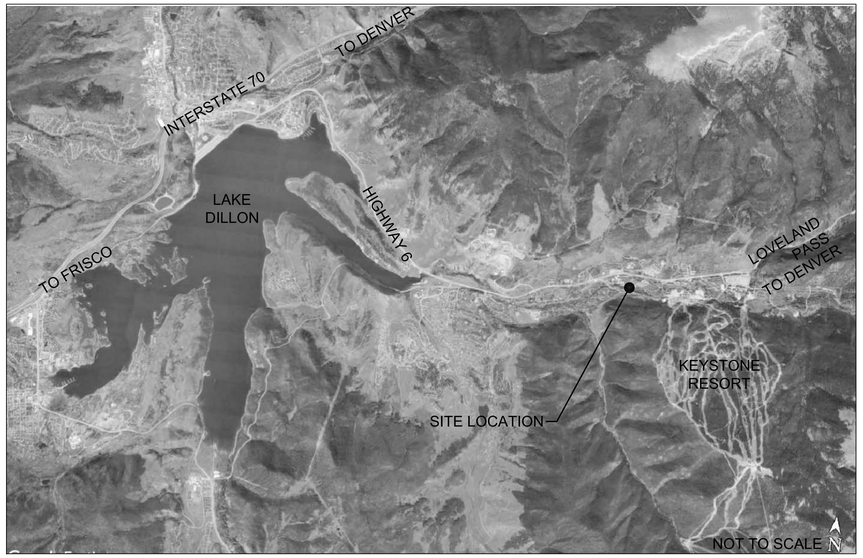
THE RIDGE COMPLEX
PARCEL 3
KEYSTONE, COLORADO
August 2020

GENERAL NOTES

1. The Contractor shall notify Alpine Engineering, Inc., and Developer at least 48 hours prior to any construction. The Contractor shall coordinate all work with Alpine Engineering, Inc. and Developer.
2. Alpine Engineering, Inc., assumes no responsibility for utility locations. It is the Contractor's responsibility to field verify the location of all utilities prior to commencement of any construction.
3. The Contractor shall conform to all Summit County rules, regulations and stipulations while accessing through or working in the County.
4. The Contractor shall take all appropriate precautions to significantly reduce any potential pollution caused by his activities, including vehicle fueling, storage of fertilizers or chemicals, etc. The Contractor shall have identified procedures for handling potential poliutants and have identified spill prevention and response procedures prior to any activities at the project site.
5. The Contractor shall keep 2 sets of contract drawings marked up to fully indicate asbuilt conditions. The drawings shall be provided to the Owner and Alpine Engineering, Inc. upon completion of this work. Contractor is to provide at least three ties from physical monuments to all fittings, valves, hydrants, curb stops, air vac valves, prv's, manholes, and services.
6. The Contractor shall maintain traffic at all times. The Contractor shall minimize traffic disruptions and provide adequate safety precautions to ensure public safety.
7. Safety is the responsibility of the Contractor. The Engineer is not responsible for safety in, on, or about the project site, nor for compliance by the appropriate party with any regulations relating hereto.
8. The Owner will designate staging areas.
9. The Contractor shall minimize all off site tracking. All soil tracked off site shall be immediately cleaned up to the satisfaction of The Owner.
10. If any groundwater is encountered the Contractor shall contact Developer, Alpine Engineering, Inc., and the Project Geotechnical Engineer immediately.
11. The Contractor shall protect and preserve all trees, bushes, shrubs, and ground cover in a manner acceptable to the Owner.
12. Observations of the work in progress and on-site visits are not to be construed as a guarantee or warranty by the Engineer of the Contractor's contractual responsibilities.
13. All materials and workmanship shall be subject ot inspection by the County and/or their representatives, and Alpine Engineering, Inc. The County reserves the right to accept or reject any such materials and workmanship that do not conform to the approved drawings and/or Summit County standards or specifications.
14. Copies of county standards must be obtained by the Contractor. Contractor shall have one (1) copy of the plans and one (1) copy of the appropriate specifications on the job site at all times.
15. Street closures shall be kept to a minimum length of time. There shall be no material storage on County Streets or property.
16. Contractor shall conform to all recommendations in the subsoil study prepared by CTL Thompson (Report Project No. SU1381.000-120 dated July 25, 2017). Topographic information was provided by Range West Surveying.
17. Contractor shall conform to the project technical specifications.



UTILITY NOTES

1. The Contractor is warned that conflicts with existing utility services may exist. Prior to beginning any construction, the Contractor shall contact all appropriate utility companies for line locations. The Contractor shall then locate all utilities (including depth). Any conflicts with the proposed construction shall be brought to the attention of the Engineer so that line or grade changes can be made to eliminate any conflicts with these existing utilities. All existing utilities shall be protected from damage by the Contractor. Damaged utilities shall be repaired by the Contractor at no expense to the Owner.
2. All construction activities and excavating for utility trenches shall meet OSHA requirements.
3. PHONE: All phone conduits, pedestals, and appurtenances shall be installed in accordance with Centurylink's design specifications and shall be reviewed and accepted by Centurylink.
4. CABLE TV: All cable tv conduits, pedestals, and appurtenances shall be installed in accordance with Centurylink's design specifications and shall be reviewed and accepted by Centurylink.
5. All water mains and services shall have a minimum cover of 8.0 feet.
6. Provide 10 feet minimum (clear) between all water and sewer, both mains and service lines, do not encase either.
7. The Contractor shall mark all service line ends as shown on the details.
8. The Contractor shall provide thrust blocks and megalug restraints at all bends and tees (c900 and DIP). Angles of water line bends are shown only as a guideline; all bends have not been identified or dimensioned, and additional bends may be required during construction.
9. Water service lines may be Type K Copper up to 1" in size. The County recommends that SDR 9 NSF, flexible polyethylene, (Pure Core or similar) be used (this is required for services larger than 1"). A curb stop shall be installed for each service at the crestline or property line or edge of easement or as shown on the plans.
10. The Contractor shall verify existing pipe or manhole inverts at tie in points prior to construction.
11. The Contractor shall test all water mains in accordance with Town of Silverthorne standard specifications, tests to include pressure test, chlorine test, bacteria test and leakage test.
12. The Contractor shall attend a mandatory preconstruction meeting with the Developer and Alpine Engineering, Inc., prior to the start of construction.
15. All sewer pipe dimensions noted are inside edge of manhole to inside edge of manhole.
16. All sewer lines shall have a minimum of 5 feet of cover, structural protection such as flowable fill with reinforcement may be required.
17. Sewer service lines and all sewer mains must be SDR 26 PVC.
18. Sewer acceptance. No air pressure test is required , vacuum test manholes, all sewer mains should be cleaned and televised prior to acceptance.
18. The Contractor is responsible for coordinating, conducting and scheduling for the testing of all utilities and obtaining approval and acceptance from all utilities.
20. The Contractor may need to perform hydraulic testing and disinfection of existing waterlines as part of the testing and acceptance procedure for the proposed waterline.
21. Compaction of all trenches and bedding must be attained as per specifications.

SHEET INDEX

PROJECT CONTACTS

DEVELOPER, BUCKHEAD RENOVATIONS	MICHAEL O'SULLIVAN	(404)229-0676
ARCHITECT	TODD WEBBER	(970)668-9402
CIVIL ENGINEER, ALPINE ENGINEERING, INC.	MATT WADEY	(970)926-3373
GEOTECH, CTL THOMPSON, INC.	GEORGE BENECKE	(970)453-2047
LAND SURVEYOR, RANGE WEST, INC.	ROBERT JOHNS	(970)468-6281
WATER, WATER WORKS WEST	RON MENTCH	(970)468-7480
SEWER, SNAKE RIVER SANITATION	STONER TURNER	(970)468-8794
ELECTRIC & GAS, XCEL ENERGY	NANCY HOWARD	(970)262-4050
CABLE TV, COMCAST	TONY HILDRETH	(970)401-2782
TELEPHONE, CENTURYLINK	KIRK CLAPP	(970)468-6860

GRADING AND DRAINAGE NOTES

1. All work performed for this project including storm drains and culverts shall be constructed in accordance with Summit County standards and the project Technical Specifications.
2. All drain pipes shall be installed with the required bedding.
3. Elevations shown are at pipe invert unless otherwise shown.
4. All standard storm drain structures are subject to modification by the Engineer to meet field requirements.
5. Where any part of the storm drain system is located in a fill section, provide fill material compacted to 95% AASHTO T99 density from the original undisturbed ground up to structure bottom slabs and pipe bedding.
6. Inlet boxes to be oversized to accommodate pipe size where necessary. Provide traffic load rated inlet box and top slab to accommodate grate and frame for oversized boxes.
7. Pipe lengths indicated are slope lengths measured along the centerline of pipe from inside face of box to inside face of box.
8. Curb and Gutters shall be installed in such a manner as to insure positive drainage in all areas, as shown.
9. Direct downspout drainage away from building foundation or to storm per Geotechnical Engineer.
10. Ditch revegetation and ditch protective linings will require field adjustment during construction to account for varying soil conditions. Revegetation and linings will be evaluated after ditches are constructed.
11. Grading adjacent to buildings shall be at a slope away from the building of 1' in 10' per the geotechnical report.
12. The Contractor shall maintain existing drainage channels, culverts, and appurtenances during construction as necessary to protect roads and property.
13. The Contractor shall remove all topsoil and man placed fill prior to commencement of construction.
14. The ground surface surrounding the exterior of buildings shall be graded to slope away from the foundations in all directions.
15. Proof roll all hardscape areas prior to installing basecourse and pavement, per Geotechnical Report.

XCEL ENERGY NOTES

I. TRENCH AND CONDUIT

1. The developer or contractor will contact Xcel Energy before conduit and vault installation begins to schedule a pre-construction meeting with the project inspector.
2. Changes in power facility construction from that shown on the project plans will not be made without advance approval from the Xcel Energy inspector.
3. Xcel Energy material shall not be moved from the project to which it was assigned without the advance approval of the inspector and the completion of necessary paperwork. Xcel Energy material shall not be installed for any use other than construction of power facilities.
4. All roads will be built to subgrade and all drainages will be constructed to grade before any vaults or conduits are installed.
5. All electric primary trench will be excavated deep enough to ensure that the top of installed power facilities will be 30" below final grade. Special care must be taken to insure that the top of conduits will be 30" below the bottom of drainage ditches and all other low areas. Gas shall be buried at 24" min.
6. Trench will be as straight as possible between vaults and shall have a smooth bottom free from low and high spots. Six inches of road base will be placed the entire length of the trench and well compacted prior to conduit installation. When placed in the trench, the conduit shall be in continuous contact with the compacted road base with no hold down weight added. Twelve inches of road base, as measured from the top of the conduit, will be placed on the conduit and well compacted prior to returning any native backfill to the trench. Large rocks shall not be placed directly on the road base layer. Care must be taken to avoid conduit damage during backfill and compaction; conduits found to be unusable at the time of power cable installation will be repaired by the developer or contractor before power can be made available.
7. Power facilities to be placed parallel to deeper utilities will have a horizontal separation from the deeper utility greater than the depth of such utility below final grade less four feet. When crossing a deeper utility is unavoidable, the crossing will be made as close to perpendicular as possible.
8. The conduit will not be backfilled without the Xcel Energy inspector seeing all joints unless the inspector gives prior permission. All joints shall be completely seated to the line marked on the male end of the conduit after sufficient glue is applied to both conduits being jointed, even in areas where the trench cannot be excavated completely straight. Glue in the joint shall be allowed to completely dry prior to any stress being applied to the conduit on either side of the joint. Trench backfilled without the inspector viewing each joint or giving prior permission to cover the conduit will be re-excavated to expose the conduit, or the contractor will put a camera through each conduit in the span which was prematurely backfilled to verify the joint seating and conduit condition. The camera verification will be witnessed by the Xcel Energy inspector.
9. Individual conduits shall enter each vault at a consistent location. There is to be no crossing of conduits in the trench. Pull string shall be installed in all conduit.
10. Both ends of a conduit run shall be securely plugged at the time of installation with Xcel Energy supplied material. Conduit ending outside a vault shall be marked with a 4" x 4" post or other approved method.
11. Red trench marking tape will be supplied by Xcel Energy and shall be installed 18" to 24" above the conduit during backfill.
12. At completion of the job, the inspector will do a final inspection. If the job does not meet with Xcel Energy's specifications or the approval of inspector, service will not be provided until specifications are met.

II. VAULTS

1. Vaults shall be installed as follows:
   - A Splice vaults shall be installed with the manhole lid grade being slightly above final grade of the surrounding area, except when the vault is in a roadway, the manhole lid grade shall match the grade of the finished roadway surface.
   - B Transformer vaults and switchgear vaults will be installed with the bottom of the lid at final grade. The lid will be level.
2. Holes knocked in vaults for conduit installation shall be as small as possible and shall be grouted closed on the outside of the vault prior to backfill.
3. Conduit shall enter vaults perpendicular to the vault wall.
4. Conduit will extend 4" into the vault (measured from the inside wall of the vault) after backfilling is complete.
5. After the vault has been set, pipes extended in and grouted and the ground rod is in place, vaults shall be swept out removing all dirt or rocks. Cleanup shall be completed to the satisfaction of the inspector prior to cable installation being scheduled.
6. Pedestals for other utilities shall not be located closer than 10' to a vault on sides where transformers or switchgear will have access doors. Pedestals shall not be located closer than 5' to a vault on sides where the pad-mounted equipment will not have access doors.

ALPINE ENGINEERING INC.
34510 HWY 6 / UNIT A9 / PO BOX 97
EDWARDS CO 81632 / 970.926.3373
WWW.ALPINECIVIL.COM

COLORADO LICENSED
MATTHEW C. WADEY
6-15-20
39865
PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO
COVER SHEET

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET
C1.0

SNAKE RIVER

TRACT C

OPEN SPACE

FOOT BRIDGE

PROPERTY LINE

12' TRAIL EASEMENT

25' WETLAND SETBACK

WILDLIFE BUFFER

PROPERTY LINE

4-Plex
F

4-Plex
G

4-Plex
H

25' SETBACK

9.0'

19.0'

EXISTING 2' CONCRETE PAN

43.2'

45.8'

LAKE RIDGE ROAD

26.0'

R5.0'

R5'

23.7'

PROPOSED ASPHALT PARKING

26.0'

9.0'

PROPOSED BUMPSTER PAD

18.0'

R6.5'

EXISTING 6' CONCRETE PAN

EXISTING ASPHALT ROAD

19.0'

19.0'

12' TRAIL EASEMENT

Mech

FD

J

FUTURE MULTI STORY BUILDING

Parking

Stor.

Stor.

25' SETBACK

WATER EASEMENT

PROPERTY LINE

RIGHT OF WAY (TYP)

KEYSTONE ROAD

LEGEND

PROPERTY LINE

EASEMENT

PROPOSED BOULDER RETAINING

PROPOSED CONCRETE/ASPHALT

GRAPHIC SCALE

0 10 20 40

(IN FEET)

1 inch = 20 ft.

ALPINE ENGINEERING INC.
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THE RIDGE COMPLEX

KEYSTONE, CO

GEOMETRIC SITE LAYOUT

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET
C1.1

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SNAKE RIVER

FOOT BRIDGE

PROPERTY LINE

25' WETLAND SETBACK

WILDLIFE BUFFER

12' TRAIL EASEMENT

TRAIL EASEMENT

WATER EASEMENT

LAKE RIDGE CIRCLE

KEYSTONE ROAD

EXISTING ASPHALT TRAIL

PHASE 1

PARCEL 2

#0097

#0102

4-Plex

F

TOW=9263.5'
BOW=9262.8'

FFG=9262.4

G

CONSTRUCT BOULDER WALL (TYP)

TOW=9265.3'
BOW=9262.8'

FFG=9263.8

H

TOW=9268.5'
BOW=9266.0'

TOW=9269.5'
BOW=9266.0'

FFG=9266.9

J

FUTURE BUILDING (LOWER LEVEL PARKING GARAGE)

PROPOSED ASPHALT DRIVEWAY. 3.5" HMA / 6" CLASS 6 BASE COURSE

EXISTING SPOT ELEVATIONS ARE ITALICIZED (TYP)

2' CONC. PAN

MATCH PROPOSED DRIVEWAY TO ELEVATION OF EXISTING CONCRETE PAN (TYPICAL)

EXISITNG CONCRETE PAN TO REMAIN

EXISITNG 6' WIDE CONCRETE PAN TO BE REMOVED/REPLACE WITH UTILITY INSTALLATION (SEE UTILITY PLAN)

CONSTRUCT CONCRETE DUMPSTER PAD (7" CONC. / 6" CLASS 6 BASE COURSE

REPAIR EXISITNG ASPHALT IN THE EXTENTS OF PROJECT. MILL EXISTING ASPHALT TO 2" DEPTH. OVERLAY WITH 2" DEPTH OF PG 58-28 HOT MIX ASPHALT

PROP. DUMPSTER

STORM PIPING AND INLET (SEE STORM PLAN)

PROPOSED ASPHALT PARKING AND DRIVE. 3.5" HMA OVER 6" COMPACTED CLASS 6 BASE COURSE. VERIFY SECTION WITH GEOTECH ENGINEER

EXISTING 18" STORM

EXISTING 18" STORM CULVERT

SEWER EASE.

2'x3' VALLEY INLET RIM=9257.98 INV=9252.18

2' RISER AREA INLET RIM=9261.1' INV OUT 18"=56.5'

2'x3' VALLEY INLET RIM=9263.33' INV (3) 18"=56.05'

2' RISER AREA INLET RIM=9264.5' INV (2) 18"=61.8' 12" SUMP

VALLEY INLET RIM=9260.72 INV=9251.72

LEGEND

- PROPERTY LINE
- 8110 EXISTING CONTOUR
- EASEMENT
- 8106 PROPOSED CONTOUR
- 1.5% 06.8' PROPOSED GRADING, SLOPE/SPOT
- 1.5% 06.8' EXISTING GRADING, SLOPE/SPOT
- PROPOSED STORM SEWER
- PROPOSED BOULDER RETAINING
- PROPOSED CONCRETE/ASPHALT

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

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COLORADO LICENSED
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6-15-20
39865
PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO

GRADING PLAN

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
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3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET
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SNAKE RIVER

T BRIDGE

PROPERTY LINE

25' WETLAND SETBACK

WILDLIFE BUFFER

12' TRAIL EASEMENT

TRAIL EASEMENT

BLDG E

PHASE 1

#0097

#0102

PARCEL 2

4-Plex

4-Plex

4-Plex

INSTALL 12" NYPLOPLAST INLET WITH DROP IN GRATE RIM=62.5' INV OUT=60.75' CONSTRUCT 12" SUMP

FFG-9262.4

INSTALL 8" NYPLOPLAST INLET WITH DROP IN GRATE RIM=62.5' INV OUT 6"=60.5' CONSTRUCT 12" SUMP

FFG-9263.8

INSTALL 18" NYPLOPLAST INLET WITH PEDESTRIAN GRATE RIM=64.5' INV IN 6"=60.0' INV OUT=60.0' CONSTRUCT 12" SUMP

FFG-9266.9

INSTALL 8" NYPLOPLAST INLET WITH DROP IN GRATE RIM=65.5' INV OUT 6"=63.5' CONSTRUCT 12" SUMP

INSTALL 12" NYPLOPLAST INLET WITH TRAFFIC RATED GRATE RIM=66.0' INV OUT=62.2' CONSTRUCT 12" SUMP

INSTALL CONTECH CS4 CASCADE SEPARATOR OR APPROVED EQUAL. RIM=9260.3' PIPE INV=9253.77'. VERIFY INVERT EXISTING PIPE BEFORE ORDERING STRUCTURE.

6" HDPE STORM 17 LF @ 1%

8" HDPE STORM 75 LF @ 1%

12" HDPE STORM 20 LF @ 1%

6" HDPE STORM 17 LF @ 1%

8" HDPE STORM 73 LF @ 3.0%

0+00

0+50

1+00

1+50

EXISTING 18" STORM

LAKE RIDGE CIRCLE

KEYSTONE ROAD

CONNECT PROPOSED 12" STORM INTO EXISTING INLET. CORE/GROUT CONNECTION. INV IN 12" PROPOSED=58.0'

ROAD CUT (TYPICAL) REMOVE/REPLACE EXSITING ASPHALT AND CONCRETE PAN. MATCH EXISTING BASE COURSE AND PAVEMENT THICKNESS.

INSTALL 2'x3' VALLEY GRATE INLET. GRATE RIM=9260.5' INV OUT 12" HDPE=9256.5' FIELD CONNECT 12" HDPE TO EXISTING 18" HDPE WITH AN INSERTA TEE FITTING

2'x3' VALLEY INLET RIM=9260.50 INV (1) 18"=56.02'

2' RISER AREA INLET RIM=9261.1' INV OUT 18"=56.5'

2'x2' AREA INLET RIM=9264.5' INV (2) 18"=61.8' 12" SUMP

ROAD CUT (TYPICAL) REMOVE/REPLACE EXSITING ASPHALT AND CONCRETE PAN. MATCH EXISTING BASE COURSE AND PAVEMENT THICKNESS.

EXISTING SMALL POND TO REMAIN

WATER EASEMENT

GRADING ESSENTIALLY MATCHES EXISTING GRADE. IF MORE THAN 18" OF EXCAVATION OCCURS, INSTALL 2" OF RIGID BLUEBOARD (6' WIDE) ON TOP OF WATER LATERAL CROSSING

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- EASEMENT
- PROPOSED CONTOUR
- PROPOSED GRADING, SLOPE/SPOT
- EXISTING GRADING, SLOPE/SPOT
- PROPOSED STORM SEWER
- PROPOSED BOULDER RETAINING
- PROPOSED CONCRETE/ASPHALT

GRAPHIC SCALE

0 10 20 40

(IN FEET)

1 inch = 20 ft.

TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

PROFILE: 8" STORM

12" NYPLOPLAST INLET GRATE RIM=62.5' INV OUT=60.75' CONSTRUCT 12" SUMP

STA 0+75.98 18" NYPLOPLAST INLET RIM=64.5' INV IN 6"=60.0' INV OUT=60.0' CONSTRUCT 12" SUMP

STA 1+49.5 12" NYPLOPLAST INLET GRATE RIM=66.0' INV OUT=62.2' CONSTRUCT 12" SUMP

PROP GAS SERV

PROP COMM

PROP ELEC SERV

PROP COMM

FINISH GRADE

PROP ELEC SERV

9270

9260

75 LF 8" HDPE @ -1.00%

73 LF 8" HDPE @ 3.0%

DATUM ELEV 9250.00

PROP SEWER SERV

PROP WATER SERV

PROP GAS SERV

PROP WATER SERV

PROP SEWER SERV

9262.3 9260.75

9264.8 9260.25

9265.8 9260.99

9266.9 9263.11

EXISTING GROUND

PIPE INVERT

NOTE: INSTALL SHALLOW UTILITIES UNDER STORM

0+00

0+50

1+00

1+50

INSTALL 12" SUMPS IN INLETS

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COLORADO LICENSED
MATTHEW C. WADLEY
6-15-20
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PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO

STORM DRAINAGE PLAN

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET C3.0

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TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

ALL WATER MAINS FITTINGS TO BE RESTRAINED WITH MEGALUGS AND CONCRETE THRUST BLOCKS

ALL WATER SERVICES TO BE SIZED BY PLUMBER AND FIRE PROTECTION CONSULTANT

SEE SNAKE RIVER WATER AND SEWER SYSTEM STANDARDS AND SPECIFICATIONS

SNAKE RIVER

FOOT BRIDGE

PROPERTY LINE

25' WETLAND SETBACK

WILDLIFE BUFFER

12' TRAIL EASEMENT

TRAIL EASEMENT

BUILDING E
Address: 0097

PHASE 1

4-Plex (F)

4-Plex (G)

4-Plex (H)

4-Plex (J)

FFG-9262.4

FFG-9263.8

FFG-9266.9

INSTALL CLEANOUT AT END OF SERVICE (TYP)

EXISTING 4" PVC SEWER SERVICE STUB. CONTRACTOR TO POTHOLE AND VERIFY LOCATION FOR CONNECTION.

INVERT 4" CLEANOUT 9254.0'

INVERT 4" CLEANOUT 9258.3'

INSTALL CLEANOUT FOR FUTURE BLDG. SERVICE INVERT 6" CLEANOUT 9260.5'

FUTURE BUILDING WATER SERVICE TO BE BURIED AT 9' TO TOP OF PIPE TOP=60.0' STUB AND CAP AND MARK WITH POST

UTILITY CROSSING CENTER STICK OF SEWER MAIN PIPE AT CROSSING (TYPICAL)

SEWER MANHOLE SE6
RIM=9259.75
INVERT=9248.25

SEWER MANHOLE SE7
RIM=9262.44
INVERT=9250.54

SEWER MANHOLE SE8
RIM=9265.0
INVERT=9258

4" PVC 39 LF @ 5.2%

4" DIP WATER

EXIST. 4" DIP WATER

4" PVC 51 LF @ 2%

6" PVC 3.0%

EXIST 8" PVC SEWER @ 6.3%

8" PVC SEWER 92 LF @ 1.92%

8" x 6" WYE (TYP)

EXIST. 4" DIP WATER

LAKE RIDGE CIRCLE

KEYSTONE ROAD

WATER LINE EASEMENT

PARCEL 2
Address: 0102

ROAD CUT (TYPICAL) REMOVE/REPLACE EXSITING ASPHALT AND CONCRETE PAN. MATCH EXISTING BASE COURSE AND PAVEMENT THICKNESS.

EXISTING FIRE HYDRANT

CONNECT TO EXISTING 8" PVC SEWER MAIN WITH APPROVED 4" WYE TAPPING SADDLE (TYP) INVERT 8"=50.9'

UTILITY CROSSING FLOWFILL PROPOSED WATER SERVICES 10' EITHER SIDE OF EXISTING SEWER

CONNECT TO EXISTING 8" DIP WATER MAIN WITH APPROVED 4" TAPPING SADDLE (TYP)

ROAD CUT (TYPICAL) REMOVE/REPLACE EXSITING ASPHALT AND CONCRETE PAN. MATCH EXISTING BASE COURSE AND PAVEMENT THICKNESS.

CONNECT TO EXISTING 8" DIP WITH 8"x6" TEE AND THRUST BLOCK. INSTALL THRUST BLOCK AND MEGALUG RESTRAINED JOINTS AT ALL BEND & TEES

CONNECT TO EXISTING MANHOLE WITH 8" PVC MAIN. CORE CONCRETE FOR CONNECTION, INSTALL RUBBER BOOT AND GROUT. CORE HOLE TO BE 18" MIN. FROM EXISTING INVERTS INVERT 8"=9256.2

RELOCATE EXISTING FIRE HYDRANT WATER EASEMENT

EXISTING 8" DIP WATER

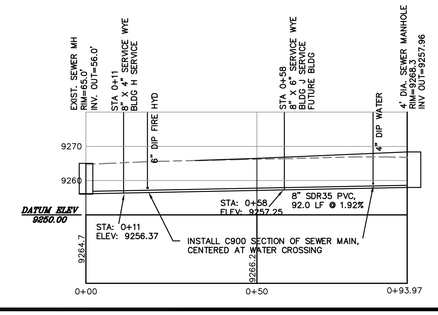
EXISTING (2) 4" PVC SEWER SERVICE STUBS. CONTRACTOR TO PLUG/GROUT CLOSED THE EXISTING INVERTS

INSTALL 4' DIA. SEWER MANHOLE RIM=9268.3 INV OUT=9257.96

POTHOLE AND CAP EXISTING 6" TEE AT MAIN. REPAIR ASPHALT PATH

PROFILE: 8" SEWER MAIN

SCALE: VERT. 1"=20'
HORIZ. 1"=20'



LEGEND

- PROPOSED ELECTRIC
- PROPOSED ELECTRIC SERVICE
- PROPOSED CENTURYLINK
- PROPOSED COMCAST
- PROPOSED GAS SERVICE
- 8" DIP — PROPOSED WATER
- 8" PVC — PROPOSED SEWER
- 6" DIP — PROPOSED FIRE HYDRANT W/GV
- PROPOSED TRANSFORMER & COMM. PEDESTAL
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING PHONE
- EXISTING SEWER
- EXISTING WATER
- EXISTING IRRIGATION
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC VAULT
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- PROPERTY LINE

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 Inch = 20 ft.

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MATTHEW C. WADSWORTH
6-15-20
39865
PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO

WATER & SEWER PLAN

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET C4.0

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TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

SNAKE RIVER

FOOT BRIDGE

BLDG E

BUILDING E
Address: 0097

PHASE

PARCEL 2
Address: 0102

4-Plex

F

G

H

J

INSTALL 2" PVC ELECTRIC SERVICE CONDUIT TO EACH BUILDING METER (TYP)

INSTALL (4) 2" PVC COMCAST CONDUITS, ONE TO EACH BUILDING (TYP)

CONNECT TO EXISTING COMCAST COMM PED

EXISTING SINGLE PHASE TRANSFORMER 50 KVA 59/91 TO SERVE BUILDING A & B. XCEL TO VERIFY BUILDING LOADS PRIOR TO CONSTRUCTION

INSTALL POLYETHYLENE GAS SERVICES TO EACH BUILDING (TYP)

PROPOSED JOINT TRENCH

INSTALL POLYETHYLENE GAS SERVICE

1 ¼" PE GAS

INSTALL 2" PVC COMCAST CONDUIT FROM CONNECTION PEDESTAL TO EACH BUILDING. WALL MOUNT APARTMENT BOX OUTSIDE OF EACH BUILDING

INSTALL (1) 2" PVC CONDUIT FOR COMCAST FOR FUTURE BUILDING, SWEEP UP AND INSTALL HANDHOLE

EXISTING GAS STUB, TO REMAIN FOR FUTURE BUILDING (TYP)

EXISTING SINGLE PHASE TRANSFORMER TO BE REMOVED AND RETURNED TO XCEL 50 KVA 59/89, PRIOR TO ANY CONSTRUCTION

INSTALL 4" PVC PRIMARY ELECTRIC CONDUIT TO PROPOSED TRANSFORMER

TIE INTO CENTURY LINK CONDUIT. EXISTING CENTURY LINK PEDESTALL TO BE RELOCATED OR REMOVED/REPLACED

INSTALL 4" PVC CENTURYLINK CONDUIT TO PROPOSED PEDESTAL

INSTALL 2" PVC CENTURYLINK (PHONE) CONDUIT SERVICES TO EACH BUILDING

PROPOSED TRANSFORMER

RELOCATED/REPLACED CENTURYLINK PEDESTAL

18" CULVERT

LEGEND

PE	PROPOSED ELECTRIC
PES	PROPOSED ELECTRIC SERVICE
PCL	PROPOSED CENTURYLINK
PCDN	PROPOSED COMCAST
PGS	PROPOSED GAS SERVICE
8" DIP	PROPOSED WATER
8" PVC	PROPOSED SEWER
6" DIP	PROPOSED FIRE HYDRANT W/GV
T P	PROPOSED TRANSFORMER & COMM. PEDESTAL
EE	EXISTING ELECTRIC
EG	EXISTING GAS
EP	EXISTING PHONE
S	EXISTING SEWER
EW	EXISTING WATER
IRR	EXISTING IRRIGATION
T	EXISTING TELEPHONE PEDESTAL
E	EXISTING ELECTRIC VAULT
S	EXISTING SEWER MANHOLE
W	EXISTING WATER VALVE
	PROPERTY LINE

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 inch = 20 ft.

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MATTHEW C. WADLEY
6-15-20
39865
PROFESSIONAL ENGINEER

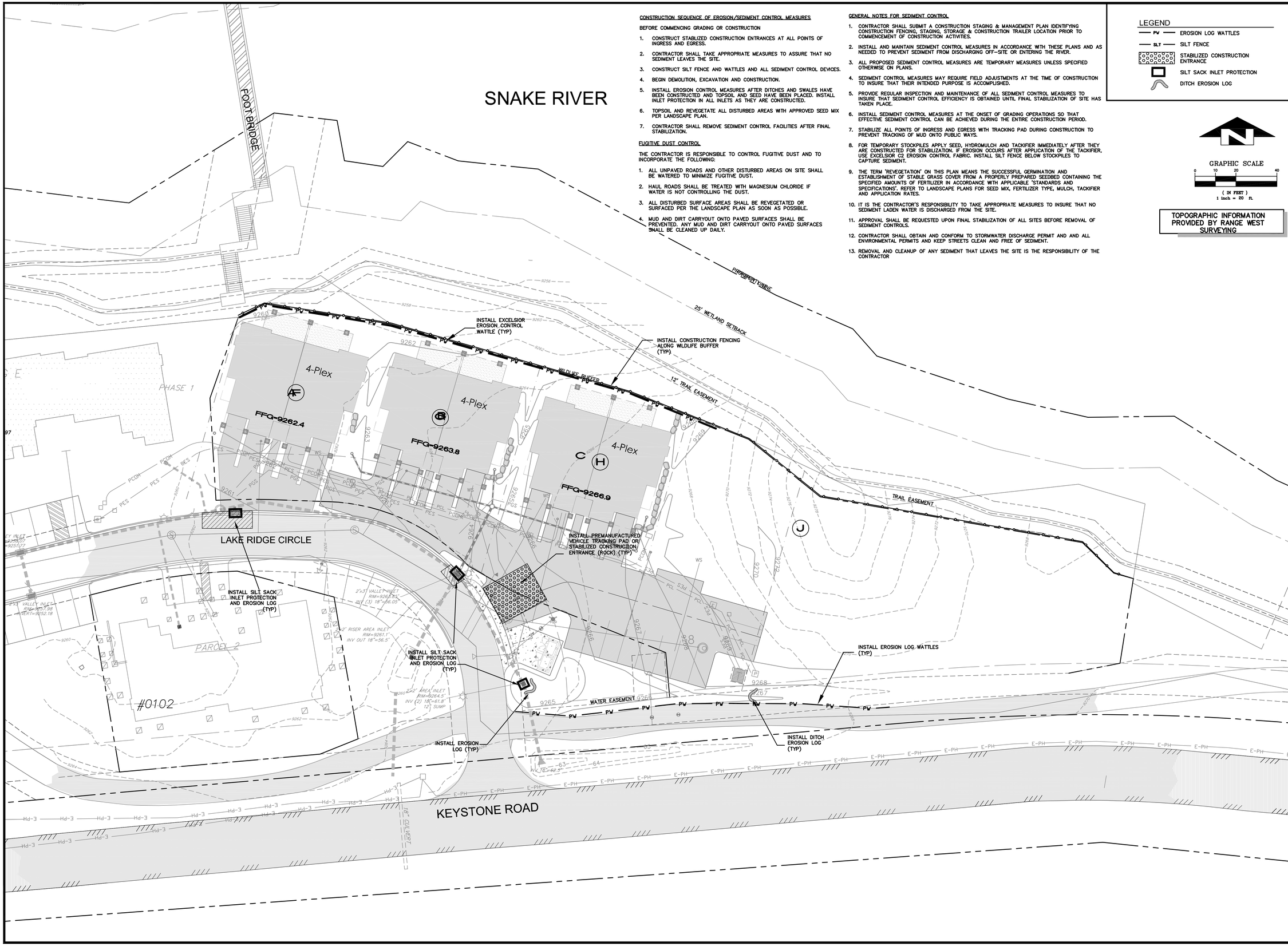
THE RIDGE COMPLEX
KEYSTONE, CO

SHALLOW UTILITY PLAN

NO.	DATE	REVISIONS	BY
1	1/29/2019	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED MCW
DRAWN MCW
CHECKED GLB
JOB NO. xxx
DATE 10/18/2018

SHEET
C5.0



CONSTRUCTION SEQUENCE OF EROSION/SEDIMENT CONTROL MEASURES

BEFORE COMMENCING GRADING OR CONSTRUCTION

1. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES AT ALL POINTS OF INGRESS AND EGRESS.
2. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ASSURE THAT NO SEDIMENT LEAVES THE SITE.
3. CONSTRUCT SILT FENCE AND WATTLES AND ALL SEDIMENT CONTROL DEVICES.
4. BEGIN DEMOLITION, EXCAVATION AND CONSTRUCTION.
5. INSTALL EROSION CONTROL MEASURES AFTER DITCHES AND SWALES HAVE BEEN CONSTRUCTED AND TOPSOIL AND SEED HAVE BEEN PLACED. INSTALL INLET PROTECTION IN ALL INLETS AS THEY ARE CONSTRUCTED.
6. TOPSOIL AND REVEGETATE ALL DISTURBED AREAS WITH APPROVED SEED MIX PER LANDSCAPE PLAN.
7. CONTRACTOR SHALL REMOVE SEDIMENT CONTROL FACILITIES AFTER FINAL STABILIZATION.

FUGITIVE DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE TO CONTROL FUGITIVE DUST AND TO INCORPORATE THE FOLLOWING:

1. ALL UNPAVED ROADS AND OTHER DISTURBED AREAS ON SITE SHALL BE WATERED TO MINIMIZE FUGITIVE DUST.
2. HAUL ROADS SHALL BE TREATED WITH MAGNESIUM CHLORIDE IF WATER IS NOT CONTROLLING THE DUST.
3. ALL DISTURBED SURFACE AREAS SHALL BE REVEGETATED OR SURFACED PER THE LANDSCAPE PLAN AS SOON AS POSSIBLE.
4. MUD AND DIRT CARRYOUT ONTO PAVED SURFACES SHALL BE PREVENTED. ANY MUD AND DIRT CARRYOUT ONTO PAVED SURFACES SHALL BE CLEANED UP DAILY.

GENERAL NOTES FOR SEDIMENT CONTROL

1. CONTRACTOR SHALL SUBMIT A CONSTRUCTION STAGING & MANAGEMENT PLAN IDENTIFYING CONSTRUCTION FENCING, STAGING, STORAGE & CONSTRUCTION TRAILER LOCATION PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. INSTALL AND MAINTAIN SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THESE PLANS AND AS NEEDED TO PREVENT SEDIMENT FROM DISCHARGING OFF-SITE OR ENTERING THE RIVER.
3. ALL PROPOSED SEDIMENT CONTROL MEASURES ARE TEMPORARY MEASURES UNLESS SPECIFIED OTHERWISE ON PLANS.
4. SEDIMENT CONTROL MEASURES MAY REQUIRE FIELD ADJUSTMENTS AT THE TIME OF CONSTRUCTION TO INSURE THAT THEIR INTENDED PURPOSE IS ACCOMPLISHED.
5. PROVIDE REGULAR INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES TO INSURE THAT SEDIMENT CONTROL EFFICIENCY IS OBTAINED UNTIL FINAL STABILIZATION OF SITE HAS TAKEN PLACE.
6. INSTALL SEDIMENT CONTROL MEASURES AT THE ONSET OF GRADING OPERATIONS SO THAT EFFECTIVE SEDIMENT CONTROL CAN BE ACHIEVED DURING THE ENTIRE CONSTRUCTION PERIOD.
7. STABILIZE ALL POINTS OF INGRESS AND EGRESS WITH TRACKING PAD DURING CONSTRUCTION TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
8. FOR TEMPORARY STOCKPILES APPLY SEED, HYDROMULCH AND TACKIFIER IMMEDIATELY AFTER THEY ARE CONSTRUCTED FOR STABILIZATION. IF EROSION OCCURS AFTER APPLICATION OF THE TACKIFIER, USE EXCELSIOR C2 EROSION CONTROL FABRIC. INSTALL SILT FENCE BELOW STOCKPILES TO CAPTURE SEDIMENT.
9. THE TERM 'REVEGETATION' ON THIS PLAN MEANS THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF FERTILIZER IN ACCORDANCE WITH APPLICABLE 'STANDARDS AND SPECIFICATIONS'. REFER TO LANDSCAPE PLANS FOR SEED MIX, FERTILIZER TYPE, MULCH, TACKIFIER AND APPLICATION RATES.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE APPROPRIATE MEASURES TO INSURE THAT NO SEDIMENT LADEN WATER IS DISCHARGED FROM THE SITE.
11. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES BEFORE REMOVAL OF SEDIMENT CONTROLS.
12. CONTRACTOR SHALL OBTAIN AND CONFORM TO STORMWATER DISCHARGE PERMIT AND AND ALL ENVIRONMENTAL PERMITS AND KEEP STREETS CLEAN AND FREE OF SEDIMENT.
13. REMOVAL AND CLEANUP OF ANY SEDIMENT THAT LEAVES THE SITE IS THE RESPONSIBILITY OF THE CONTRACTOR

LEGEND

- PW — EROSION LOG WATTLES
- SLT — SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- SILT SACK INLET PROTECTION
- DITCH EROSION LOG

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

TOPOGRAPHIC INFORMATION PROVIDED BY RANGE WEST SURVEYING

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PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO

EROSION CONTROL PLAN

NO.	DATE	REVISIONS	BY
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3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED	MCW
DRAWN	MCW
CHECKED	GLB
JOB NO.	xxx
DATE	10/16/2018

SHEET
C6.0

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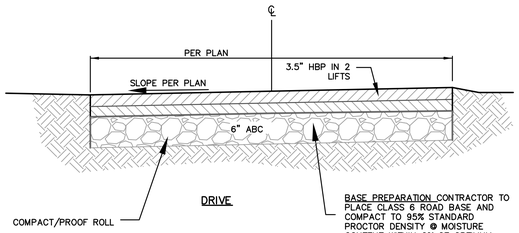

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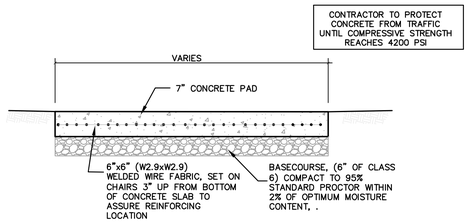
A ASPHALT SECTIONS



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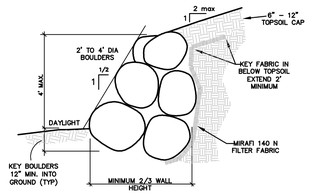
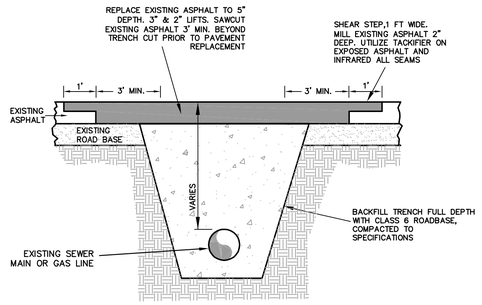
B CONCRETE DUMPSTER PAD SECTION



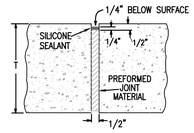
N.T.S.

C BOULDER WALL

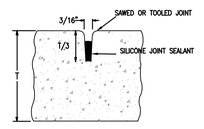


N.T.S.

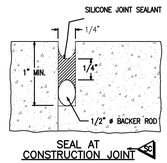
D ROAD CUT DETAIL



EXPANSION JOINT

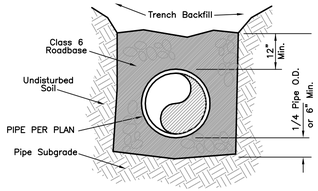


TRANSVERSE CONTRACTION JOINT
(CURB & PANS @ 5' O.C.)



SEAL AT
CONSTRUCTION JOINT

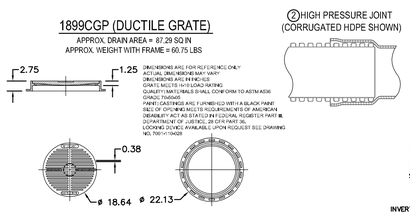
E CONCRETE JOINTING

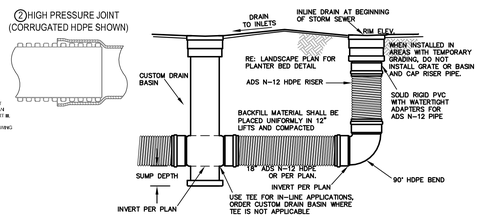


PIPE BEDDING TO CONFORM TO PIPE MANUFACTURER'S SPECIFICATIONS.

N.T.S.

F CULVERT BEDDING





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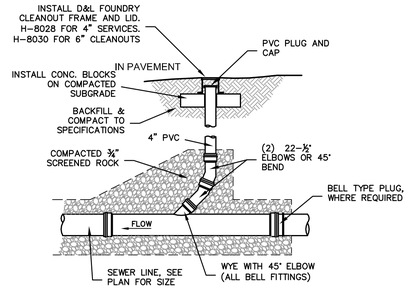
G NYLOPLAST AREA INLINE DRAINS



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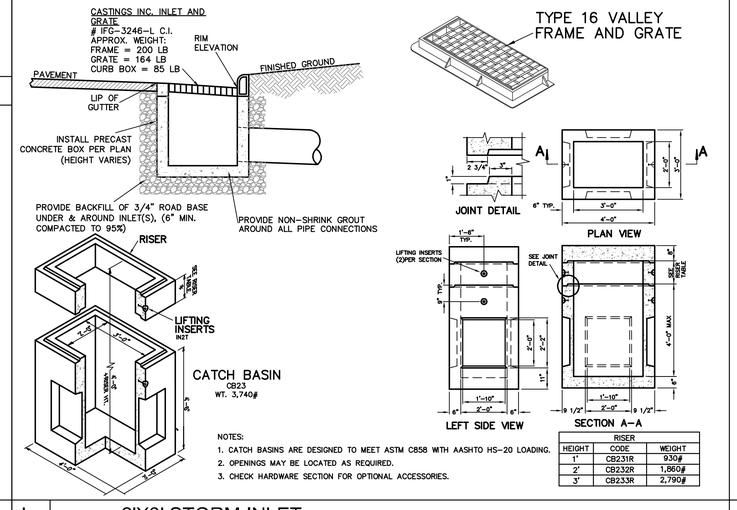
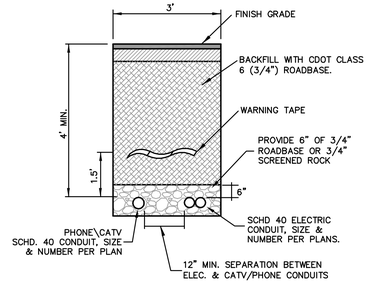
H SANITARY SEWER CLEANOUT



RISER		
HEIGHT	CODE	WEIGHT
1'	CB231R	930#
2'	CB232R	1,860#
3'	CB233R	2,790#

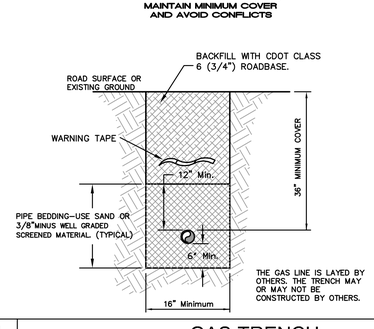
L 2'X3' STORM INLET

CONTRACTOR MAY BE REQUIRED TO INSTALL SHALLOW UTILITIES BELOW STORM SEWER OR OTHER UTILITIES TO MAINTAIN MINIMUM COVER AND AVOID CONFLICTS

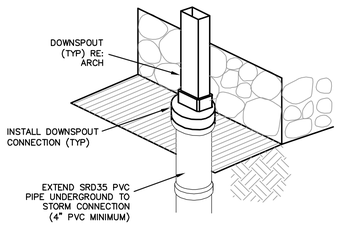


I ELEC./ PHONE TRENCH

CONTRACTOR MAY BE REQUIRED TO INSTALL SHALLOW UTILITIES BELOW STORM SEWER TO MAINTAIN MINIMUM COVER AND AVOID CONFLICTS



J GAS TRENCH



N.T.S.

K DOWNSPOUT CONNECTION

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DETAILS

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1	10/18/2018	PRELIMINARY PLAN SUBMITTAL	MCW
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CHECKED MCW
JOB NO. XXX
DATE 10/18/2018

SHEET C7.0

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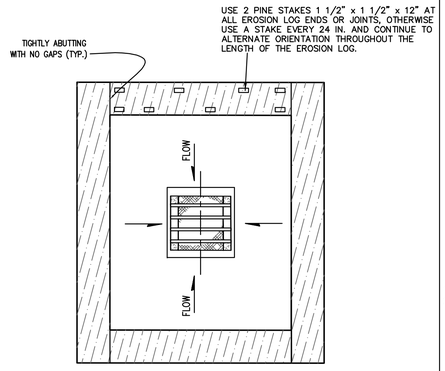
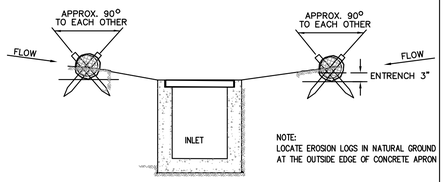


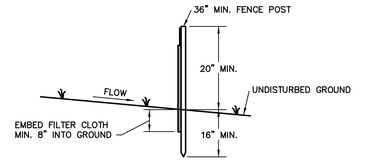
PLAN VIEW



CROSS SECTION

N.T.S.

A EROSION LOG INLET PROTECTION



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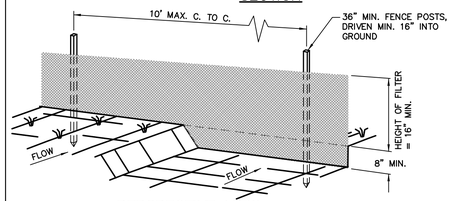


PERSPECTIVE VIEW

SILT FENCE

Approx. Scale: 1" = 2'-0"

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

NOTES:

1. SILT FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE WITH TIES SPACED EVERY 24"AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

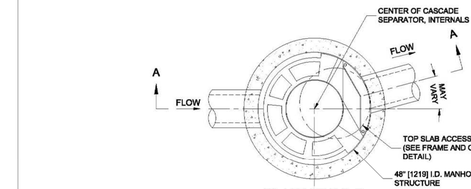
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD.

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL.

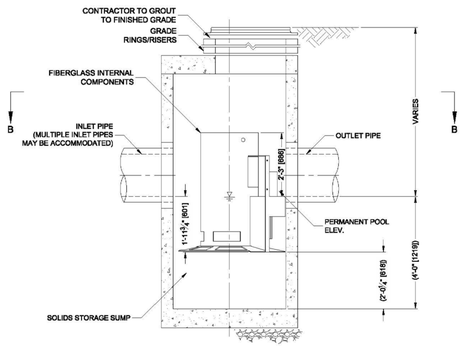
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

N.T.S.

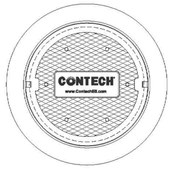
B SILT FENCE



PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

CS4 DESIGN NOTES

THE STANDARD CS4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			*
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
NOTES/SPECIAL REQUIREMENTS:		*	*

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 2' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

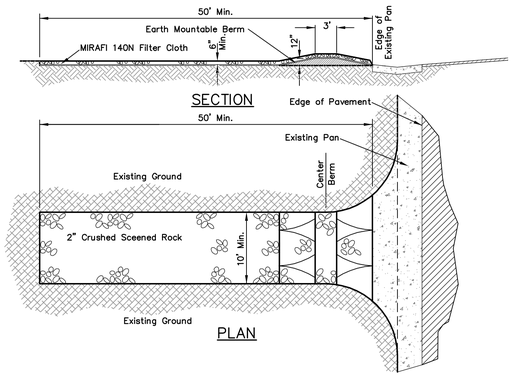
INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS4
CASCADE SEPARATOR
STANDARD DETAIL

G WATER QUALITY VAULT



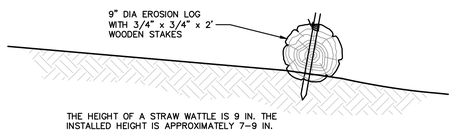
PLAN

CONSTRUCTION NOTES

1. STONE SIZE – USE 2" CRUSHED SCREENED ROCK.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED IMMEDIATELY. SCE SHALL REMAIN IN PLACE UNTIL PAVING OF ENTRANCE COMMENCES.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

N.T.S.

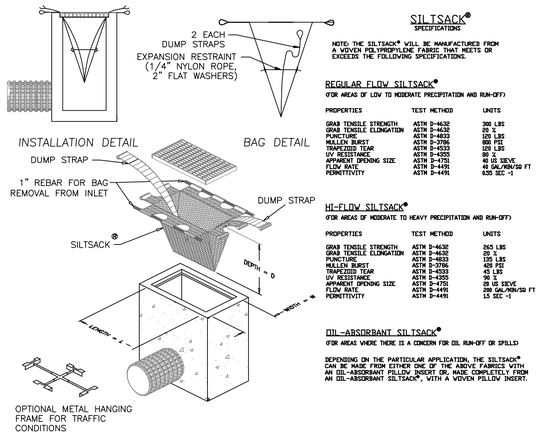
C STABILIZED CONSTRUCTION ENTRANCE



THE HEIGHT OF A STRAW WATTLE IS 9 IN. THE INSTALLED HEIGHT IS APPROXIMATELY 7–9 IN.

N.T.S.

D EROSION LOG WATTLE



SILTSACK® SPECIFICATIONS

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

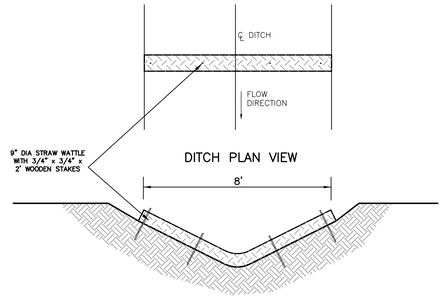
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	70 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

DEPENDING ON THE PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

N.T.S.

E SILT SACK INLET PROTECTION



DITCH CROSS–SECTION

1. THE HEIGHT OF A STRAW WATTLE IS 9 IN. THE INSTALLED HEIGHT IS APPROXIMATELY 5 –7 IN. THE STANDARD LENGTH OF STRAW WATTLES IS 25 FT., HOWEVER OTHER LENGTHS WILL BE MADE UPON REQUEST.
2. STRAW WATTLES SHOULD BE INSTALLED IN SHALLOW TRENCHES, 2 – 4 IN. DEEP, DEPENDING ON SOIL TYPE AND SLOPE STEEPNESS. DIG THE TRENCH DEEPER FOR SOFT, LOAMY SOILS AND STEEPEST SLOPES; DIG THE TRENCH SHALLOWER FOR HARD, ROCKY SOILS AND GENTLER SLOPES. USE MATTOCKS AND SHOVEL TO DIG THE TRENCH, THROWING EXCAVATED SOIL TO THE UPHILL SIDE TO PREVENT RUNOFF FROM UNDERCUTTING THE WATTLE.
3. INSTALL WATTLE IN DRAINAGE DITCH PERPENDICULAR TO FLOW DIRECTION.

N.T.S.

F DITCH EROSION LOGS

ALPINE ENGINEERING INC.
34516 HWY 6 UNIT A9 / PO BOX 97
EDWARDS CO 81632 / 970.926.3373
WWW.ALPINECIVIL.COM

COLORADO LICENSED
MATTHEW C. WADSWORTH
6-15-20
39865
PROFESSIONAL ENGINEER

THE RIDGE COMPLEX
KEYSTONE, CO

EROSION DETAILS

NO.	DATE	REVISIONS	BY
1	10/18/2018	PRELIMINARY PLAN SUBMITTAL	MCW
2	08/09/2019	PRELIMINARY PLAN RESUBMITTAL	MCW
3	06/15/2020	PLAN RESUBMITTAL	MCW

DESIGNED RJF
DRAWN RJF
CHECKED MCW
JOB NO. XXX
DATE 10/18/2018

SHEET
C7.1