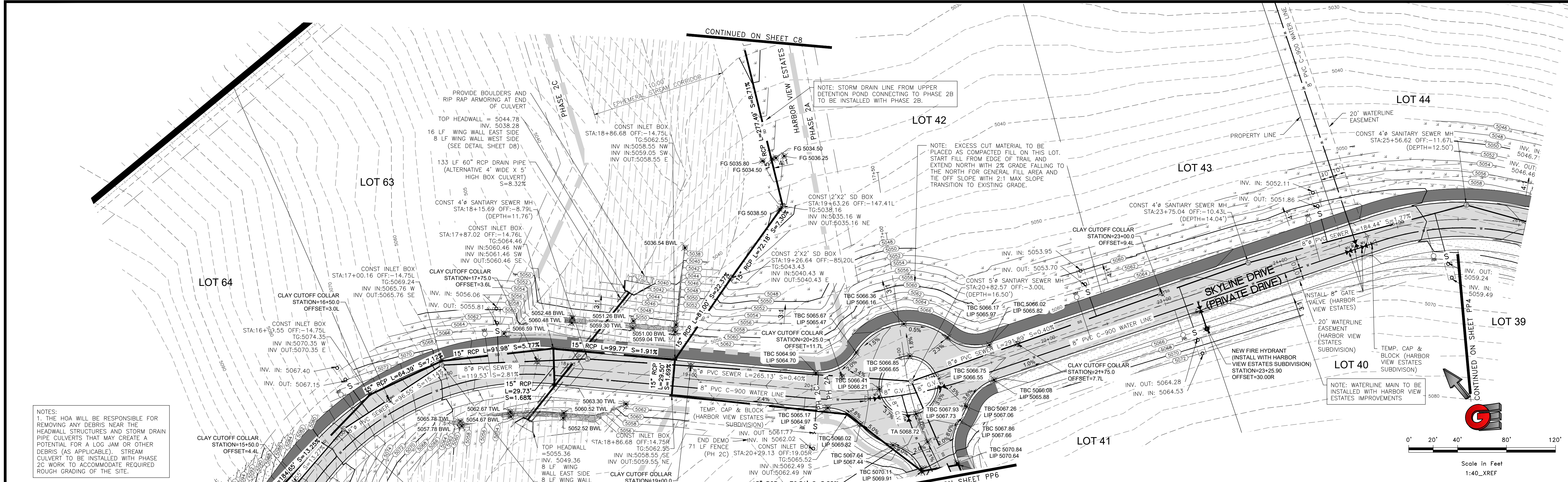
**LEGEND**

	SUBDIVISION BOUNDARY
	ROAD CENTERLINE
	EXISTING EDGE OF ASPHALT
	EXISTING 1' CONTOUR
	EXISTING 5' CONTOUR
	FINISH GRADE 1' CONTOUR
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	NEW PRESSURE SEWER LATERAL
	EXISTING STORM DRAIN
	NEW STORM DRAIN
	EXISTING CULINARY WATER
	NEW CULINARY WATER
	NEW CULINARY WATER LATERAL
	NEW CULINARY WATER METER
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	EXISTING SECONDARY WATER
	NEW ASPHALT PAVING
	6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL PLACEMENT (HYDRO SEED IN DESIGNATED PHASE)
	HYDRO SEED FILL SLOPES IN DESIGNATED PHASE



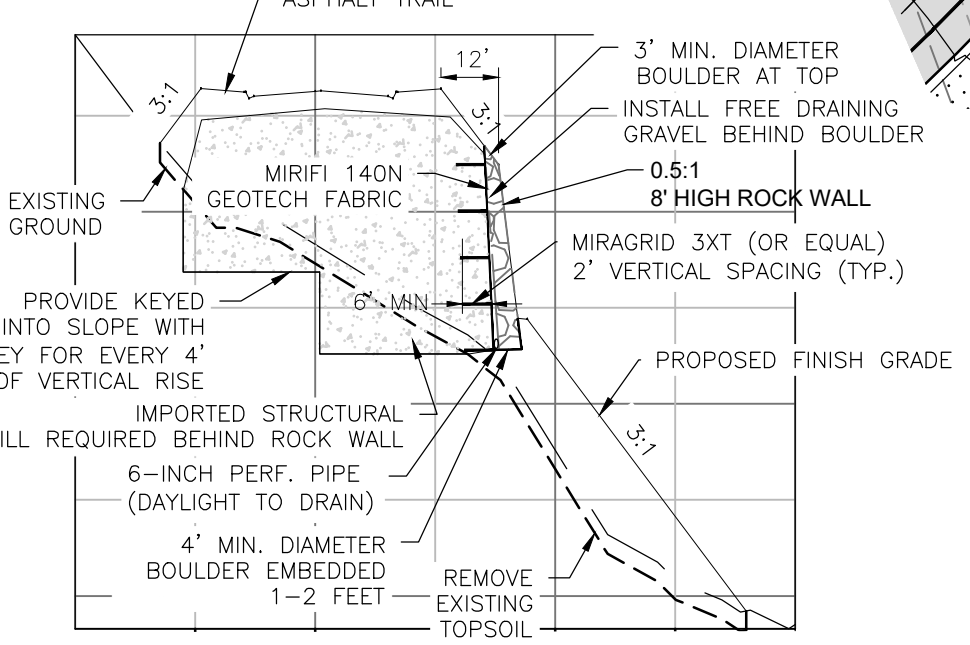
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REVISIONS	DESCRIPTION												
<p><b>GARDNER ENGINEERING</b>          CIVIL-LAND PLANNING          MUNICIPAL-LAND SURVEYING</p> <p>5150 SOUTH 375 EAST OGDEN, UT          OFFICE: 801-476-0202 FAX: 801-476-0066</p>													
<p>PP2</p>													



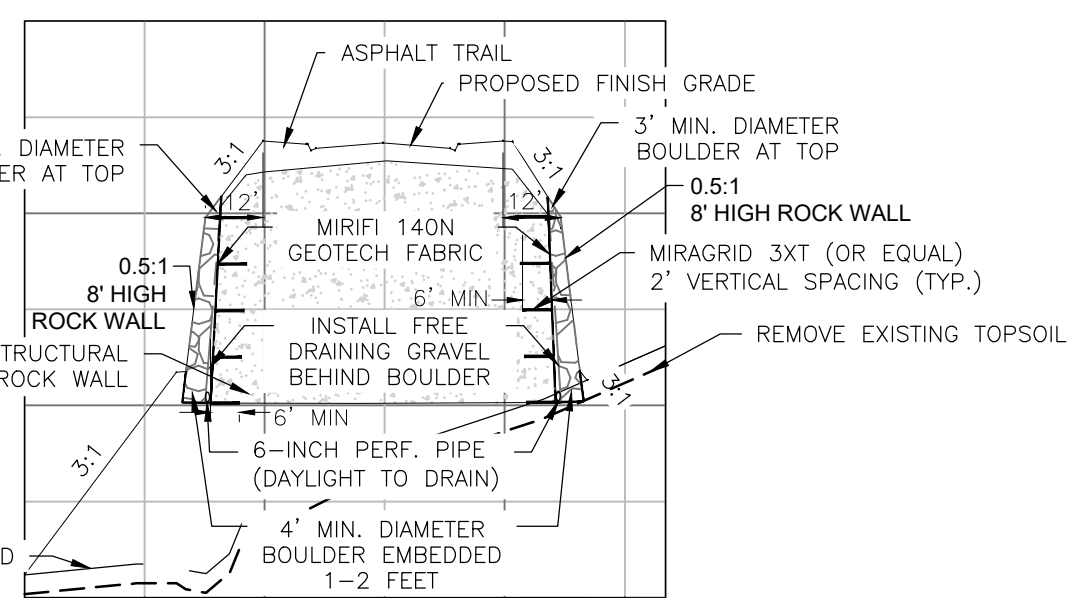


NOTES:  
1. THE HOA WILL BE RESPONSIBLE FOR REMOVING ANY DEBRIS NEAR THE HEADWALL STRUCTURES AND STORM DRAIN PIPE CULVERTS THAT MAY CREATE A POTENTIAL FOR A LOG JAM OR OTHER DEBRIS (AS APPLICABLE). STREAM CULVERT TO BE INSTALLED WITH PHASE 2C WORK TO ACCOMMODATE REQUIRED ROUGH GRADING OF THE SITE.

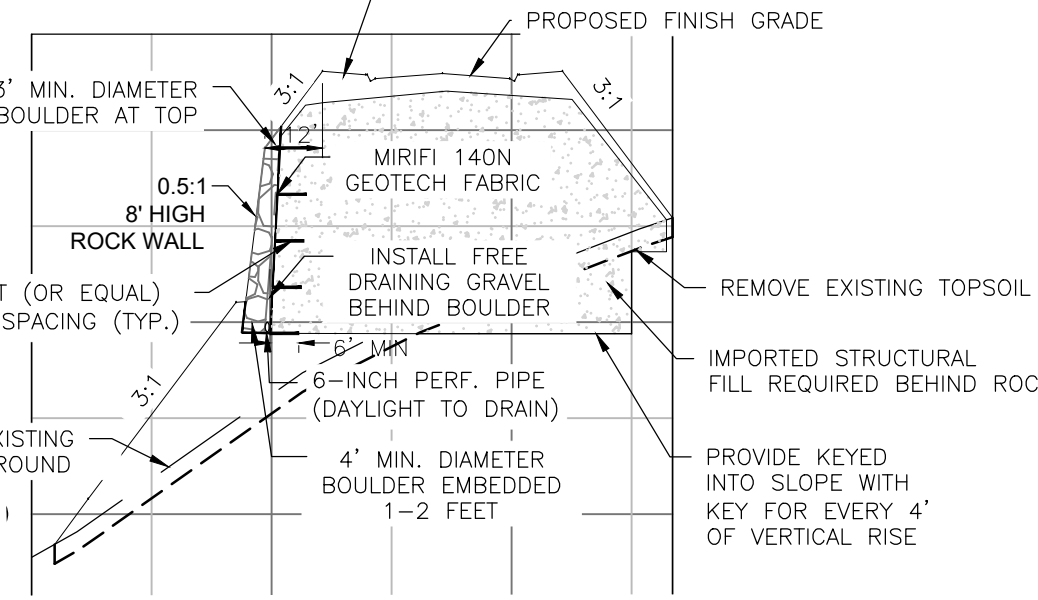
CROSS SECTION VIEW  
(APPLIES FOR STA 16+75 - STA 17+50)  
(SEE GEOTECH NOTE 4, 5, 6. ON SHEET PP1)



CROSS SECTION VIEW  
(APPLIES FOR STA 17+50 - 18+50)  
(SEE GEOTECH NOTE 4, 5, 6. ON SHEET PP1)

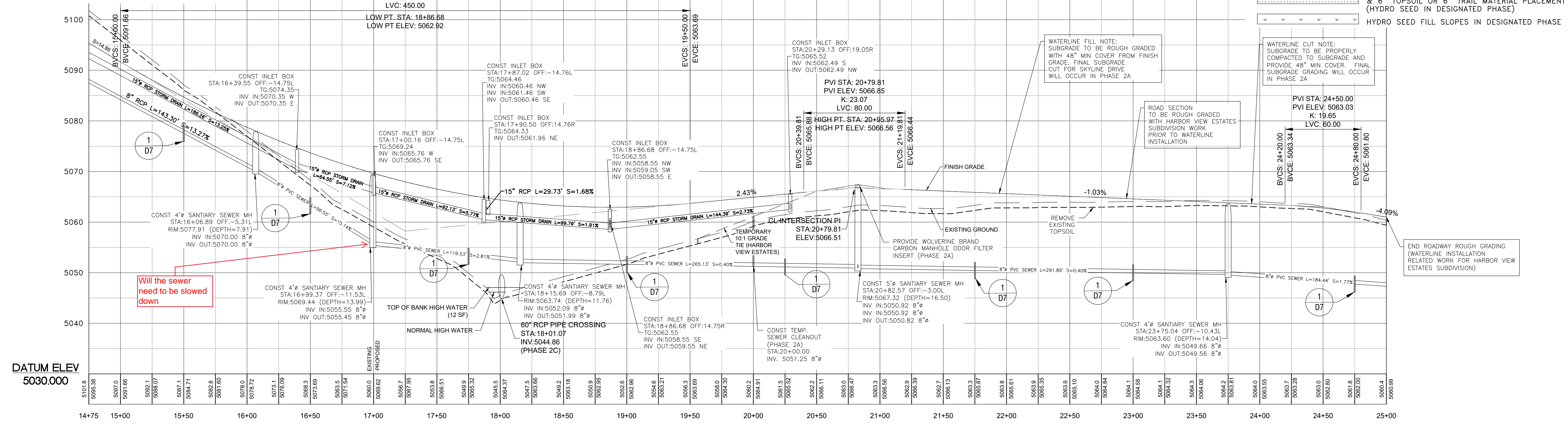


CROSS SECTION VIEW  
(APPLIES FOR STA 18+50 - 18+85)  
(SEE GEOTECH NOTE 4, 5, 6. ON SHEET PP1)



**LEGEND**

- SUBDIVISION BOUNDARY
- ROAD CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING SANITARY SEWER
- NEW SANITARY SEWER
- NEW PRESSURE SEWER LATERAL
- EXISTING STORM DRAIN
- NEW STORM DRAIN
- EXISTING CULINARY WATER
- NEW CULINARY WATER
- NEW CULINARY WATER LATERAL
- NEW CULINARY WATER METER
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- EXISTING SECONDARY WATER
- NEW ASPHALT PAVING
- 6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL PLACEMENT (HYDRO SEED IN DESIGNATED PHASE)
- HYDRO SEED FILL SLOPES IN DESIGNATED PHASE



SCALE: 1"=40'  
DATE: 2/5/2021  
DESIGN: BBD/MUS  
DRAWN: BBD/MUS  
CHECKED: TMN  
DWG#: 18V2028 - BAH INVESTMENT/CRIMSON RIDGE DESIGN/CRIMSON RIDGE - COS.DWG

REVISIONS	DATE	DESCRIPTION

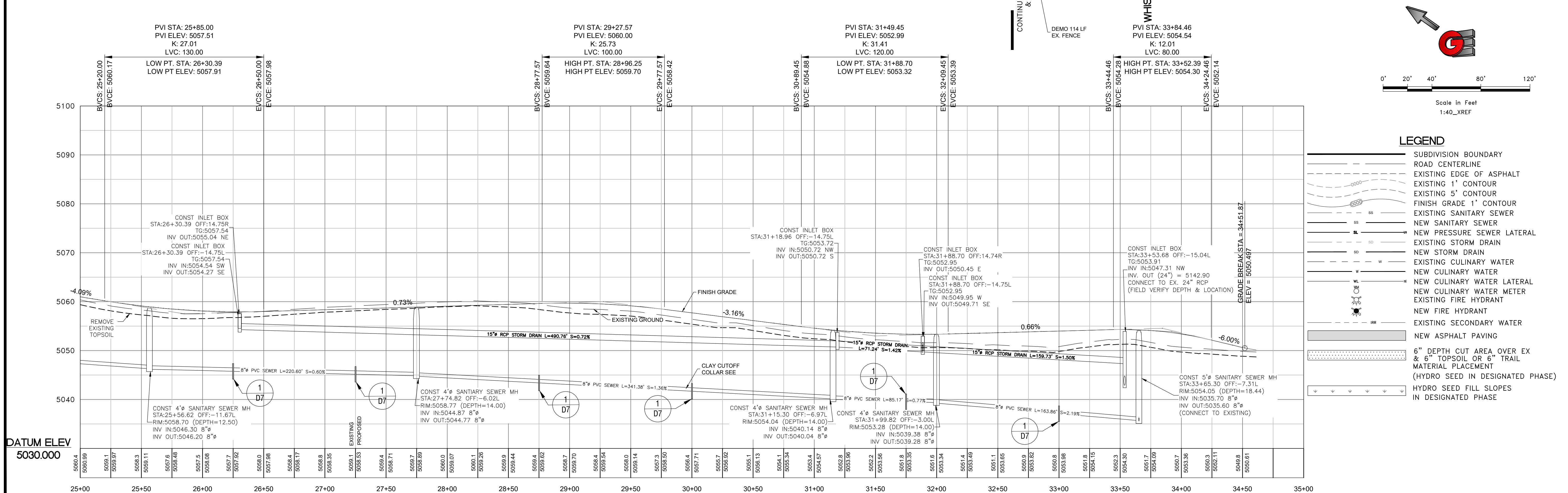
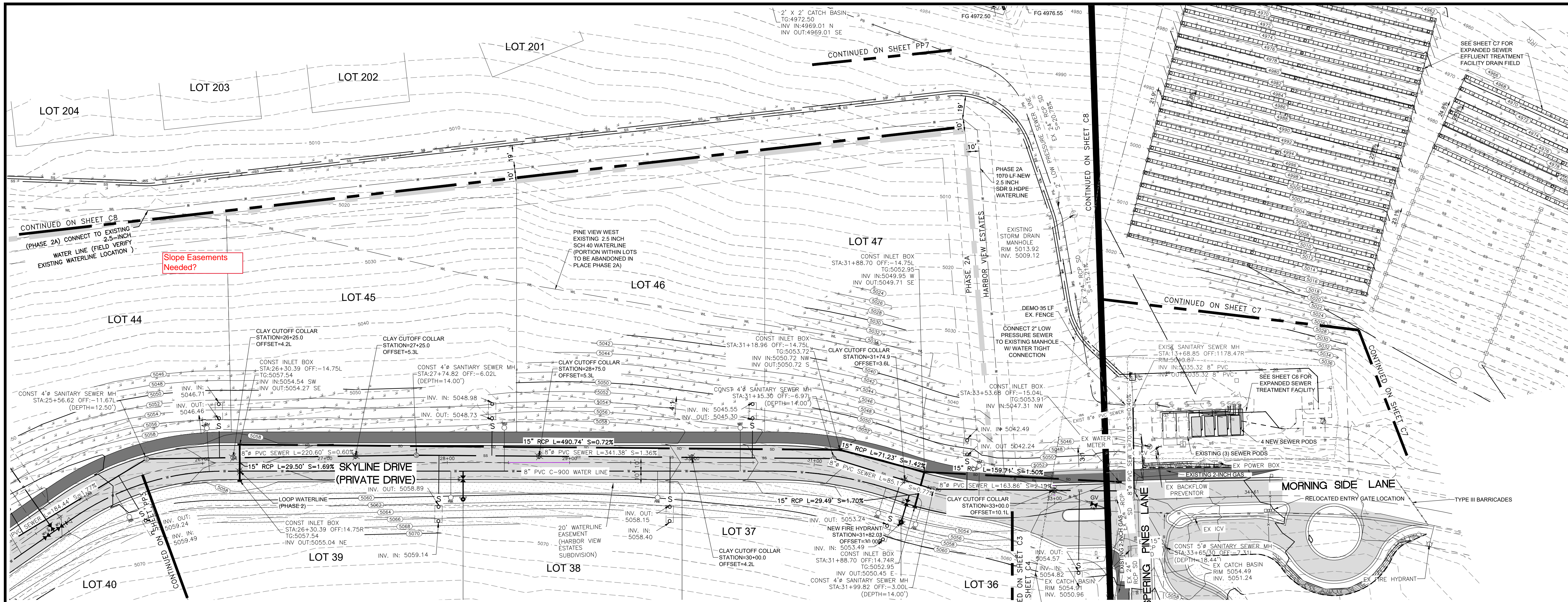
PROFESSIONAL STRUCTURAL ENGINEER  
2/5/2021  
No. 4859845  
TYLER M. NIELSON  
LICENSED  
STATE OF UTAH

SKYLINE DRIVE - PLAN AND PROFILE  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING  
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801-476-0202 FAX: 801-476-0066

PP3





**LEGEND**

- SUBDIVISION BOUNDARY
- ROAD CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- FINISH GRADE 1' CONTOUR
- EXISTING SANITARY SEWER
- NEW SANITARY SEWER
- NEW PRESSURE SEWER LATERAL
- EXISTING STORM DRAIN
- NEW STORM DRAIN
- EXISTING CULINARY WATER
- NEW CULINARY WATER
- NEW CULINARY WATER LATERAL
- NEW CULINARY WATER METER
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- EXISTING SECONDARY WATER
- NEW ASPHALT PAVING
- 6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL PLACEMENT (HYDRO SEED IN DESIGNATED PHASE)
- HYDRO SEED FILL SLOPES IN DESIGNATED PHASE

SCALE: 1"=40'

DATE: 2/5/2021

DESIGN: BBD/MUS

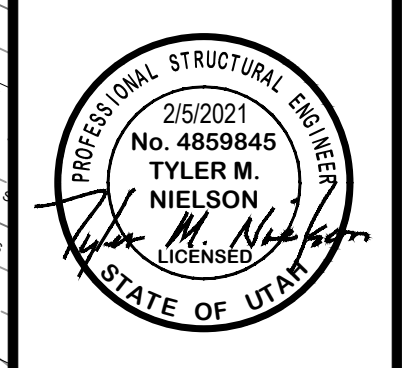
DRAWN: BBD/MUS

CHECKED: TMN

DATE

REVISIONS

DESCRIPTION



SKYLINE DRIVE - PLAN AND PROFILE

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2

1250 NORTH 5200 EAST

EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**

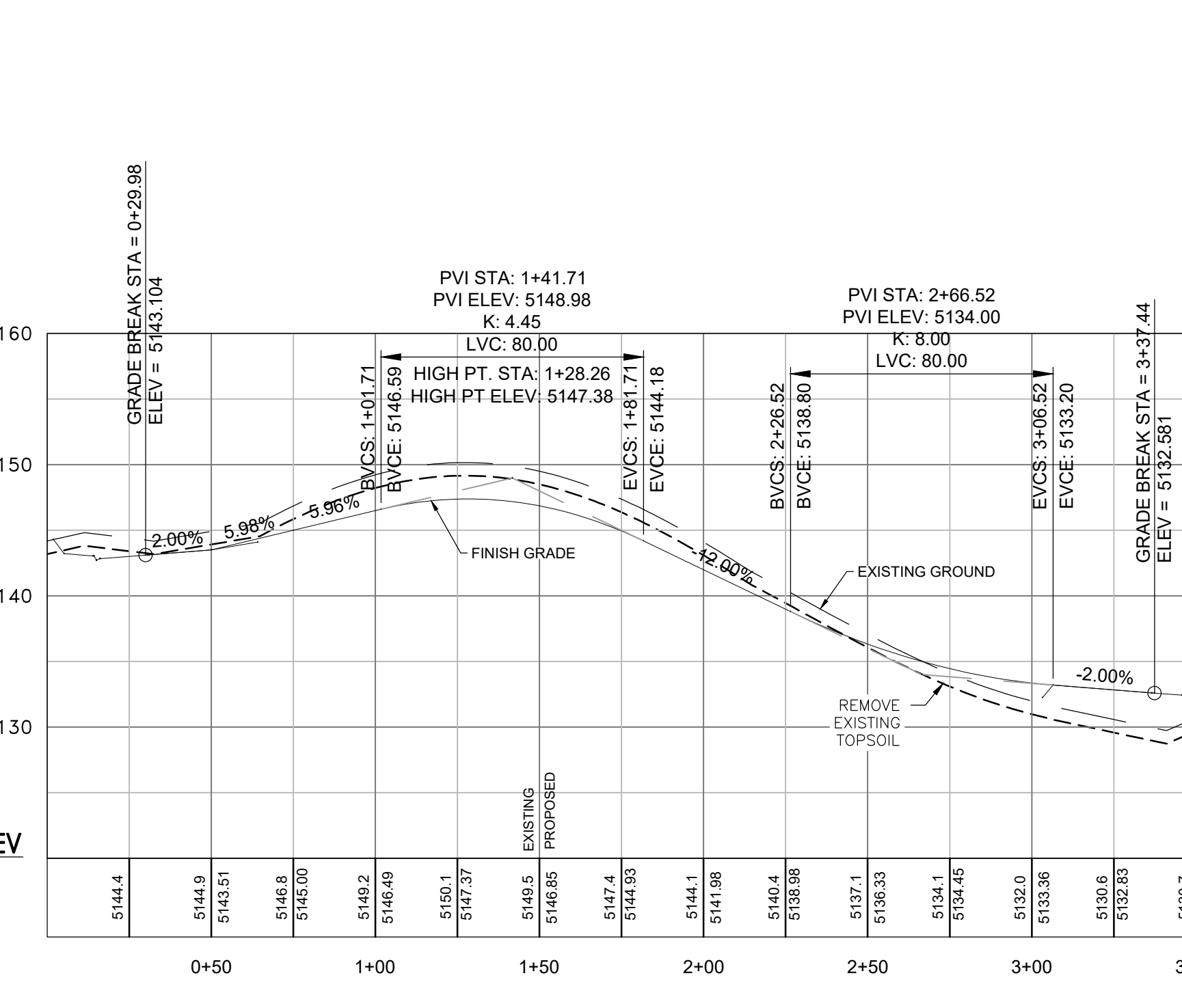
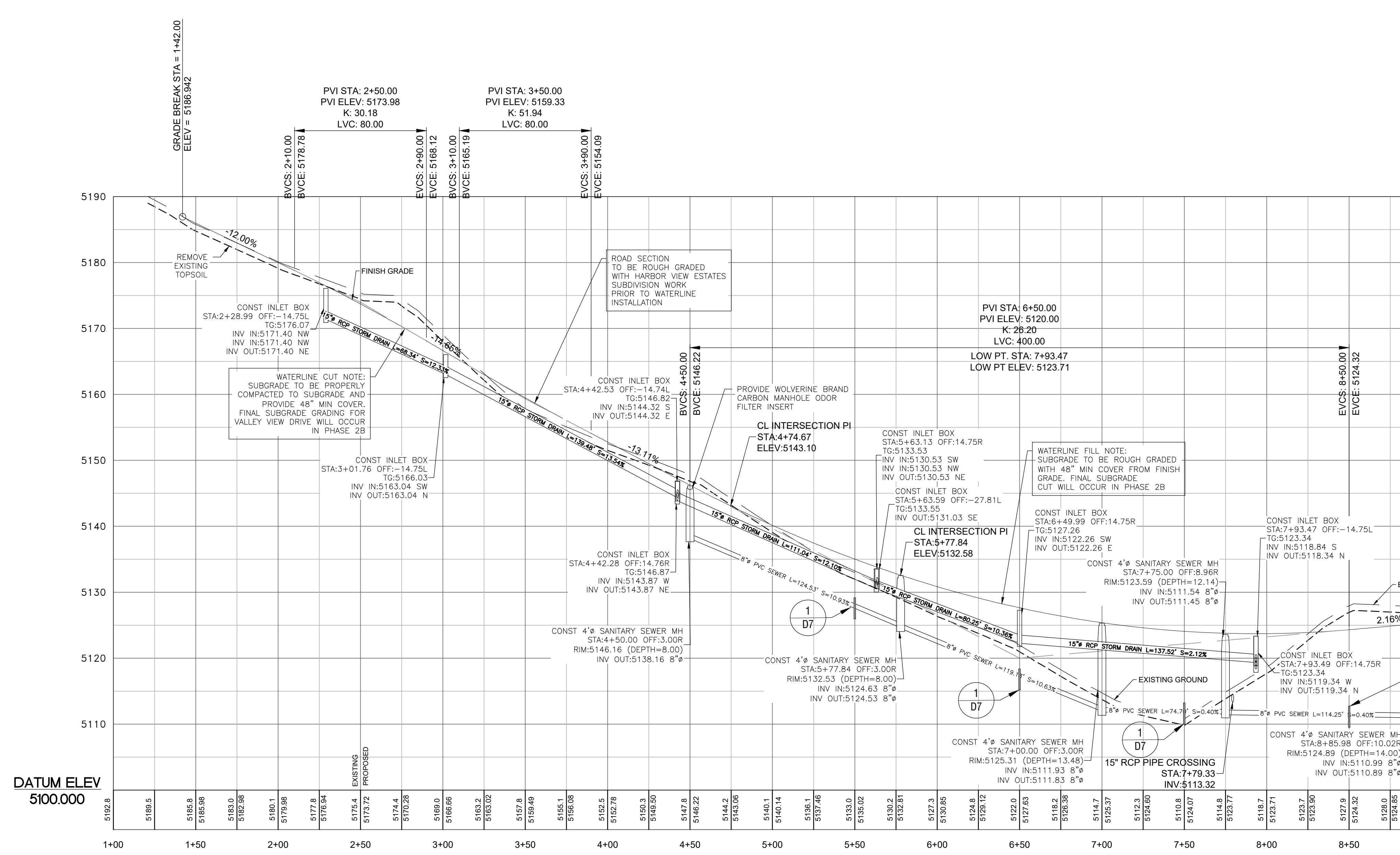
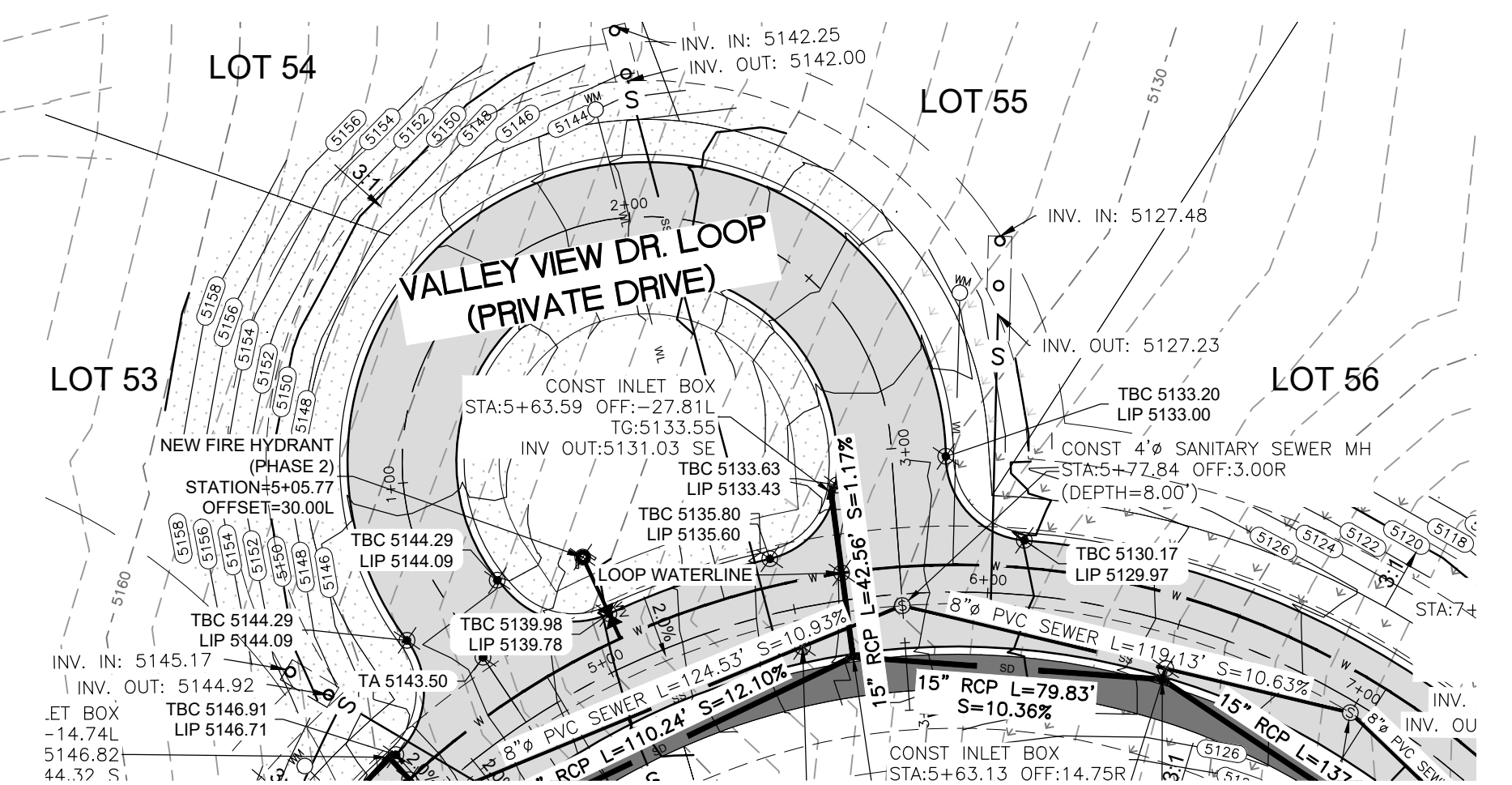
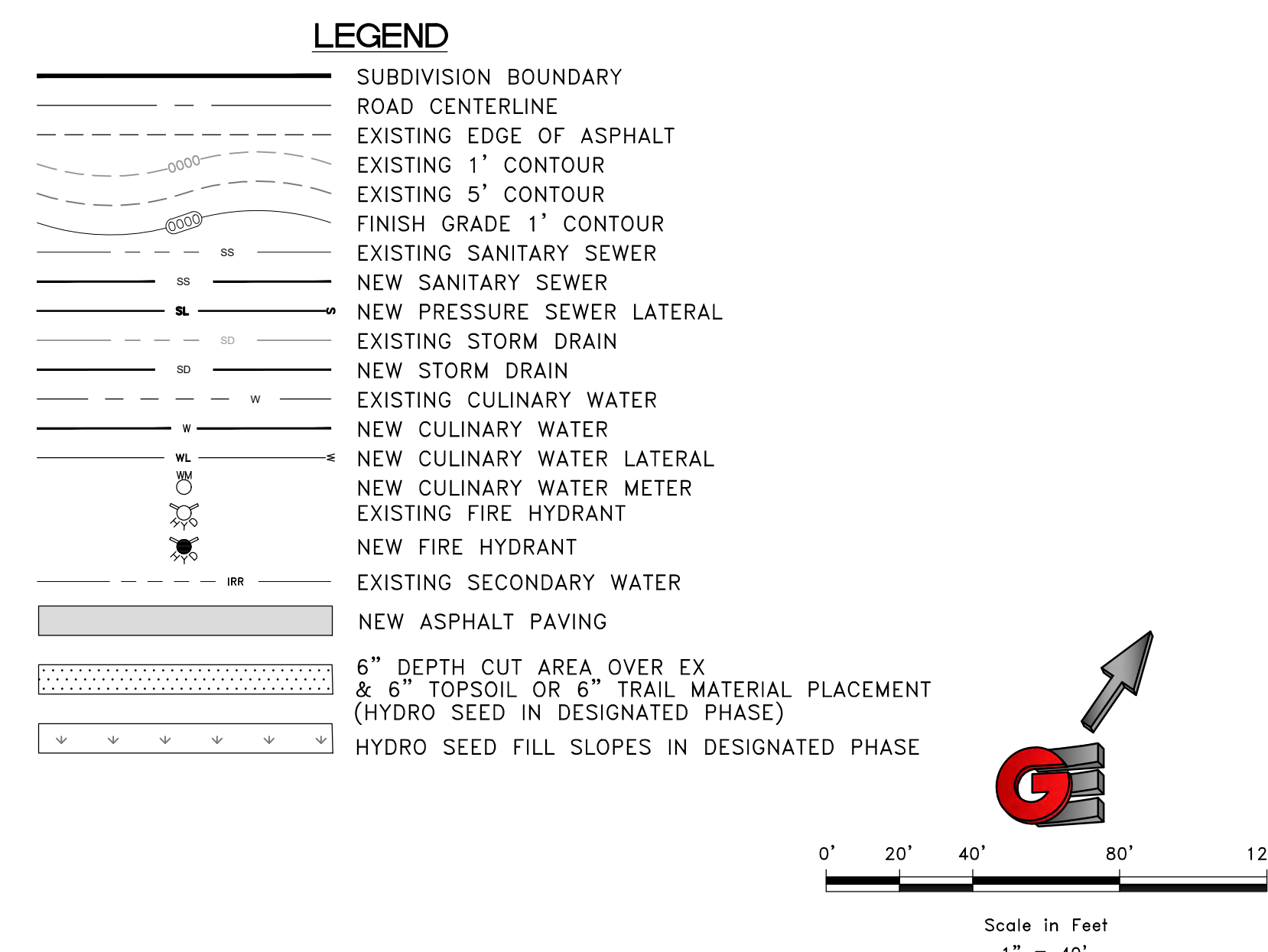
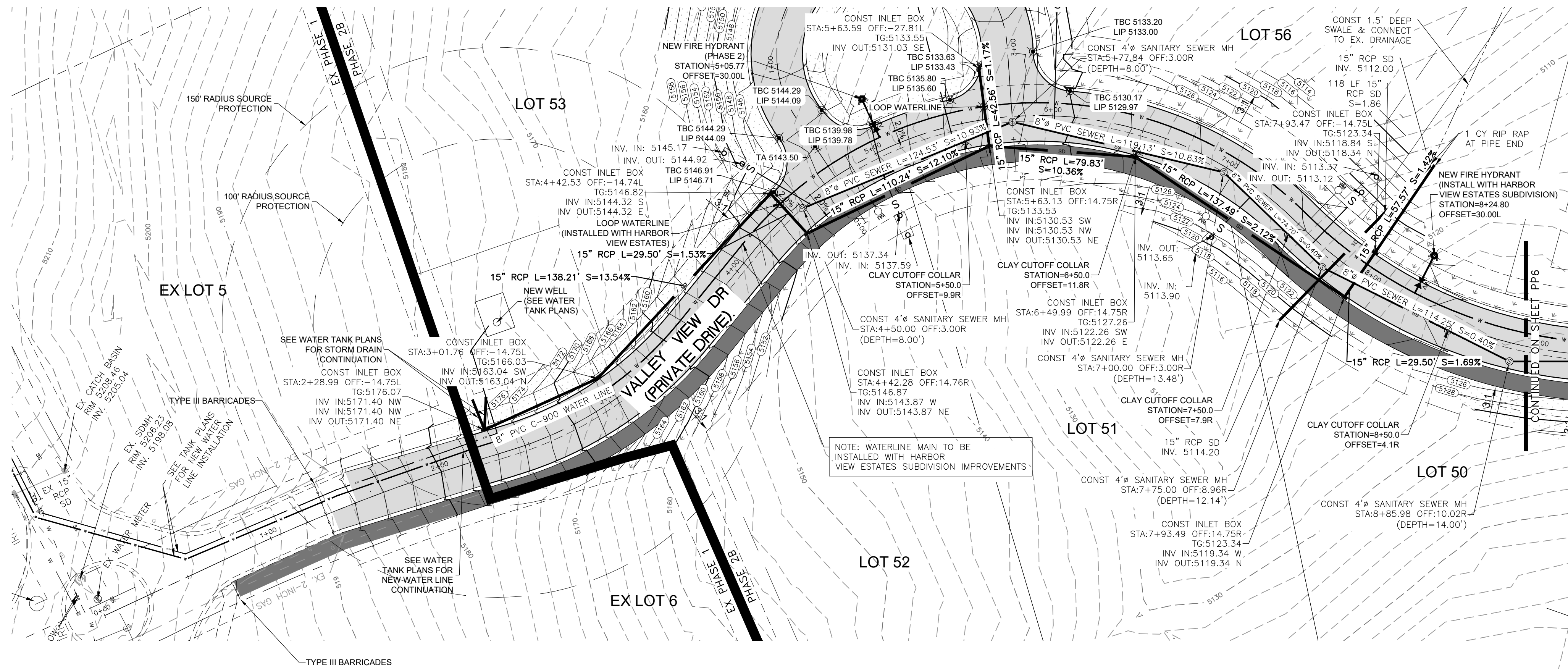
CIVIL-LAND PLANNING

MUNICIPAL-LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT

OFFICE: 801-476-0202 FAX: 801-476-0066





**VALLEY VIEW DR - PLAN AND PROFILE**

**THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2**

**1250 NORTH 5200 EAST**

**EDEN, WEBER COUNTY, UTAH**

SCALE: 1" = 40'

DATE: 2/5/2021

DESIGN: BBO/MUS

DRAWN: BBO/MUS

CHECKED: TMN

DATE

REVISIONS

DESCRIPTION

PROFESSIONAL STRUCTURAL ENGINEER

2/5/2021

No. 4859845

TYLER M. NIELSON

LICENSED

STATE OF UTAH

5150 SOUTH 375 EAST OGDEN, UT

OFFICE: 801-476-0202 FAX: 801-476-0066

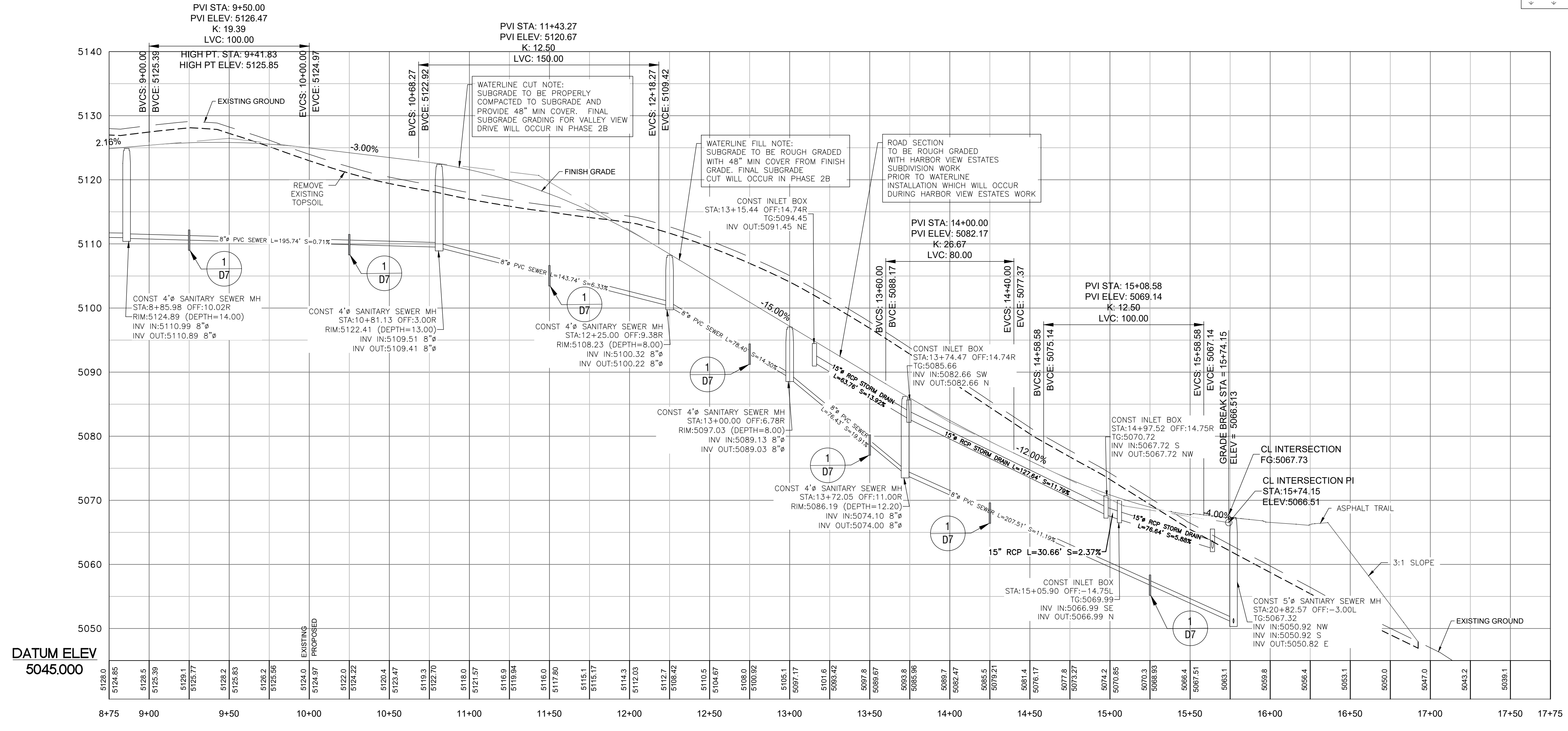
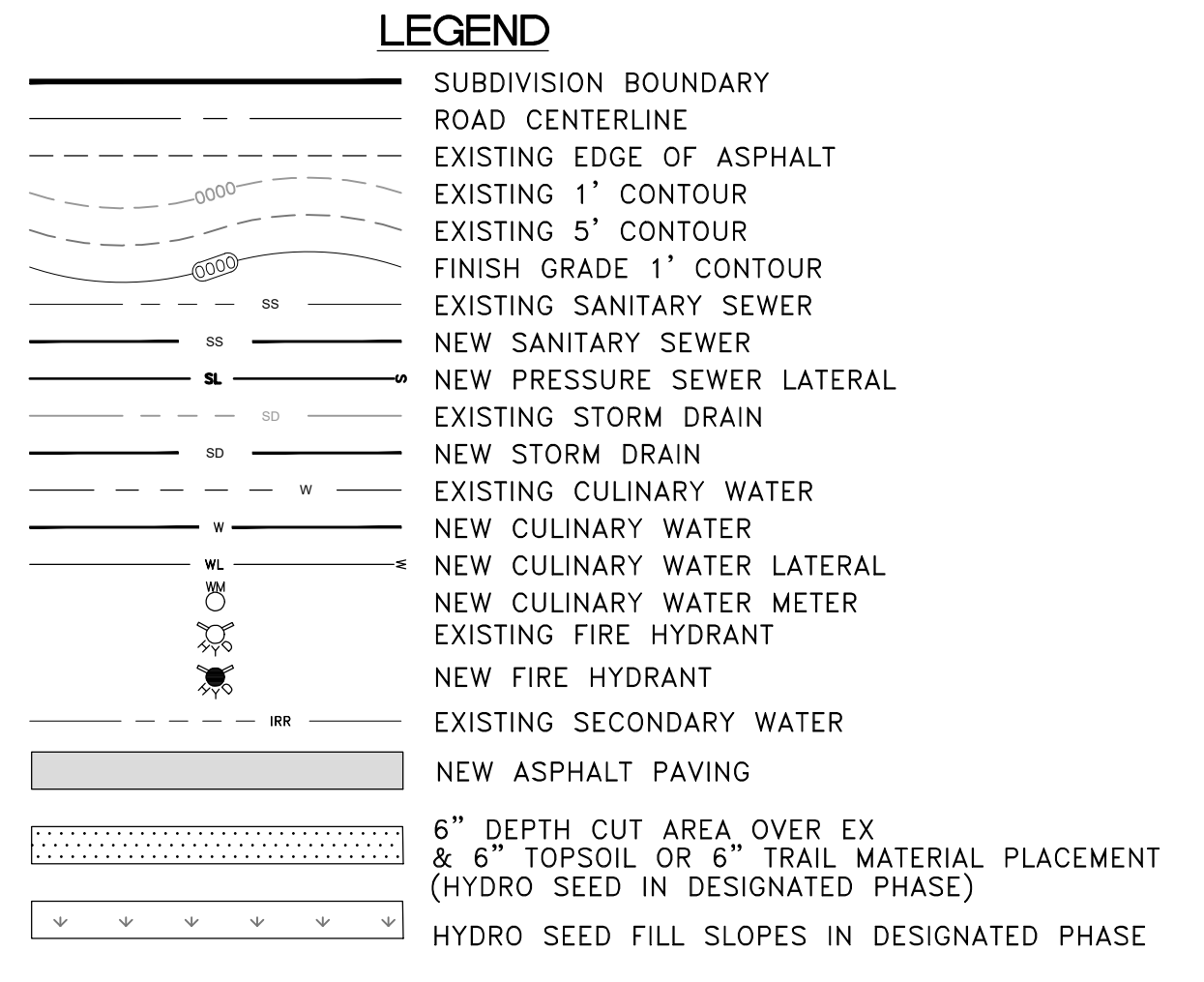
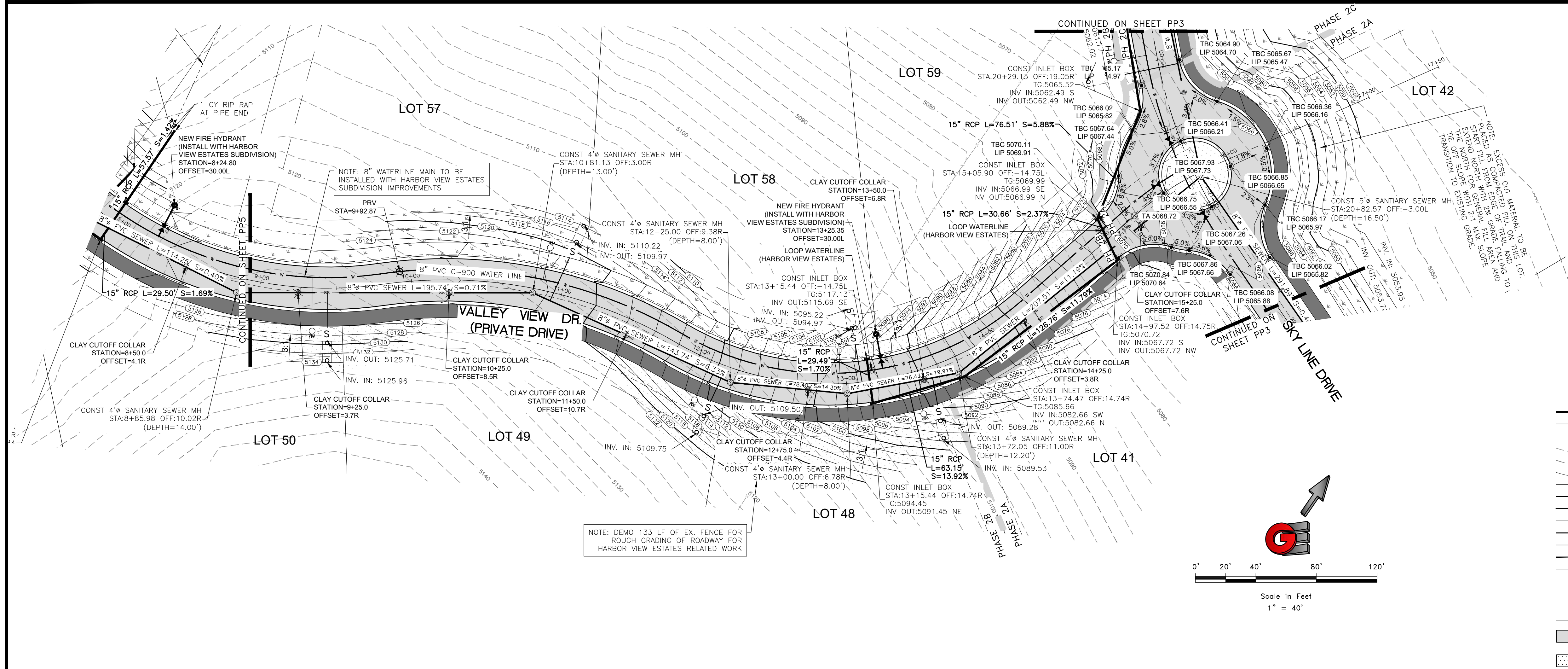
**GARDNER ENGINEERING**

CIVIL-LAND PLANNING

MUNICIPAL-LAND SURVEYING

PP5





SCALE: 1" = 40'

DATE: 2/5/2021

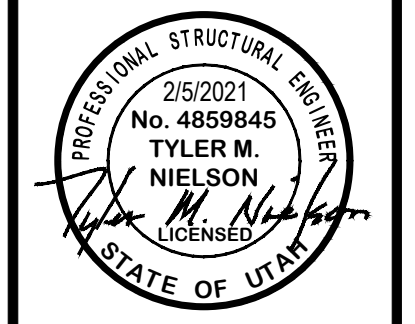
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DRAWN: BBD/MUS

CHECKED: TMN

DMG: 8/1/2028 - BAH INVESTMENT, CRIMSON RIDGE DESIGN, CRIMSON RIDGE - COS, DWG

REVISIONS	DATE	DESCRIPTION



VALLEY VIEW DR - PLAN AND PROFILE

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2

1250 NORTH 5200 EAST

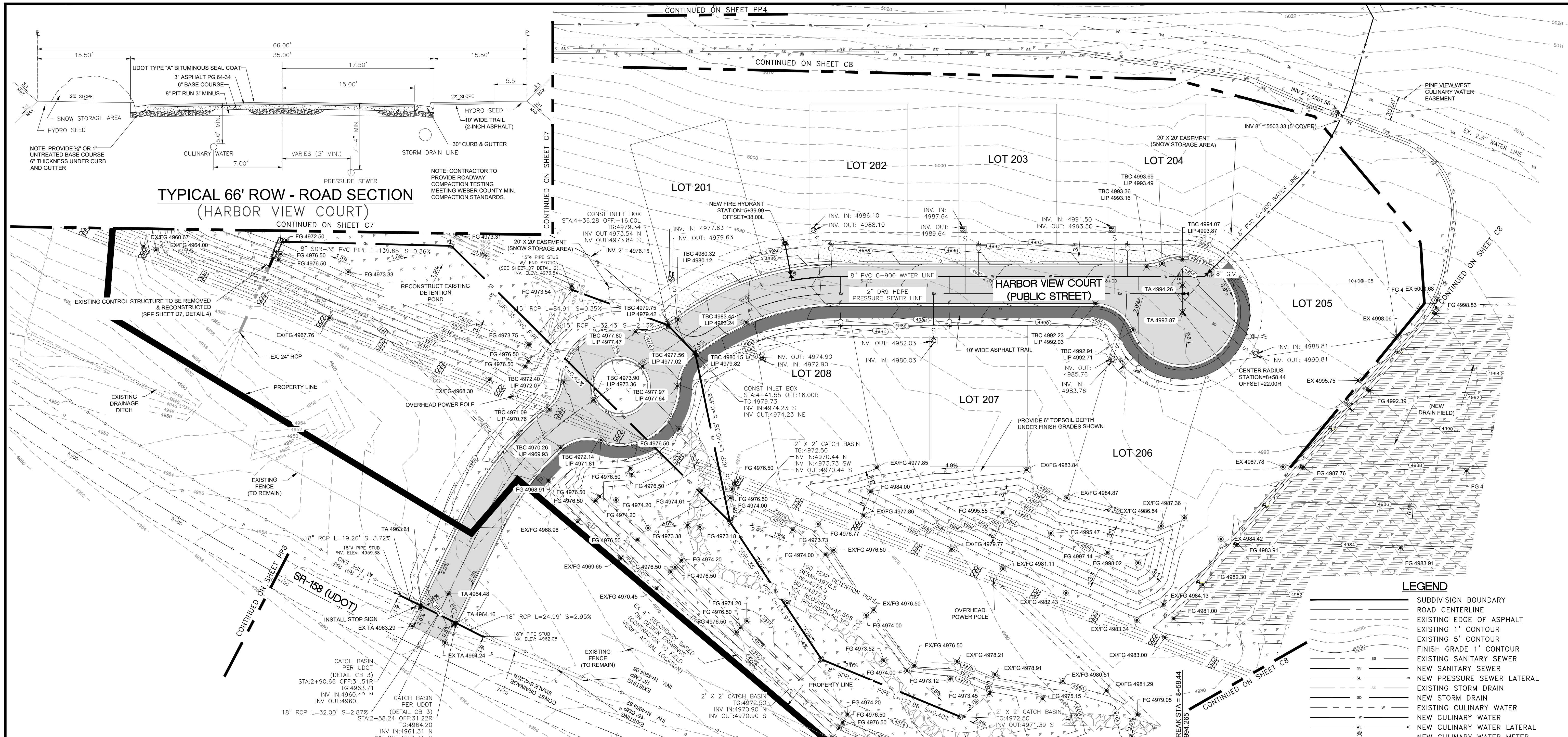
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**

CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING

5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801-476-0202 FAX: 801-476-0066

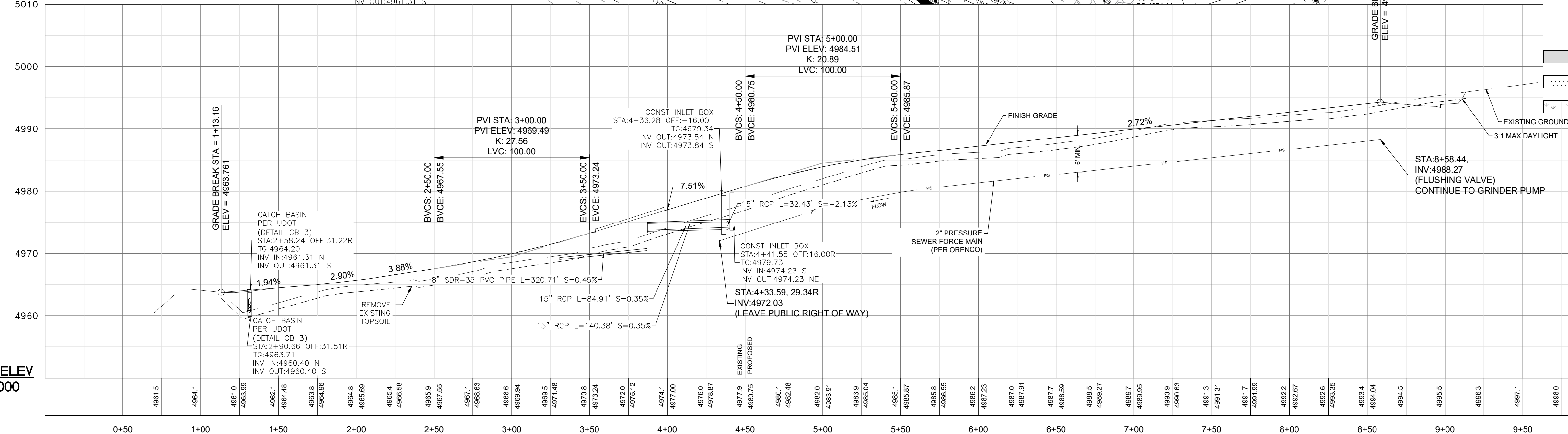




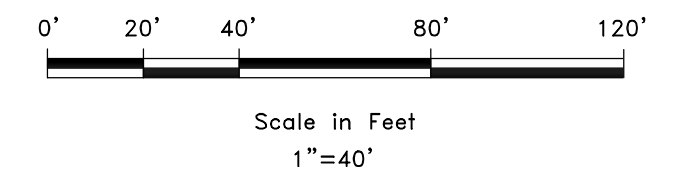
**TYPICAL 66' ROW - ROAD SECTION  
(HARBOR VIEW COURT)**

**LEGEND**

- SUBDIVISION BOUNDARY
- ROAD CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- FINISH GRADE 1' CONTOUR
- EXISTING SANITARY SEWER
- NEW SANITARY SEWER
- NEW PRESSURE SEWER LATERAL
- EXISTING STORM DRAIN
- NEW STORM DRAIN
- EXISTING CULINARY WATER
- NEW CULINARY WATER
- NEW CULINARY WATER LATERAL
- NEW CULINARY WATER METER
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- EXISTING SECONDARY WATER
- NEW ASPHALT PAVING
- 6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL (HYDRO SEED IN DESIGNATED PHASE)
- HYDRO SEED FILL SLOPES AND DETENTION POND DISTURBED AREAS



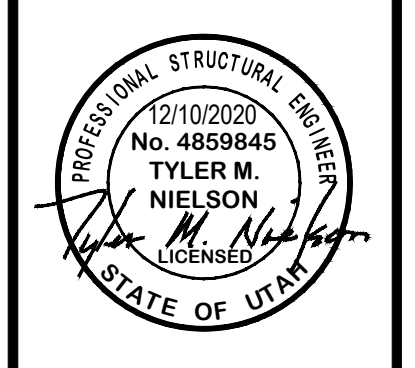
DATUM ELEV  
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SCALE: 1"=40'

DATE	12/10/2020
DESIGN	BSD/MUS
DRAWN	BSD/MUS
CHECKED	TMM

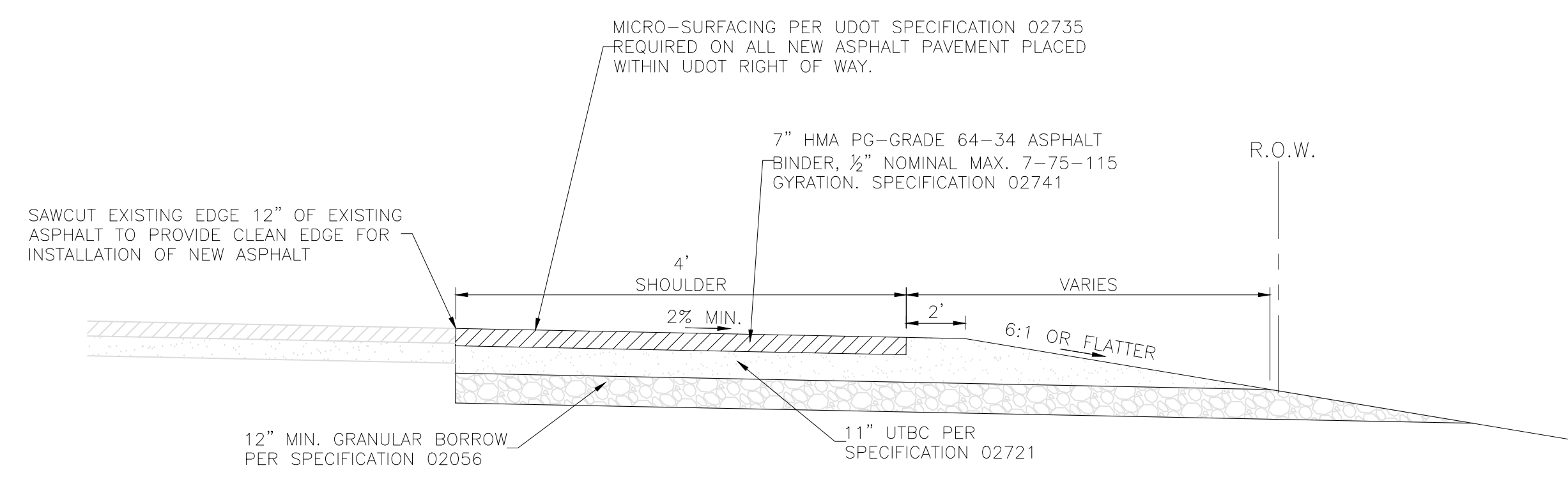
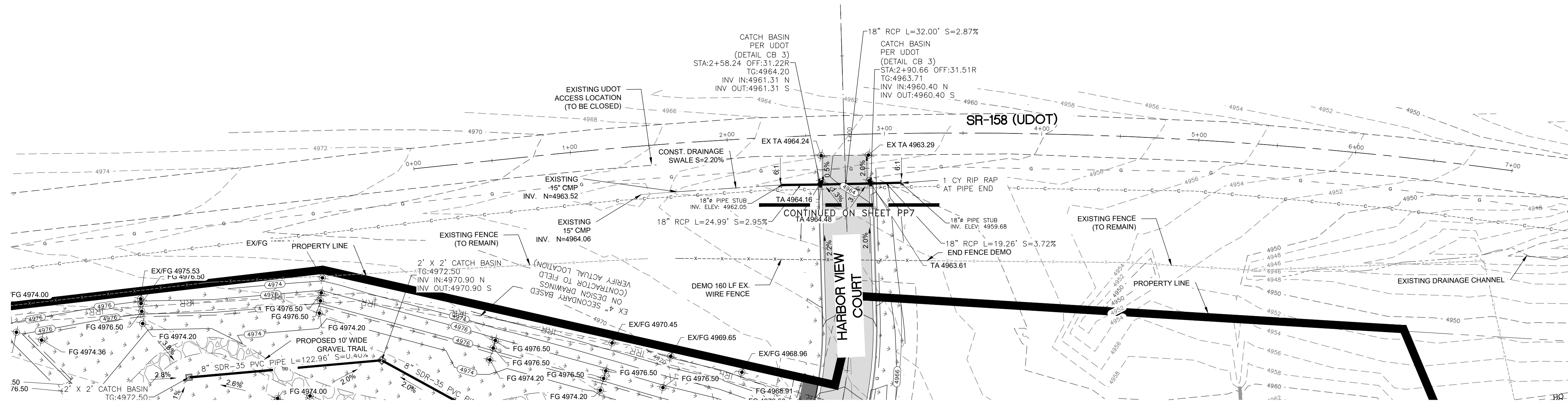
REVISIONS	DESCRIPTION



HARBOR VIEW COURT - PLAN AND PROFILE  
 HARBOR VIEW ESTATES SUBDIVISION  
 HARBOR VIEW COURT (1250 NORTH) HWY 158  
 EDEN, WEBER COUNTY, UTAH

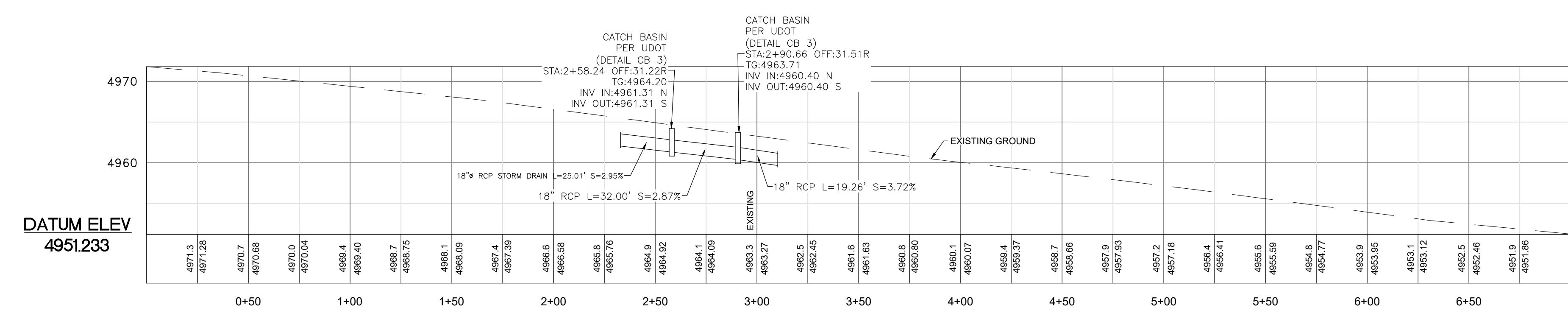
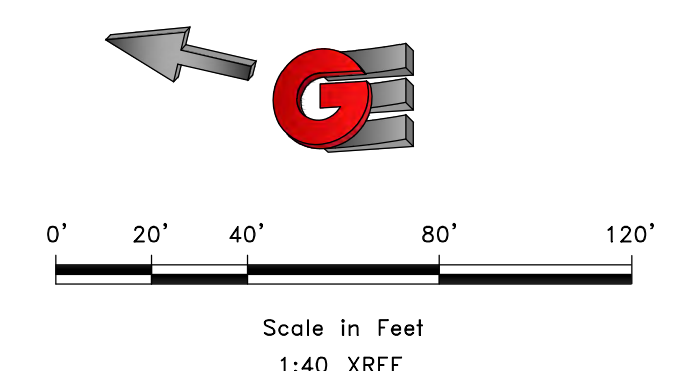
**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801-476-0202 FAX: 801-476-0066





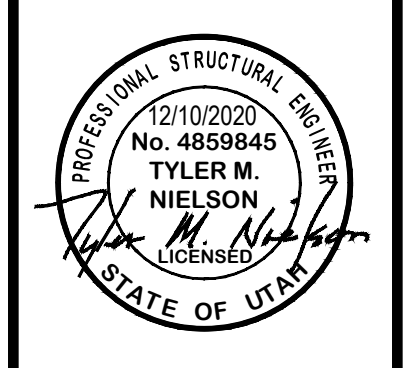
**LEGEND**

	SUBDIVISION BOUNDARY
	ROAD CENTERLINE
	EXISTING EDGE OF ASPHALT
	EXISTING 1' CONTOUR
	EXISTING 5' CONTOUR
	FINISH GRADE 1' CONTOUR
	EXISTING SANITARY SEWER
	NEW SANITARY SEWER
	NEW PRESSURE SEWER LATERAL
	EXISTING STORM DRAIN
	NEW STORM DRAIN
	EXISTING CULINARY WATER
	NEW CULINARY WATER
	NEW CULINARY WATER LATERAL
	NEW CULINARY WATER METER
	EXISTING FIRE HYDRANT
	NEW FIRE HYDRANT
	EXISTING SECONDARY WATER
	NEW ASPHALT PAVING
	6" DEPTH CUT AREA OVER EX & 6" TOPSOIL OR 6" TRAIL MATERIAL (HYDRO SEED IN DESIGNATED PHASE)
	HYDRO SEED FILL SLOPES AND DETENTION POND DISTURBED AREAS



SCALE: 1/4"=1'-0" XREF  
 DATE: 12/10/2020  
 DESIGN: BSO/ML/S  
 DRAWN: BSO/ML/S  
 CHECKED: TMN  
 DWG#: 8112028 - 884 INVESTMENT/CRIMSON RIDGE DESIGN/DWG/CRIMSON RIDGE - COS.DWG

REVISIONS	DESCRIPTION
DATE	



SR-158 (UDOT) - PLAN AND PROFILE  
 HARBOR VIEW ESTATES SUBDIVISION  
 HARBOR VIEW COURT (1250 NORTH) HWY 158  
 EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801-476-0202 FAX: 801-476-0066



**Pump Selection for a Non-Pressurized System - Single Family Residence Project**  
Crimson Ridge / Harbor View Estates - Effluent Sewer Section



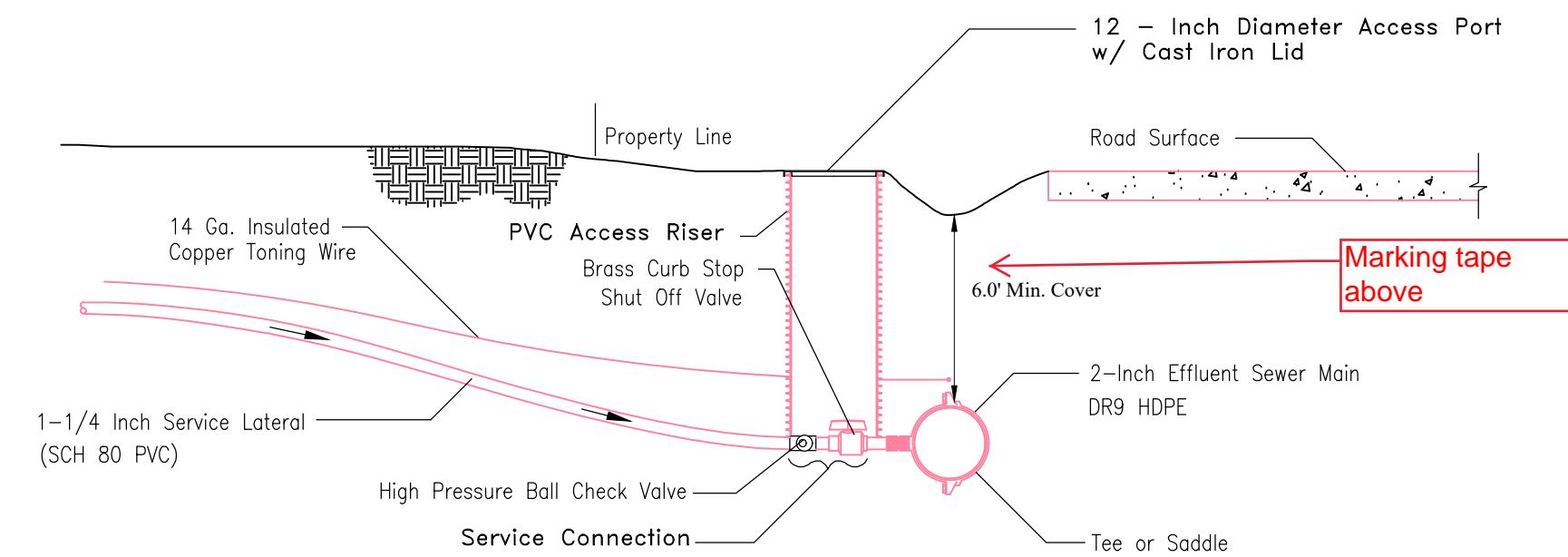
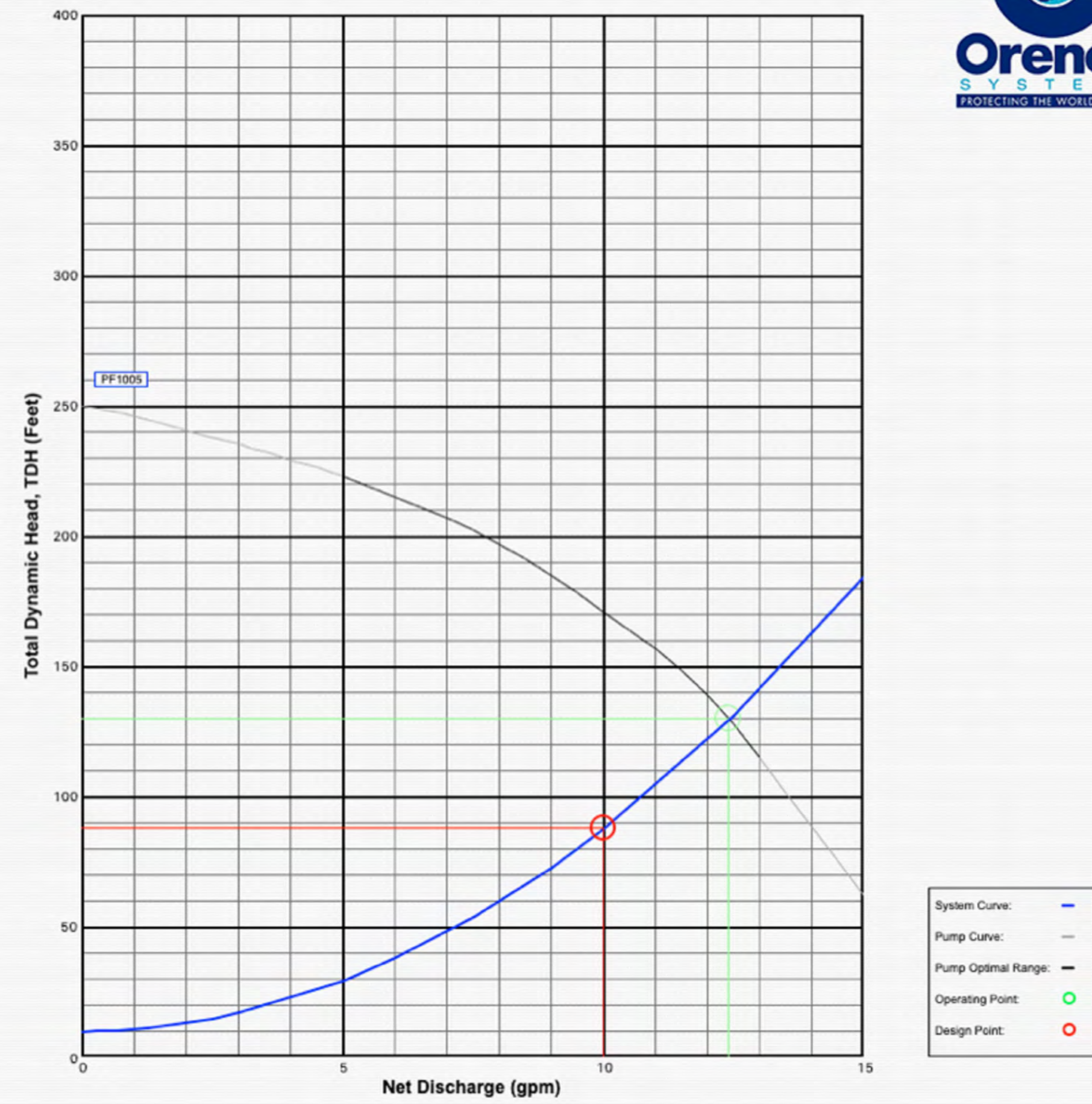
Parameters	
Discharge Assembly Size	1.25 inches
Transport Length	70 feet
Transport Pipe Class	40
Transport Line Size	1.25 inches
Distributing Valve Model	None
Max Elevation Lift	10 feet
Design Flow Rate	10 gpm
Flow Meter	None
'Add-on' Friction Losses	76 feet

Calculations	
Transport Velocity	2.2 fps

Frictional Head Losses	
Loss through Discharge	0.7 feet
Loss in Transport	1.0 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
'Add-on' Friction Losses	76.0 feet

Pipe Volumes	
Vol of Transport Line	5.4 gals

Minimum Pump Requirements	
Design Flow Rate	10.0 gpm
Total Dynamic Head	87.7 feet



All service line connections shall be solvent welded. The only acceptable solvents and cements are those that are recommended by the pipe manufacturer. All service laterals from the effluent sewer main to the property line shall be pressure tested prior to any backfilling.

**1 EFFLUENT PRESSURE SEWER TYPICAL SERVICE CONNECTION**  
Scale: (NOT TO SCALE)

REVISIONS	DESCRIPTION
DATE	

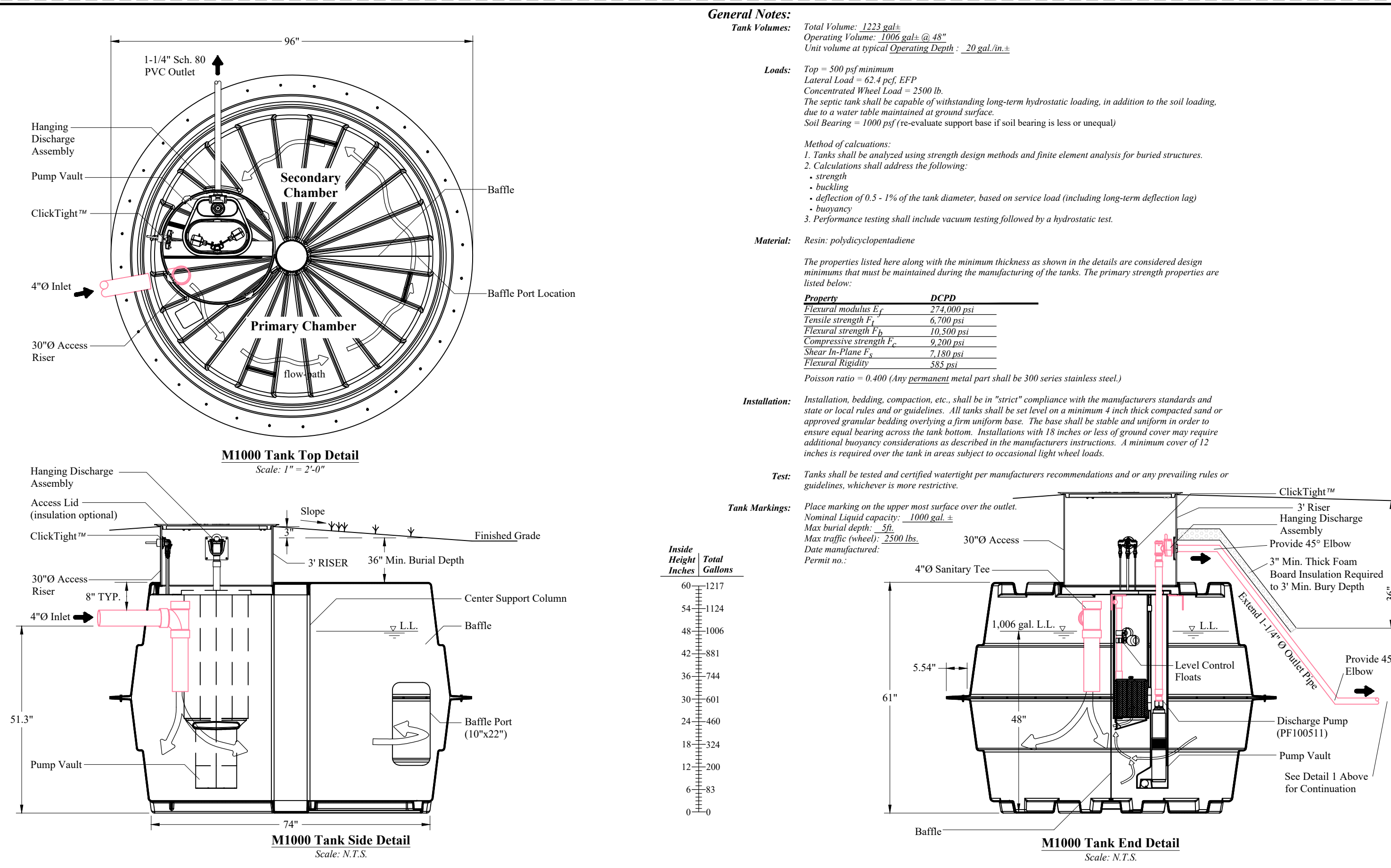
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DWG: R:\V208 - BAH INVESTMENT\CRIMSON RIDGE\DESIGN\DWG\CRIMSON RIDGE - CDS.DWG				

PROFESSIONAL STRUCTURAL ENGINEER	2/5/2021	No. 4859845
TYLER M. NIELSON		
LICENSED		
STATE OF UTAH		

ORENGO DETAILS (HARBOR VIEW ESTATES SUBDIVISION)  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

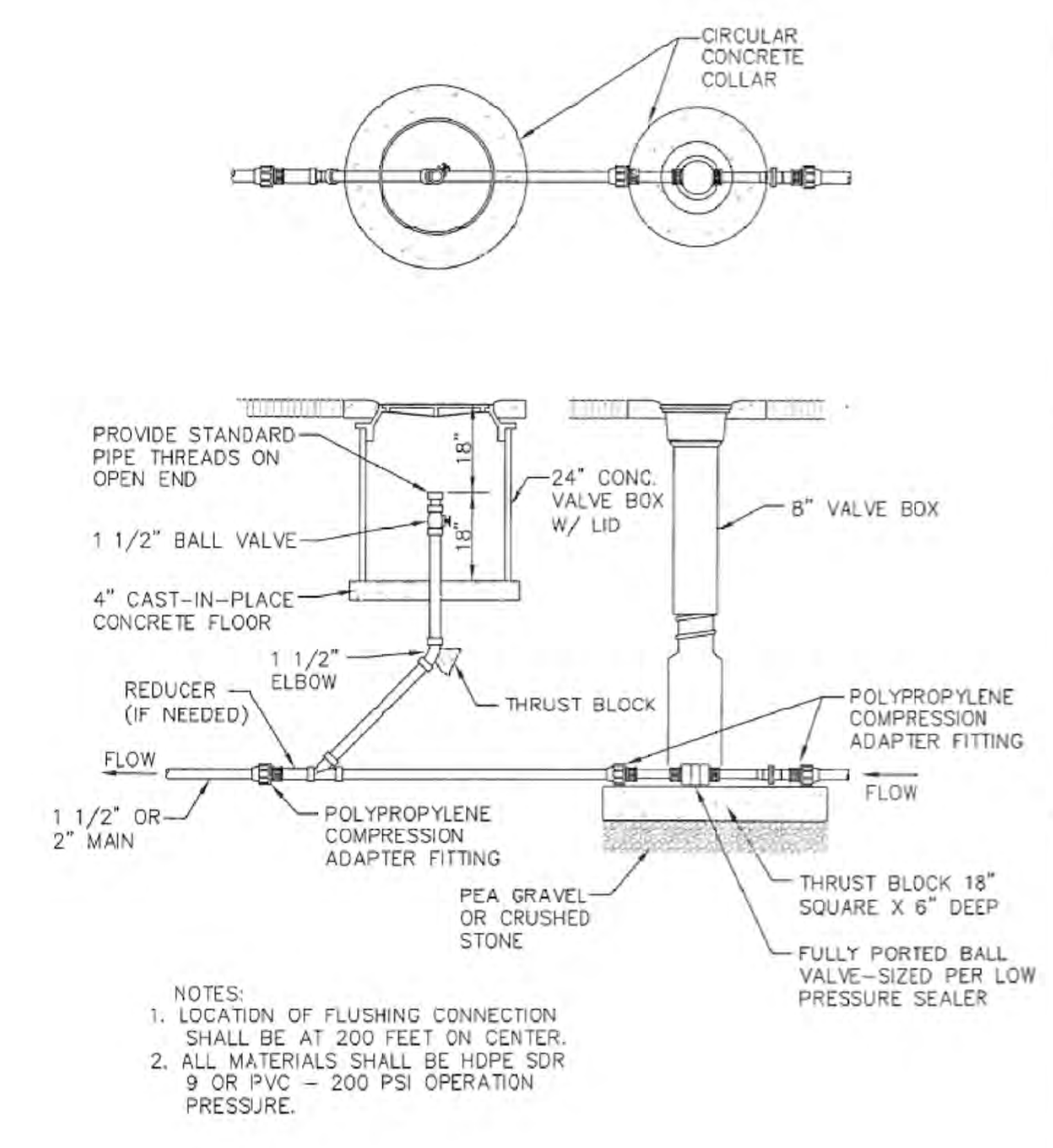
**GARDNER ENGINEERING**  
 CIVIL-LAND PLANNING  
 MUNICIPAL-LAND SURVEYING  
 5150 SOUTH 375 EAST OGDEN, UT  
 OFFICE: 801-476-0202 FAX: 801-476-0066



**General Notes:**  
 Tank Volume: Total Volume: 1223 gal., Operating Volume: 1000 gal. @ 48" Limit volume at typical Operating Depth: 20 gal./in.  
 Loads: Top - 500 psf minimum, Lateral Load - 62.4 pcf, EFP Concentrated Wheel Load - 2500 lb. The septic tank shall be capable of withstanding long-term hydrostatic loading, in addition to the soil loading, due to a water table maintained at ground surface. Soil Bearing - 1000 psf (re-evaluate support base if soil bearing is less or unequal)  
 Method of calculations: 1. Tanks shall be analyzed using strength design methods and finite element analysis for buried structures. 2. Calculations shall address the following: strength, buckling, deflection of 0.5 - 1% of the tank diameter, based on service load (including long-term deflection lag), buoyancy. 3. Performance testing shall include vacuum testing followed by a hydrostatic test.  
 Material: Resin: polydicyclopentadiene  
 The properties listed here along with the minimum thickness as shown in the details are considered design minimums that must be maintained during the manufacturing of the tanks. The primary strength properties are listed below:  
 Property: DCPD  
 Flexural modulus E<sub>f</sub>: 274,000 psi  
 Tensile strength F<sub>t</sub>: 6,700 psi  
 Flexural strength F<sub>b</sub>: 10,500 psi  
 Compressive strength F<sub>c</sub>: 9,200 psi  
 Shear by Punch F<sub>v</sub>: 7,100 psi  
 Flexural Rigidity: 585 psi  
 Poisson ratio = 0.400 (Any permanent metal part shall be 300 series stainless steel)  
 Installation: Installation, bedding, compaction, etc., shall be in "strict" compliance with the manufacturers standards and state or local rules and/or guidelines. All tanks shall be set level on a minimum 4 inch thick compacted sand or approved granular bedding overlying a firm uniform base. The base shall be stable and uniform in order to ensure equal bearing across the tank bottom. Installations with 18 inches or less of ground cover may require additional buoyancy considerations as described in the manufacturers instructions. A minimum cover of 12 inches is required over the tank in areas subject to occasional light wheel loads.  
 Test: Tanks shall be tested and certified watertight per manufacturers recommendations and/or any prevailing rules or guidelines, whichever is more restrictive.  
 Tank Markings: Place marking on the upper most surface over the outlet. Nominal Liquid capacity: 1000 gal. ± Max burial depth: 5ft Max traffic wheels: 2200 lbs. Date manufactured: Permit no.:

ORENGO AUTHORIZED DEALER  
 JEX ENVIRONMENTAL SOLUTIONS  
 PO BOX 3603  
 LOGAN, UT 84323  
 1-435-753-2051

PRELOS 1000 GALLON PROCESSOR WITH PUMP  
 NOTES:  
 THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.



**3 EFFLUENT PRESSURE SEWER TYPICAL FLUSHING CONNECTION ON MAIN LINE**  
Scale: (NOT TO SCALE)



© Orengo Systems, Inc. Portions or all of this Proposed System Configuration Drawing, as appropriate, may be reproduced and interpreted into the site-specific layout and configuration of a system by its designer.

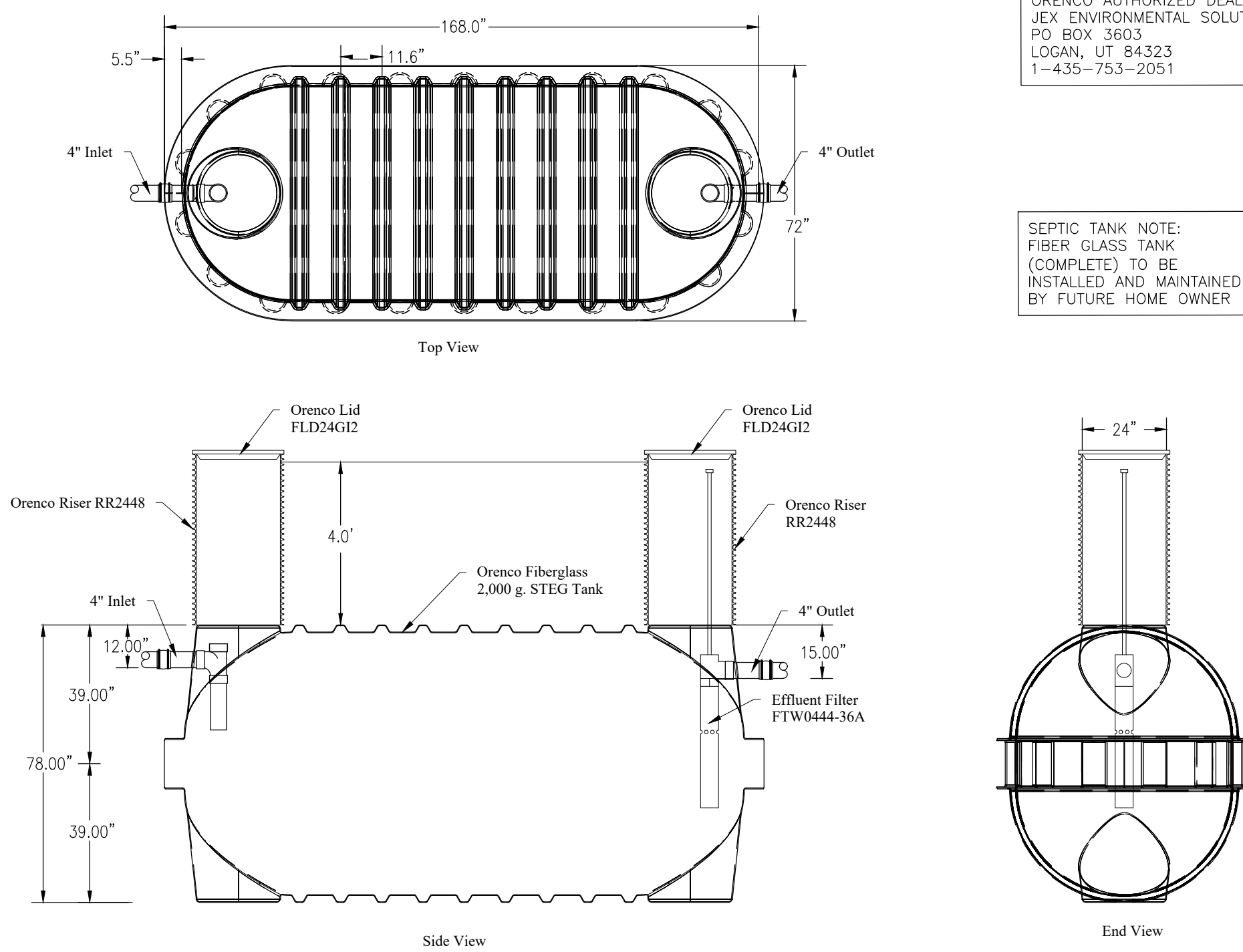
Disclaimer: This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orengo's design criteria for the requirements and/or specifications that have been communicated to Orengo (based on third-party standards, listing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its viability for the project, are at the sole discretion of the system's designer.

Prelos 1000 Processor with Pump Discharge	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: N09-TP-205-100-DWG	Rev: 1.0 Date: 11/24/20

**2 ORENGO 1,000 GALLON PROCESSOR WITH PUMP DISCHARGE**  
Scale: (NOT TO SCALE)

D1



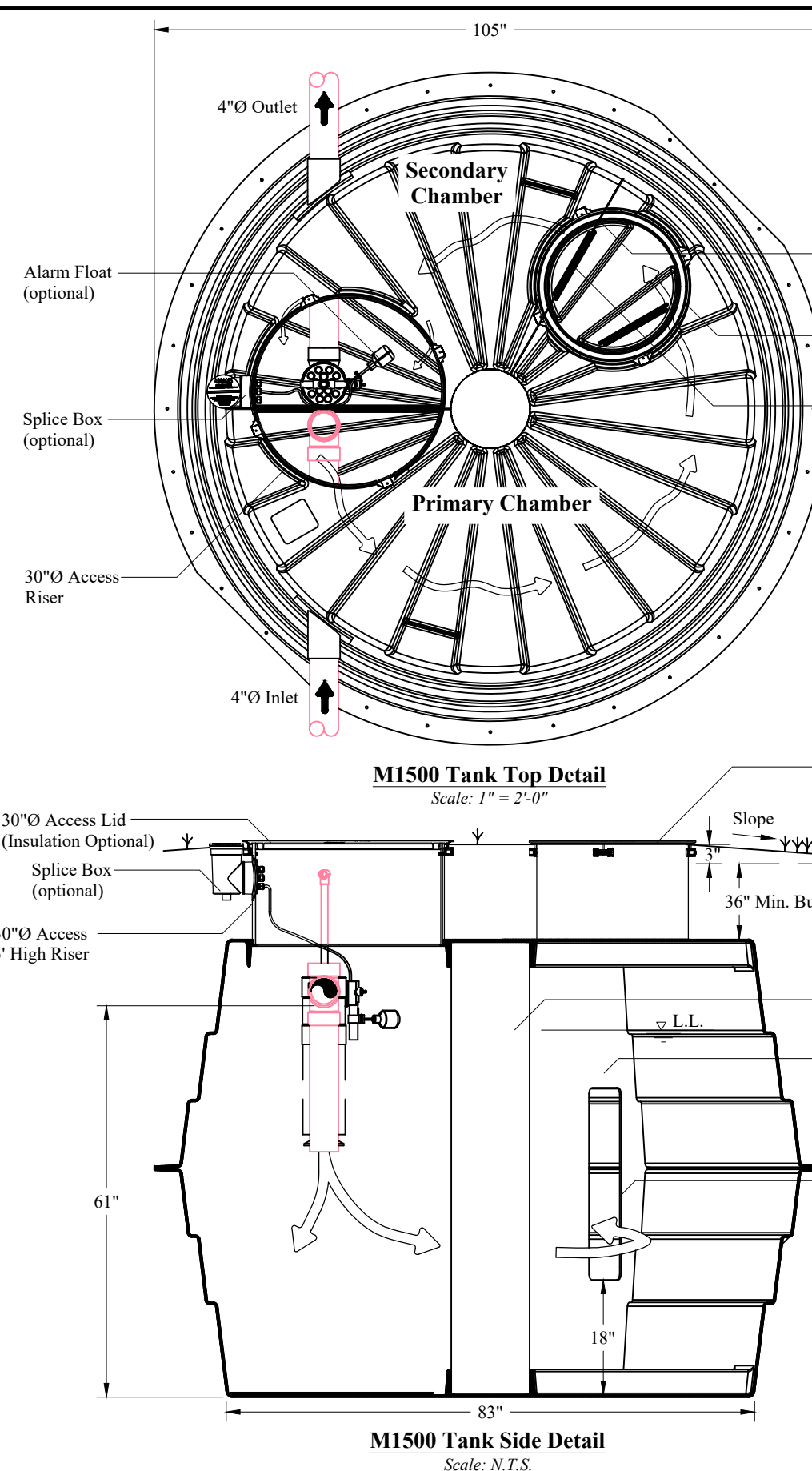


**1 ORENCO 2,000 GALLON FIBERGLASS TANK GRAVITY DISCHARGE**  
(AS AVAILABLE) Scale: (NOT TO SCALE)

ORENCO AUTHORIZED DEALER  
JEX ENVIRONMENTAL SOLUTIONS  
PO BOX 3603  
LOGAN, UT 84323  
1-435-753-2051

SEPTIC TANK NOTE:  
FIBER GLASS TANK  
(COMPLETE) TO BE  
INSTALLED AND MAINTAINED  
BY FUTURE HOME OWNER

I believe that these tanks are approved to be used as an experimental tank until they are approved by the State. I have also sent a design off to Richard to look at the possibility of modifying a concrete tank.

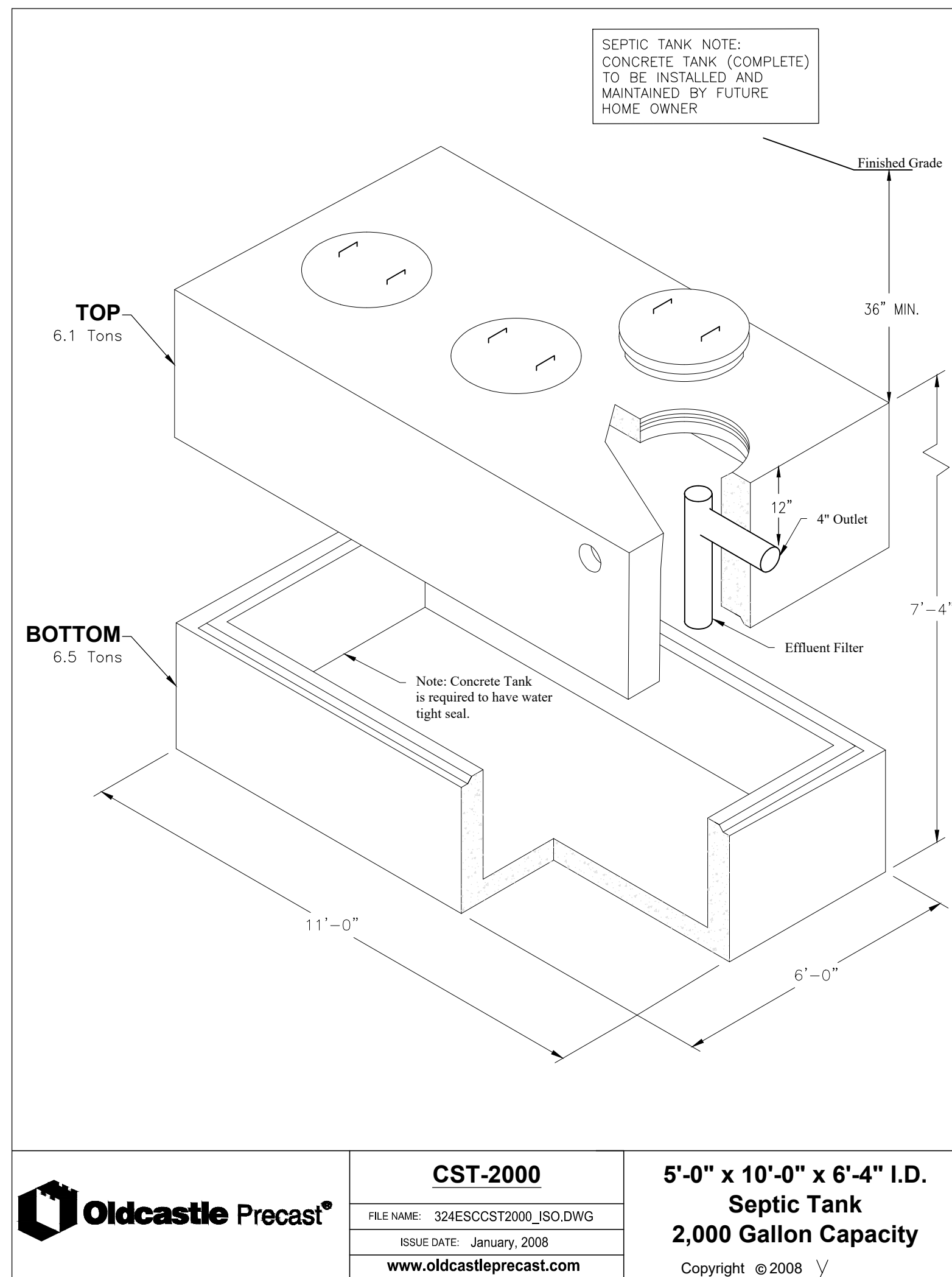


**2 ORENCO 1,500 GALLON GRAVITY PROCESSOR DISCHARGE**  
(5 BEDROOMS OR LARGER) Scale: (NOT TO SCALE)

**General Notes:**

**Tank Volumes:** Total Volume: 1788 gal.; Operating Volume: 1500 gal. @ 50" Unit volume at typical Operating Depth: 25 gal./in. ±  
**Loads:** Top = 500 psf minimum Lateral Load = 62.4 psf, EFP Concentrated Wheel Load = 2500 lb. The septic tank shall be capable of withstanding long-term hydrostatic loading, in addition to the soil loading, due to a water table maintained at ground surface. Soil Bearing = 1000 psf (re-evaluate support base if soil bearing is less or unequal)  
**Method of calculations:** 1. Tanks shall be analyzed using strength design methods and finite element analysis for buried structures. 2. Calculations shall address the following: strength buckling deflection of 0.5 - 1% of the tank diameter, based on service load (including long-term deflection lag) buoyancy 3. Performance testing shall include vacuum testing followed by a hydrostatic test.  
**Material:** Resin: polydicyclopentadiene The properties listed here along with the minimum thickness as shown in the details are considered design minimums that must be maintained during the manufacturing of the tanks. The primary strength properties are listed below:  
**Properties:** Flexural modulus E<sub>f</sub> 274,000 psi Tensile strength F<sub>t</sub> 6,700 psi Flexural strength F<sub>f</sub> 10,500 psi Compressive strength F<sub>c</sub> 9,200 psi Shear In-Plane F<sub>v</sub> 7,100 psi Flexural Rigidity 585 psi Poisson ratio = 0.400 (Any permanent metal part shall be 300 series stainless steel.)  
**Installation:** Installation, bedding, compaction, etc., shall be in "strict" compliance with the manufacturers standards and state or local rules and/or guidelines. All tanks shall be set level on a minimum 4 inch thick compacted sand or approved granular bedding overlying a firm uniform base. The base shall be stable and uniform in order to ensure equal bearing across the tank bottom. Installations with 18 inches or less of ground cover may require additional buoyancy considerations as described in the manufacturers instructions. A minimum cover of 12 inches is required over the tank in areas subject to occasional light wheel loads.  
**Test:** Tanks shall be tested and certified watertight per manufacturers recommendations and/or any prevailing rules or guidelines, whichever is more restrictive.  
**Tank Markings:** Place marking on the upper most surface over the outlet. Nominal Liquid capacity: 1500 gal. ± Max burial depth: 50" Max traffic (wheel): 2500 lbs. Date manufactured: Permit no.:  
**Disclaimer:** This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orenco's design criteria for the requirements and/or specifications that have been communicated to Orenco (based on third-party standards testing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its suitability for the project, are at the sole discretion of the system's designer.

Prelos 1500 Gravity Processor with Effluent Filter and 1/3 2/3 Baffle	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: NDW-TD-LOS-ISO-2.DWG	Rev: 1.0 Date: 11/24/20



**1 ALTERNATIVE 2,000 GALLON CONCRETE TANK (IF ORENCO 2000 GALLON TANK NOT AVAILABLE)**  
Scale: (NOT TO SCALE)

SEPTIC TANK NOTE:  
CONCRETE TANK (COMPLETE)  
TO BE INSTALLED AND  
MAINTAINED BY FUTURE  
HOME OWNER

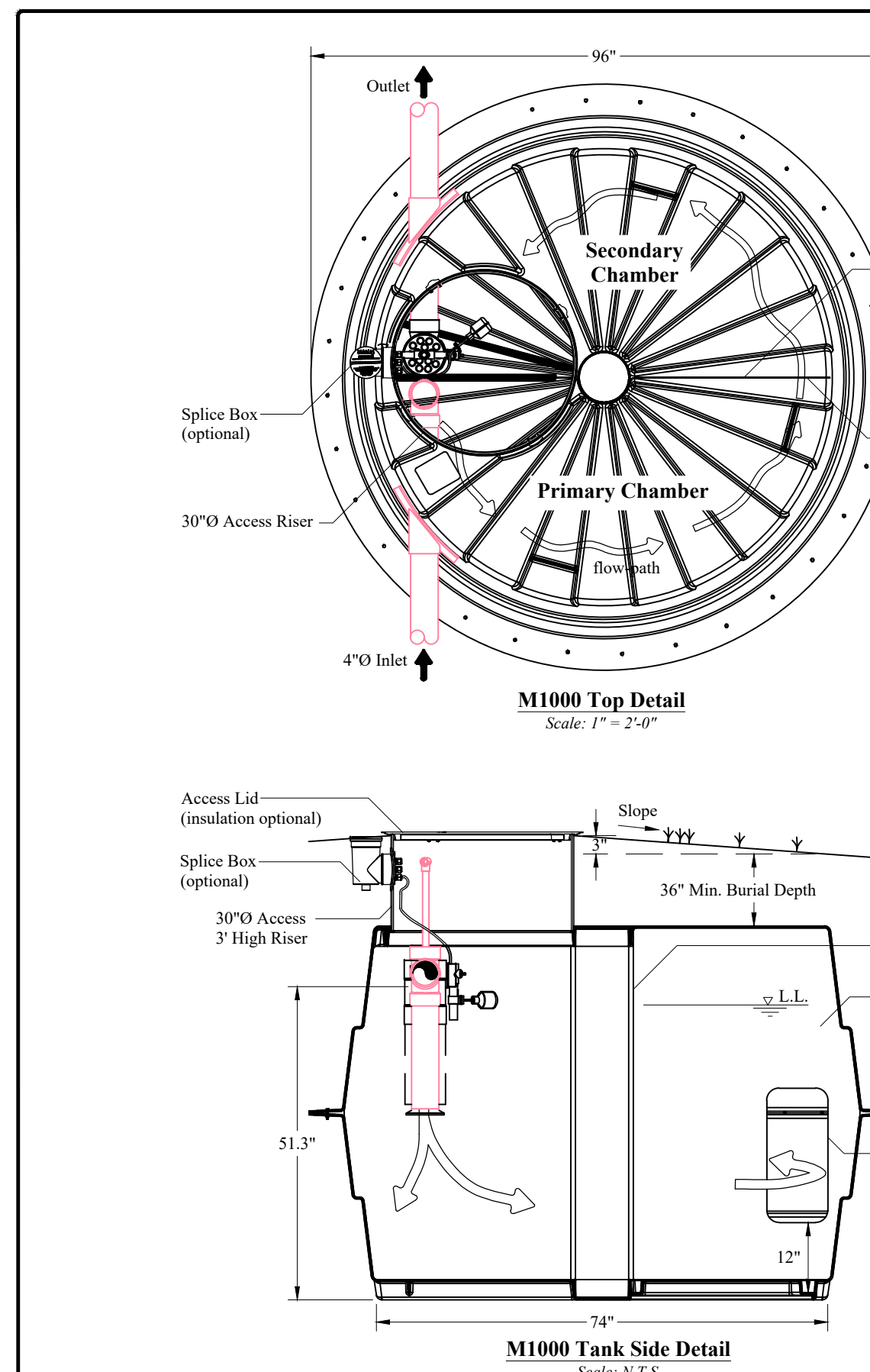
PRELOS 1500 GALLON GRAVITY PROCESSOR NOTES:  
THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.

ORENCO AUTHORIZED DEALER  
JEX ENVIRONMENTAL SOLUTIONS  
PO BOX 3603  
LOGAN, UT 84323  
1-435-753-2051

They would need to demonstrate the water tightness....would rather it not be the clamshell type.

PRELOS 1000 GALLON GRAVITY PROCESSOR NOTES:  
THIS UNIT (COMPLETE) TO BE INSTALLED AND MAINTAINED BY FUTURE HOME OWNER. AT LEAST TWO INDEPENDENT POWER SOURCES WITH APPROVED WIRING SHALL BE INSTALLED.

ORENCO AUTHORIZED DEALER  
JEX ENVIRONMENTAL SOLUTIONS  
PO BOX 3603  
LOGAN, UT 84323  
1-435-753-2051



**3 ORENCO 1,000 GALLON GRAVITY PROCESSOR DISCHARGE**  
(4 BEDROOMS OR LESS) Scale: (NOT TO SCALE)

**General Notes:**

**Tank Volumes:** Total Volume: 1223 gal.; Operating Volume: 1000 gal. @ 48" Unit volume at typical Operating Depth: 20 gal./in. ±  
**Loads:** Top = 500 psf minimum Lateral Load = 62.4 psf, EFP Concentrated Wheel Load = 2500 lb. The septic tank shall be capable of withstanding long-term hydrostatic loading, in addition to the soil loading, due to a water table maintained at ground surface. Soil Bearing = 1000 psf (re-evaluate support base if soil bearing is less or unequal)  
**Method of calculations:** 1. Tanks shall be analyzed using strength design methods and finite element analysis for buried structures. 2. Calculations shall address the following: strength buckling deflection of 0.5 - 1% of the tank diameter, based on service load (including long-term deflection lag) buoyancy 3. Performance testing shall include vacuum testing followed by a hydrostatic test.  
**Material:** Resin: polydicyclopentadiene The properties listed here along with the minimum thickness as shown in the details are considered design minimums that must be maintained during the manufacturing of the tanks. The primary strength properties are listed below:  
**Properties:** Flexural modulus E<sub>f</sub> 274,000 psi Tensile strength F<sub>t</sub> 6,700 psi Flexural strength F<sub>f</sub> 10,500 psi Compressive strength F<sub>c</sub> 9,200 psi Shear In-Plane F<sub>v</sub> 7,100 psi Flexural Rigidity 585 psi Poisson ratio = 0.400 (Any permanent metal part shall be 300 series stainless steel.)  
**Installation:** Installation, bedding, compaction, etc., shall be in "strict" compliance with the manufacturers standards and state or local rules and/or guidelines. All tanks shall be set level on a minimum 4 inch thick compacted sand or approved granular bedding overlying a firm uniform base. The base shall be stable and uniform in order to ensure equal bearing across the tank bottom. Installations with 18 inches or less of ground cover may require additional buoyancy considerations as described in the manufacturers instructions. A minimum cover of 12 inches is required over the tank in areas subject to occasional light wheel loads.  
**Test:** Tanks shall be tested and certified watertight per manufacturers recommendations and/or any prevailing rules or guidelines, whichever is more restrictive.  
**Tank Markings:** Place marking on the upper most surface over the outlet. Nominal Liquid capacity: 1000 gal. ± Max burial depth: 50" Max traffic (wheel): 2500 lbs. Date manufactured: Permit no.:  
**Disclaimer:** This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orenco's design criteria for the requirements and/or specifications that have been communicated to Orenco (based on third-party standards testing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its suitability for the project, are at the sole discretion of the system's designer.

Prelos 1000 Gravity Processor with Effluent Filter	Drawn By: CSJ	Scale: N.T.S.
DESIGN AID	Reviewed By: TB	Sheet: 1 OF 1
	File Name: NDW-TD-LOS-ISO-2.DWG	Rev: 1.0 Date: 11/24/20

SCALE: N.T.S. DATE: 2/9/2021 DESIGN: BBD/MUS DRAWN: BBD/MUS CHECKED: TMN DWG: 8V2028 - 884 INVESTMENT, CRIMSON RIDGE DESIGN (MVO), CRIMSON RIDGE - COS.DWG

REVISIONS DESCRIPTION DATE

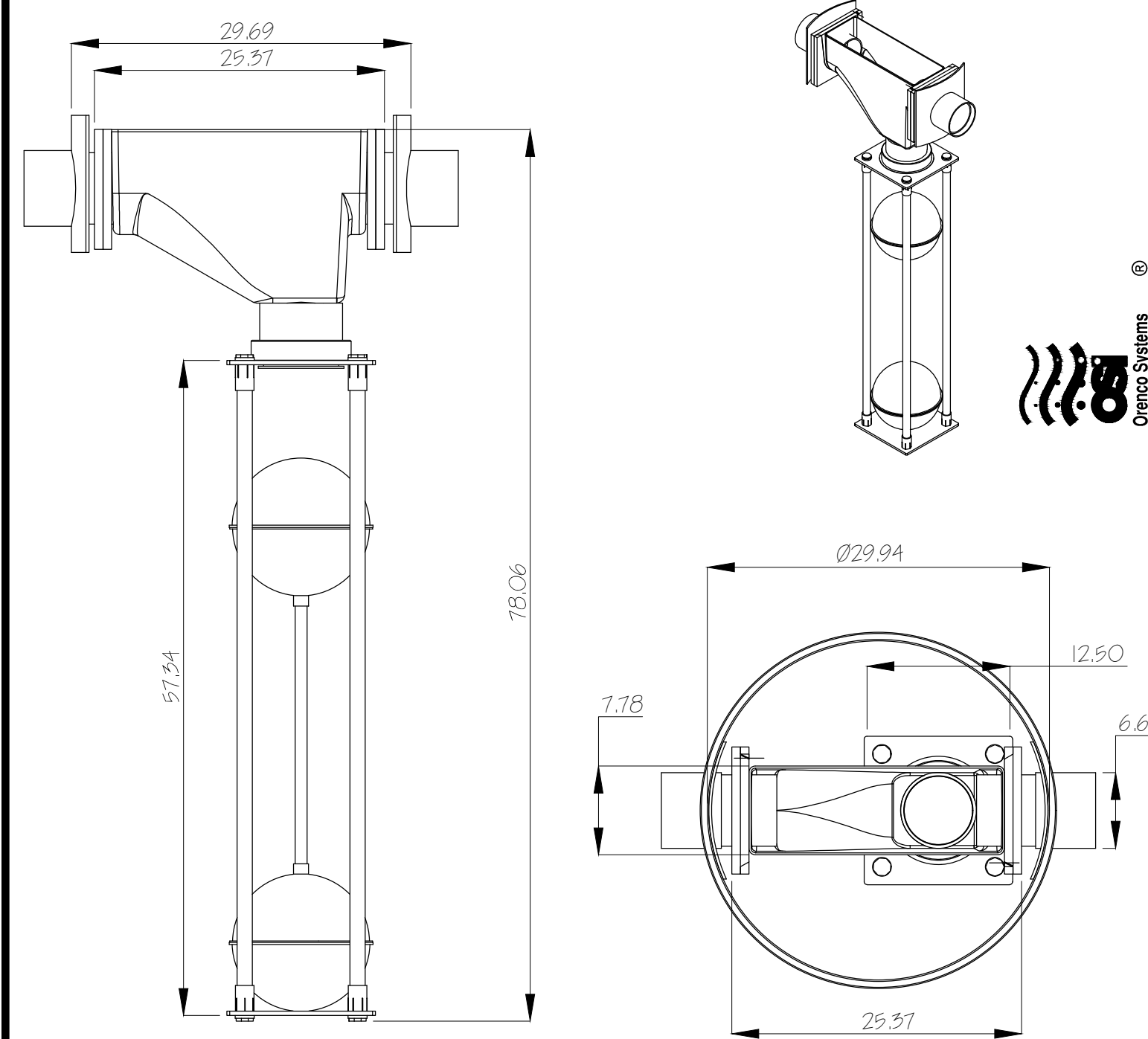
2/5/2021 No. 4859845 TYLER M. NIELSON LICENSED PROFESSIONAL STRUCTURAL ENGINEER STATE OF UTAH

SEPTIC TANK DETAILS PHASE 2A, 2B, + 2C THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2 1250 NORTH 5200 EAST EDEN, WEBER COUNTY, UTAH

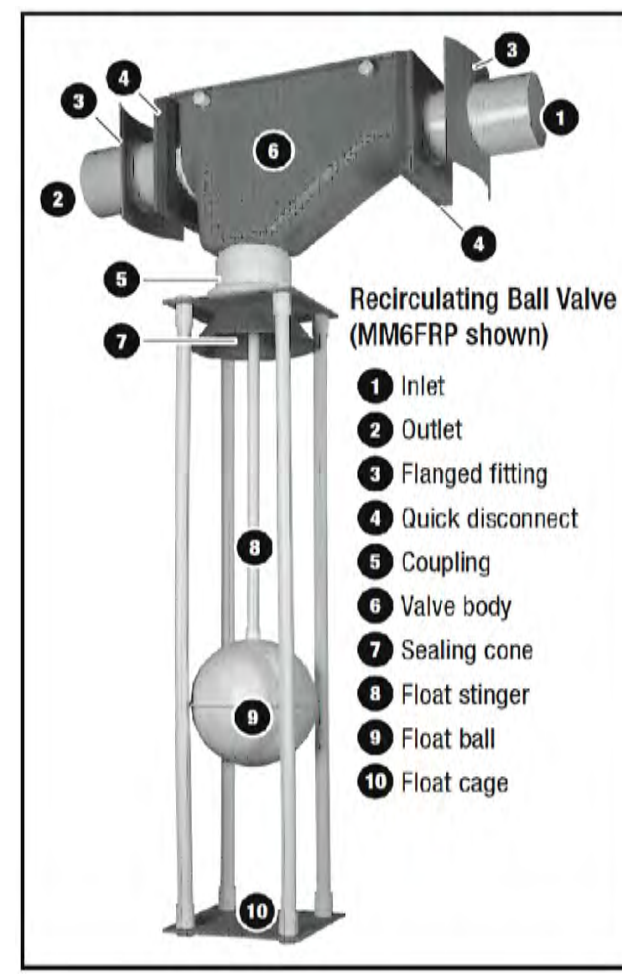
**GARDNER ENGINEERING** CIVIL/LAND PLANNING MUNICIPAL/LAND SURVEYING 5150 SOUTH 375 EAST OGDEN, UT OFFICE: 801-476-0202 FAX: 801-476-0066

D2

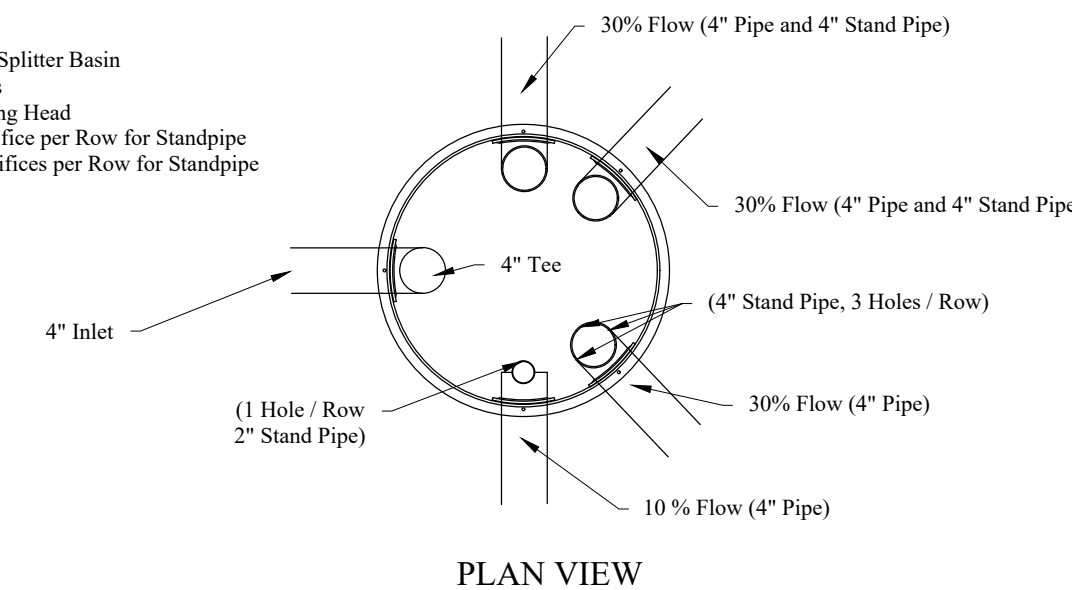




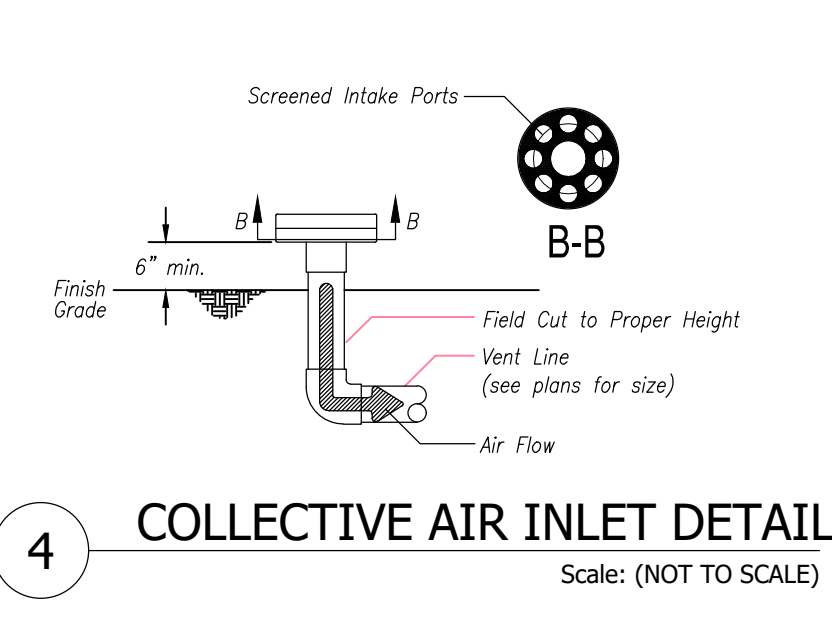
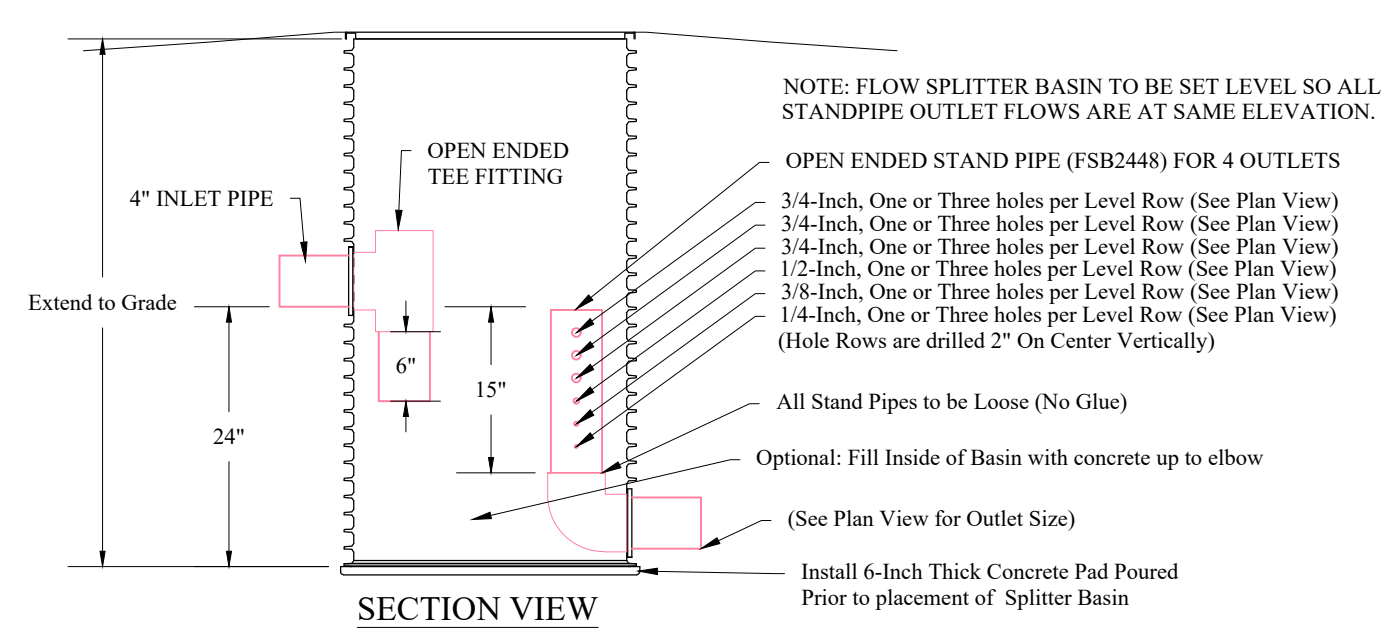
1 RECIRCULATING SPLITTER VALVE DETAIL (MM6-FRP)  
Scale: (NOT TO SCALE)



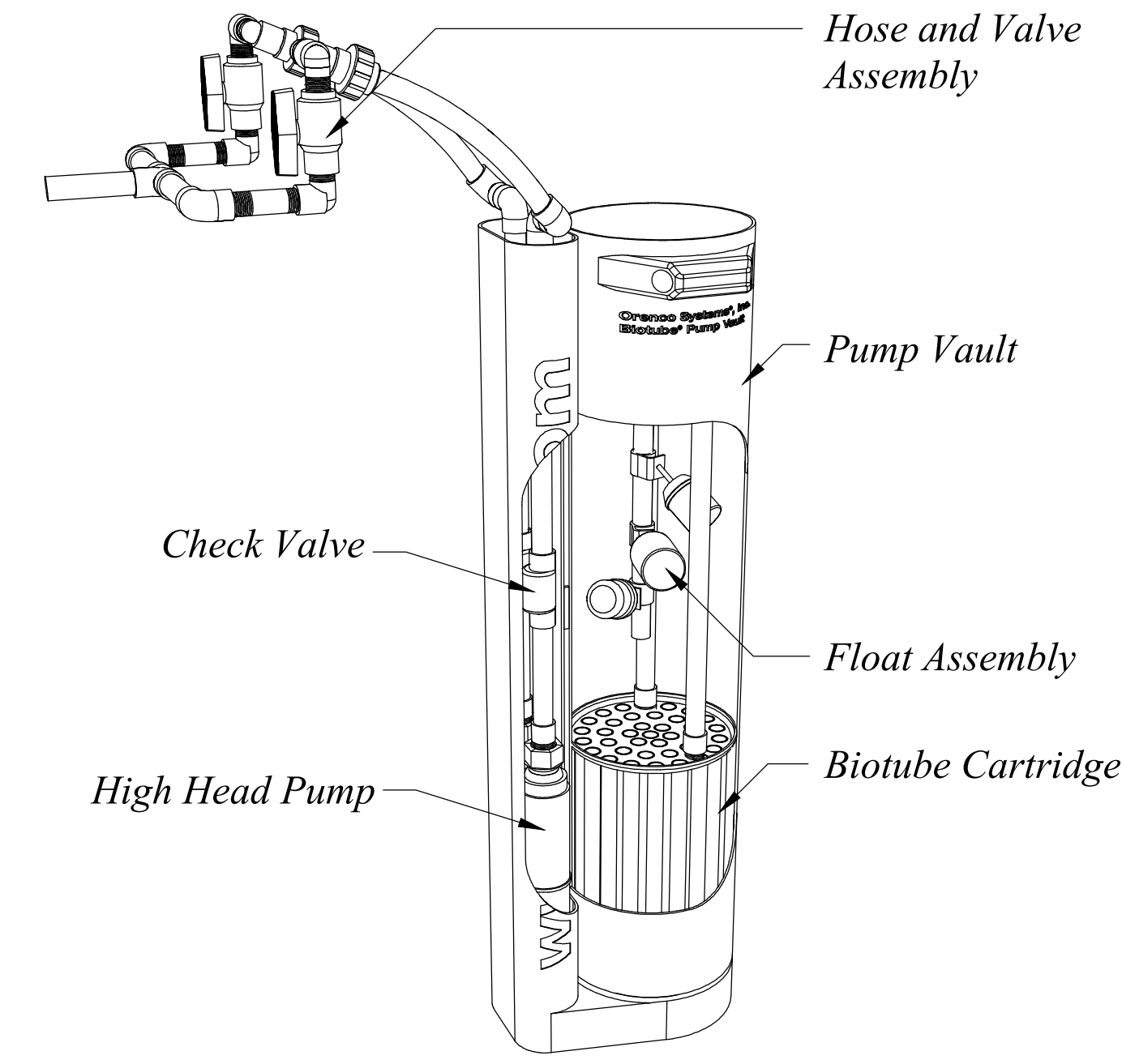
Orenco Multi-Outlet Flow Splitter Basin  
FSB2448 (4) Outlets  
- Minimum 15" Driving Head  
- (1) Outlet Single Orifice per Row for Standpipe  
- (3) Outlets Three Orifices per Row for Standpipe



2 MULTI-OUTLET FLOW SPLITTER BASIN DETAIL  
Scale: (NOT TO SCALE)



4 COLLECTIVE AIR INLET DETAIL  
Scale: (NOT TO SCALE)

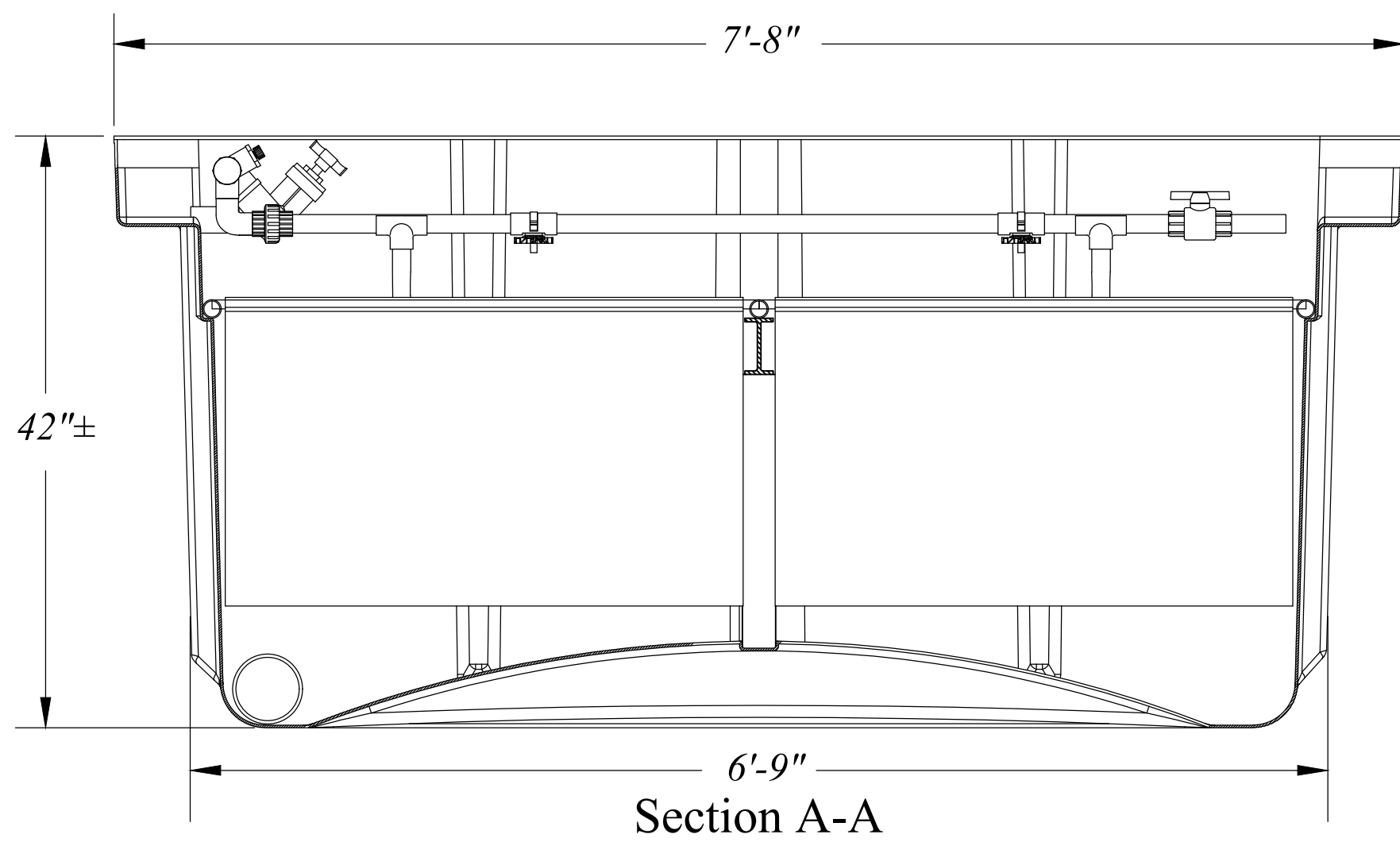


3 DUPLEX PUMP VAULT DETAIL  
Scale: (NOT TO SCALE)

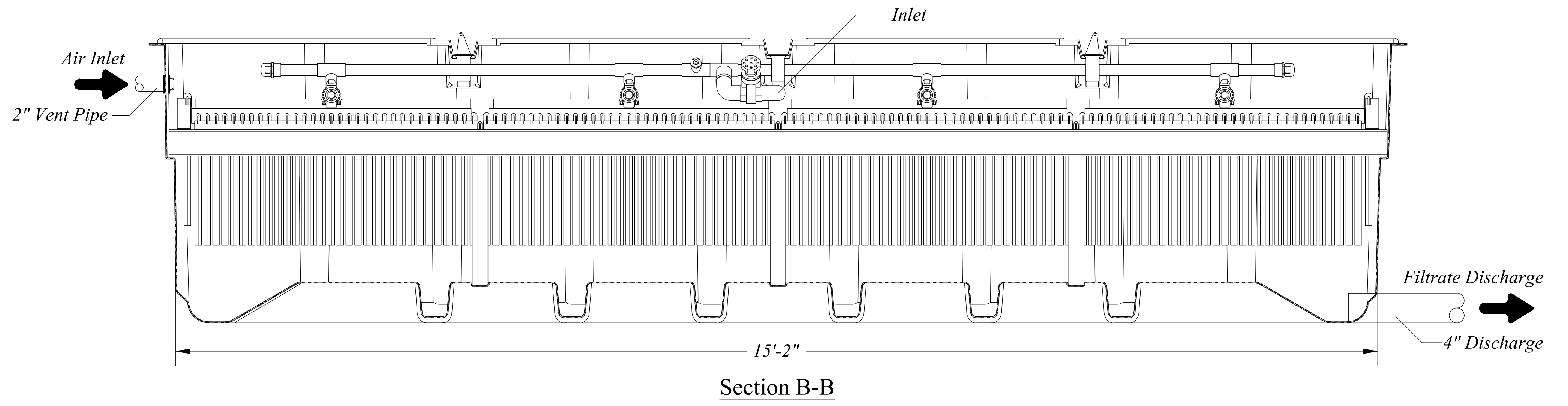


5 ORENCO FILTER POD ADVANTEX AX 100 DETAIL  
Scale: (NOT TO SCALE)

ORENCO AUTHORIZED DEALER  
JEX ENVIRONMENTAL SOLUTIONS  
PO BOX 3603  
LOGAN, UT 84323  
1-435-753-2051

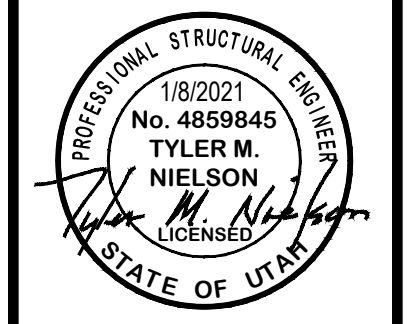


Section A-A



Section B-B

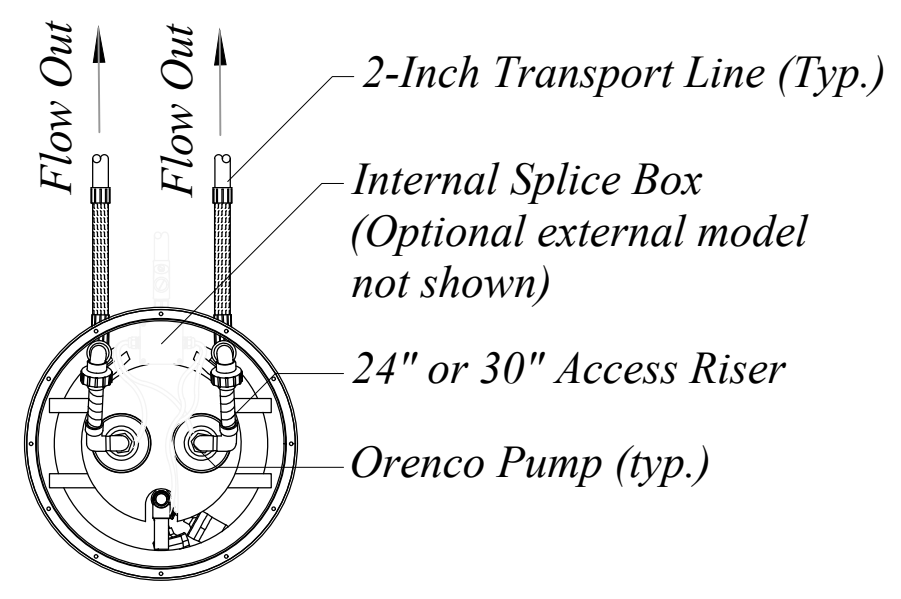
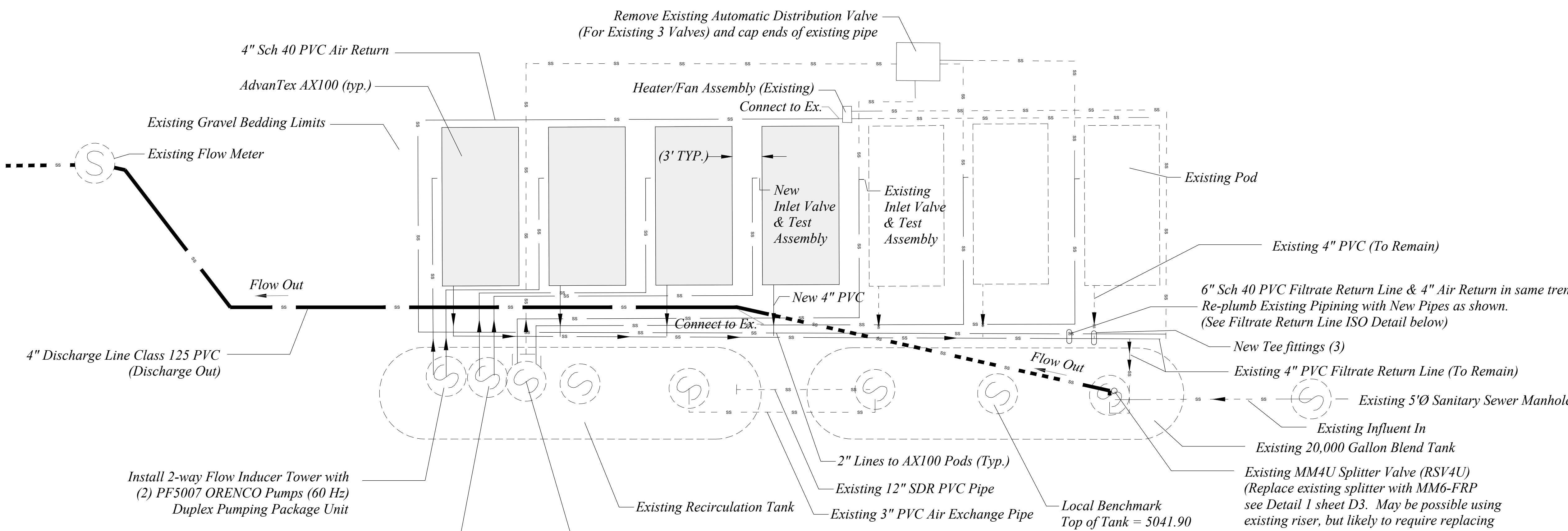
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REVISIONS	DESCRIPTION	DATE		



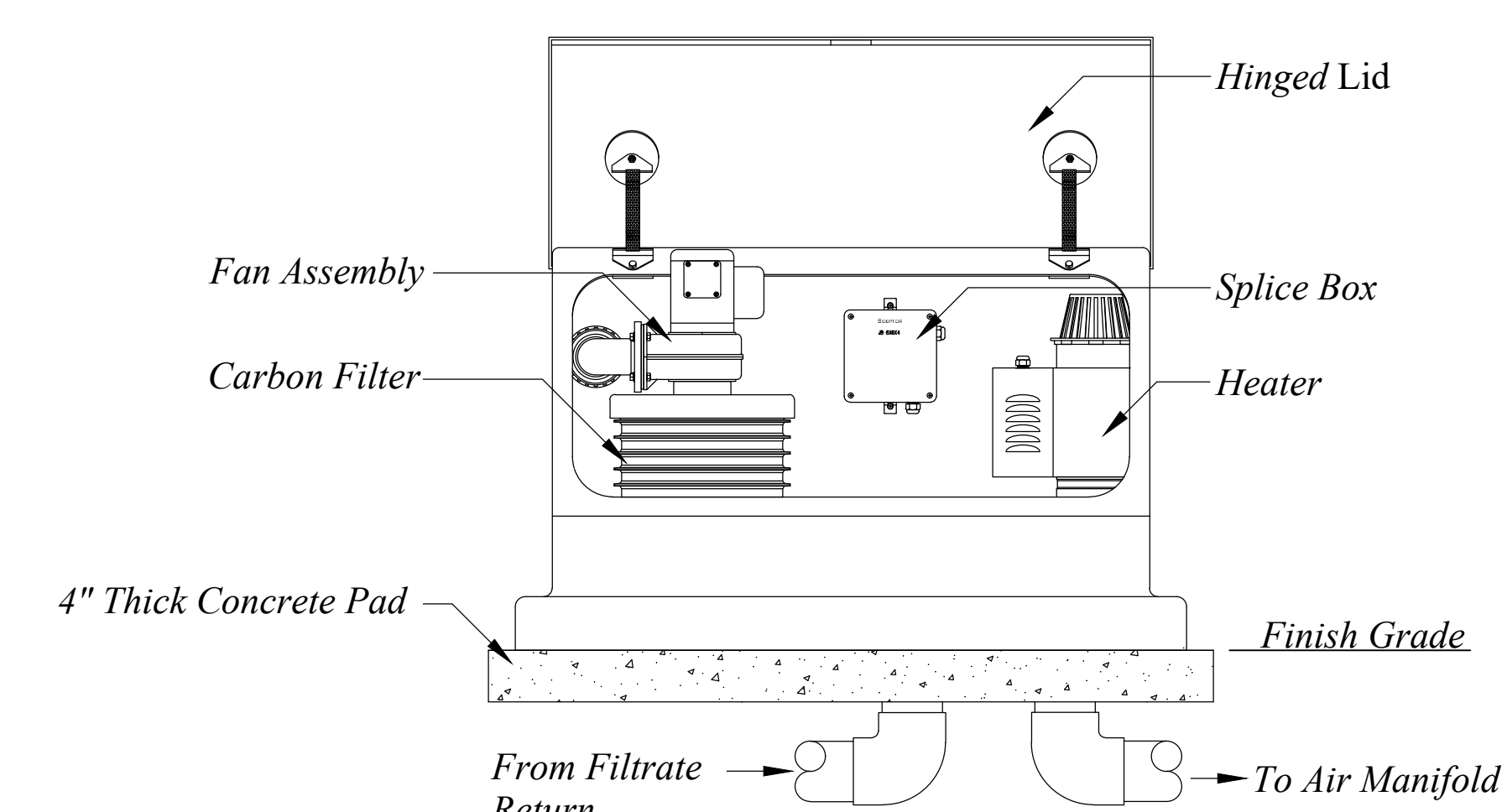
EFFLUENT TREATMENT FACILITY DETAILS  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH



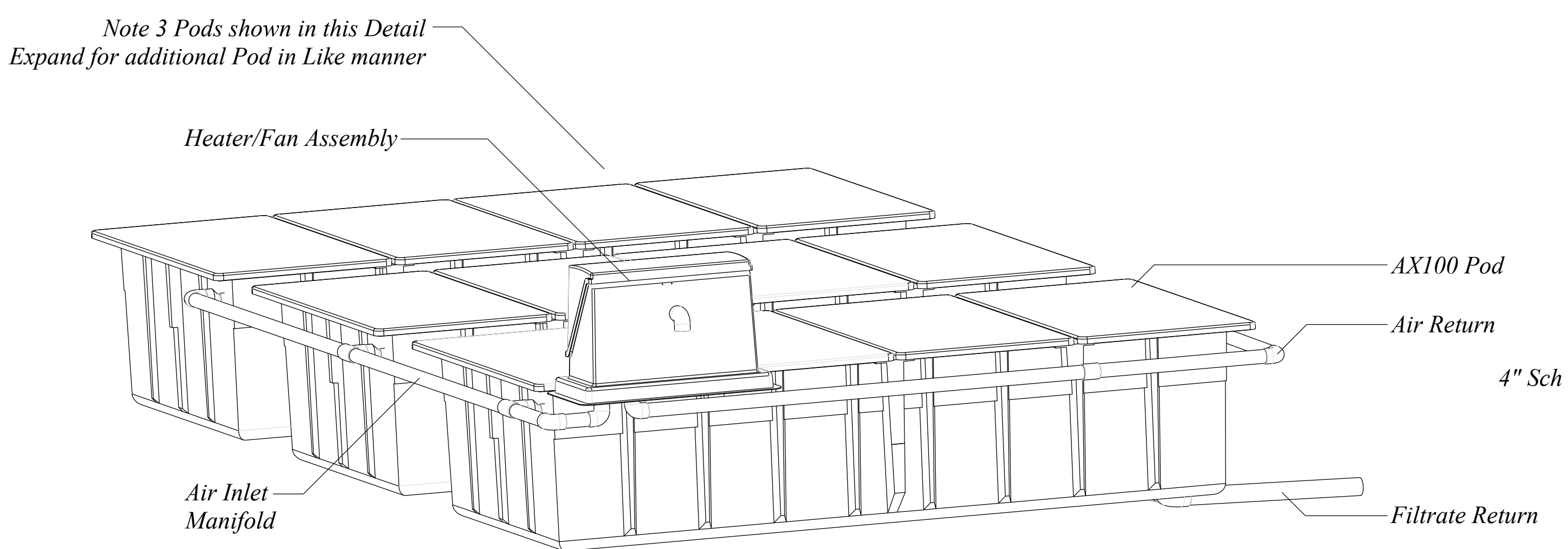




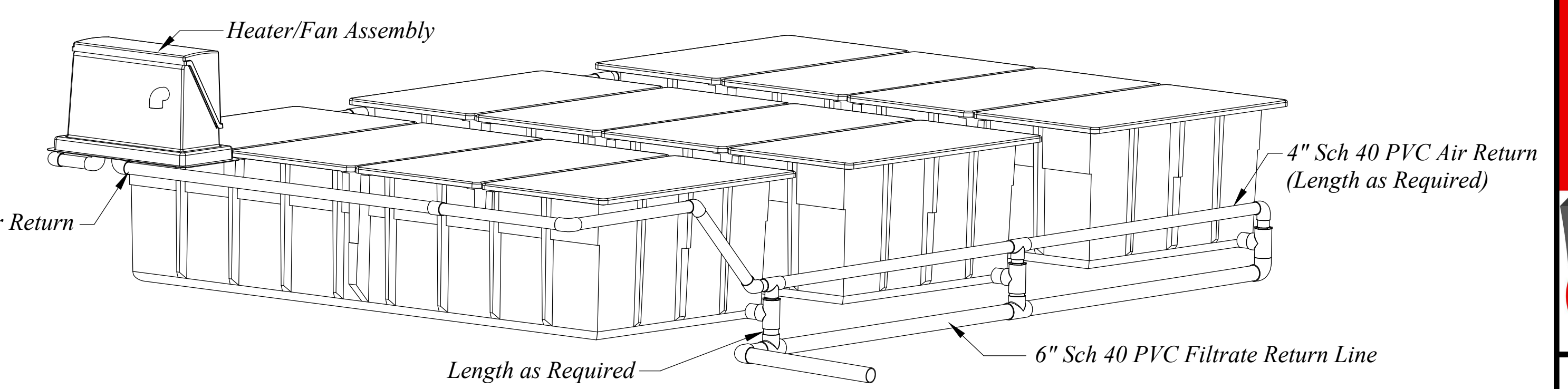
**Duplex Flow Inducer  
Typical Plumbing Example**  
Not To Scale



**Above Ground Fan Assembly (Existing)**  
Not To Scale



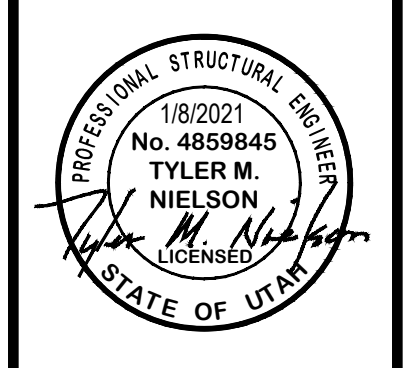
**Air Manifold Iso**  
Not To Scale



**Filtrate Return Line Iso**  
Not To Scale

**AdvanTex AX100 System  
Cold Weather Venting (Example)**

SCALE	NTS
DATE	1/8/2021
DESIGN	BSD/MS
DRAWN	BSD/MS
CHECKED	TJM
DWG.	BY:2024 - BAH INVESTMENT, CRIMSON RIDGE DESIGN, CRIMSON RIDGE - COS.DWG

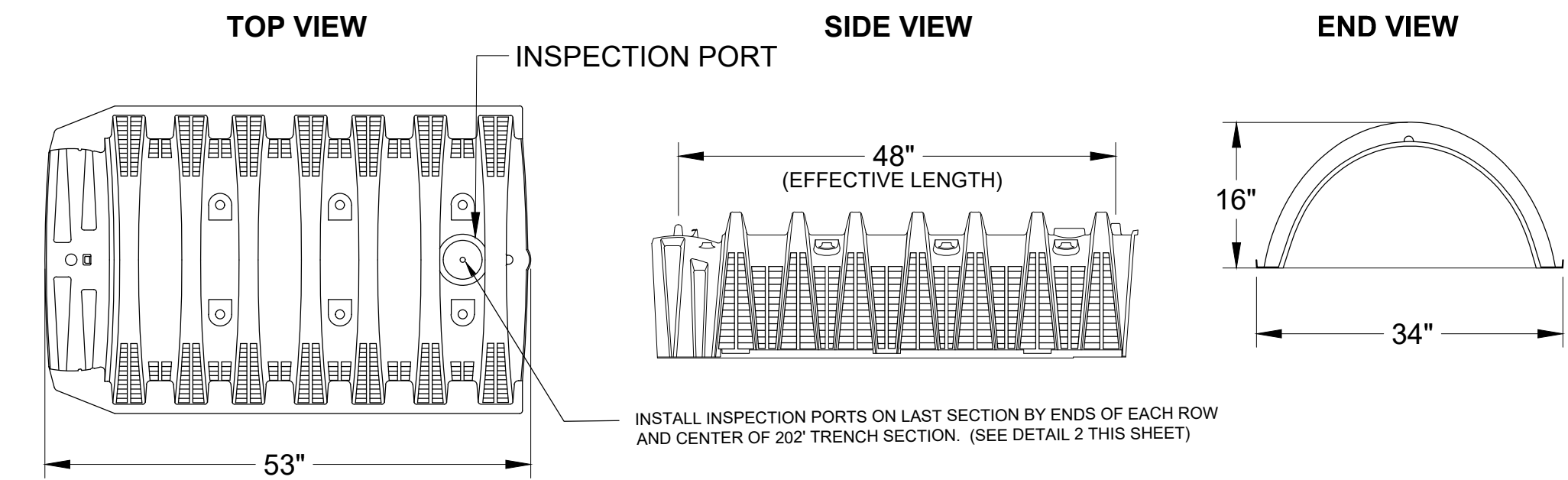


EFFLUENT + AIR POD DETAILS  
 THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
 1250 NORTH 5200 EAST  
 EDEN, WEBER COUNTY, UTAH

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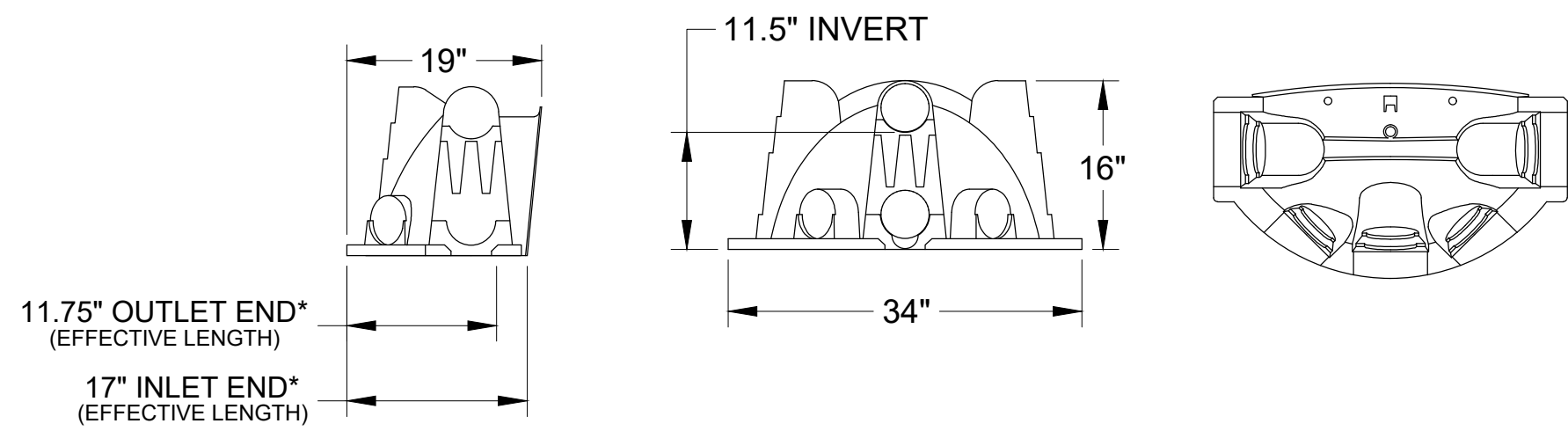


**INFILTRATOR WATER TECHNOLOGIES  
QUICK4 HIGH CAPACITY CHAMBER  
PRODUCT SPECIFICATIONS  
(NOT TO SCALE)**

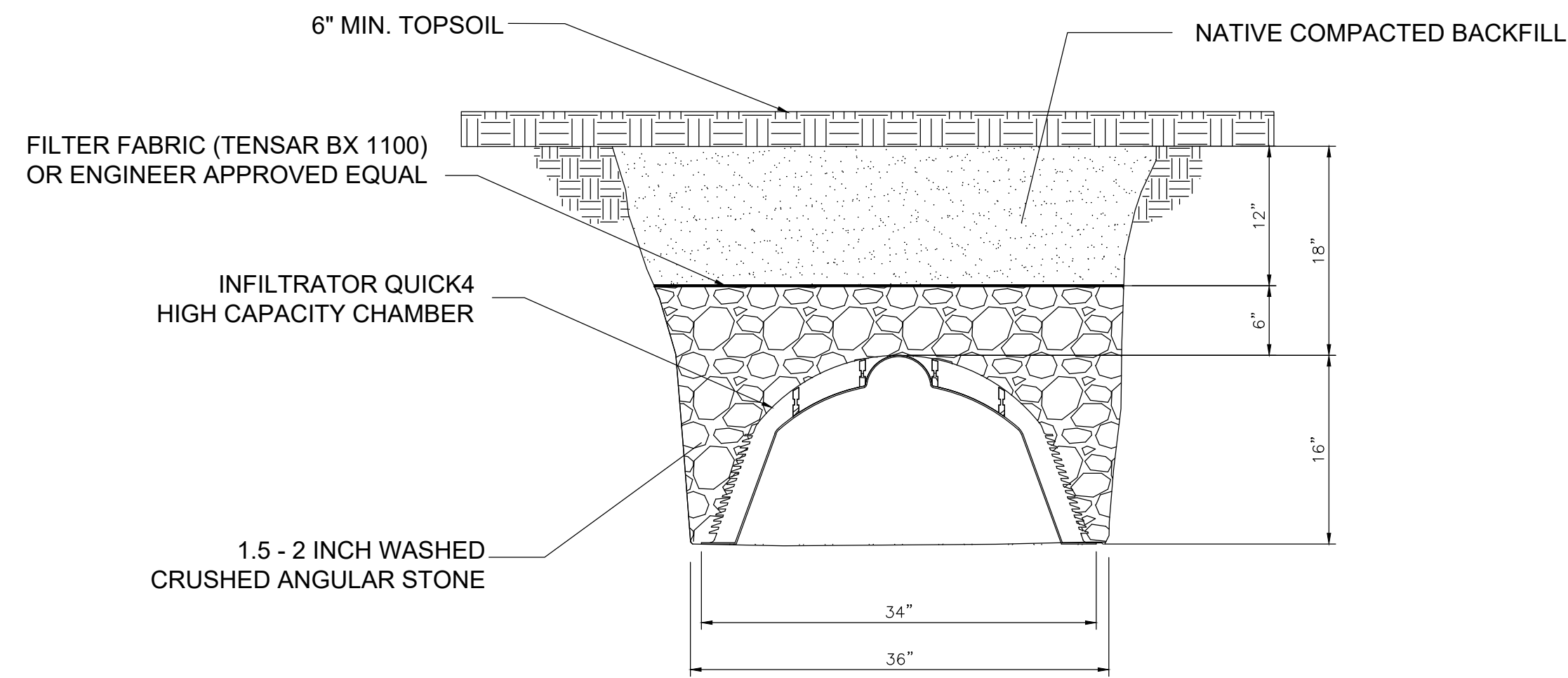


INSTALL INSPECTION PORTS ON LAST SECTION BY ENDS OF EACH ROW AND CENTER OF 20' TRENCH SECTION. (SEE DETAIL 2 THIS SHEET)

**QUICK4 HIGH CAPACITY MULTI-PORT END CAP**

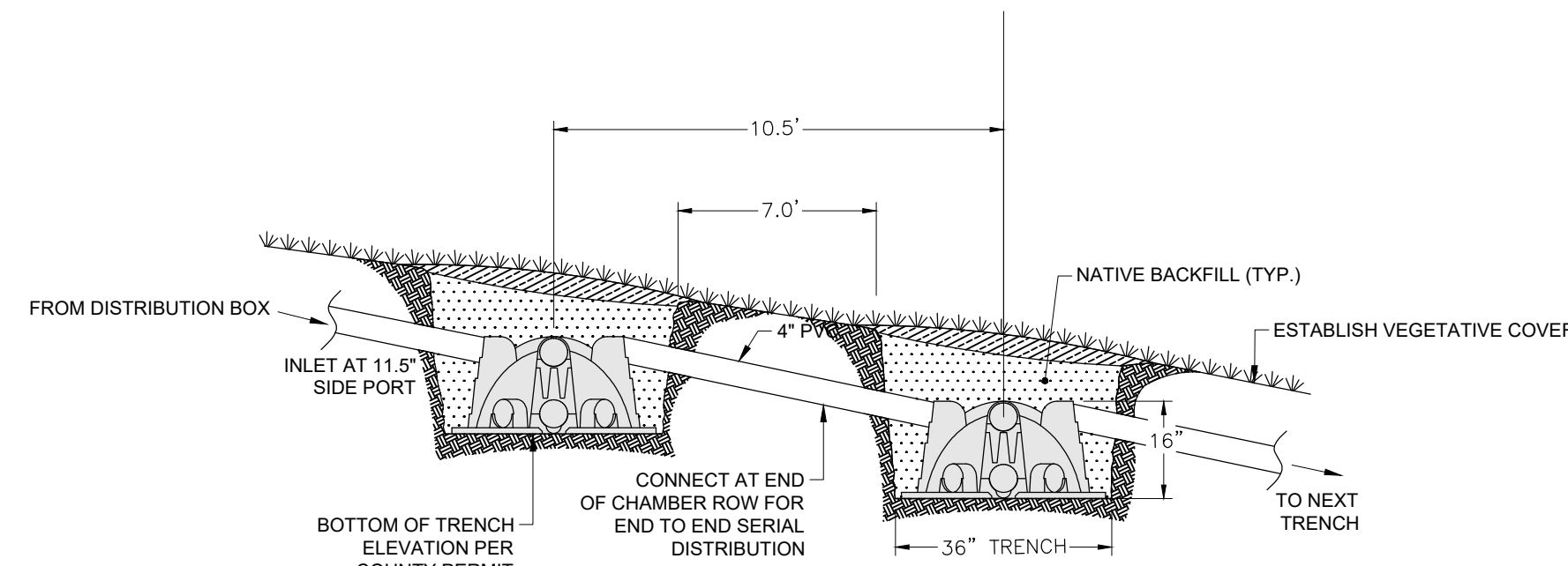


\*ALL VIEWS = INSTALLED LENGTHS.



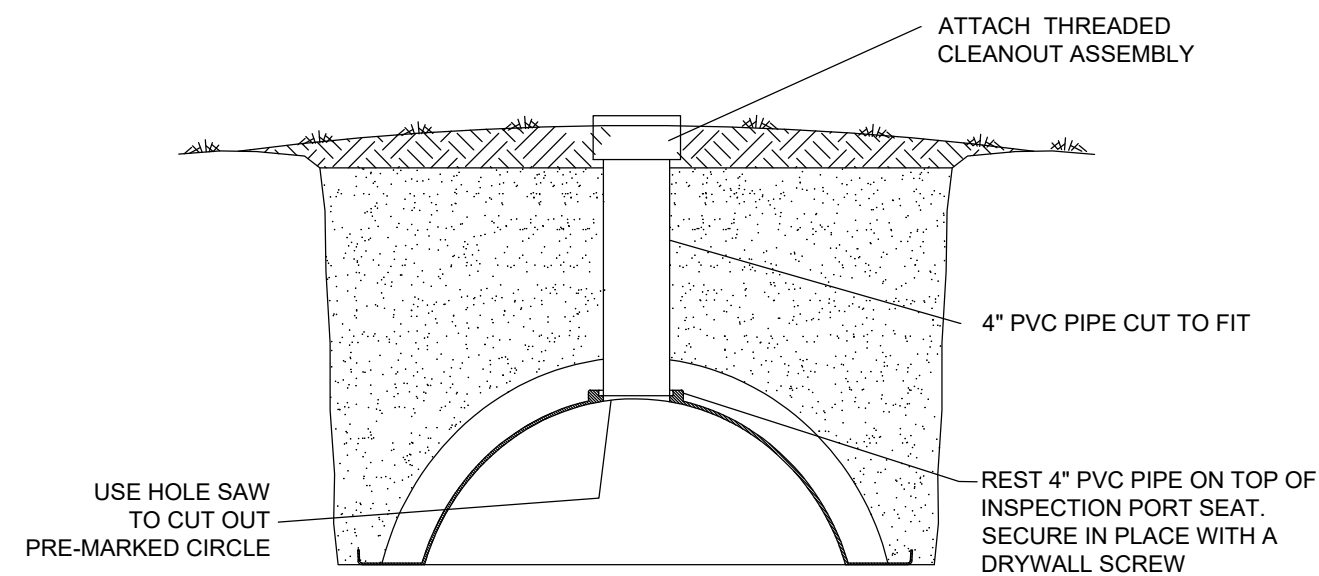
**CHAMBER SYSTEM  
TRENCH DETAIL  
(NOT TO SCALE)**

**1 INFILTRATION TRENCH DETAIL**  
Scale: (NOT TO SCALE)



SEE SHEET C7 FOR PLAN VIEW LENGTHS.  
CENTER TO CENTER SPACING PER STATE CODE.

**INFILTRATOR WATER  
TECHNOLOGIES  
QUICK4 HIGH CAPACITY  
CHAMBER  
SERIAL DISTRIBUTION TYPICAL  
DETAIL  
SECTION VIEW  
(NOT TO SCALE)**



**QUICK4 CHAMBERS  
INSPECTION PORT  
TYPICAL INSTALLATION DETAIL  
(Not to Scale)**

**2 CHAMBER CLEANOUT DETAIL**  
Scale: (NOT TO SCALE)

THIS PLAN SET IS BASED UPON THE EXPECTED FLOWS AND WASTE STRENGTHS FOR THE PURPOSE OF SERVING THE RESERVE AT CRIMSON RIDGE SUBDIVISION.

**EXPECTED INFLUENT CHARACTERISTICS:**

TYPE	AVERAGE mg/L	WEEKLY PEAK mg/L	RARELY EXCEEDS mg/L
BOD	150	250	500
TSS	40	75	150
TKN	65	75	150
FOG	20	25	30

ONCE THE EXPANDED FACILITY IS OPERATIONAL, THE WASTE STRENGTHS AND FLOWS TO THE FACILITY SHOULD BE MONITORED. IF ANY OF THE INFLUENT WASTE STRENGTHS OR FLOW EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THIS PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

DO NOT DISPOSE OF TOXINS OR CHEMICALS INTO SYSTEM. EXAMPLES: WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, RESTAURANT DEGREASERS AND CLEANSERS, AND OTHER WASTE PRODUCTS OR OTHER TOXINS.

BASED ON PERC RATE 53 MIN/IN  
APPLICATION RATE 0.4 GAL/SF PER TABLE 1 PAGE 8 GEOFLOW WASTE WATER DESIGN, INSTALLATION & MAINTENANCE GUIDELINES.

ABSORPTION APPLICATION RATES  
Q = 5.0 MIN/IN / (53 MIN/IN \* 0.5) = 0.68 GAL/SF

EXISTING TRENCH FIELD - PHASE 1  
7,177 LF

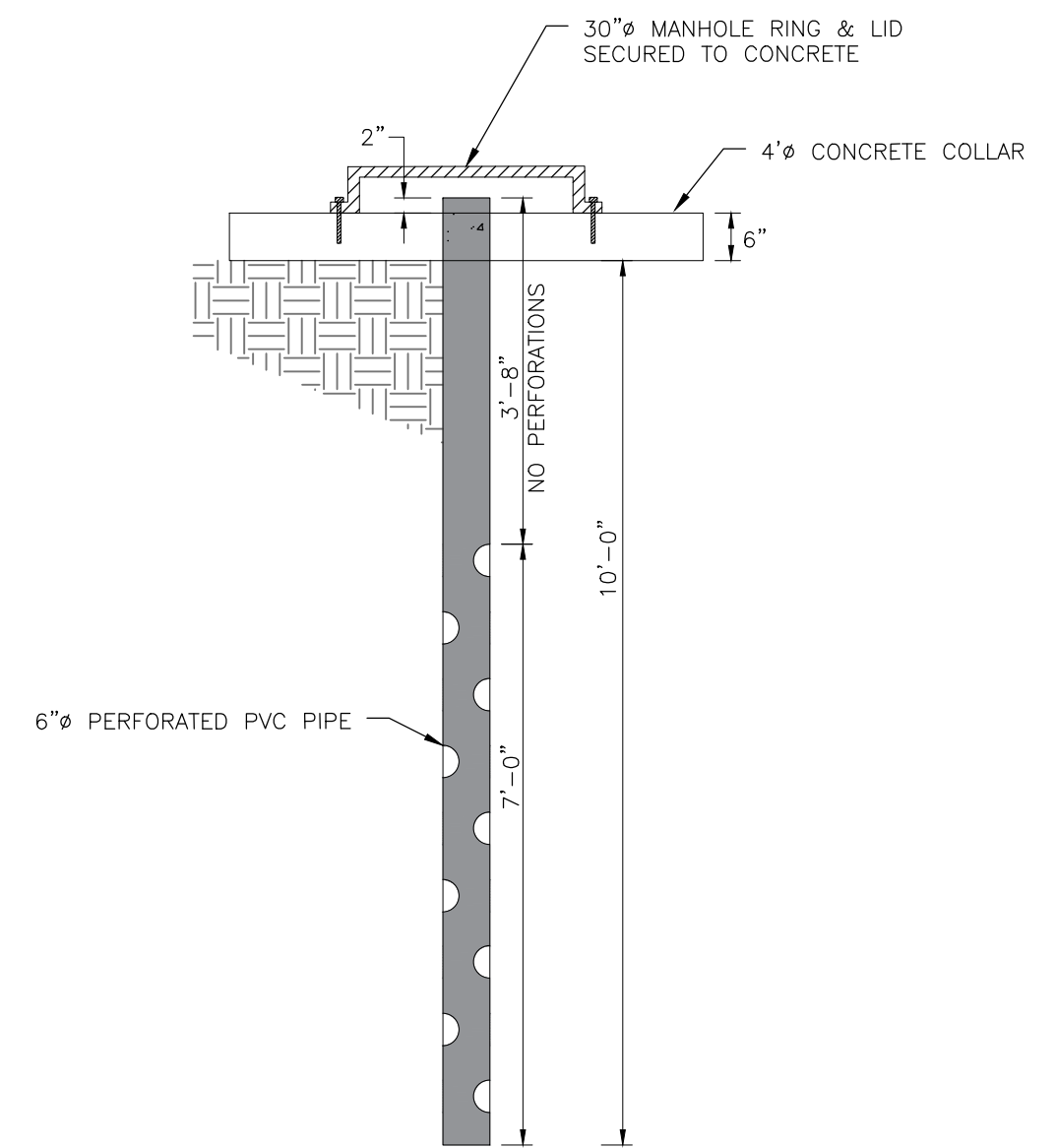
ABSORPTION FIELD TOTAL BUILD OUT (INCLUDES EX. PHASE 1, PHASE 2 & HARBOR VIEW ESTATES SUBDIVISION)  
76 LOTS (TOTAL BUILD OUT)  
76 LOTS @ 400 GAL/LOT/DAY = 30,400 GAL/DAY

APPROXIMATE APPLICATION RATES ABSORPTION FIELD  
Q = 5.0 MIN/IN / (53 MIN/IN \* 0.5) = 0.68 GAL/SF  
(BASED ON ORIGINAL PHASE 1 DESIGN REQUIREMENTS)

REQUIRED ABSORPTION FIELD AREA TRENCH  
30,400 GAL/DAY / 0.68 GAL/SF = 44,706 SF

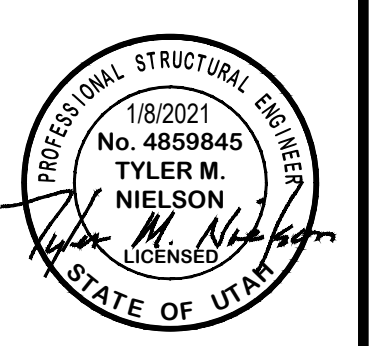
REQUIRED ABSORPTION TRENCH LENGTH  
44,706 SF / 3' = 14,901 LF OF TRENCH REQUIRED

14,933 LF OF TRENCH PROVIDED



**3 MONITORING / SAMPLING WELL**  
Scale: (NOT TO SCALE)

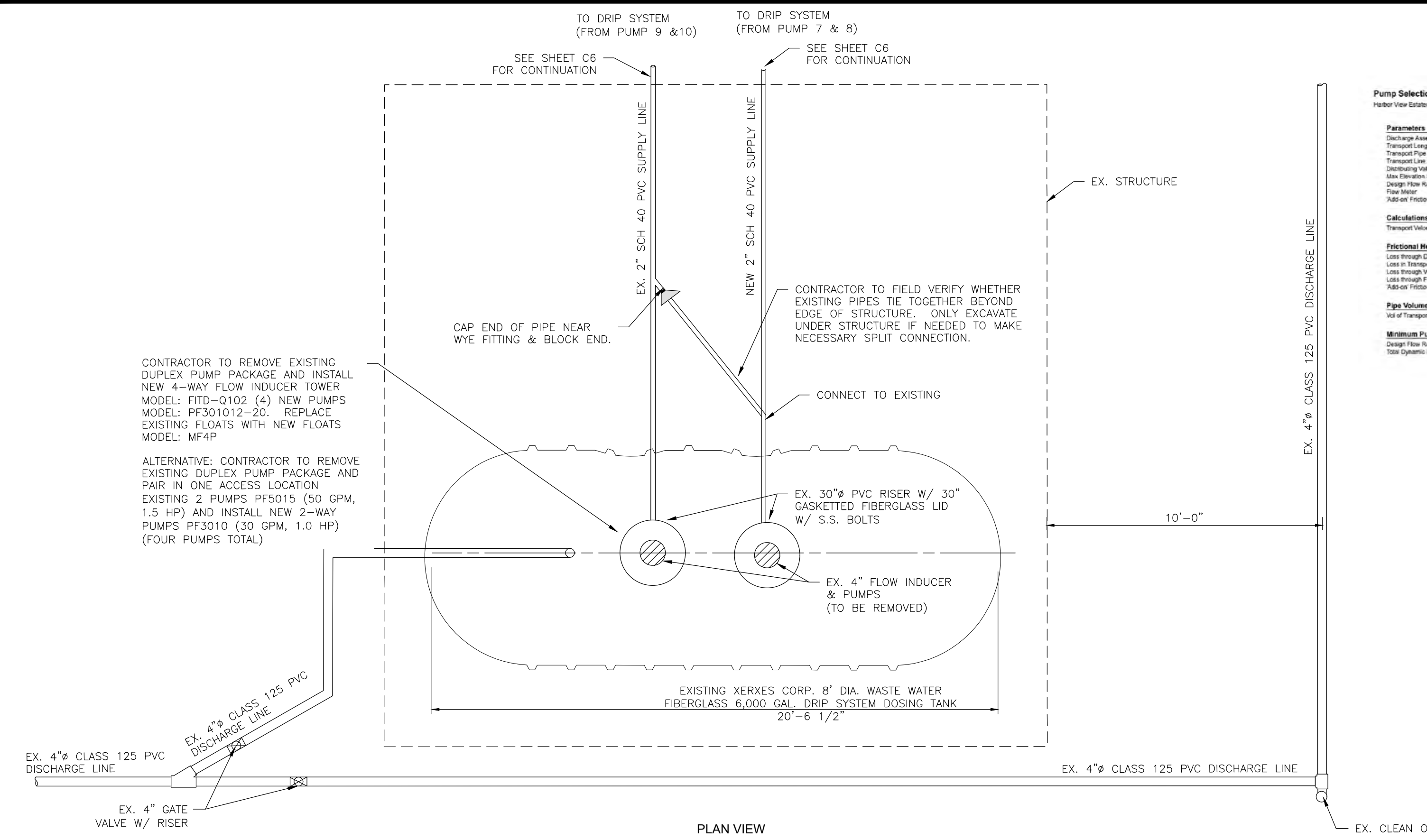
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CHECKED	TJM



EFFLUENT TREATMENT - ABSORPTION BED DETAILS  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

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5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801.476.0202 FAX: 801.476.0066





**Pump Selection for a Non-Pressurized System - Commercial Project**  
Harbor View Estates / Drip Field Calculations

Parameters	
Discharge Assembly Size	2.00 inches
Transport Length	2000 feet
Transport Pipe Class	40
Transport Line Size	2.00 inches
Distributing Valve Model	None
Min Elevation Lift	5 feet
Design Flow Rate	30 gpm
Flow Meter	None
*Abscn Friction Losses	48 feet

Calculations	
Transport Velocity	2.9 fpm

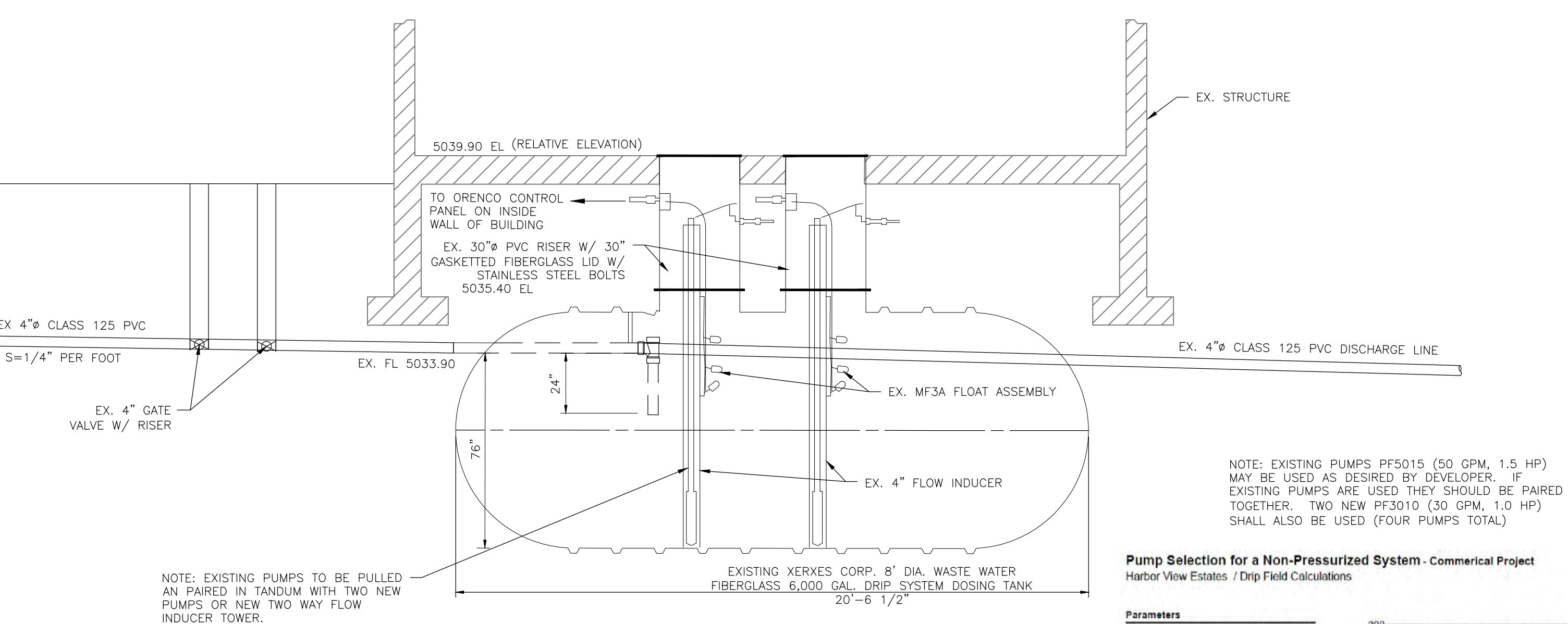
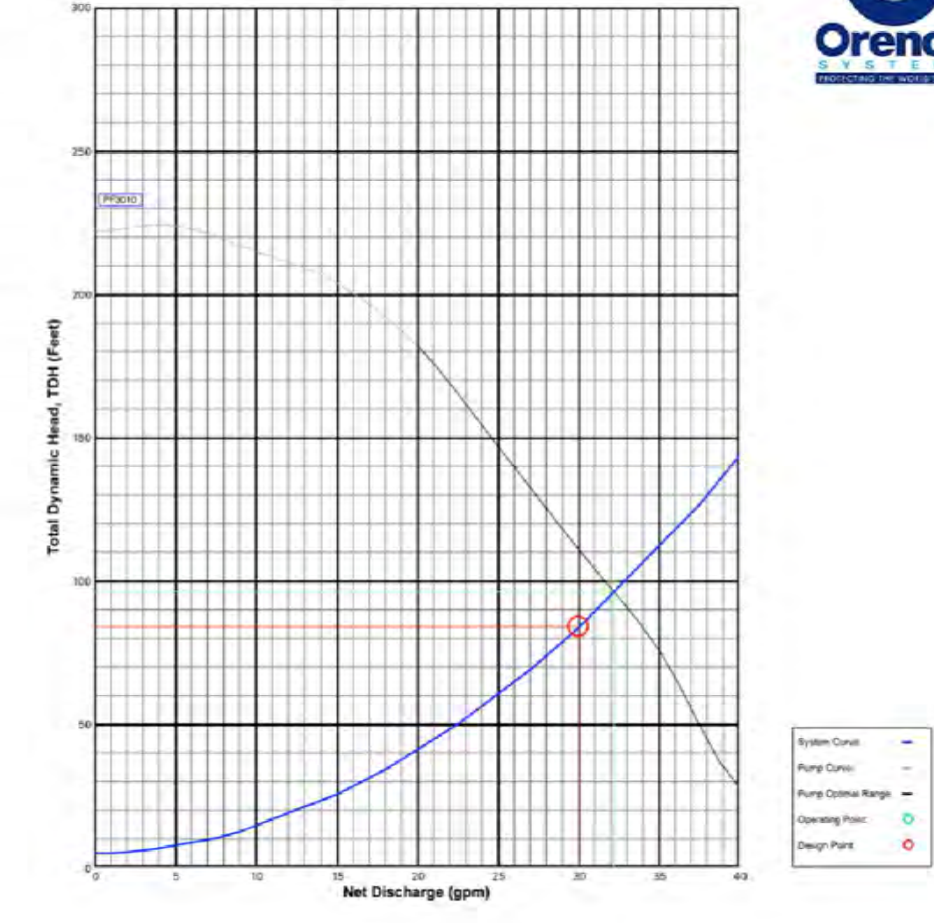
Frictional Head Losses	
Loss through Discharge	1.8 feet
Loss in Transport	31.1 feet
Loss through Valve	0.0 feet
Loss through Fittings	0.0 feet
*Abscn Friction Losses	48.0 feet

Pipe Volumes	
*Vol of Transport Line	348.6 gals

Minimum Pump Requirements	
Design Flow Rate	30.0 gpm
Total Dynamic Head	83.9 feet



**Pump Selection for a Non-Pressurized System - Commercial Project**  
Harbor View Estates / Drip Field Calculations

Parameters	
Discharge Assembly Size	2.00 inches
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Min Elevation Lift	5 feet
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Flow Meter	None
*Abscn Friction Losses	48 feet

Calculations	
Transport Velocity	2.9 fpm

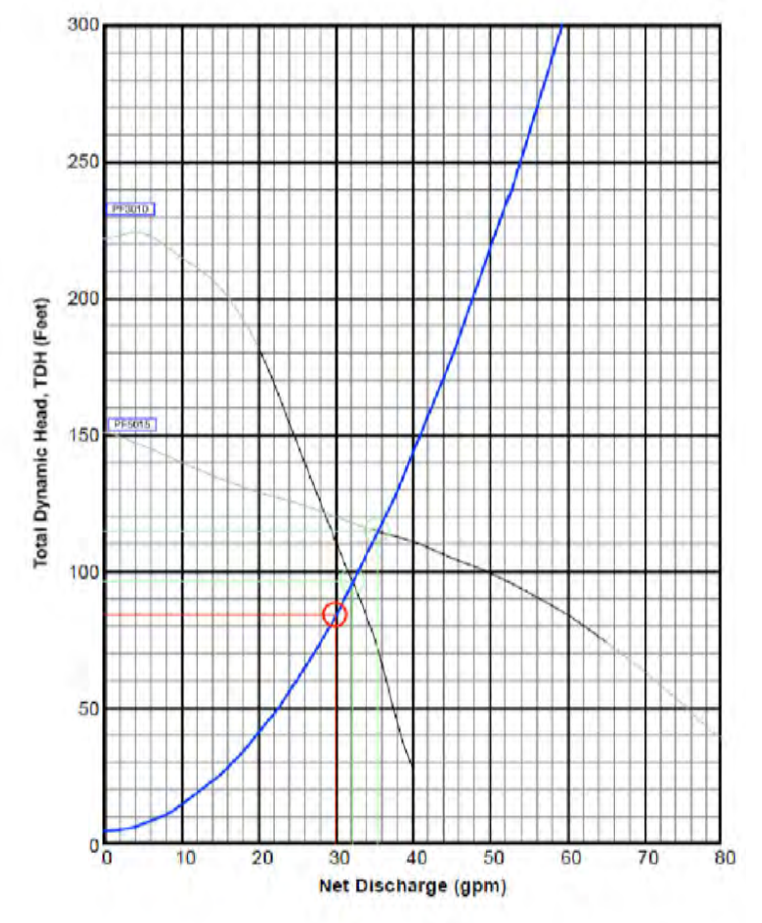
Frictional Head Losses	
Loss through Discharge	1.8 feet
Loss in Transport	31.1 feet
Loss through Valve	0.0 feet
Loss through Fittings	0.0 feet
*Abscn Friction Losses	48.0 feet

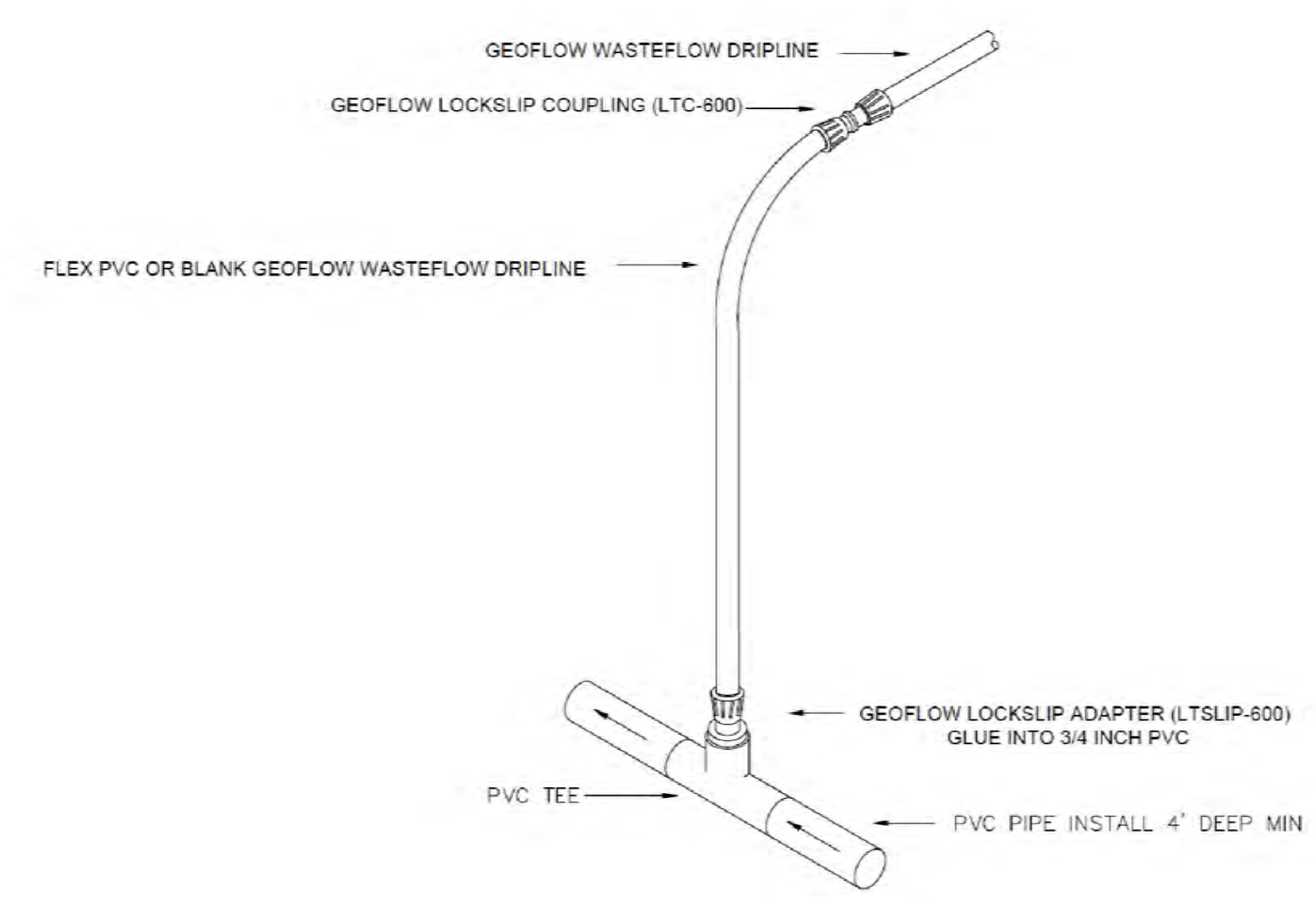
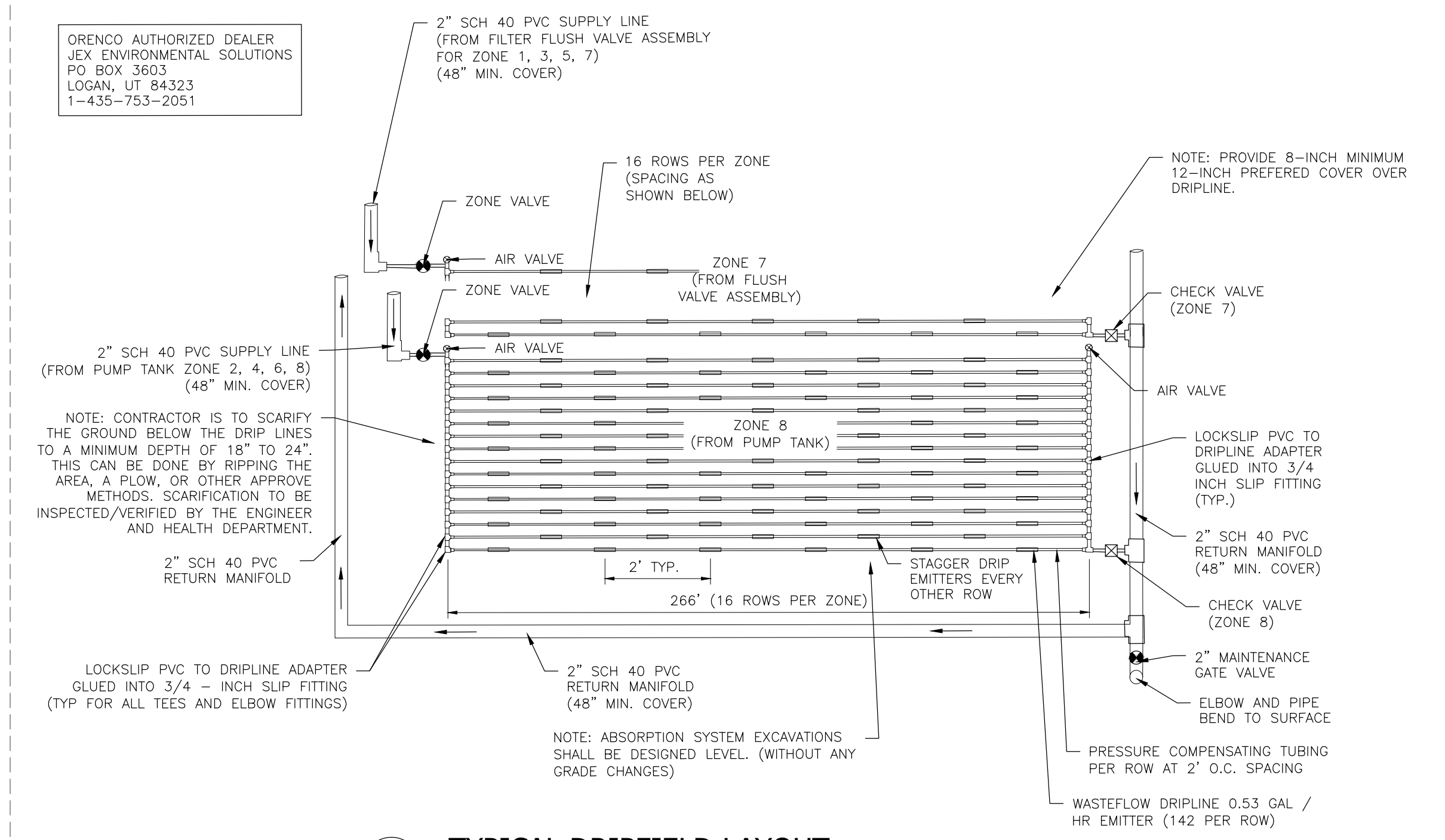
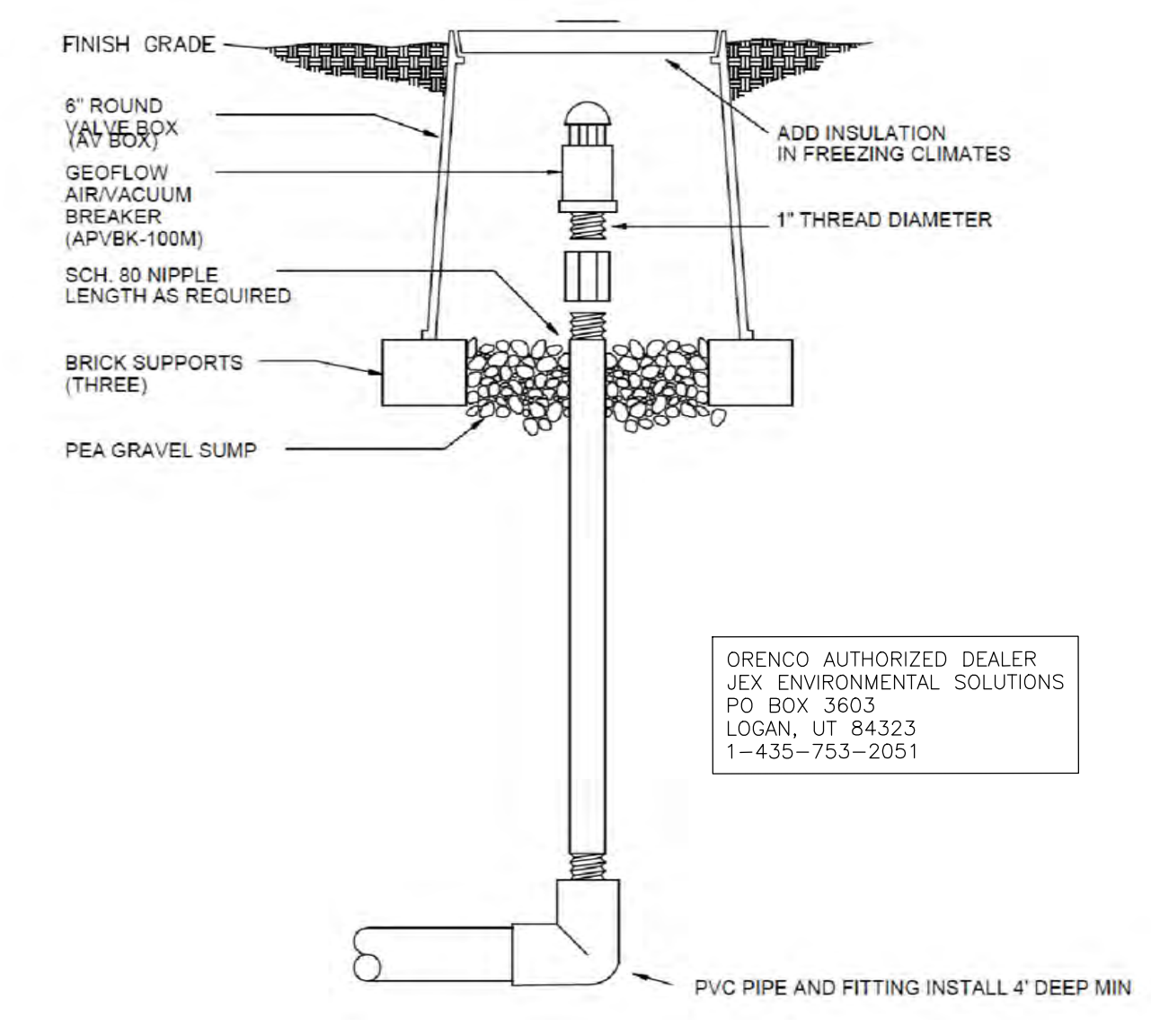
Pipe Volumes	
*Vol of Transport Line	348.6 gals

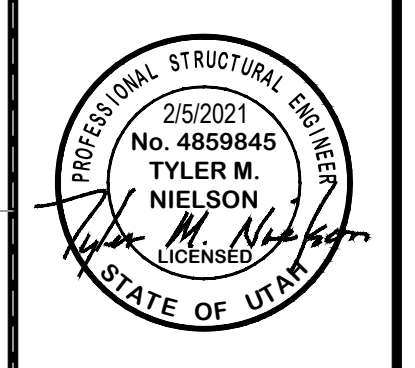
Minimum Pump Requirements	
Design Flow Rate	30.0 gpm
Total Dynamic Head	83.9 feet



**1 DRIP SYSTEM DOSING TANK (EXISTING)**  
Scale: (NOT TO SCALE)



SCALE	NTS
DATE	2/5/2021
DESIGN	BSO/MS
DRAWN	BSO/MS
CHECKED	TJM
DATE	
REVISIONS	DESCRIPTION

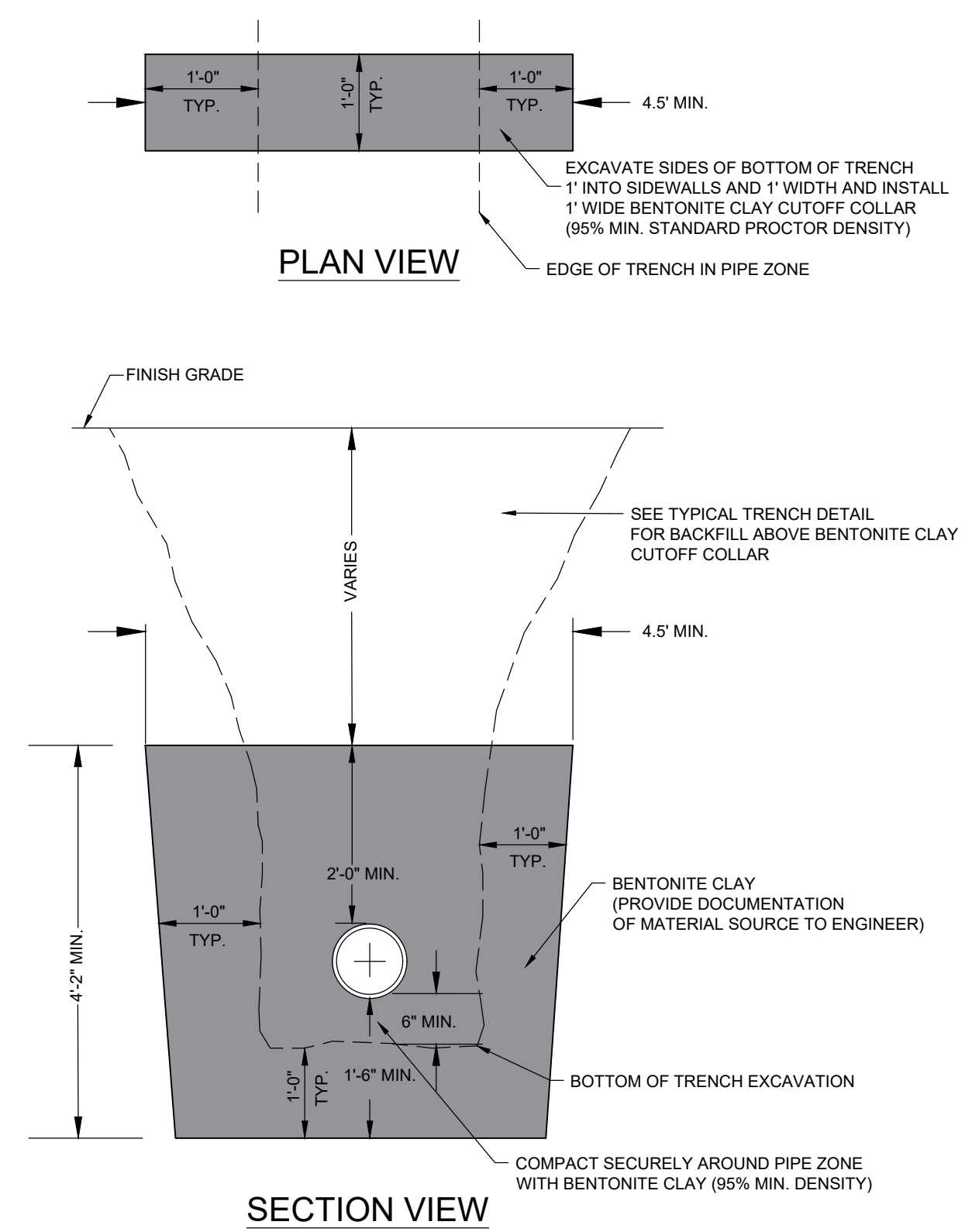


EFFLUENT TREATMENT FACILITY DRIP SYSTEM DETAILS  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

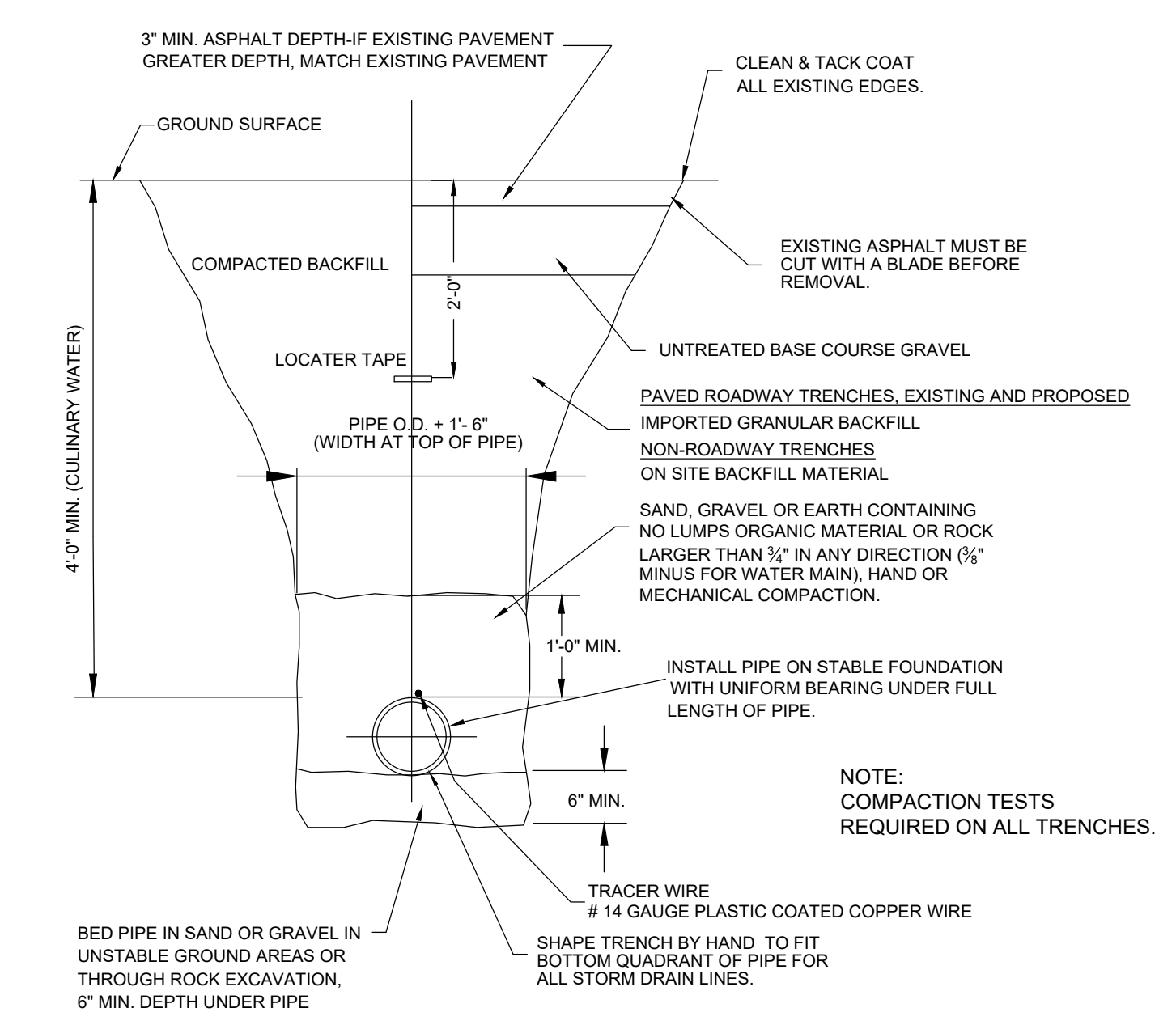
**GARDNER ENGINEERING**  
CIVIL-LAND PLANNING  
MUNICIPAL-LAND SURVEYING  
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801-476-0202 FAX: 801-476-0066



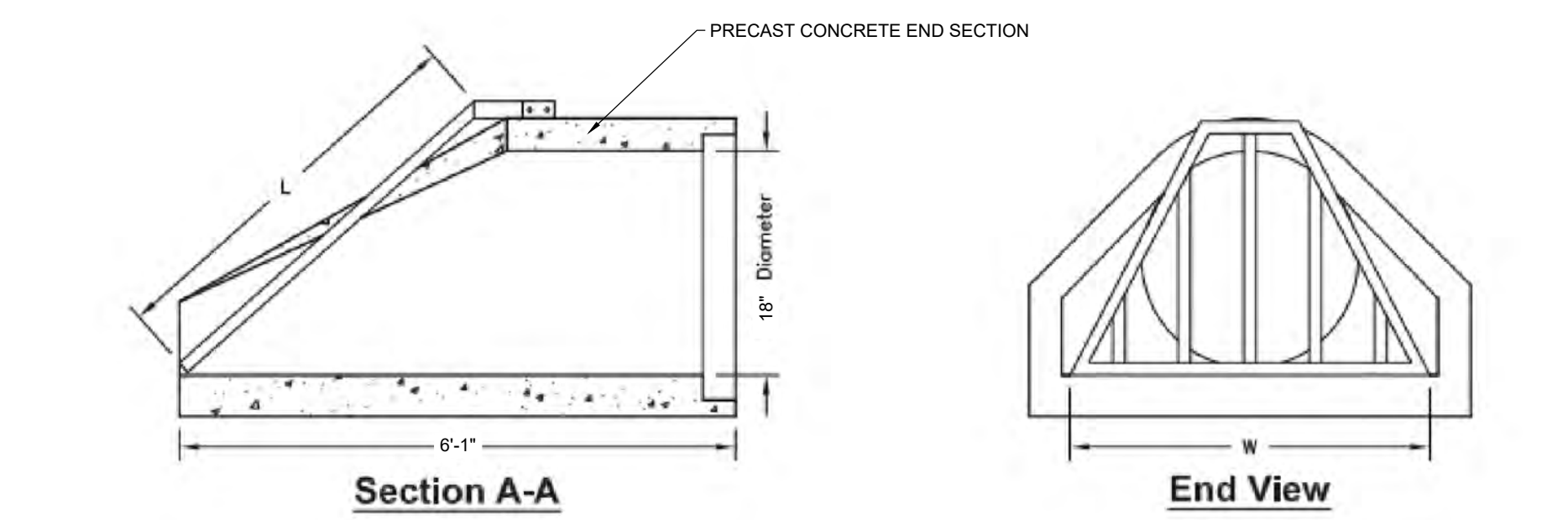
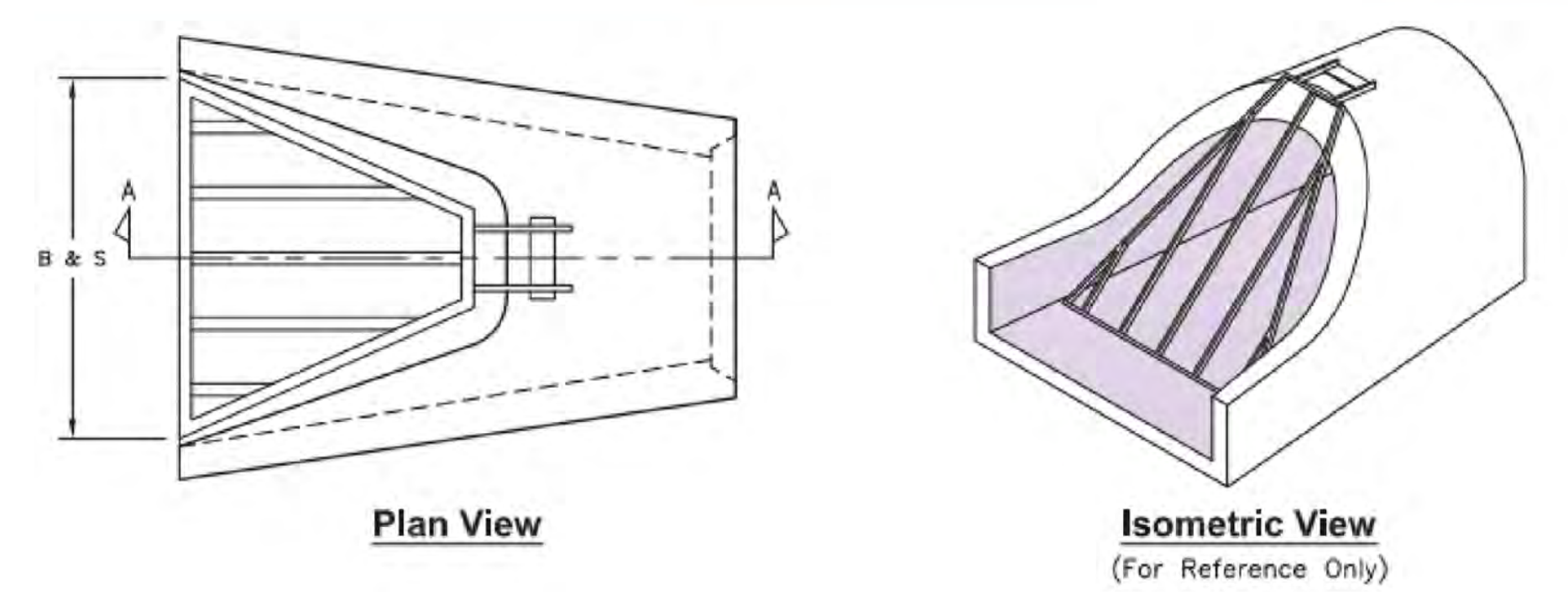




**1 CUTOFF TRENCH DETAIL**  
Scale: (NOT TO SCALE)

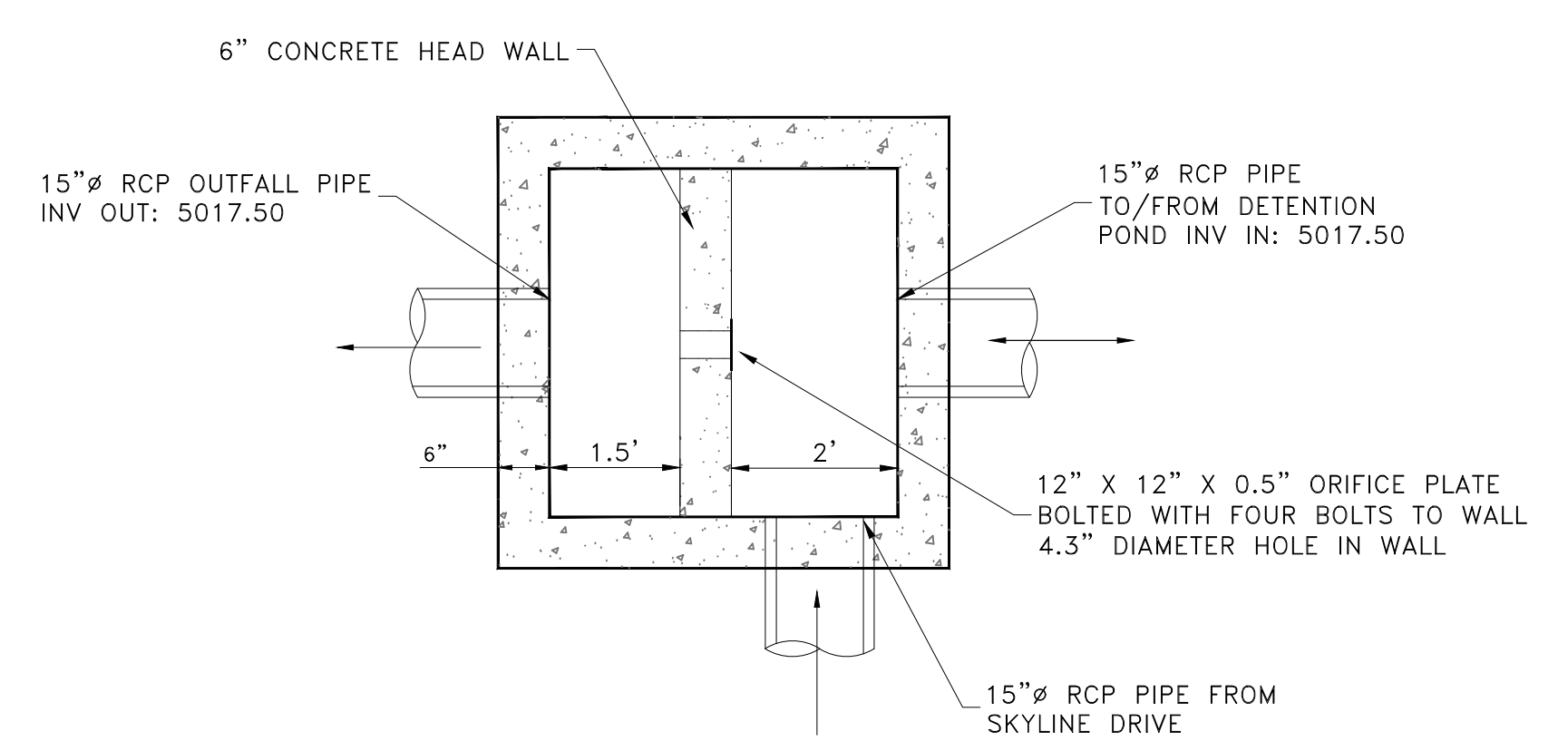


**TYPICAL TRENCH DETAIL**  
Scale: (NOT TO SCALE)

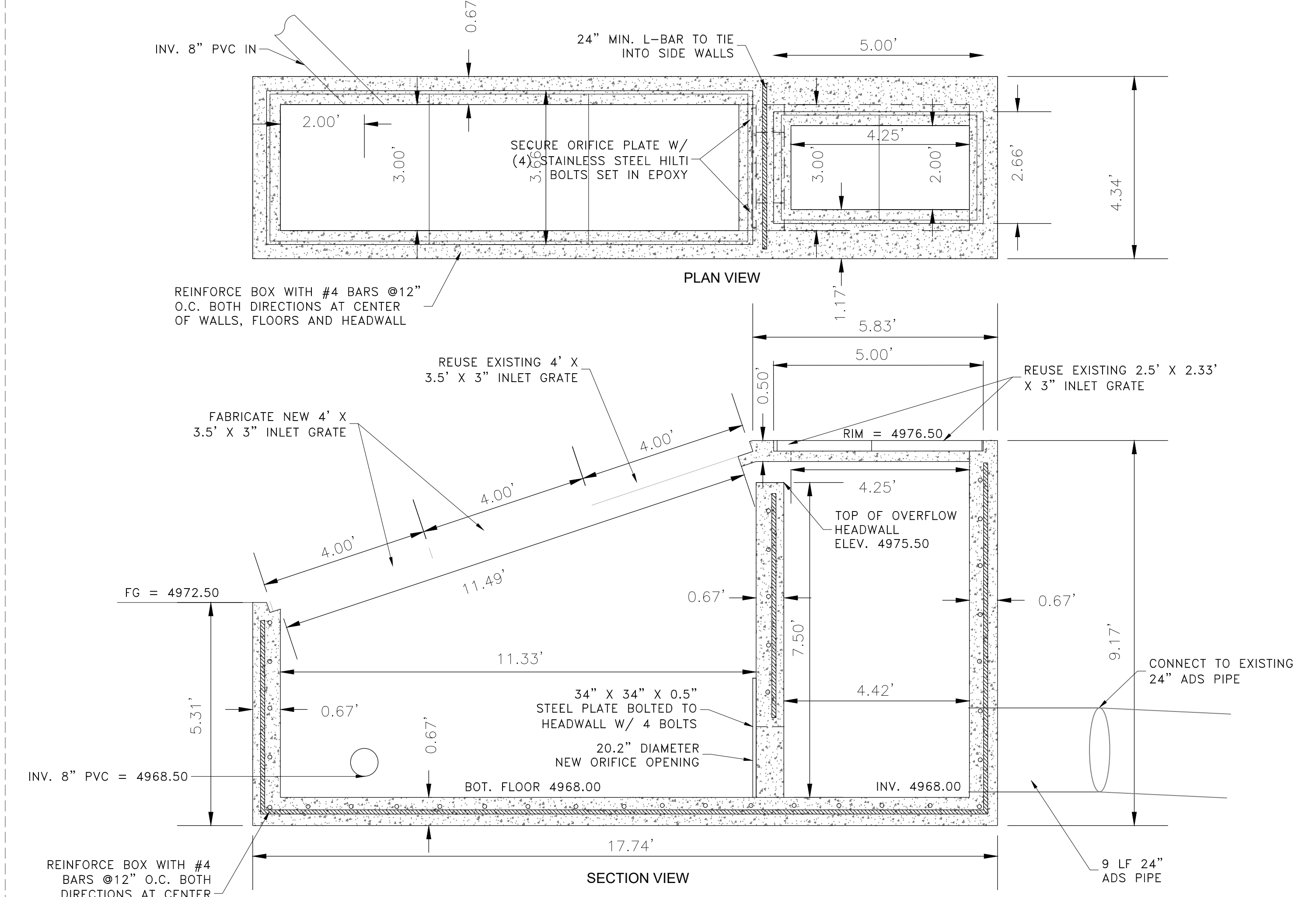
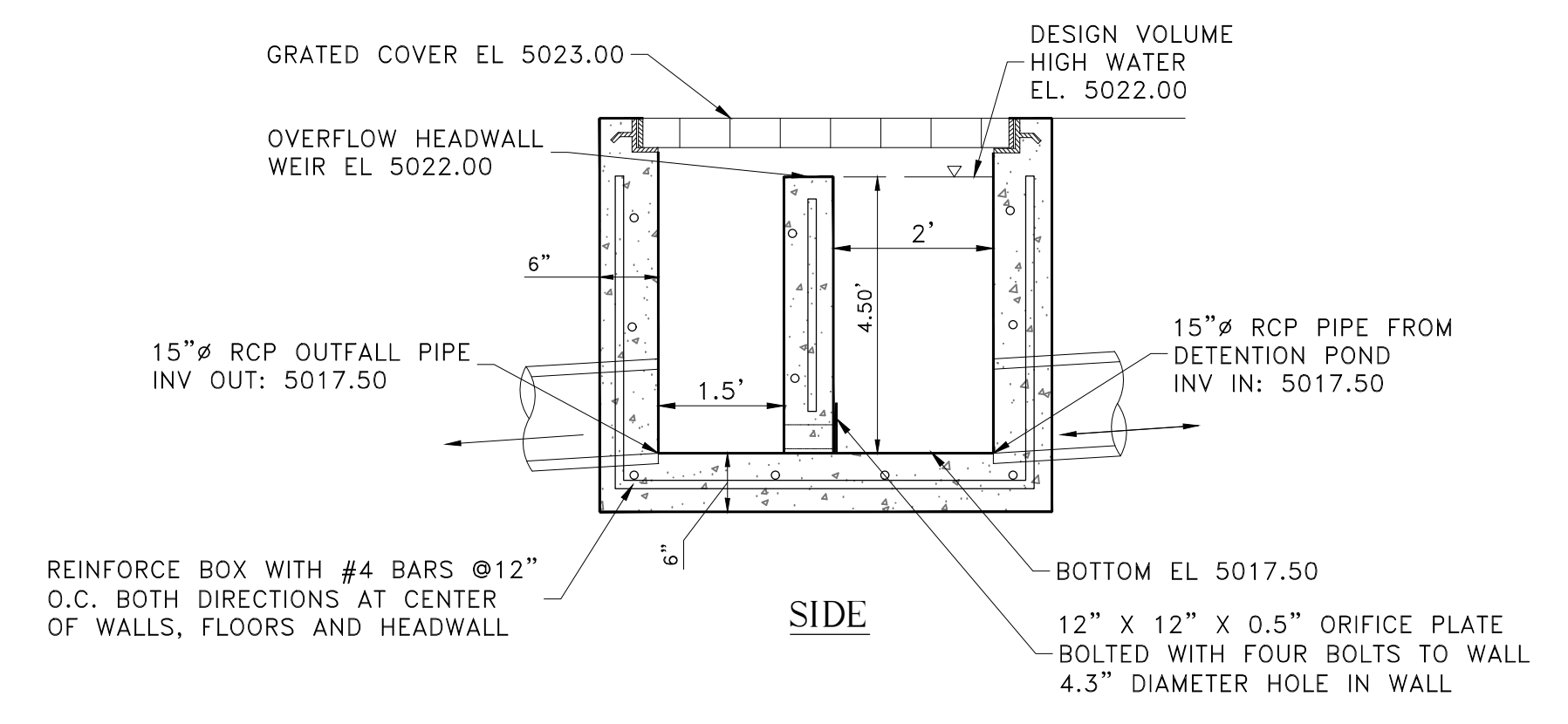
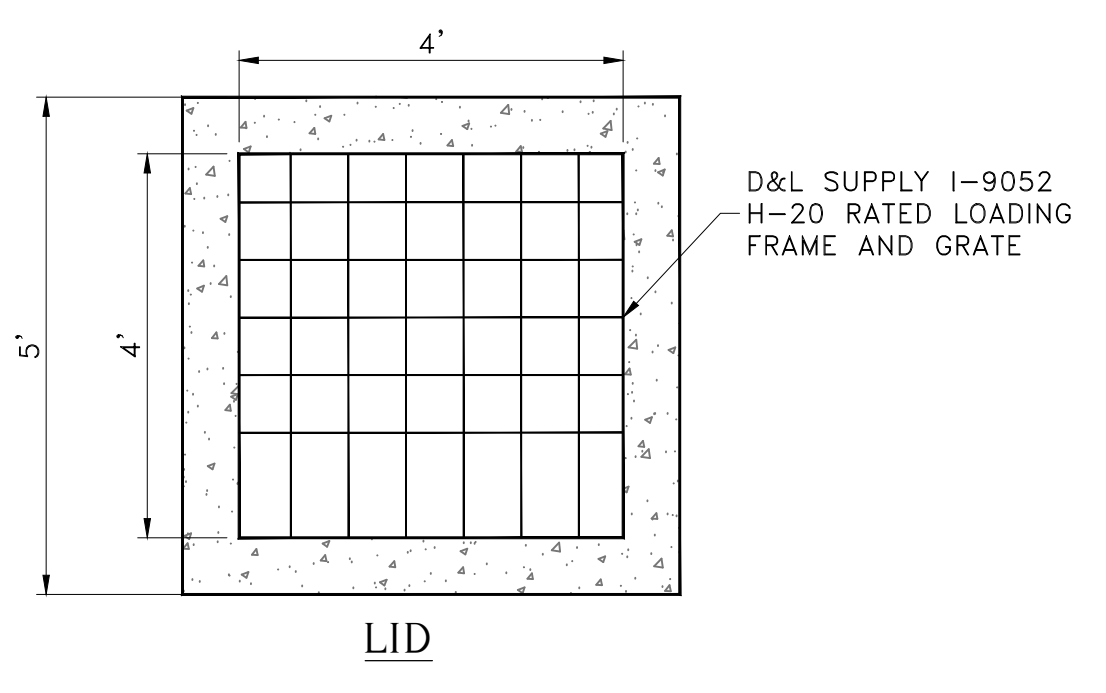


Pipe Diameter	Trash Rack Width W (in.)	Trash Rack Length L (in.)	Total # of Bars B	Bar Spacing S (in.)
12"	21.00"	30.00"	3	6.0"
15"	28.00"	32.00"	3	6.5"
18"	33.00"	34.00"	3	8.0"

**2 FLARED END SECTION**  
OR ENGINEER APPROVED EQUAL Scale: (NTS)



**3 4' x 4' STORM DRAIN OUTLET CONTROL BOX (UPPER DETENTION POND)**  
Scale: (NOT TO SCALE)



**4 OUTLET CONTROL BOX (LOWER DETENTION POND)**  
Scale: (NOT TO SCALE)

**MISC. DETAILS**

THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

**GARDNER ENGINEERING**  
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MUNICIPAL-LAND SURVEYING

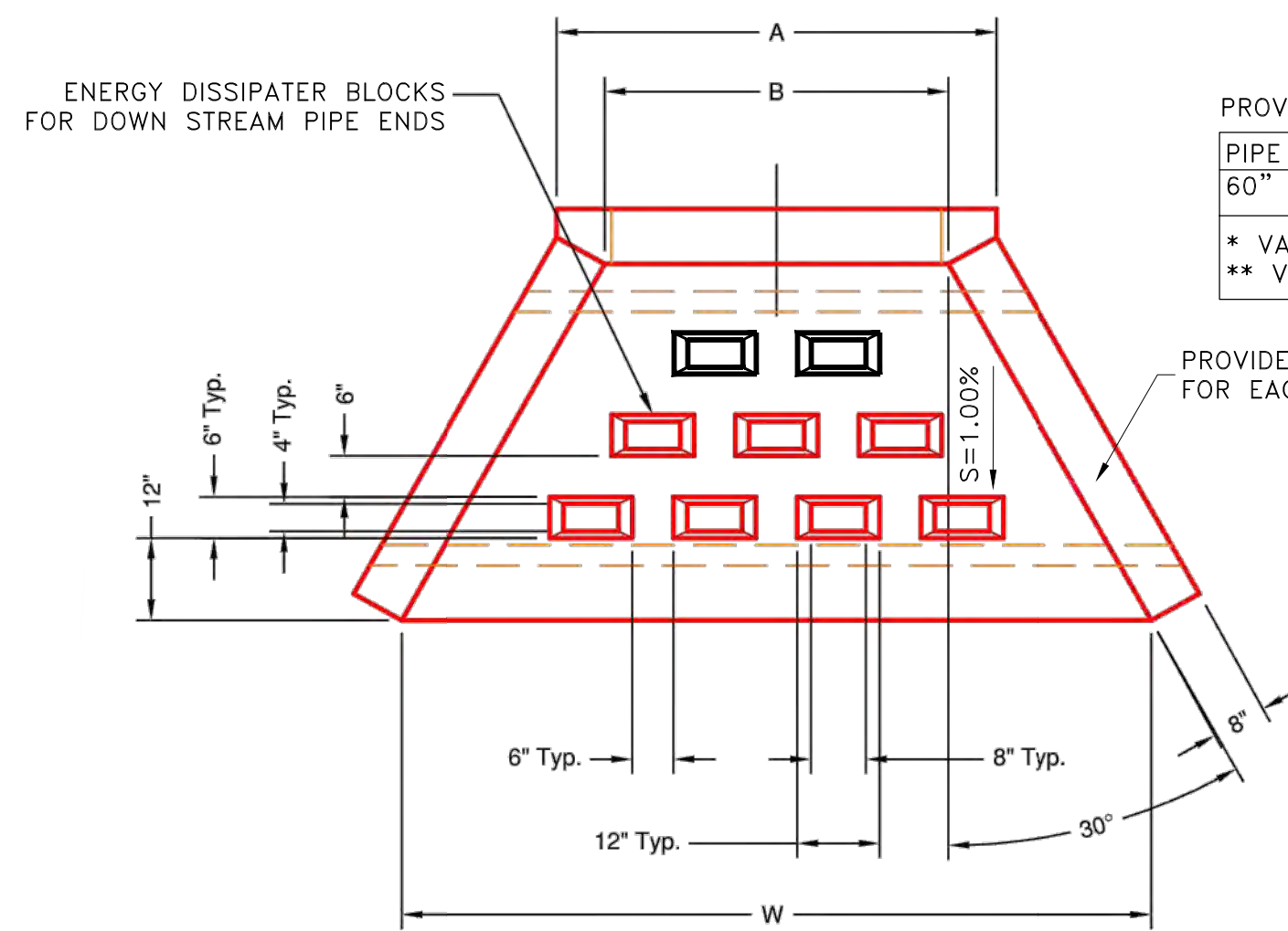
5150 SOUTH 375 EAST OGDEN, UT  
OFFICE: 801.476.0202 FAX: 801.476.0066

SCALE: NTS  
DATE: 1/8/2021  
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CHECKED: TMM  
DWG: 815208 - 884 INVESTMENT, CRIMSON RIDGE, CRIMSON RIDGE - COS.DWG

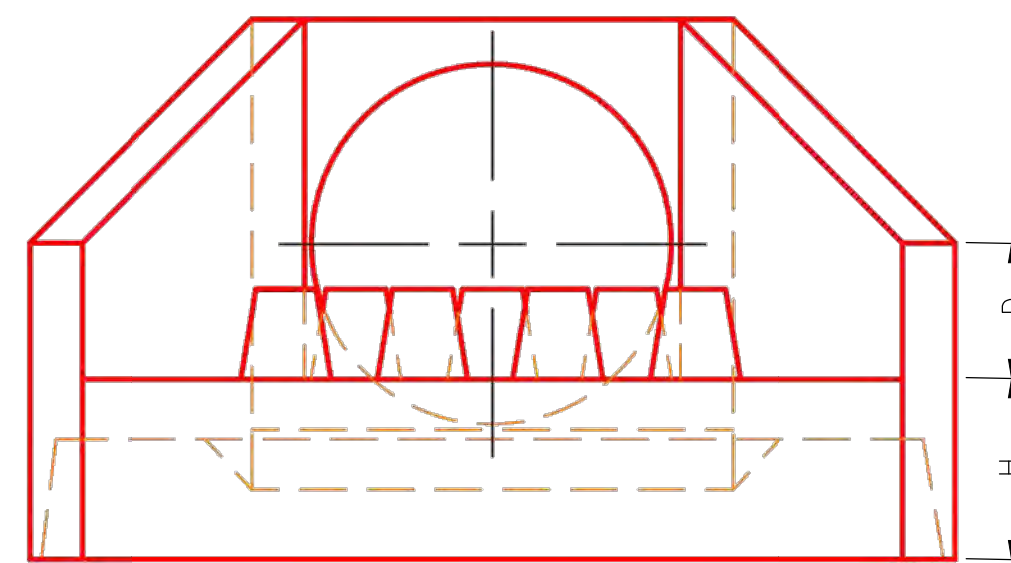
PROFESSIONAL STRUCTURAL ENGINEER  
1/8/2021  
No. 4859845  
TYLER M. NIELSON  
LICENSED  
STATE OF UTAH

D7





**PLAN VIEW**



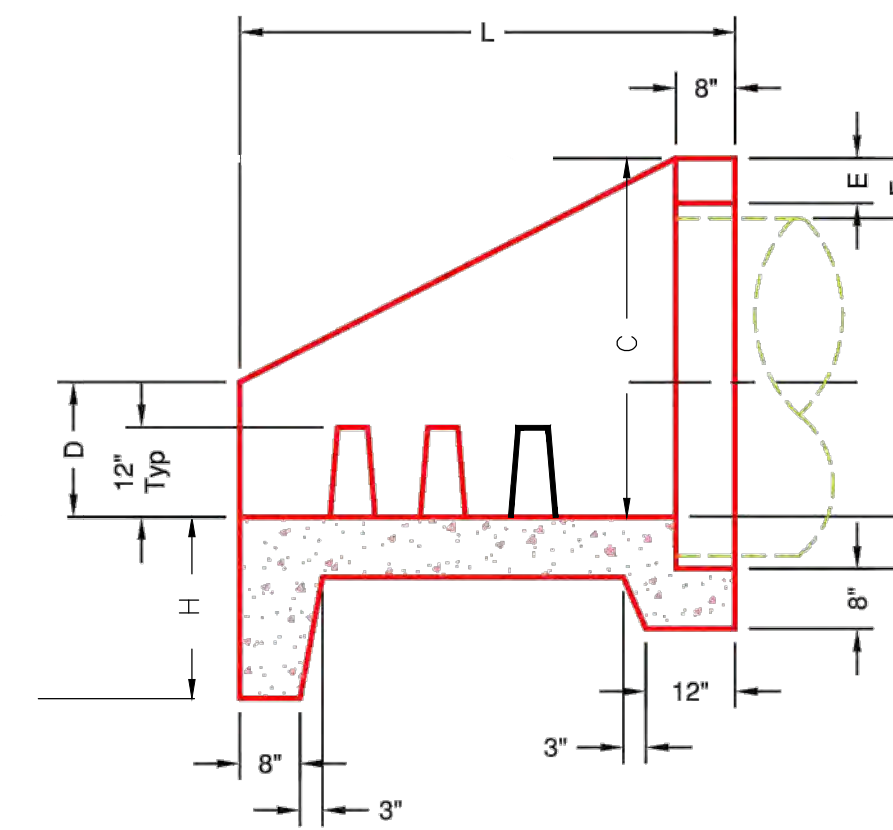
**FRONT VIEW**

PROVIDE OLDCASTLE PRECAST (OR CAST IN PLACE)

PIPE SIZE	HOLE SIZE	W	L	H	A	B	C	D	E	F	G
60" RCP	76"	*	**	24"	105"	96"	86"	33"	20"	26"	6"

\* VARIES  
\*\* VARIES SEE PROFILE SHEET FOR DIMENSIONS

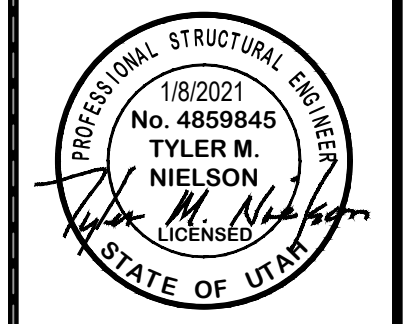
PROVIDE 2 ROWS 12-INCH O.C. EACH WAY NO. 5 BAR FOR EACH FACE 2.5-INCH MIN. CLEAR FROM OUTER EDGE



**SECTION A-A**

1 60-INCH PIPE HEADWALL DETAIL  
Scale: (NOT TO SCALE)

REVISIONS	
DATE	DESCRIPTION



MISC. DETAILS  
THE RESERVE AT CRIMSON RIDGE CLUSTER SUBD. PHASE 2  
1250 NORTH 5200 EAST  
EDEN, WEBER COUNTY, UTAH

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