

- 1. CONTRACTOR IS RESPONSIBLE TO VERIFY LOCATIONS AND POTHOLE ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK IN ANY ZONE. ALL UNDERGROUND UTILITIES ARE APPROXIMATE ONLY.
- 2. ALL WORK AND MATERIALS SHALL COMPLY WITH SANDY CITY STANDARD PLANS, GENERAL NOTES AND SPECIFICATIONS. CONTRACTOR MUST FOLLOW THE 2017 APWA STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE DIRECTED BY CITY STANDARDS, SPECIFICATIONS OR CITY ENGINEER. A COPY MAY BE OBTAINED AT UTAHAPWA.NET.
- 3. A RIGHT OF WAY ENCROACHMENT PERMIT MUST BE OBTAINED FROM SANDY CITY PRIOR TO DOING ANY WORK IN THE PUBLIC RIGHT OF WAY.
- 4. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MOST CURRENT SANDY CITY STANDARDS. ROCKY MOUNTAIN POWER STANDARDS, AND N.E.C. (NATIONAL ELECTRIC CODE).
- 5. NO CHANGE IN THE DESIGN OF UTILITIES AS SHOWN WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF SANDY CITY, SANDY SUBURBAN IMPROVEMENT DISTRICT, OR OTHER AUTHORITY HAVING JURISDICTION OVER THAT UTILITY. UTILITY SERVICE CONTACTS ARE:

SANDY CITY: LENNIE CHANTHAPHUANG E-MAIL: lennie@sandv.utah.gov SANDY SUBURBAN IMP DIST: SHELBY BOLLINGER TELEPHONE: 801-561-7662 DOMINION ENERGY (GAS): BEVERLY ELDREDGE TELEPHONE: 801-324-3964 **ROCKY MTN POWER:** 'BUILDER'S HOTLINE' TELEPHONE: 801-469-3981 **CENTURY LINK:** MERRIE CHASE TELEPHONE: 801-974-8171 COMCAST CABLE: ELYSIA VALDEZ TELEPHONE: 801-401-3017

6. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL IN ACCORDANCE WITH THE SANDY CITY STANDARDS. CONTRACTOR SHALL WET DOWN ALL DRY MATERIALS TO PREVENT BLOWING DUST AND REMOVE ALL RUBBISH TO PREVENT WIND SCATTERING.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO ADJACENT SURFACE IMPROVEMENTS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF OR DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.

8. ALL EXISTING ASPHALT TO BE CUT SHALL BE SAWCUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION. ASPHALT PAVEMENT STRUCTURE SHALL BE REPLACED WITH THE EQUIVALENT PAVEMENT STRUCTURE REMOVED, OR A MINIMUM OF 4 INCH ASPHALT SURFACE OVER 9 INCH UNTREATED BASE COURSE OVER A PREPARED SUBGRADE.

9. REFER TO ELECTRICAL SITE PLAN FOR ELECTRICAL AND COMMUNICATIONS SERVICE CONNECTIONS.

10. ALL STORM DRAIN CONDUITS AND BOXES SHALL BE CONSTRUCTED WITH WATERTIGHT JOINTS AND CONNECTIONS.

SANDY SUBURBAN IMPROVEMENT DISTRICT NOTES:

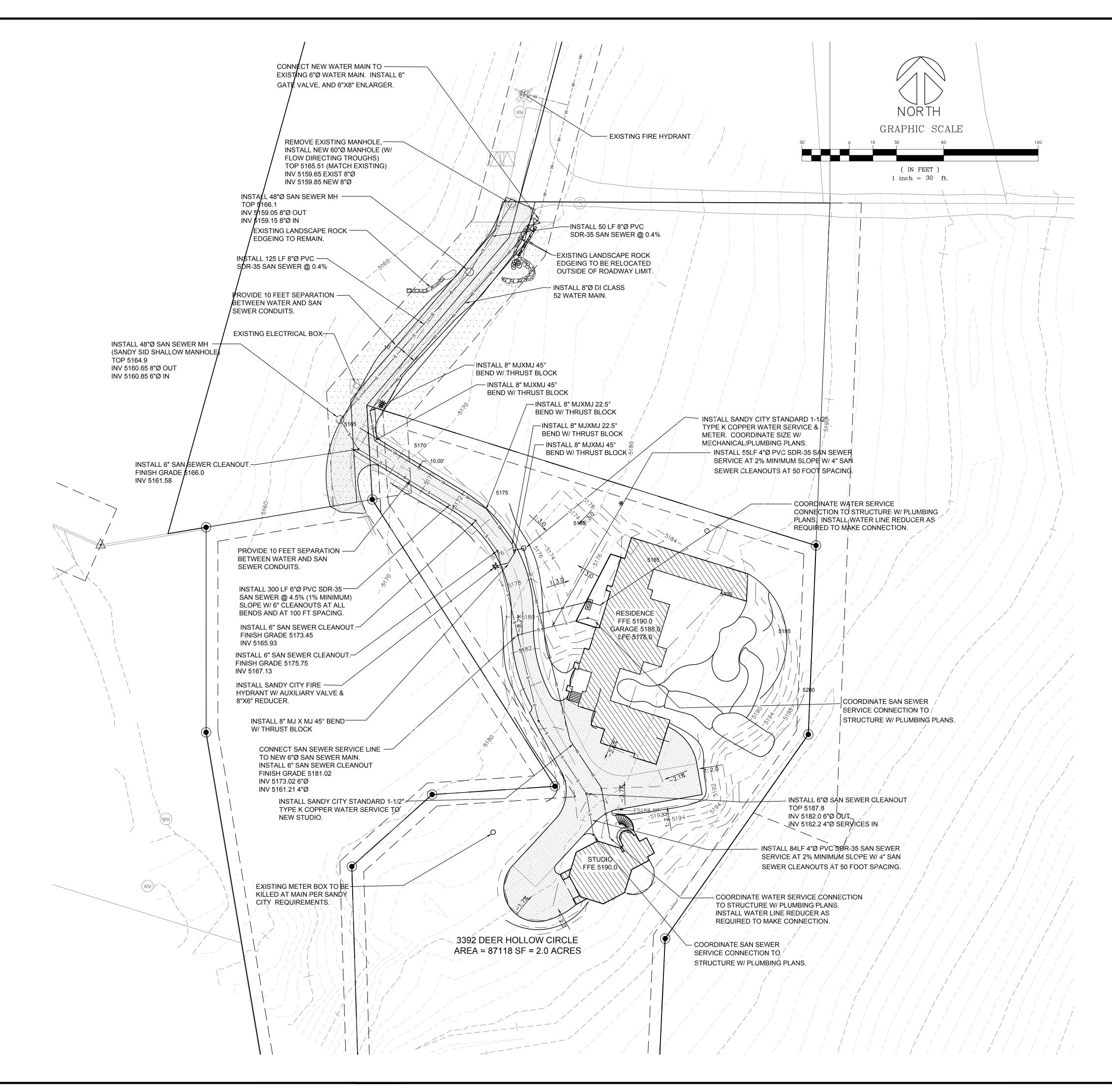
- 1. ALL SANITARY SEWER IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH SANDY SUBURBAN IMPROVEMENT DISTRICT (SSID)DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS. COPIES OF THE DISTRICT STANDARDS AND SPECIFICATIONS ARE AVAILABLE AT THE DISTRICT OFFICE, 8855 SOUTH 700 WEST, SANDY, UTAH 84070.
- 2. VIDEO INSPECTION, AIR TESTS, VACUUM TESTS OF MANHOLES AND DEFLECTION TESTS SHALL BE PERFORMED ON ALL INSTALLED SEWER IMPROVEMENTS PRIOR TO FINAL ACCEPTANCE. ADDITIONAL TESTS MAY BE REQUIRED BY THE DISTRICT ENGINEER OR INSPECTOR. DEFECTS DESIGNATED BY THE DISTRICT ENGINEER OR INPSECTOR SHALL BE REPAIRED AT NO COST TO THE DISTRICT PRIOR TO ACCEPTANCE OF THE SEWER IMPROVEMENTS.
- 3. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING SANITARY SEWER MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW SEWER LINES.

WATER NOTES:

- 1. NOTIFY SANDY CITY PUBLIC UTILITIES INSPECTOR ROY THACKER, WILLIS BILBREY, OR MICKEY TAYLOR, 801-568-7280, AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING ANY CONSTRUCTION.
- 2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REVISION OF THE SANDY CITY STANDARD SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION AND/OR OTHER REQUIREMENTS AS SET FORTH IN THE FINAL APPROVAL LETTER ESTABLISHED FOR THE DEVELOPMENT. SPECIFICATIONS AND DETAILS CAN BE OBTAINED AT http://sandy.utah.gov/government/public-works/standard-specifications.html OR FROM
- 3. LOCATE WATER LINE 4' OFF LIP OF GUTTER ON THE NORTH AND EAST SIDE OF THE ROADWAY.
- 4. A MINIMUM OF 48" (MAXIMUM OF 60") OF COVER FROM THE TOP OF PIPE TO THE FINISH GRADE IS REQUIRED.
- 5. USE THICKNESS CLASS 52 OR BETTER DUCTIL IRON PIPE.

SANDY CITY PUBLIC WORK DEPARTMENT (568-2999).

- 6. USE 6" COMPRESSION TYPE HYDRANT BY MUELLER CENTERURION OR CLOW MEDALLION. EXISTING HYDRANTS REQUIRED FOR FIRE PROTECTION THAT DO NOT MEET CURRENT STANDARDS SHALL BE UPGRADED TO MEET CURRENT SANDY CITY STANDARDS.
- 7. IN CASES WHERE THE DISTANCE FROM THE MAIN TO THE HYDRANT IS GREATER THAN 6 FEET, AND ADDITIONAL AUXILIARY VALVE SHALL BE FLANGED TO THE HYDRANT.
- 8. ALL DEAD ENDS TO BE PLUGGED WITH A 2" WASHOUT OR END WITH A FIRE HYDRANT.
- 9. ALL WATER LINES SHALL BE POLY-BAGGED IN ACCORDANCE WITH SANDY CITY SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION.
- 10. ALL WATERLINES SHALL BE BEDDED IN SAND 6" UNDER, 12" AROUND.



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GENERAL NOTES:

- 1. CONTRACTOR SHALL HAVE OBTAINED AND REVIEWED THE GEOTECHNICAL EVALUATION, AND SHALL BE FAMILIAR WITH THE RECOMMENDATIONS MADE IN THAT REPORT.
- 2. PRIOR TO PLACING GRADING FILL OR BASE COURSE, THE TOPSOIL, UNSUITABLE FILL, ORGANICS, DEBRIS AND OTHER DELETERIOUS MATERIALS SHOULD BE REMOVED.
- 3. GRANULAR FILL MEETING THE CRITERIA IDENTIFIED IN THE GEOTECHNICAL REPORT MAY BE USED AS STRUCTURAL FILL. SITE GRADING FILL AND AS UTILITY AND RETAINING WALL BACKFILL IF THE ORGANICS, DEBRIS AND OTHER DELETERIOUS MATERIALS ARE REMOVED.
- 4. PLACE AND COMPACT FILL MATERIALS IN HORIZONTAL LIFTS THIN ENOUGH TO PROVIDE ADEQUATE COMPACTION, USING EQUIPMENT AND PROCEDURES THAT WILL PRODUCE RECOMMENDED WATER CONTENTS AND DENSITIES THROUGHOUT THE LIFT.
- 5. NO GRADE CHANGES WILL BE PERMITTED FROM THAT SHOWN AND APPROVED ON THIS PLAN WITHOUT RESUBMITTING THE PROPOSED CHANGES TO THE OWNER, HIS REPRESENTATIVE, AND TO THE SANDY CITY ENGINEERING DEPARTMENT.
- 6. ALL STORM DRAIN BOXES SHALL BE CONSTRUCTED WITH BICYCLE SAFE FRAME AND GRATES. ALL STORM DRAIN BOXES SHALL BE CONSTRUCTED LARGE ENOUGH TO ACCEPT THE STORM DRAIN CONDUIT SIZE SCHEDULED TO BE INSTALLED.

STORM WATER NOTES:

- 1. NOTIFY SANDY CITY PUBLIC UTILITIES INSPECTOR ROY THACKER, WILLIS BILBREY, MICKEY TAYLOR, AND STORM WTAER QUALITY COORDINATOR RAY HERRERA, 801-568-7280, AT LEAST FIVE WORKING DAYS PRIOR TO BEGINNING ANY CONSTRUCTION.
- 2. CONSTRUCTION WORK SHALL BE CONDUCTED IN ACCORDANCE WITH SWPPP AND/OR NOI REQUIREMENTS. INSPECTIONS SHALL BE COMPLETED PER THE REQUIREMENTS OF THE SWPPP AND/OR NOI. ALL INSPECTION SHALL BE DOCUMENTED AND MADE AVAILABLE VIA THE ONLINE SWPPP MANAGEMENT SYSTEM. REGULAR REVIEW OF THE ONLINE SWPPP MANAGEMENT SYSTEM AND INSPECTIONS WILL BE COMPLETED BY THE PUBLIC UTILITIES DEPARTMENT TO CONFIRM THAT CONSTRUCTION WORK IS BEING PERFORMED IN ACCORDANCE WITH SWPPP, NOI, AND UGCP REQUIREMENTS. REVIEW AND INSPECTION REPORTS COMPLETED BY THE SANDY CITY PUBLIC UTILITIES DEPARTMEN WILL BE PROVIDED TO THE CONTRACTOR WHICH ARE TO BE POSTED TO THE ONLINE SWPPP MANAGEMENT SYSTEM. ALL IDENTIFIED VIOLATIONS ARE TO BE ADDRESSED AND DOCUMENTED ON THE ONLINE SWPPP MANAGEMENT SYSTEM.
- 3. A PRE-CONSTRUCTION MEETING IS REQUIRED ONCE FINAL APPROVAL HAS BEEN GRANTED. THIS IS WHERE THE DEVELOPER/OWNER AND THE CONTRACTOR MEET WITH THE CITY'S INSPECTORS TO REVIEW THE APPROVED PLANS. THE PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED THROUGH THE PLANNING DEPARTMENT.
- 4. ALL MATERIALS AND WORK DONE ON FLOOD CONTROL FACILITIES SHALL CONFORM TO THE LATEST REVISION OF THE SANDY CITY STANDARD SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION. SPECIFICATIONS AND DETAILS CAN BE OBTAINED AT
- http:..sandy.utah.gov/government/pulic-works/standard-specifications.html OR FROM SANDY CITY PUBLIC WORKS DEPARMTEN (568-2999).
- 5. NO-SHRINKING GROUT SHALL BE USED WHEREVER GROUT IS REQUIRED FOR THE STORM WATER FACILITIES.
- 6. CUT PIPS OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE AND GROUT AT CONNECTION OF PIPE TO BOX TO A SMOOTH FINISH. ADDITIONALLY, ALL JAGGED OR SHARP EDGES AT PIPE CONNECTIONS ARE TO BE REMOVED AND GROUTED SMOOTH.
- 7. GROUT BETWEEN GRADE RINGS. FOR EACH INLET BOX THAT IS PROPOSED TO BE LOCATED NEXT TO A CURB, THE CURB AND GUTTER CONTRACTOR IS RESPONSIBLE TO REMOVE ALL PROTRUDING, JAGGED OR SHARP CONCRETE EDGES AND TO GROUT BETWEEN BOTTOM OF INLET LIK FRAME AND TOP OF CONCRETE BOX. GROUT TO CREATE A SMOOTH, BEVELED TRANSITION AT ALL EDGES IN CLEAN OUT AND INLET BOXES. GROUT AROUND ALL EDGES OF THE RESTRICTIVE ORIFICE PLATE.
- 8. REMOVE SNAP TIES, NAILS, REBAR AND OTHER PROTRUSIONS FROM THE BOX OR PIPE INSIDE SURFACE, AS WELL AS ALL FORM WORK, PLASTIC AND CARDBOARD.
- 9. SILT AND DEBRIS ARE TO BE CLEANED OUT OF ALL INLET, CLEAN OUT BOXES, AND PIPE. THE BOXES AND PIPES ARE TO BE MAINTAINED IN A CLEANED CONDITION UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
- 10. CLEAN OFF ALL MANHOLE LIDS AND INLET GRATES OF ASPHALT, CONCRETE, TAR OR OTHER ADHESIVES TO ALLOW ACCESS.
- 11. ALL PRECAST INLET, COMBO AND JUNCTION BOXES SHALL BE SET ON 12" (MIN.) COMPACTED 1" MINUS GRAVEL.
- 12. SUBMITTALS ARE REQUIRED FOR ALL SAND BEDDING, SAND BACKFILL, PIPE, PRECAST CLEAN OUT BOXES AND PRECAST CATCH BASINS FOR ALL FACILITIES. THEY SHOULD BE SUBMITTED AT LEAST FIVE WORKING DAYS BEFORE CONSTRUCTION. SUBMITTALS SHOULD HAVE SUFFICIENT INFORMATION TO SHOW THAT THE PROPOSED ITEMS CONFORM TO SANDY CITY SPECIFICATIONS.
- 13. PIPES SHALL BE VIDEO CAMERA TO SEE IF THEY NEED TO BE FIXED OR REPLACED BEFORE THE 90% BOND RELEASE AND BEFORE FINAL BOND RELEASE.
- 14. OIL WATER SEPARATORS AND STORM WATER DETENTION /RETENTION SYSTEMS, SUCH AS STORM TECH, BAYSAVER, CDS OIL WATER SEPARATORS, ETC., SHALL HAVE A REPRESENTATIVE ON SITE AND A WRITTEN LETTER FROM THE MANUFACTURER STATING THAT THE SYSTEM WAS INSTALLED AND WILL FUNCTION AS DESIGNED. IF YOU ARE UNSURE IF YOUR SYSTEM WILL NEED A REPRESENTATIVE ON SITE PLEASE CONTACT THE PUBLIC UTILITIES INSPECTORS.
- 15. A WRITTEN LETTER FROM ENGINEER/SURVEYOR VERIFYING THAT THE VO.LUME FOR RETENTION AND DETENTION PONDS/SYSTEMS WAS INSTALLED PER PLAN SHALL BE SUBMITTED TO PUBLIC UTILITIES ENGINEER PRIOR TO THE 90% BOND RELEASE AND PRIOR TO FINAL BOND RELEASE.



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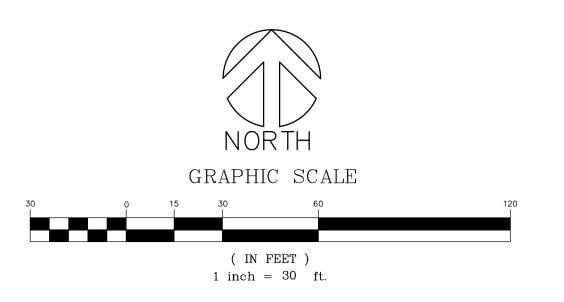
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STORM DRAIN CALCULATIONS 3392 DEER HOLLOW CIRCLE

I GENERAL INFORMATION

THERE IS NO STORM DRAIN SYSTEM LOCATED ALONG THE FRONTAGE OF THIS PROPERTY IN DEER HOLLOW CIRCLE THEREFORE STORM WATER SHALL BE RETAINED ON SITE FOR A 100 YEAR FREQUENCY 72 HOUR STORM OCCURRENCE. OUTFALL FROM THE RETENTION SYSTEM WILL BE LIMITED TO PERCOLATION OUTFALL FROM THE BOTTOM OF THE RETENTION PONDS AND UNDERGROUND STORAGE CHAMBERS.

PERCOLATION RATE HAS BEEN ESTABLISHED BY GORDON GEOTECHNICAL ENGINEERING, AT 10 MINUTES PER INCH.

RAINFALL INFORMATION

PROJECT LOCATION: LATTITUDE = 40Ø 33' 21.5"N (40.555972 Ø)

LONGITUDE = 111Ø 47' 56"W (-111.79889Ø)

SOURCE: SANDY CITY 100 YEAR FREQUENCY STORM ELEV 5200 TIME (MINUTES) RAINFALL INTENSITY (INCHES/HOUR)

5	8.75
15	5.43
30	3.42
45	2.64
60	2.24
90	1.76
120	1.29
180	0.97
360	0.52
720	0.31
1440	0.18
2880	0.11
4320	0.08

III PROPERTY CHARACTERISTICS ROOF AREA = 6904 SF (RESIDENCE + STUDIO) IMPERVIOUS AREA = 9981 SF (DRIVEWAY)

LANDSCAPE AREA = 70233 SF

ADJUSTED 'C' VALUE = [(6904)(0.8)+(9981)(0.9)+(70233)(0.1)]/87118 SF = 0.25

III STORMWATER RETENTION VOLUME REQUIRED

A.PERCOLATION OUTFALL:

SURFACE AREA OF RETENTION SYSTEM = 2162 SF PERCOLATION OUTFALL = (2162SF)(1 IN/10 MIN)(1 FT/12 IN)(1 MIN/60 SEC) = 0.30 CFS

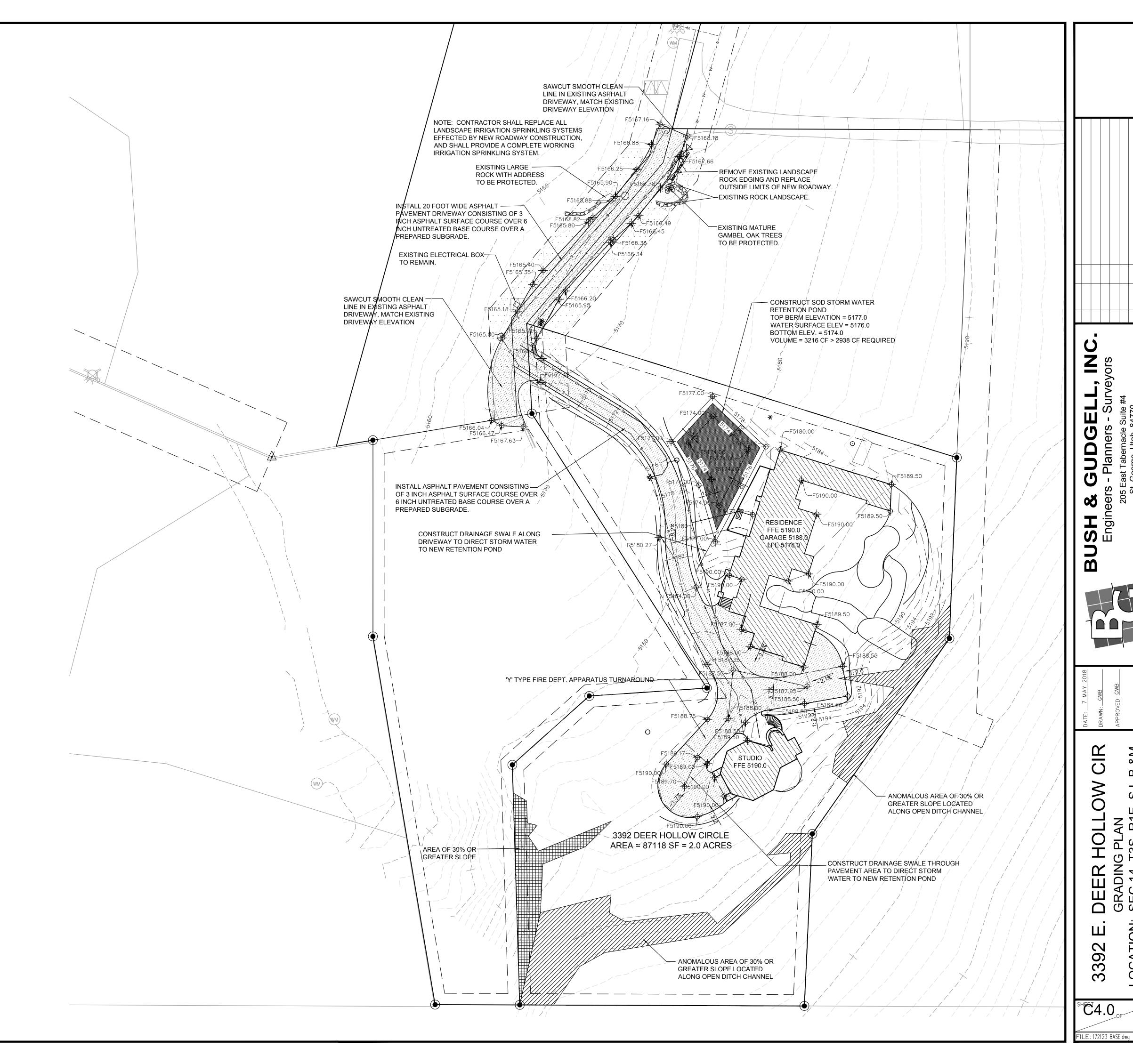
Time	Rainfall	Rainfall	Runoff	Allow.	Storag
Elapsed	Total	Intensity		Discharge	Req'd
(min.)	(in.)	(in.)	(cu.ft.)	(cu.ft.)	(cu.ft.)
5	0.73	8.75	1308	90	1218
15	1.36	5.43	2436	270	2165
30	1.71	3.42	3068	541	2527
60	2.24	2.24	4019	1081	2938
120	2.58	1.29	4629	2162	2467
180	2.91	0.97	5221	3243	1978
360	3.12	0.52	5598	6486	-888
720	3.72	0.31	6674	12972	-6298
1440	4.32	0.18	7751	25944	-18193
2880	5.28	0.11	9473	51888	-42415
4320	5.76	0.08	10334	77832	-67498

REQUIRED RETENTION VOLUME = 2938 CF

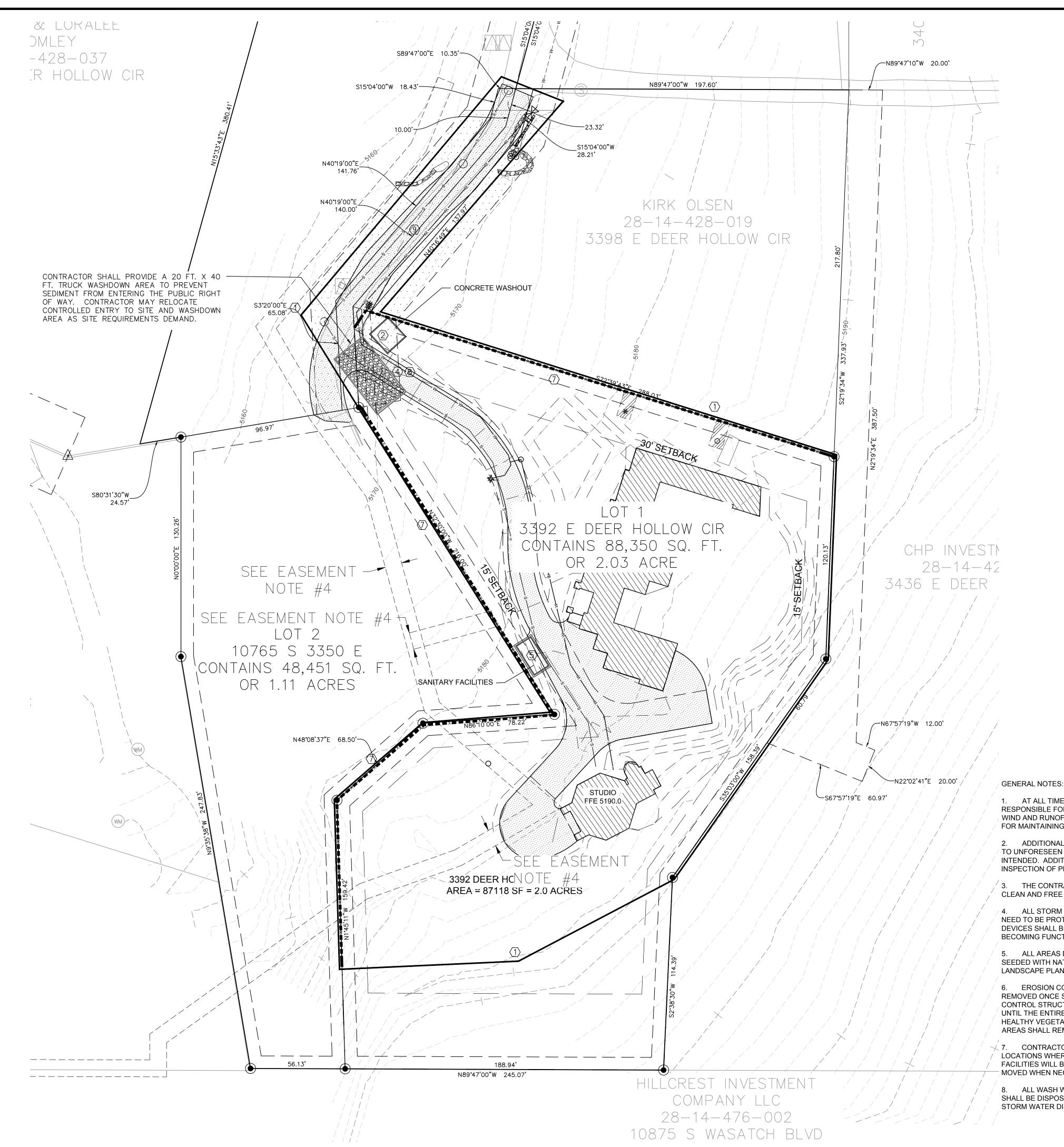
IV STORMWATER RETENTION VOLUME PROVIDED

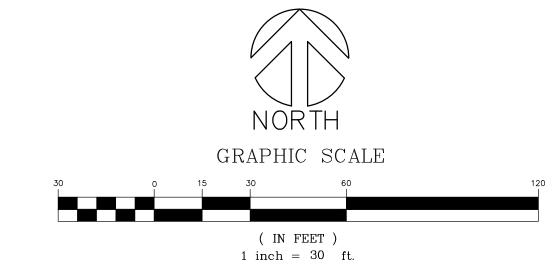
ELEVATION OF TOP OF BERM SURROUNDING RETENTION POND = 5177 ELEVATION OF SURFACE AREA OF POND = 5176 (1 FT FREEBOARD) SURFACE AREA OF POND = 2162 SF

ELEVATION OF BOTTOM OF POND = 5174 (2 FT DEPTH) SURFACE AREA OF BOTTOM OF POND = 1112 SF VOLUME = 3216 CF > 2938 CF REQUIRED



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BMP'S NOTES LEGEND (1) CONSTRUCTION BOUNDARY ---- EXISTING CONTOUR ———— PROPOSED CONTOUR (2) CONCRETE WASHOUT ----x----x- SILT FENCING (3) EARTH DIKES AND DRAINAGE SWALES ---- EXISTING STORM DRAIN $\overline{\langle 4 \rangle}$ ENTRANCE / OUTLET TIRE WASH ---->----> DRAINAGE FLOW & DIRECTION (5) PORTABLE TOILET LOCATION INLET PROTECTION (6) STORM DRAIN INLET PROTECTION

> NOTE: CONTRACTOR MAY ADJUST LOCATION OF BMP'S AND SANITARY FACILITIES TO MATCH PROJECT CONDITIONS.

UPDES INFORMATION:

8 STABILIZED CONSTRUCTION ENTRANCE

 $\overline{9}$ STREET SWEEPING AND VACUUMING

SILT FENCE

1. DESCRIPTION OF THE NATURE OF THE CONSTRUCTION ACTIVITY: THIS CONSTRUCTION WILL CONSIST OF CONSTRUCTING A NEW RESIDENCE AND DETACHED STRUCTURES, LOCATED AT 3392 EAST DEER HOLLOW CIRCLE, SANDY, UTAH.

2. DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH DISTURB SOILS FOR MAJOR PORTIONS OF THE SITE: THE SEQUENCE OF ACTIVITIES WILL BE:

- A. GRUBBING OF SITE
- **EXCAVATION** GRADING
- INSTALLATION OF NEW UTILITY SERVICES.
- CONSTRUCTION OF NEW STRUCTURES
- 3. ESTIMATE OF THE TOTAL AREA OF THE SITE AND THE TOTAL AREA OF THE SITE THAT IS EXPECTED TO BE DISTURBED BY EXCAVATION, GRADING, OR OTHER ACTIVITIES: TOTAL AREA = 2.0 ACRES
 - AREA OF SITE TO BE DISTURBED = 1.75 ACRES
- 4. ESTIMATE OF RUNOFF COEFFICIENT OF THE SITE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, AND THE EXISTING DATA DESCRIBING THE SOIL.
- THE WORK TO BE COMPLETED WILL INCLUDE CONSTRUCTION OF A STORM WATER RETENTION POND TO RETAIN ALL STORM WATER FROM A 100 YEAR 72 HOUR STORM OCCURRENCE. THE ESTIMATED RUNOFF COEFFICIENT AFTER CONSTRUCTION WILL BE 0.

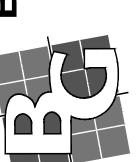
- 1. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DUE TO WIND AND RUNOFF. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING THE EROSION CONTROL FACILITIES SHOWN.
- 2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO UNFORESEEN PROBLEMS OR IF THE PLAN DOES NOT FUNCTION AS INTENDED. ADDITIONAL CONTROL DEVISES MAY BE REQUIRED UPON INSPECTION OF PROPOSED FACILITIES.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE STREETS CLEAN AND FREE FROM DEBRIS FROM TRAFFIC FROM THE SITE.
- 4. ALL STORM DRAIN FACILITIES ON SITE AND ADJACENT TO THE SITE NEED TO BE PROTECTED FROM SITE RUNOFF. INLET PROTECTION DEVICES SHALL BE INSTALLED IMMEDIATELY UPON INDIVIDUAL INLETS BECOMING FUNCTIONAL.
- 5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE PAVED, SEEDED WITH NATIVE VEGETATION, OR LANDSCAPED. REFER TO LANDSCAPE PLANS FOR SEED MIX AND PLANTING SPECIFICATIONS.
- 6. EROSION CONTROL STRUCTURES BELOW SODDED AREAS MAY BE REMOVED ONCE SOD AND FINAL LANDSCAPING ARE IN PLACE. EROSION CONTROL STRUCTURES BELOW SEEDED AREAS MUST REMAIN IN PLACE UNTIL THE ENTIRE AREA HAS ESTABLISHED A MATURE COVERING OF HEALTHY VEGETATION. EROSION CONTROL IN PROPOSED PAVEMENT AREAS SHALL REMAIN IN PLACE UNTIL PAVEMENT IS COMPLETE.
- √ 7. CONTRACTOR SHALL USE VEHICLE TRACKING CONTROL AT ALL LOCATIONS WHERE VEHICLES WILL ENTER OR EXIT THE SITE. CONTROL FACILITIES WILL BE MAINTAINED WHILE CONSTRUCTION IS IN PROGRESS, MOVED WHEN NECESSARY AND REMOVED WHEN THE SITE IS PAVED.
- 8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, ETC.) SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT WITH STORM WATER DISCHARGES FROM THE SITE.

9. BLOWING DUST MUST BE CONTROLLED AT ALL TIMES. INSTALLATION OF A SILT SCREEN AND SITE WATERING SHALL BE USED TO CONTROL DUST. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS ABSOLUTELY PROHIBITED.

TEMP. CONSTRUCTION EXIT

- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) DUE TO GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT.
- 11. ALL OFF-SITE CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- 12. ALL MEASURES CONTAINED IN THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A RAINFALL EVENT. ANY NEEDED CLEANING AND REPAIRS NEED TO BE DONE IMMEDIATELY UPON DISCOVERY. ALL UTILITY LINES SHALL BE CLEANED OF DIRT AND DEBRIS PRIOR TO BEING PUT INTO SERVICE DOWN-GRADE LINES MUST BE PROTECTED FROM WASH-WATER DURING THE CLEANING TO AVOID CONTAMINATION AND COMPROMISING OUTFALL CLEANLINESS.
- 13. DUE TO THE NATURE OF THIS PROJECT BEING LOCATED WITHIN AN EXISTING ASPHALT PAVED AREA, THE CONTRACTOR SHALL ADJUST ALL CONSTRUCTION ACTIVITIES TO LIMIT POLLUTANTS FROM DISCHARGING INTO THE EXISTING STORM DRAIN SYSTEM.
- 14. THE CONTRACTOR SHALL MOVE CONSTRUCTION FENCING, SILT BARRIERS, AND ALL OTHER POLLUTION PREVENTION ACTIVITIES TO MATCH THE WORK LOCATION AS IT MOVES THROUGH THE PROJECT SITE.
- 15. CONCRETE WASHOUT AREAS WILL BE LOCATED SUCH THAT NO CONCRETE WASTE MAY BE ALLOWED TO WASH INTO THE STORM DRAIN SYSTEM. CONCRETE WASHOUT AREA MAY BE COMBINED WITH OTHER CONSTRUCTION ACTIVITIES CURRENTLY LOCATED WITHIN THE SITE.

16. SANITARY FACILITIES MAY BE LOCATED WITHIN THE SITE AND ADJUSTED TO MATCH CONSTRUCTION ACTIVITIES AS IT MOVES THROUGH THE PROJECT SITE.



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FILE: 172123 EROSION CONTROL PLANDWG

POST CONSTRUCTION STORM WATER MAINTENANCE PLAN

GENERAL (GOOD HOUSEKEEPING)	COMPLETE QUARTERLY COMPREHENSIVE, QUARTERLY VISUAL, AND WEEKLY VISUAL INSPECTION AS REQUIRED AND IDENTIFY MAINTENANCE AND CLEANING REQUIRED.
	INSPECT / CLEAN STORM WATER SYSTEM FACILITIES AS NEEDED, BUT ANNUALLY AT A MINIMUM.
	SWEEP PAVED AREAS REGULARLY.
	CLEAN UP DEBRIS AND OLD EQUIPMENT PERIODICALLY.
	REMOVE TRASH AND GARBAGE.
	INSPECT ROUTINELY FOR LEAKS OR SPILLS, CLEAN UP WITH DRY ABSORBENT.
	IMPLEMENT WASTE AND MATERIAL MINIMIZATION PROGRAMS.
	FOLLOW SPILL PREVENTION AND RESPONSE PLANS FOR SPILLS.
FUELING OPERATIONS	NEVER HOSE DOWN THE FUELING AREA TO THE STORM DRAIN SYSTEM.
	MAINTAIN SPILL KIT MATERIALS AT THE FUELING LOCATION.
STORAGE OF SOLID WASTE	COVER STORAGE CONTAINERS WITH LEAK-PROOF LIDS OR SOME OTHER MEANS OF CONTAINMENT.
	CHECK DUMPSTERS AS NEEDED FOR LEAKS AND ENSURE THE LIDS ARE CLOSED.
	PLACE SOLID WASTE BINS BENEATH COVER TO PROTECT FROM PRECIPITATION.
VEHICLE WASHING	NEVER USE DETERGENTS / DE-GREASERS FOR OUTSIDE VEHICLE CLEANING.
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HOUSEHOLD HAZARDOUS WASTE	HAZARDOUS MATERIALS SHALL BE STORED ON SPILL CONTAINMENT FACILITY
	SPILL KIT AND ABSORBENT MATERIALS ARE AVAILABLE FOR SPILLS.

REFER TO SANDY CITY STORM WATER SEWBIST FOR SPECIFIC STANDARD OPERATING PROCEDURES (SOP'S) AT https://sandy.utah.gov/departments/public utilities/storm-water/storm-water-management-program

EROSION & SEDIMENT CONTROL NOTES

- SILT FENCING INSPECT AND MAINTAIN SILT FENCES AFTER EACH RAIN STORM.
- MAKE SURE THE BOTTOM OF THE SILT FENCE IS BURIED IN THE GROUND. SECURELY ATTACH THE MATERIAL TO THE STAKES
- DON'T PLACE SILT FENCES IN THE MIDDLE OF A WATERWAY OR USE THEM AS A CHECK DAM. MAKE SURE STORMWATER IS NOT FLOWING AROUND THE SILT FENCE.

CONSTRUCTION ENTRANCES REMOVE MUD AND DIRT FROM THE TIRES OF CONSTRUCTION VEHICLES BEFORE THEY ENTER A

PROPERLY SIZE ENTRANCE BMPS FOR ALL ANTICIPATED VEHICLES MAKE SURE THAT THE CONSTRUCTION ACCESS DOES NOT BECOME BURIED IN SOIL.

ROUGH GRADE OR TERRACE SLOPES. BREAK UP LONG SLOPES WITH SEDIMENT BARRIERS, OR UNDER DRAIN, OR DIVERT STORM WATER AWAY FROM SLOPES.

DIRT STOCKPILES 1. COVER OR SEED ALL DIRT STOCKPILES.

STORM DRAIN INLET PROTECTION 1. USE ROCK OR OTHER APPROPRIATE MATERIAL TO COVER THE STORM DRAIN INLET TO FILTER OUT TRASH AND DEBRIS.

MAKE SURE THE ROCK SIZE IS APPROPRIATE (USUALLY 1 TO 2 INCHES IN DIAMETER). 3. IF YOU USE INLET FILTERS, MAINTAIN THEM RÈGULARLY.

PROTECT NATURAL FEATURES

MINIMIZE CLEARING. MINIMIZE THE AMOUNT OF EXPOSED SOIL.

IDENTIFY AND PROTECT AREAS WHERE EXISTING VEGETATION, SUCH AS TREES, WILL NOT BE DISTURBED BY CONSTRUCTION ACTIVITY. 4. PROTECT STREAMS, STREAM BUFFERS, WILD WOODLANDS, WETLANDS, OR OTHER SENSITIVE AREAS FROM ANY DISTURBANCE OR CONSTRUCTION ACTIVITY BY FENCING OR OTHERWISE CLEARLY MARKING THESE AREAS.

CONSTRUCTION PHASING I. SEQUENCE CONSTRUCTION ACTIVITIES SO THAT THE SOIL IS NOT EXPOSED FOR LONG PERIODS

SCHEDULE OR LIMIT GRADING TO SMALL AREAS. INSTALL KEY SEDIMENT CONTROL PRACTICES BEFORE SITE GRADING BEGINS. SCHEDULE SITE STABILIZATION ACTIVITIES, SUCH AS LANDSCAPING, TO BE COMPLETED

IMMEDIATELY AFTER THE LAND HAS BEEN GRADED TO ITS FINAL CONTOUR.

VEGETATIVE BUFFERS 1. PROTECT AND INSTALL VEGETATIVE BUFFERS ALONG WATERBODIES TO SLOW AND FILTER STORMWATER RUNOFF. 2. MAINTAIN BUFFERS BY MOWING OR REPLANTING PERIODICALLY TO ENSURE THEIR EFFECTIVENESS.

SITE STABILIZATION . VEGETATE, MULCH, OR OTHERWISE STABILIZE ALL EXPOSED AREAS AS SOON AS LAND ALTERATIONS HAVE BEEN COMPLETED.

DUST CONTROL NOTES

TEMPORARY MEASURES

VEGETATIVE COVERINGS: TEMPORARY SEEING AND MULCHING MAY BE APPLIED TO COVER BARE SOIL AND TO PREVENT WIND EROSION. THE SOIL MUST BE KEPT MOIST TO ESTABLISH COVER.

BARRIERS: SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY. AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND BLOWN SOIL. BARRIERS PLACES AT RIGHT ANGLES TO PREVAILING WIND CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE: THIS MATERIAL IS APPLIED AT A RATE THAT WILL KEEP THE SURFACE MOIST. PRETREATMENT MAY BE NECESSARY DUE TO VARYING SITE AND CLIMATIC CONDITIONS.

IRRIGATION: THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. THE SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET AND REPEATED AS NECESSARY. IF THIS METHOD IS TO BE EMPLOYED AT A CONSTRUCTION SITE, IT IS RECOMMENDED THAT A TEMPORARY GRAVEL ROCK ENTRANCE BE CREATED TO PREVENT MUD FROM SPREADING ONTO LOCAL STREETS.

5. TILLAGE: THIS PRACTICE ROUGHENS THE SOIL AND BRINGS CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE THAT SHOULD BE USED BEFORE WIND EROSION STARTS. PLOWING SHOULD BEGIN ON THE WINDWARD SIDE OF THE SITE USING CHISEL—TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTH HARROWS, OR SIMILAR PLOWS.

ADHESIVES: USE SPRAY-ON ADHESIVES ACCORDING TO TABLE 1. THESE ADHESIVES FORM FAIRLY IMPENETRABLE SURFACES, AND SHOULD BE USED ONLY IF OTHER METHODS PROVE TO BE DIFFICULT TO WORK WITH.

PERMANENT SITE MODIFICATION MEASURES

PERMANENT VEGETATION: SEEDING AND SODDING SHOULD BE DONE TO PERMANENTLY STABILIZE EXPOSED AREAS AGAINST WIND EROSION. IT IS RECOMMENDED THAT EXISTING TREES AND LARGE SHRUBS BE ALLOWED TO REMAIN IN PLACE TO THE GREATEST EXTENT POSSIBLE DURING SITE

GRADING PROCESSES. STONE: COARSE GRAVEL OR CRUSHED STONE MAY BE PLACED OVER HIGHLY ERODIBLE SOILS. TOPSOILING: THIS METHOD IS RECOMMENDED WHEN PERMANENT VEGETATION CANNOT BE ESTABLISHED ON A SITE. TOPSOILING IS A PROCESS IN WHICH LESS EROSIVE MATERIAL IS PLACED ON TOP OF HIGHLY ERODIBLE SOILS.

OPERATION AND MAINTENANCE NOTES

- 1. EROSION, SEDIMENTATION AND DUST CONTROL REQUIREMENTS VARY SIGNIFICANTLY DURING THE CONSTRUCTION PHASE. IMPLEMENTOR OF PLAN SHALL BE RESPONSIBLE OF SELECTING AND MAINTAINING APPLICABLE BMP'S.
- 2. IMPLEMENTOR OF PLAY MAY MODIFY THE BMP'S SPECIFIED HERE TO MAXIMIZE PROTECTION
- 3. IMPLEMENTOR MAY USE OTHER BMP'S AS NECESSARY TO MAXIMIZE EROSION, SEDIMENTATIOON AND DUST CONTROL. SEE WWW.EPA.GOV/NPDES/MENUOFBMPS.

4. ALL STORM WATER BMPS SHOULD BE INSPECTED FOR CONTINUED EFFECTIVENESS AND STRUCTURAL INTEGRITY ON A REGULAR BASIS FOR THE LIFE OF THE CONSTRUCTION PROJECT. GENERALLY, ALL BMPS SHOULD BE CHECKED AFTER EACH STORM EVENT IN ADDITION TO THE REGULARLY SCHEDULED INSPECTIONS. SCHEDULED INSPECTIONS VARY BETWEEN BMPS. STRUCTURAL BMPS LIKE STORM DRAIN DROP INLET PROTECTION MIGHT REQUIRE MORE FREQUENT INSPECTION THAN OTHER BMPS TO ENSURE PROPER OPERATION. INSPECTION AND MAINTENANCE OF BMPS SHOULD CONTINUE UNTIL ALL CONSTRUCTION ACTIVITIES HAVE ENDED AND ALL AREAS OF A SITE HAVE BEEN PERMANENTLY STABILIZED. DURING EACH INSPECTION, THE INSPECTOR SHOULD DOCUMENT WHETHER THE BMP IS PERFORMING CORRECTLY, ANY DAMAGE TO THE BMP SINCE THE LAST INSPECTION, AND WHAT SHOULD BE DONE TO REPAIR THE BMP IF DAMAGE HAS OCCURRED.

SILT FENCE CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 11/2" X 11/2" SQUARE (MINIMUM) CUT, OR 13/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHTING NOT LESS THAN 1.00 POND PER LINEAR FOOT.

2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F: TENSILE STRENGTH 50 LBS/IN (MIN.) TEST: MSMT 509

- TENSILE MODULUS 20 LBS/IN (MIN.) TEST: MSMT 509 2 FLOW RATE 0.3 GAL FT / MINUTE (MAX.) TEST: MSMT 322
- FILTERING EFFICIENCY 75% (MIN.) TEST: MSMT 322
- 3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.

4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR

WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

SILT FENCE DESIGN CRITERIA					
	(MAXIMUM)	(MAXIMUM)			
SLOPE STEEPNESS	<u>SLOPE LENGTH</u>	SILT FENCE LENGTH			
FLATTER THAN 50:1	UNLIMITED	UNLIMITED			
50:1 TO 10:1	125 FEET	1,000 FEET			
10:1 TO 5:1	100 FEET	750 FEET			
5:1 TO 3:1	60 FEET	500 FEET			
3:1 TO 2:1	40 FEET	250 FEET			
2:1 AND STEEPER	20 FEET	125 FEET			

NOTE: IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.

BALE DIKE CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE, ON THE CONTOUR, AND IN A ROW WITH THE ENDS OF EACH BALE TIGHTLY ABUTTING THE ADJACENT BALES.

2. EACH BALE SHALL BE ENTRENCHED IN THE SOIL A MINIMUM OF 4" AND PLACED SO THE BINDINGS ARE

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE 12" TO 18" INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE TOP OF THE BALE.

4. STRAW BALE DIKES SHALL BE INSPECTED FREQUENTLY AND AFTER EACH RAIN EVENT AND MAINTENANCE PERFORMED AS NECESSARY.

5. ALL BALES SHALL BE REMOVED WHEN THE SITE HAS BEEN STABILIZED. THE TRENCH WHERE THE BALES WERE LOCATED SHALL BE GRADED FLUSH AND STABILIZED.

> NOTE: CONTRACTOR SHALL PROVIDE A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND NOTICE OF INTENT FROM THE UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY TO SANDY CITY.

INSTALLATION:

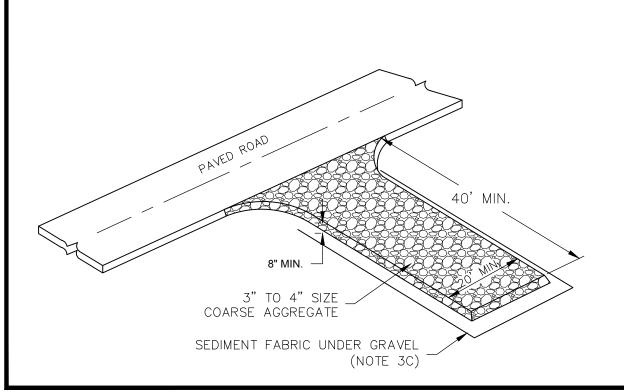
- A. CLEAR AND GRUB AREA AND GRADE TO PROVIDE MAXIMUM SLOPE OF 1 PERCENT AWAY FROM PAVED ROADWAY.
- B. COMPACT SUBGRADE
- C. PLACE FILTER FABRIC UNDER STONE IF DESIRED (RECOMMENDED FOR ENTRANCE AREA THAT REMAINS MORE THAN 3 MONTHS).

MAINTENANCE:

A. REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONES.

AND REAPIR ANY STRUCTURES USED TO TRAP SEDIMENTS

- B. PREVENT TRACKING OR FLOW OF MUD INTO THE PUBLIC RIGHT-OF-WAY. C. PERIODIC TOP DRESSING WITH 2 INCHES STONE MAY BE REQUIRED, AS CONDITIONS DEMAND,
- INSPECT DAILY FOR LOSS OF GRAVEL OR SEDIMENT BUILDUP. INSPECT ADJACENT AREAS FOR SEDIMENT DEPOSIT AND INSTALL ADDITIONAL CONTROLS AS NECESSARY EXPAND STABILIZED ARE AS REQUIRED TO ACCOMMODATE ACTIVITIES.



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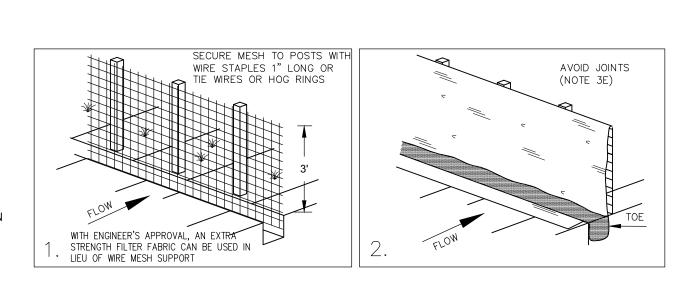
- SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER, OR POLYETHYLENE YARN. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE
- BURLAP SHALL BE 10 OUNCES PER SQUARE YARD OF FABRIC C. POSTS FOR SILT FENCES SHALL BE EITHER 2"X4" DIAMETER WOOD, OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE

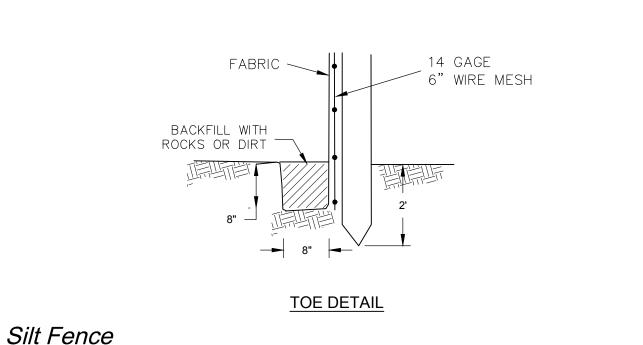
CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 2 DEG F TO 120 DEG F.

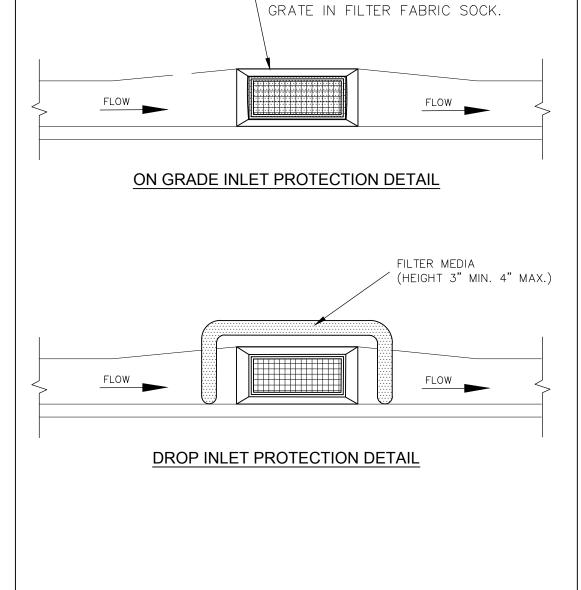
- PROJECTIONS FOR FASTENING WIRE TO THEM. THE FABRIC IS CUT ON SITE TO DESIRED WIDTH, UNROLLED, AND DRAPED OVER THE BARRIER. THE FABRIC TOE IS SECURED WITH ROCKS OR DIRT. THE FABRIC IS SECURED TO THE MESH
- WITH TWIN STAPLES OR SIMILAR DEVICES. WHEN ATTACHING TWO SILT FENSED TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES ON A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTHE POSTS INTO THE GROUND AND BURY THE FLAP.
- WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.

MAINTENANCE:

- A. INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED
- . SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE
- NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSTIS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ON-HALF THE HEIGHT OF THE BARRIER.
- RE-ANCHOR FENCE AS NECESSARY TO PREVENT SHORTCUTTING. INSPECT FOR RUNOFF BYPASSING ENDS OF BARRIERS OR UNDERCUTTING BARRIERS.

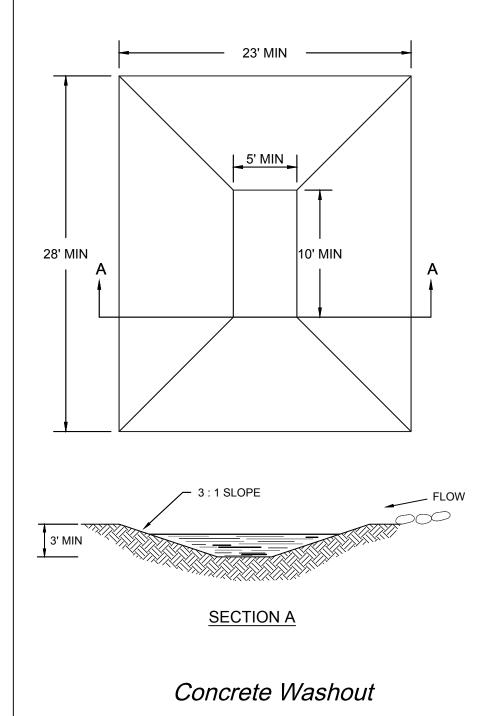






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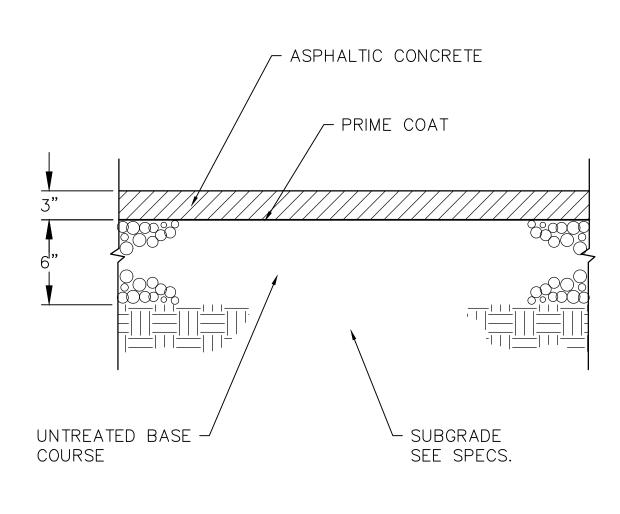
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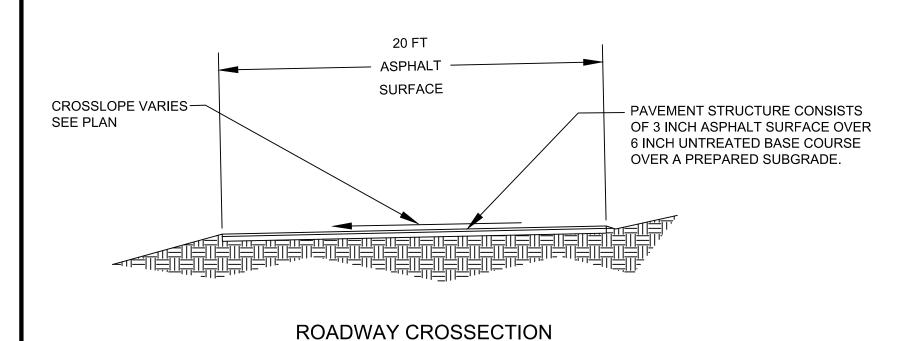
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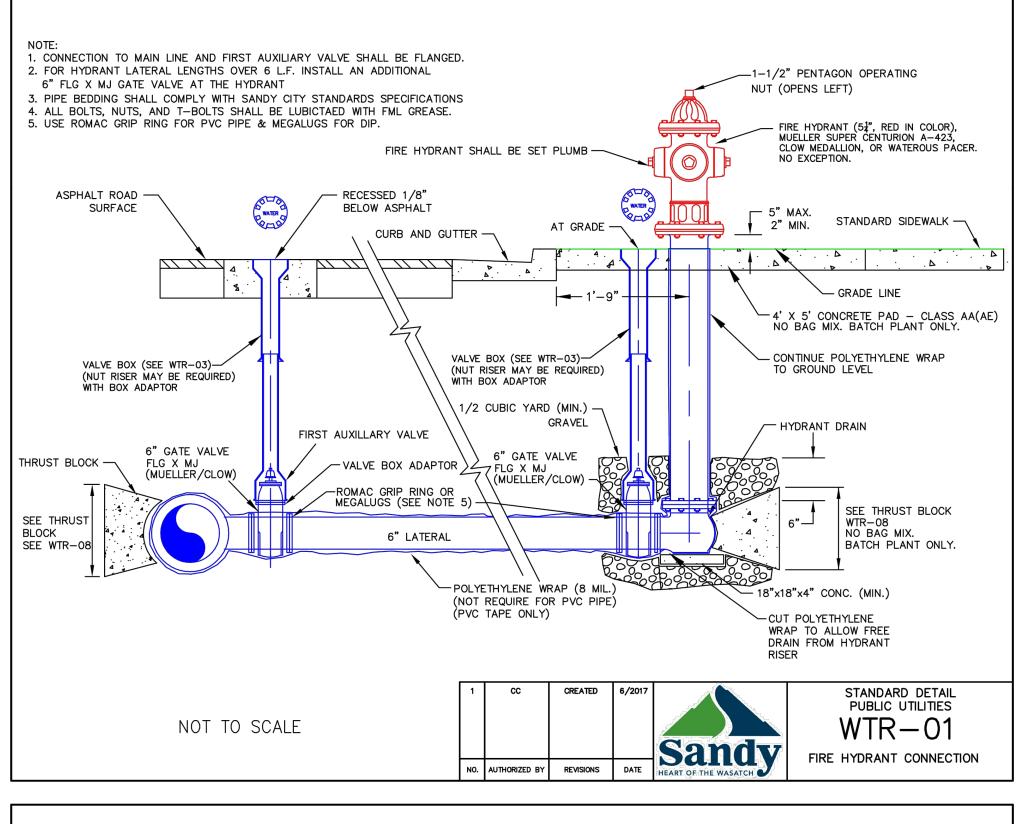
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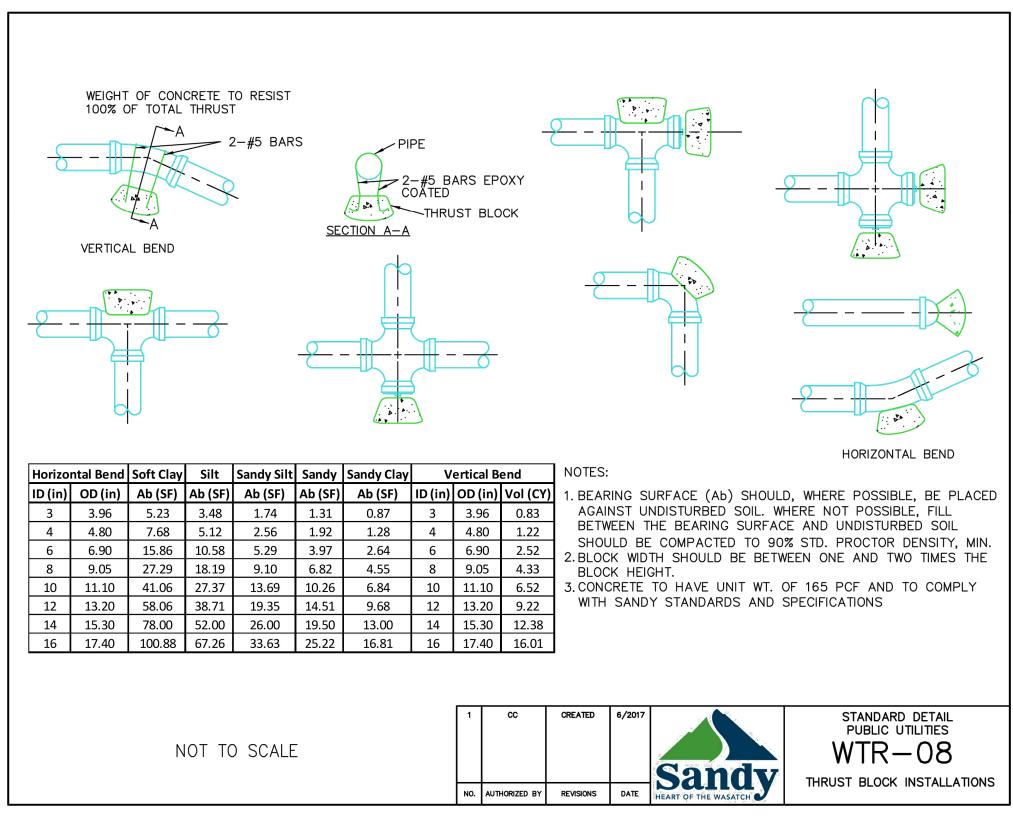


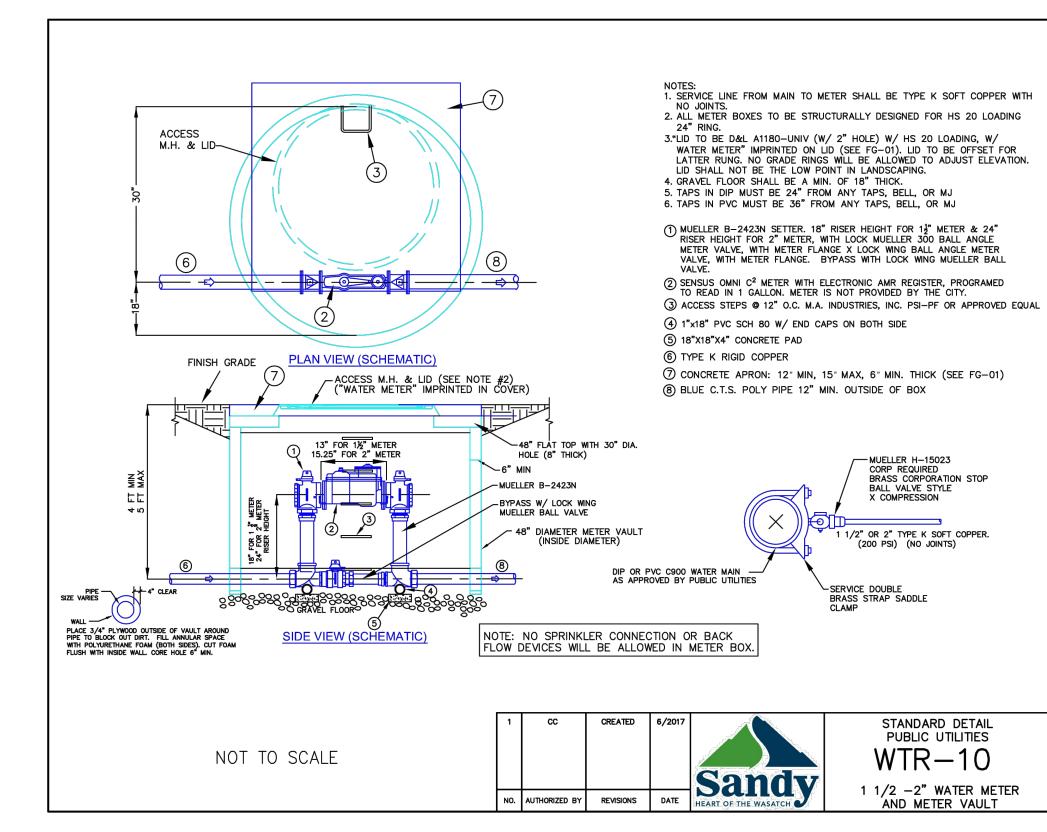
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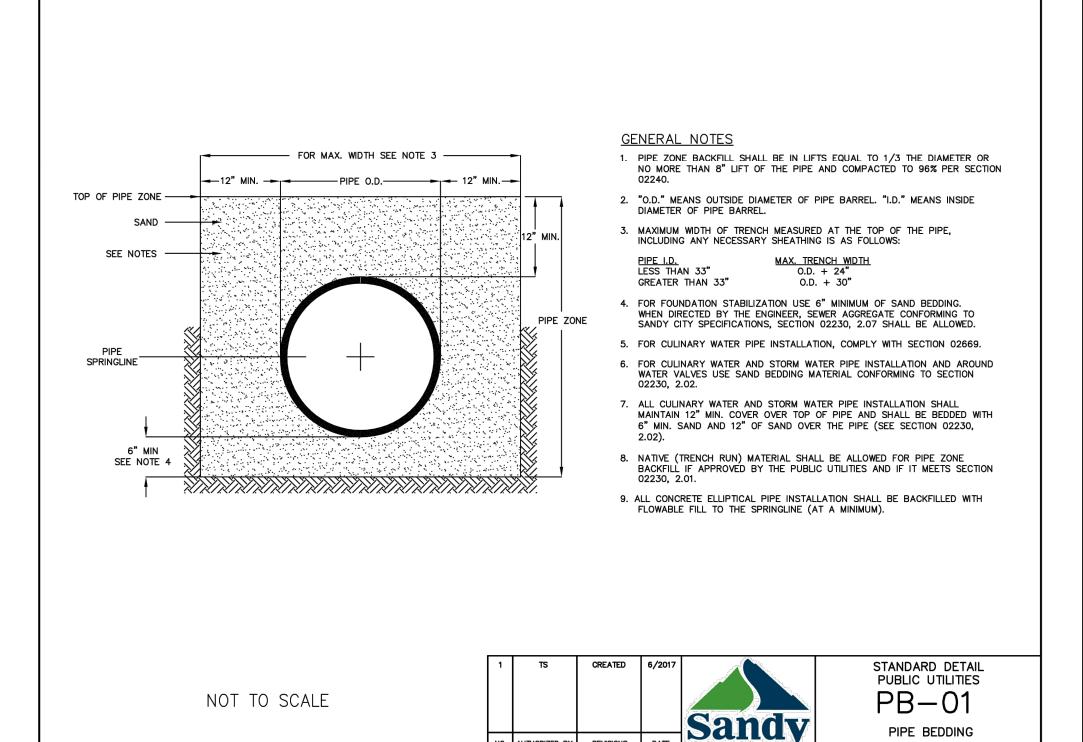


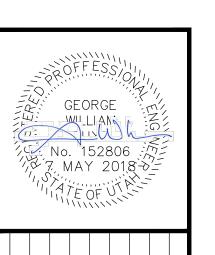
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