

**FINAL DRAINAGE REPORT FOR
HOMESTEAD AT STERLING RANCH FILING
NO. 1 & AMENDMENT TO MASTER
DEVELOPMENT DRAINAGE REPORT
STERLING RANCH FILING NO. 1 & 2

EL PASO COUNTY, COLORADO**

November 2017

Prepared for:

**SR Land, LLC
20 Boulder Crescent, Suite 210
Colorado Springs, CO 80903**

Prepared by:



Project #09-005
DSD Project # **SF-17-025**

**FINAL DRAINAGE REPORT FOR
HOMESTEAD AT STERLING RANCH FILING NO. 1 &
AMENDMENT TO MASTER DEVELOPMENT DRAINAGE REPORT FOR
STERLING RANCH FILING NO. 1 & 2**

DRAINAGE PLAN STATEMENTS

ENGINEERS STATEMENT

The attached drainage plan and report was prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the master plan of the drainage basin.

Virgil A. Sanchez, P.E. #37160
For and on Behalf of M&S Civil Consultants, Inc

DEVELOPER'S STATEMENT

I, the developer have read and will comply with all the requirements specified in this drainage report and plan.

BY: _____
James F Morley

TITLE: _____

DATE: _____

ADDRESS: SR Land, LLC
20 Boulder Crescent, Suite 210
Colorado Springs, CO 80903

EL PASO COUNTY'S STATEMENT

Filed in accordance with the requirements of El Paso County Land Development Code, Drainage Criteria Manual Volumes 1 and 2, and the Engineering Criteria Manual, as amended.

BY: _____ DATE: _____
Jennifer Irvine, P.E.
County Engineer / ECM Administrator

FINAL DRAINAGE REPORT FOR HOMESTEAD AT STERLING RANCH FILING NO. 1 & AMENDMENT TO MASTER DEVELOPMENT DRAINAGE REPORT FOR STERLING RANCH FILING NO. 1 & 2

TABLE OF CONTENTS

PURPOSE	4
GENERAL LOCATION AND DESCRIPTION	4
SOILS	4
HYDROLOGIC CALCULATIONS	5
HYDRAULIC CALCULATIONS	5
FLOODPLAIN STATEMENT	5
DRAINAGE CRITERIA	5
EXISTING DRAINAGE CONDITIONS	5
PROPOSED DRAINAGE CHARACTERISTICS	9
EROSION CONTROL	9
CONSTRUCTION COST OPINION	10
DRAINAGE & BRIDGE FEES	10
SUMMARY	11
CONSTRUCTION COST OPINION	12
REFERENCES	13

APPENDIX

Vicinity Map
 Soils Map
 FIRM Panel W/ Revised LOMR
 Hydrologic Calculations
 Hydraulic Calculations
 Drainage Map

FINAL DRAINAGE REPORT FOR HOMESTEAD AT STERLING RANCH FILING NO. 1 & AMENDMENT TO MASTER DEVELOPMENT DRAINAGE REPORT FOR STERLING RANCH FILING NO. 1 & 2

PURPOSE

This document is the Final Drainage Report for Homestead at Sterling Ranch Filing No. 1 & Amendment to Master Development Drainage Report for Sterling Ranch Filing No. 1 & 2. This site was previously discussed, in the “Master Development Drainage Report for Sterling Ranch Filing Nos. 1&2, and Final Drainage Report for Sterling Ranch Filing No.1” (henceforth referred to as MDDPSR) prepared by M&S Civil Consultants, dated April 2017. The purpose of this document is to identify and analyze the on and offsite drainage patterns and to ensure that post development runoff is routed through the site safely and in a manner that satisfies the requirements set forth by the El Paso County Drainage Criteria Manual. In addition to the drainage analysis presented for Homestead at Sterling Ranch Filing No. 1, this report also evaluates an alternative for the collection and treatment of offsite flows reaching the western boundary of this filing.

GENERAL LOCATION AND DESCRIPTION

Homestead at Sterling Ranch Filing No. 1 is located in the NE ¼ of the NW ¼ of Section 33, Township 12 South, Range 65 West of the 6th Principal Meridian, and the SE ¼ of the NW ¼ of Section 33, Township 12 South, Range 65 West of the 6th Principal Meridian within unincorporated El Paso County, Colorado. The site is bound on the north by Dines Boulevard and platted Tract C (within the Sterling Ranch development). The property is bound to the east by Dines Boulevard and to the west by existing Vollmer Road. On the south the property is bound by Barbarick Subdivision and Tract BB (within the Sterling Ranch development). Sterling Ranch lies within the Sand Creek Drainage Basin. Flows from this site are tributary to Sand Creek.

Homestead at Sterling Ranch Filing No. 1 consists of 19.574 acres and is presently undeveloped. Vegetation is sparse, consisting of native grasses. Existing site terrain generally slopes from north to south at grade rates that vary between 2% and 4%.

Homestead at Sterling Ranch Filing No. 1 is currently zoned “RS-5000 for single family development. Improvements proposed for the site include paved, streets, trails, utilities, and storm drainage improvements, as normally constructed for a residential development. As an alternative to the offsite pond W-2 an offsite Full Spectrum Sand Filter Pond is proposed to be constructed to provide water quality treatment for the off-site improvements to Vollmer Road. Onsite water quality is provided by the existing Pond 4 constructed with Sterling Ranch Filing No.1 (see MDDPSR).

**Revise to state that Filing 1 is
constructing pond W-9.**

SOILS

Soils for this project are delineated by the map in the appendix as Pring Coarse Sandy Loam (71) and is characterized as Hydrologic Soil Types "B". Soils in the study area are shown as mapped by S.C.S. in the "Soils Survey of El Paso County Area". Vegetation is sparse, consisting of native grasses and weeds.

HYDROLOGIC CALCULATIONS

Hydrologic calculations were performed using the El Paso County and City of Colorado Springs Storm Drainage Design Criteria manual and where applicable the Urban Storm Drainage Criteria Manual. The Rational Method was used to estimate stormwater runoff anticipated from design storms with 5-year and 100-year recurrence intervals.

HYDRAULIC CALCULATIONS

Hydraulic calculations were estimated using the Manning's Formula and the methods described in the El Paso County and City of Colorado Springs Storm Drainage Design Criteria manual. The relevant data sheets are included in the appendix of this report.

FLOODPLAIN STATEMENT

No portion of this site is within a designated F.E.M.A. floodplain as determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel No. 08041C0535 F, effective date March 17, 1997 and revised to reflect LOMR, 08-08-O541P, dated July 23, 2009. An annotated FIRM Panel is included in the Appendix.

DRAINAGE CRITERIA

This drainage analysis has been prepared in accordance with the current City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes I & II, dated November 1991, including subsequent updates. El Paso County has also adopted Chapter 6 and Section 3.2.1 of Chapter 13 in the City of Colorado Springs & El Paso County Drainage Criteria Manual Volumes I and II, dated May 2014. (Appendix I of the El Paso County's Engineering Criteria Manual (ECM), 2008). In addition to the ECM, the Urban Storm Drainage Criteria Manuals, Volumes 1-3, published by the Urban Drainage and Flood Control District (Volumes 1 & 2 dated January 2016, Volume 3 dated November 2010 and updates. Calculations were performed to determine runoff quantities for the 5-year and 100-year frequency storms for developed conditions using the Rational Method.

EXISTING DRAINAGE CONDITIONS

Homestead at Sterling Ranch Filing No. 1 site consists of 19.574 acres and is situated west of the Sand Creek Watershed. This area was previously studied in the "Sand Creek Drainage Basin Planning Study" (DBPS) prepared by Kiowa Corporation, revised March 1996. More recently the area was studied in the "Master Development Drainage Report for Sterling Ranch Filing Nos. 1&2, and Final Drainage Report for Sterling Ranch Filing No.1" prepared by MS Civil Consultants, dated April 2017. Homestead at Sterling Ranch Filing No. 1 and the surrounding areas, with the exception of the existing Barbarick Subdivision, have already been graded during the overlot of the subdivision. Please refer to the MDDPSR and Sterling Ranch Early Onsite Grading Plan for information on historic conditions and overlot drainage patterns.

PROPOSED DRAINAGE CHARACTERISTICS

General Concept Drainage Discussion

The following is a description of the onsite basins, offsite bypass flows and the overall drainage characteristics for the development of Homestead at Sterling Ranch Filing No. 1 and the Amendment to Master Development Drainage Report for Sterling Ranch Filing No. 1 & 2. The development of Homestead at Sterling Ranch Filing No. 1 consists only of the two cul-de-sacs, an eyebrow, roadways, and lots located within the filing boundary. The proposed development drainage patterns and flow values

Address overall Sterling Ranch
MDDP (provide) and add reference.

report was revised to discuss MDDP and provide a reference. Any text regarding the amendment or alternative was removed as the MDDPSR was updated.

are generally the same as those recommended within the MDDPSR. The following design points and basin results were determined using the Rational Method. It should be noted that all calculations and drainage basins have been revised to reflect the new criteria updates by the El Paso County/City of Colorado Springs Drainage Criteria Manual. Surface flow is designated as Design Points (DP) and flow within the storm sewer as (Pipe Run (PR)).

Detailed Drainage Discussion (Design Points)

DP1, 2.79 acres, consists of Basin A proposed residential lots and streets with runoff coefficients of 0.38 for the 5-year and 0.55 for the 100-year. Developed runoff of $Q_5=3.6$ cfs and $Q_{100}=8.7$ cfs has been calculated for DP1. The surface runoff is routed via overlot grading and curb and gutter to a proposed 15' CDOT type R at-grade inlet. The intercepted flow (PR1, $Q_5=3.6$ cfs and $Q_{100}=8.6$ cfs) will be routed via a 30" RCP under Wheatland Drive to DP2. There is flowby of 0.1 cfs in the 100 year event which is negligible and will not adversely affect the downstream infrastructure.

DP2, 2.70 acres, consists of Basin B proposed residential lots and streets with runoff coefficients of 0.38 for the 5-year and 0.55 for the 100-year. Developed runoff of $Q_5=3.6$ cfs and $Q_{100}=8.6$ cfs has been calculated for DP2. The surface runoff is routed via overlot grading and curb and gutter to a proposed 15' CDOT type R at-grade inlet. The intercepted flow ($Q_5=3.6$ cfs and $Q_{100}=8.5$ cfs) will combine with flows from PR1 be routed via a 36" RCP to an existing stub. The cumulative flows in PR2 ($Q_5=7.1$ cfs and $Q_{100}=17.2$ cfs) are less than the flows documented in the MDDPSR report ($Q_5=8.0$ cfs and $Q_{100}=19.3$ cfs). There is flowby of 0.1 cfs in the 100 year event which is negligible and will not adversely affect the downstream infrastructure.

DP3, 2.92 acres, consists of Basin C proposed residential lots and streets with runoff coefficients of 0.38 for the 5-year and 0.55 for the 100-year. Developed runoff of $Q_5=4.2$ cfs and $Q_{100}=10.1$ cfs has been calculated for DP3. The surface runoff is routed via overlot grading and curb and gutter to a proposed 10' CDOT type R sump inlet. The intercepted flow (PR3, $Q_5=4.2$ cfs and $Q_{100}=10.1$ cfs) will be routed via an 18" RCP to an existing stub. The flows in PR3 are equivalent to the flows documented in the MDDPSR report ($Q_5=4.2$ cfs and $Q_{100}=10.1$ cfs). The flows will not adversely affect the downstream infrastructure.

DP4, 9.36 acres, consists of Basin D (2.9 ac) and Basin E (5.34 ac) proposed residential lots and Basin F (1.12 ac) streets with runoff coefficients of 0.38 for the 5-year and 0.55 for the 100-year and Basin F (Dines Boulevard) with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year. Developed runoff of $Q_5=16.1$ cfs and $Q_{100}=36.7$ cfs has been calculated for DP4. The surface runoff is routed via overlot grading and curb and gutter to DP4 which will be collected by a 15' CDOT type R at-grade inlet. The intercepted flow ($Q_5=13.3$ cfs and $Q_{100}=20.0$ cfs) will combine with flows from PR3 and be routed east via an existing 30" RCP to existing Detention Pond 4. The flows in DP4 are equivalent to the flows documented in the MDDPSR report ($Q_5=16.1$ cfs and $Q_{100}=36.7$ cfs). Flowby from DP4 will be routed to DP5. The flows will not adversely affect the downstream infrastructure.

DP5, consists of Basin G (0.61 ac) proposed backyards of residential lots with runoff coefficients of 0.22 for the 5-year and 0.46 for the 100-year, Basin H (0.19 ac, Dines Boulevard) with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year and flowby from DP4. Developed runoff of $Q_5=4.2$ and $Q_{100}=19.7$ cfs has been calculated for DP5. The surface runoff is routed via overlot grading and curb and gutter to DP5 which will be collected by an existing 15' CDOT type R at-grade inlet. DP5 has an intercepted flow of ($Q_5=4.2$ cfs and $Q_{100}=14.7$ cfs). The flows in DP5 are equivalent to the flows documented in the MDDPSR report ($Q_5=4.2$ cfs and $Q_{100}=19.7$ cfs). Flowby from DP4 will be routed to DP5. The flows will not adversely affect the downstream infrastructure.

DP6, 4.68 acres, consists of Basin OS3 (0.43 ac) and Basin OS4 backyards of residential lots with runoff coefficients of 0.22 for the 5-year and 0.46 for the 100-year and Basin OS2 (2.1 ac, Wheatland Drive) and

revise

DP5

verify

Design Point and Basin
references have been corrected
Missing Basin ID was added to
Plan (Map) as necessary

not on plan?

Basin OS5 (1.54 ac, Dines Boulevard) with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year. Developed runoff of $Q_5=14.1$ cfs and $Q_{100}=26.7$ cfs has been calculated for DP6. The surface runoff is routed via overlot grading and curb and gutter to DP6 which will be collected by an existing 15' CDOT type R at-grade inlet. The basins and flows shown for the east half of Dines Boulevard are only for reference. The proposed develop shall not adversely affect the downstream infrastructure.

Basin N 2.08 acres, consists of proposed residential backyard lots and part of Tract L located along the south boundary of Homestead at Sterling Ranch Filing No. 1 with runoff coefficients of 0.22 for the 5-year and 0.46 for the 100-year. Developed runoff of, $Q_5=1.6$ cfs and $Q_{100}=5.7$ cfs have been calculated for the Basin. Runoff from the proposed residential backyard lots sheet flows to the Barbarick Subdivision development south as discussed in the MDDPSR. Basin N was part of a larger Basin YY. Coefficients and flows were calculated in a similar fashion as the MDDPSR, hence flows are equivalent to the flows calculated in the MDDPSR. The proposed develop shall not adversely affect the downstream infrastructure.

Basin O 0.57 acres, consists of planned residential backyard lots located along the south boundary of Homestead at Sterling Ranch Filing No. 1 with runoff coefficients of 0.22 for the 5-year and 0.46 for the 100-year. Developed runoff of, $Q_5=0.5$ cfs and $Q_{100}=1.8$ cfs have been calculated for the Basin. Runoff from the proposed residential backyard lots sheet flows to the Branding Iron at Sterling Ranch Filing No. 1 south as discussed in the MDDPSR. Basin O was part of a larger Basin GG. Coefficients and flows were calculated in a similar fashion as the MDDPSR, hence flows are equivalent to the flows calculated in the MDDPSR. The proposed develop shall not adversely affect the downstream infrastructure.

Detailed Drainage Discussion (Amendment to MDDPSR)

As discussed this report also functions to provide an alternative recommendation for the collection and treatment of runoff from offsite watersheds located to the north and west of the subject site as well as those flows generated by the improved portions of Vollmer rights of ways as compared to the design presented within the MDDPSR.

The design initially presented in the MDDPSR recommends the construction of a large permanent erosion control fabric lined drainage channel along the west side of the improved Vollmer Road as well as a small drainage collection systems to convey the runoff from the improved roadway sections to the channel and to a large proposed Extended Detention Basin (EDB) full spectrum detention pond (FSD) known as Pond W2 (also located along the west side of Vollmer Road). A large 48-54" RCP storm sewer conveyance main was planned to direct the discharge from the proposed pond, across the Homestead at Sterling Ranch residential development (and other future SR tracts) to the east across to existing Sand Creek Channel. However, in order to construct these aforementioned improvements both temporary construction and permanent public improvement and drainage easements are required from multiple property owners along the Vollmer Roadway corridor.

The purpose of the alternative design presented by this report was to determine if a system could be constructed within the existing rights of way and within the Sterling Ranch properties which would not require the need for offsite easements and/or property acquisition. The following paragraphs outline this system. It should be noted that at the time of the writing of this report it is unclear which alternative is to be constructed but in either case the offsite runoff and runoff from planned improvements can be collected in a manner that protects the public and is in accordance with the design guidelines and recommendations presented within the various drainage criteria manuals.

Basin M 1.15 acres, consists of planned residential backyard lots located along the west boundary of Homestead at Sterling Ranch Filing No. 1 with runoff coefficients of 0.22 for the 5-year and 0.46 for the 100-year. Developed runoff of, $Q_5=1.0$ cfs and $Q_{100}=3.6$ cfs have been calculated for the Basin. Runoff from the proposed residential backyard lots sheet flows to the Basin M2 (Sand Filter Pond W-9, Full

Spectrum Detention (FSD)). Basin M is comprised of Basin M and Basin T as discussed in the MDDPSR. Basin M will be treated for water quality when previously it was collected by the 48" RCP and released untreated to Sand Creek. Coefficients and flows were calculated in a similar fashion as the MDDPSR, hence flows are equivalent to the flows calculated in the MDDPSR. The proposed develop shall not adversely affect the downstream infrastructure.

Basin RP-2B 2.04 acres, consists of paved Vollmer Road (east half) and landscape area with runoff coefficients of 0.63 for the 5-year and 0.76 for the 100-year. Developed runoff of $Q_5=4.9$ cfs and $Q_{100}=9.9$ cfs has been calculated for this basin. In the interim the surface runoff is routed via curb and gutter to a proposed type 5 embankment protector and outfall to Basin M2 (FSD Pond W-9). In the future, upon full build out of Vollmer Road, the surface runoff will combine with Basin RP-2C and be routed via curb and gutter to a proposed type 5 embankment protector and outfall to Basin M2 (FSD Pond W-9). Coefficients and flows were calculated using the full build out of Vollmer Road. This alternative will consist of build out of the east half of Vollmer Road which will tie into existing Vollmer Road. The proposed develop shall not adversely affect the downstream infrastructure.

Basin RP-2C 1.28 acres, consists of paved Vollmer Road and landscape area with runoff coefficients of 0.74 for the 5-year and 0.84 for the 100-year. Developed runoff of $Q_5=4.3$ cfs and $Q_{100}=8.2$ cfs has been calculated for this basin. In the interim the surface runoff will sheet flow and outfall to Basin M2 (FSD Pond W-9). In the future, upon full build out of Vollmer Road, the surface runoff will combine with Basin RP-2B and be routed via curb and gutter to a proposed type 5 embankment protector and outfall to Basin M2 (FSD Pond W-9). Coefficients and flows were calculated using the full build of Vollmer Road. This alternative will consist of build out of the east half of Vollmer Road which will tie into existing Vollmer Road. The proposed develop shall not adversely affect the downstream infrastructure.

Basin M2 1.60 acres, consists of FSD Sand Filter Pond W-9 and landscape area with runoff coefficients of 0.08 for the 5-year and 0.35 for the 100-year. Developed runoff of $Q_5=0.4$ cfs and $Q_{100}=3.2$ cfs has been calculated for this basin. The cumulative upstream runoff of $Q_5=8.9$ cfs and $Q_{100}=21.2$ cfs has been calculated for DP13. The proposed FSD Pond W-9 functions to provide water quality and full spectrum detention for runoff calculated off and on-site. The pond is designed to treat approximately 6.07 acres, and provide 0.092 ac-ft of water quality storage and 0.638 ac-ft of 100-year storage. The outlet structure and pipe have been designed to release the required rates per the UDFCD manual and per the Detention Design-UD-Detention v3.07 workbook. The detention pond will be private and shall be maintained by the Sterling Ranch Metropolitan District. Access shall be granted to the owner and El Paso County for access and maintenance of the private detention pond. A private maintenance agreement document shall accompany the submittal. In the event of clogging or total inlet failure, flows at DP13 will over top the emergency spillway, with erosion control measures, and outfall south along Vollmer Road. The peak release rate from pond W-9 (PR_9 , $Q_5=0.6$ cfs and $Q_{100}=8.7$ cfs ~18" RCP) will combine with offsite flows from PR_7 . The summed flows (PR_{10} , $Q_5=7.6$ cfs and $Q_{100}=47.2$ cfs) will outfall into a manhole and combine with flows from PR_8 ($Q_5=18.9$ cfs and $Q_{100}=133.7$ cfs). The combined flows shall be routed east via a proposed 54" RCP, PR_{11} ($Q_5=23.8$ cfs and $Q_{100}=164.1$ cfs) into Sand Creek. Impacts from the outfall into Sand Creek will be addressed in the revised TM-SCCS.

The water quality volume and 100-year volume required for the site has been determined using the guidelines set forth in the City of Colorado Springs/El Paso County Drainage Criteria Manual - Volume II. Refer to the Detention Basin Design sheets located within the appendix of this report.

Vollmer Road. The proposed develop shall not adversely affect the downstream infrastructure.

DP7, 3.01 acres, consists of Sub-Basin OS1A (2.7 ac) existing low density residential with runoff coefficients of 0.08 for the 5-year and 0.35 for the 100-year and Basin V1A (0.31 ac) existing west half of Vollmer Road with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year. Calculated runoff of $Q_5=1.6$ cfs and $Q_{100}=7.0$ cfs has been calculated for DP7. The flow will be routed south via an an

existing 12" CMP (PR4) under an access road. The surface runoff shall be routed via historic drainage patterns and an existing road side swale to DP8.

DP8, 9.35 acres, consists of Sub-Basin OS1B (9.09 ac) existing low density residential with runoff coefficients of 0.08 for the 5-year and 0.35 for the 100-year and Basin V1B (0.31 ac) existing west half of Vollmer Road with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year and flows from DP7. Calculated runoff of Q5=4.8 cfs and Q100=26.3 cfs has been calculated for DP8. The flow will be captured by a 2.9'x5.7' CDOT type D inlet and be routed, under Vollmer Road, south via a 24" RCP (PR5). Minimal grading, within DP8, will be provided within the Vollmer Road ROW. In the event of clogging, runoff will overtop the sump condition and the surface runoff shall be routed via historic drainage patterns and an existing road side swale to DP9.

DP9, 5.85 acres, consists of Sub-Basin OS1C (5.64 ac) existing low density residential with runoff coefficients of 0.08 for the 5-year and 0.35 for the 100-year and Basin V1C (0.21 ac) existing west half of Vollmer Road with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year. Calculated runoff of Q5=2.2 cfs and Q100=12.3 cfs has been calculated for DP9. The flow will be captured by a 2.9'x2.9' CDOT type C inlet and be routed, under Vollmer Road, via an 18" RCP (PR6). These flows will be combine with flows from PR5 and be routed south via a 30" RCP, PR7 (Q5=7.0 cfs and Q100=38.6 cfs). These flows will combine with flows from PR9 and be routed south to a manhole via a 30" RCP, PR10 (Q5=7.6 cfs and Q100=47.2 cfs). Minimal grading, at DP9, will be provided within the Vollmer Road ROW. In the event of clogging, runoff will overtop the sump condition and the surface runoff shall be routed via historic drainage patterns and an existing road side swale to DP10.

DP10, 104.75 acres, consists of Sub-Basin OS1D (94.3 ac) and Basin W-2 (10.0 ac), existing low density residential with runoff coefficients of 0.08 for the 5-year and 0.35 for the 100-year and Basin V1D (0.13 ac) and Basin V2 (0.32 ac), existing west half of Vollmer Road with runoff coefficients of 0.90 for the 5-year and 0.96 for the 100-year. Calculated runoff of Q5=18.9 cfs and Q100=133.7 cfs has been calculated for DP10. The flow will be captured by a 4.0'x14.0' modified CDOT type D inlet and be routed, under Vollmer Road, via a 54" RCP (PR8) to a manhole. These flows will be combine with flows from PR10 and be routed east, within the Homestead Sterling Ranch Filing No. 1 subdivision, via a 54" RCP, PR11 (Q5=23.8 cfs and Q100=164.1 cfs). These flows will combine with flows from PR12 (Q5=2.7 cfs and Q100=36.2 cfs, release rate Pond 4) and be routed south via a 60" RCP, PR13 (Q5=26.5 cfs and Q100=200.3 cfs). These flows will outfall into a low tailwater riprap basin and into Sand Creek. Minimal grading, at DP10, will be provided within the Vollmer Road ROW. In the event of clogging, runoff will overtop the sump condition and the surface runoff shall be routed via historic drainage patterns and an existing road side swale south along Vollmer Road. The majority of improvements to Vollmer Road will drain to the east and be captured by FSD Pond W-9. No developed flows will be introduced to the westside of Vollmer Road.

Discussion was added throughout report to discuss adequacy of the facilities

DETENTION PONDS

Detention Pond W-9, has combined upstream developed runoff of Q5=8.9 cfs and Q100=21.2 cfs. The proposed Detention Pond functions to provide full spectrum detention and water quality for runoff calculated onsite. The pond is designed to treat approximately 6.07 acres, and provide 0.092 ac-ft of water quality storage and 0.638 ac-ft of 100-year storage. The sand filter, underdrain, outlet structure and pipe have been designed per the UDFCD manual and per the Detention Design-UD-Detention v3.07 workbook.

The detention pond will be private and shall be maintained by the Sterling Ranch Metropolitan District. Access shall be granted to the owner and El Paso County for access and maintenance of the private detention ponds. A private maintenance agreement documents shall accompany the submittal. In the event of clogging or total inlet failure, flows will over top the emergency spillway and outfall into a swale and will outlet along the eastside of Vollmer Road.

9
Provide statement confirming pond design sizing and attributes provided with S.R. Filing 1, and/or any revisions necessary.

The water quality volume and 100-year volume required for the site has been determined using the guidelines set forth in the City of Colorado Springs/El Paso County Drainage Criteria Manual Chapter 6 - Volume II. Refer to the Detention Basin Design sheets located within the appendix of this report.

EROSION CONTROL

It is the policy of the El Paso County that a grading and erosion control plan be submitted with the drainage report. EPC approved "Early Grading Plan for Sterling Ranch Phase I Onsite Grading & Erosion Control", November 18, 2015. And "Early Grading Plan for Sterling Ranch Phase I Offsite Grading & Erosion Control", December 3, 2015. Grading and Erosion control operations are currently underway (August 2016). Grading and Erosion Control will cease with the final development of the site in the next 12-36 months.

CONSTRUCTION COST OPINION – HOMESTEAD AT STERLING RANCH FILING NO. 1

Drainage Facilities:

Item	Description	Quantity	Unit Cost	Cost
1	18" RCP	10	\$40 /LF	\$400.00
2	30" RCP	34	\$65 /LF	\$2,210.00
3	36" RCP	36	\$75 /LF	\$2,700.00
4	15' CDOT Type R At-Grade	2	\$6000 /EA	\$12,000.00
5	8' CDOT Type R Sump Inlet	1	\$4700 /EA	<u>\$4,700.00</u>
Total				\$22,010.00

See Construction Cost Opinion for Alternative Sterling Ranch Filing No. 1 MDDP on the next page following the Summary paragraph.

M & S Civil Consultants, Inc. (M & S) cannot and does not guarantee the construction cost will not vary from these opinions of probable costs. These opinions represent our best judgment as design professionals familiar with the construction industry and this development in particular. The above is only an estimate of the facility cost and drainage basin fee amounts in 2017.

DRAINAGE & BRIDGE FEES – HOMESTEAD AT STERLING RANCH FILING NO. 1

This site is within the Sand Creek Drainage Basin. The 2017 Drainage and Bridge Fees per El Paso County for the Homestead at Sterling Ranch Filing No. 1 site are as follows:

Per Homestead at Sterling Ranch Filing No.1 Plat –	Total Area	19.574 Acres
FILING NO. 1 FEES:		
Drainage Fees:	19.574 x 46% \$ 16,270.00 =	\$ 146,495.73
Bridge Fees:	19.574 x 46% \$ 4,929.00 =	<u>\$ 44,380.91</u>
	Total	\$ 190,876.64

Revised

This could be 42% based on average lot size.


SUMMARY

Development of this site will not adversely affect the surrounding development per this final drainage report with no negative impact of the neighboring developments. The proposed drainage facilities will adequately convey, detain and route runoff from the tributary and onsite flows to the Sand Creek Drainage channel. Full Spectrum Detention and Water Quality Pond will be used to discharge developed flows into Sand Creek per the Urban Drainage criteria flow rates, which are at or less than the historic flow. Care will be taken during construction to accommodate overland flow routes onsite and temporary drainage conditions. The development of the Homestead at Sterling Ranch Filing No. 1 project shall not adversely affect adjacent or downstream property.

Summary Revised

see redline on
output sheet



 Sheet removed as these items were discussed in revised MDDPSR

CONSTRUCTION COST OPINION- STERLING RANCH FILING NO. 1 (ALTERNATIVE#1)

Drainage Facilities:

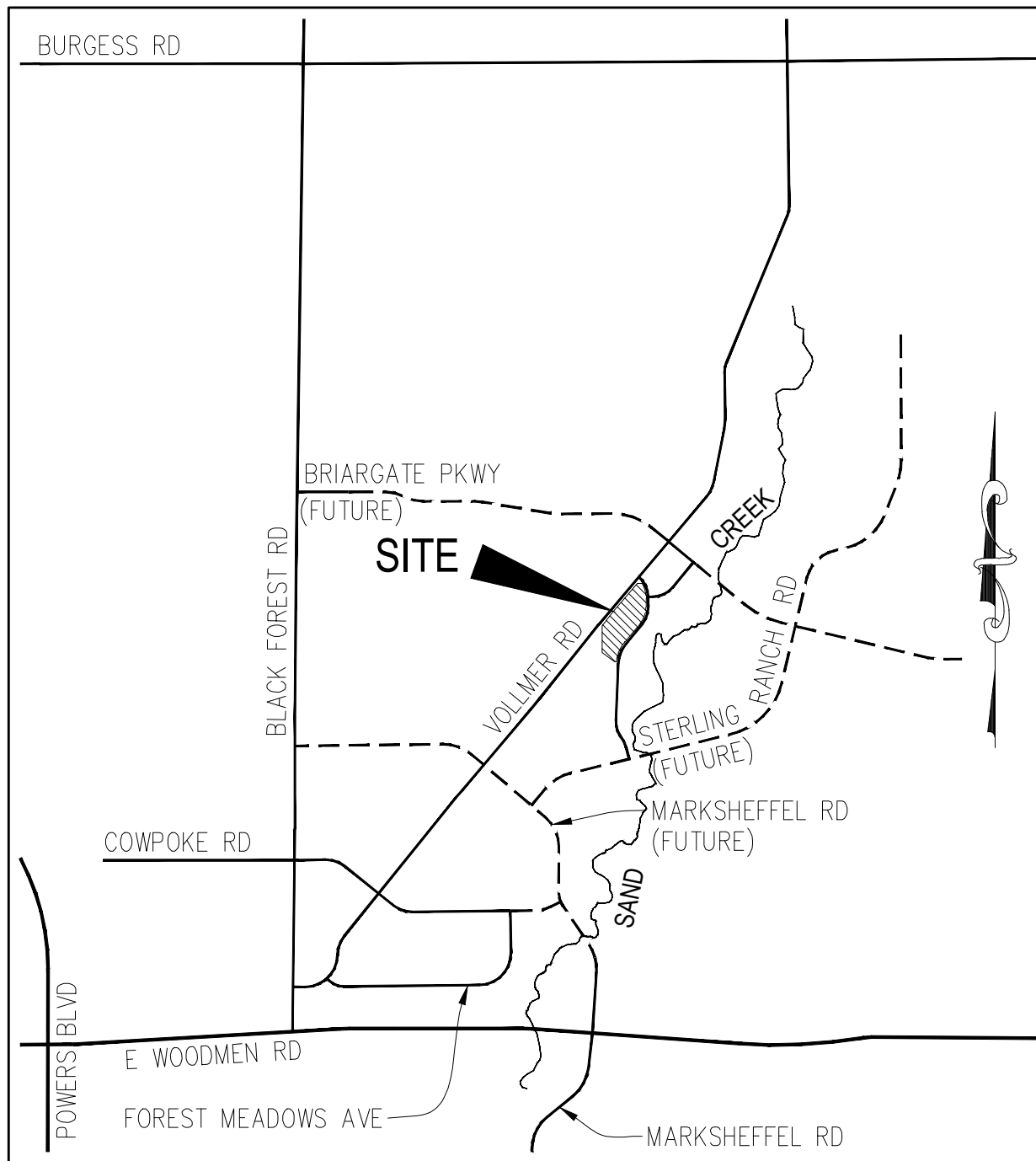
Item	Description	Quantity	Unit Cost	Cost
1	18" RCP	362	\$40 /LF	\$14,480.00
2	24" RCP	770	\$50 /LF	\$38,500.00
3	30" RCP	1952	\$65 /LF	\$58,560.00
4	36" RCP	615	\$75 /LF	\$46,125.00
5	42" RCP	385	\$85 /LF	\$32,725.00
6	54" RCP	1265	\$200 /LF	\$253,000.00
7	60" RCP	254	\$250 /LF	\$63,500.00
8	18" CMP	55	\$30 /LF	\$1,650.00
9	18" FES	3	\$245 /LF	\$735.00
10	24" FES	2	\$350 /EA	\$700.00
11	30" FES	4	\$475 /EA	\$1,900.00
12	36" FES	4	\$775 /EA	\$3,100.00
13	42" FES	1	\$895 /EA	\$895.00
14	18" CMP	1	\$150 /EA	\$150.00
15	60" End Treatment Headwall/Wing walls	1	\$17000 /EA	\$17,000.00
16	15' CDOT Type R At-Grade	7	\$6000 /EA	\$42,000.00
17	10' CDOT Type R Sump Inlet	2	\$4700 /EA	\$9,400.00
18	6.83'x6.33' MH	1	\$6500 /EA	\$6,500.00
19	7.83'x6.33" MH	2	\$6750 /EA	\$13,500.00
20	8.0'x8.0' MH	5	\$7000 /EA	\$35,000.00
21	8.0'x8.3' MH	1	\$8000 /EA	\$8,000.00
21	Type II MH	1	\$6000 /EA	\$36,000.00
22	Type III MH	1	\$6000 /EA	\$6,000.00
23	*Detention Pond 4	1	\$40000 /EA	\$40,000.00
24	*Detention Pond 8	1	\$40000 /EA	\$40,000.00
25	*Detention Pond W-9	1	\$20500 /EA	\$20,500.00
26	* Detention Pond BB	1	\$25000 /EA	\$25,000.00
27	Fabricated 36" Riser w/Trash rack	1	\$5000 /EA	\$5,000.00
27	CDOT Type C Area Inlet	1	\$5000 /EA	\$5,000.00
27	CDOT Type D Area Inlet	1	\$6000 /EA	\$5,000.00
28	Mod CDOT Outlet Structure	3	\$15000 /EA	\$45,000.00
29	Mod CDOT Type D Area Inlet	3	\$6000 /EA	\$18,000.00
Total				\$892,920.00

REFERENCES

- 1.) "El Paso County and City of Colorado Springs Drainage Criteria Manual, Vol I & II".
- 2.) "Urban Storm Drainage Criteria Manuals, Volumes 1-3"
- 3.) NRSC Web Soil Survey Map for El Paso County. <http://websoilsurvey.nrcs.usda.gov>
- 4.) Flood Insurance Rate Map (FIRM), Federal Emergency Management Agency, Effective date March 17, 1997.
- 5.) "Sand Creek Drainage Basin Planning Study" (DBPS) prepared by Kiowa Corporation, revised March 1996
- 6.) "Preliminary Drainage Report for Sterling Ranch-Phase 1", dated May 2015, by M&S Civil Consultants, Inc.
- 7.) "Sterling Ranch-Phase 1 Offsite Grading, Early Grading & Erosion Control Plans", prepared by M&S Civil Consultants, Inc., dated November 2015
- 8.) "Sterling Ranch-Phase 1 Onsite Grading, Early Grading & Erosion Control Plans", prepared by M&S Civil Consultants, Inc., dated November 2015
- 9.) "Final Drainage Report for Barbarick Subdivision, Portions of Lots 1, 2 and Lots 3 & 4, by Matrix Design Group, dated June 2016.
- 10.) "Preliminary and Final Drainage Report, Barbarick Subdivision, A Replat of Lot "D", McClintock Subdivision", El Paso County, Revised August 15, 2007, prepared by Oliver E. Watts, Consulting Engineer, Inc.
- 11.) "Master Development Drainage Plan For Sterling Ranch", prepared by M&S Civil Consultants, Inc., dated July 2010 (Draft not approved)
- 12.) "Technical Memorandum Sand Creek Channel Study (North of Woodmen Road) Hydrologic Analysis" (TM-SCCS) prepared by M&S Civil Consultants, Inc., dated July 2016
- 13.) "Master Development Drainage Report for Sterling Ranch Filing Nos. 1&2 and Final Drainage Report for Sterling Ranch Filing No. 1", prepared by M&S Civil Consultants, Inc., dated April 2017

APPENDIX

VICINITY MAP

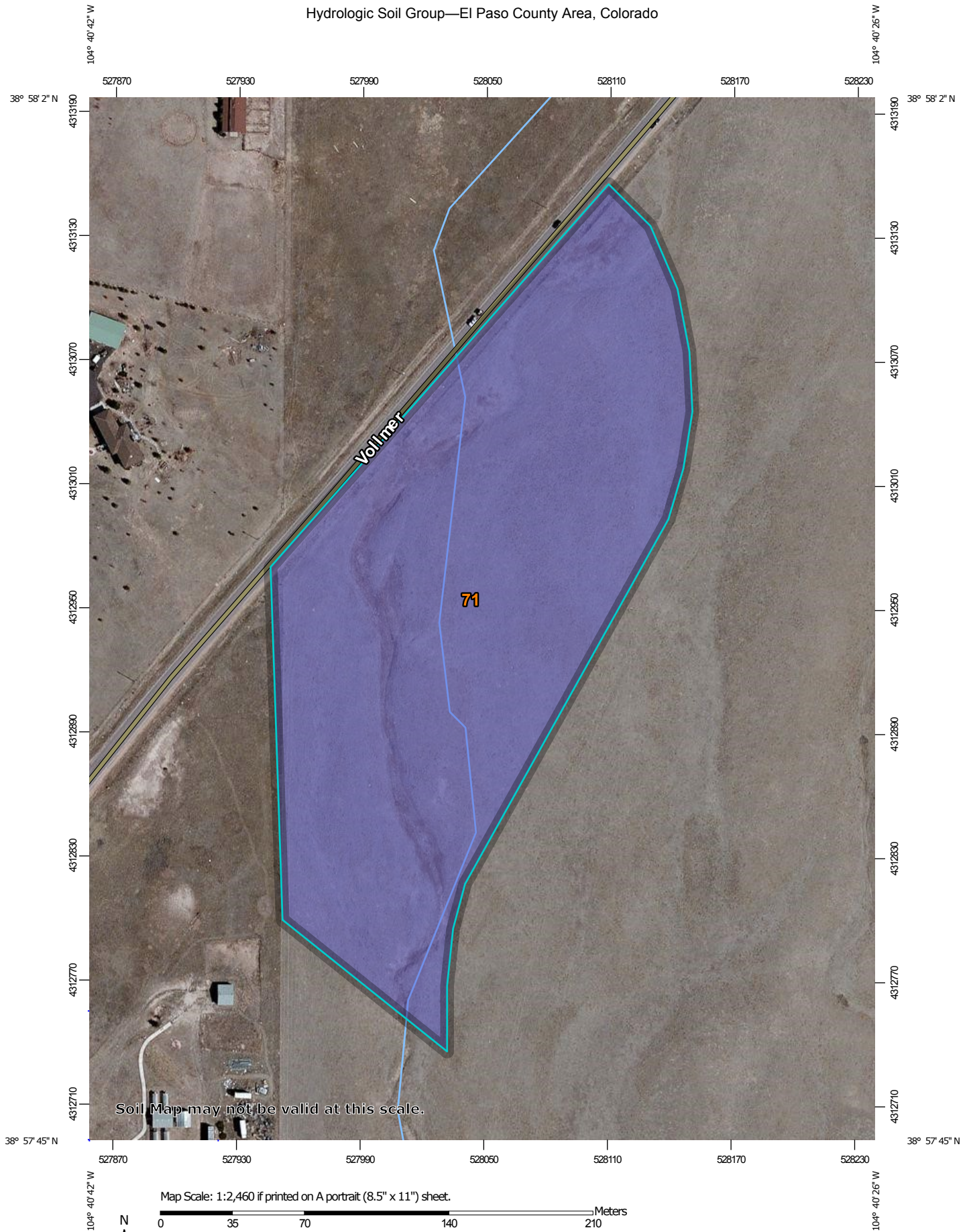


VICINITY MAP

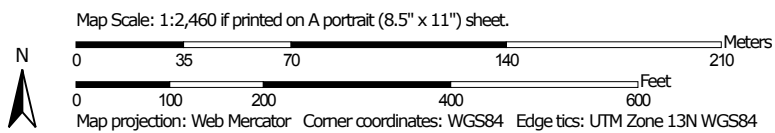
N.T.S.

SOILS MAP

Hydrologic Soil Group—El Paso County Area, Colorado



Soil Map may not be valid at this scale.



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

7/10/2017
Page 1 of 4



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
 Survey Area Data: Version 14, Sep 23, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 15, 2011—Sep 22, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — El Paso County Area, Colorado (CO625)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
71	Pring coarse sandy loam, 3 to 8 percent slopes	B	11.3	100.0%
Totals for Area of Interest			11.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

FIRM PANEL W/ REVISED LOMR

[illegible]

Legend

- 1% annual chance (100-Year) Floodplain
- 1% annual chance (100-Year) Floodway
- 0.2% annual chance (500-Year) Floodplain



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**EL PASO COUNTY,
COLORADO AND
INCORPORATED
AREAS**

PANEL 535 OF 1300

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
ALBANY	1	1	1
ALBANY	1	2	1
ALBANY	1	3	1
ALBANY	1	4	1
ALBANY	1	5	1
ALBANY	1	6	1
ALBANY	1	7	1
ALBANY	1	8	1
ALBANY	1	9	1
ALBANY	1	10	1
ALBANY	1	11	1
ALBANY	1	12	1
ALBANY	1	13	1
ALBANY	1	14	1
ALBANY	1	15	1
ALBANY	1	16	1
ALBANY	1	17	1
ALBANY	1	18	1
ALBANY	1	19	1
ALBANY	1	20	1
ALBANY	1	21	1
ALBANY	1	22	1
ALBANY	1	23	1
ALBANY	1	24	1
ALBANY	1	25	1
ALBANY	1	26	1
ALBANY	1	27	1
ALBANY	1	28	1
ALBANY	1	29	1
ALBANY	1	30	1
ALBANY	1	31	1
ALBANY	1	32	1
ALBANY	1	33	1
ALBANY	1	34	1
ALBANY	1	35	1
ALBANY	1	36	1
ALBANY	1	37	1
ALBANY	1	38	1
ALBANY	1	39	1
ALBANY	1	40	1
ALBANY	1	41	1
ALBANY	1	42	1
ALBANY	1	43	1
ALBANY	1	44	1
ALBANY	1	45	1
ALBANY	1	46	1
ALBANY	1	47	1
ALBANY	1	48	1
ALBANY	1	49	1
ALBANY	1	50	1
ALBANY	1	51	1
ALBANY	1	52	1
ALBANY	1	53	1
ALBANY	1	54	1
ALBANY	1	55	1
ALBANY	1	56	1
ALBANY	1	57	1
ALBANY	1	58	1
ALBANY	1	59	1
ALBANY	1	60	1
ALBANY	1	61	1
ALBANY	1	62	1
ALBANY	1	63	1
ALBANY	1	64	1
ALBANY	1	65	1
ALBANY	1	66	1
ALBANY	1	67	1
ALBANY	1	68	1
ALBANY	1	69	1
ALBANY	1	70	1
ALBANY	1	71	1
ALBANY	1	72	1
ALBANY	1	73	1
ALBANY	1	74	1
ALBANY	1	75	1
ALBANY	1	76	1
ALBANY	1	77	1
ALBANY	1	78	1
ALBANY	1	79	1
ALBANY	1	80	1
ALBANY	1	81	1
ALBANY	1	82	1
ALBANY	1	83	1
ALBANY	1	84	1
ALBANY	1	85	1
ALBANY	1	86	1
ALBANY	1	87	1
ALBANY	1	88	1
ALBANY	1	89	1
ALBANY	1	90	1
ALBANY	1	91	1
ALBANY	1	92	1
ALBANY	1	93	1
ALBANY	1	94	1
ALBANY	1	95	1
ALBANY	1	96	1
ALBANY	1	97	1
ALBANY	1	98	1
ALBANY	1	99	1
ALBANY	1	100	1
ALBANY	1	101	1
ALBANY	1	102	1
ALBANY	1	103	1
ALBANY	1	104	1
ALBANY	1	105	1
ALBANY	1	106	1

EL PASO COUNTY, TEXAS
UNINCORPORATED AREA, 1980, 0535, F

**REVISED TO
REFLECT LOMR
EFFECTIVE: July 23, 2009**

MAP NUMBER
08041C0535 F

EFFECTIVE DATE:
MARCH 17, 1997

Federal Emergency Management Agency

HYDROLOGIC CALCULATIONS

Calculation Sheets have been updated accordingly

HOMESTEAD AT STERLING RANCH FILING NO.1 AMENDED STERLING RANCH FILING NO.1 MDDP FINAL DRAINAGE REPORT (Area Drainage Summary)

From Area Runoff Coefficient Summary										OVERLAND					STREET / CHANNEL FLOW				Time of Travel (T _T)			INTENSITY *				TOTAL FLOWS				#REF!	#REF!												
BASIN		AREA TOTAL (Acres)	C _s	C ₁₀₀	C ₅	Length (ft)	Height (ft)	T _c (min)	Length (ft)	Slope (%)	Velocity (fps)	T _t (min)	TOTAL (min)	CHECK (min)	I ₅ (in/hr)	I ₁₀₀ (in/hr)	Q ₅ (cfs)	Q ₁₀₀ (cfs)	CA ₅	Basin	CA ₁₀₀																						
Proposed Area Drainage Summary																																											
OS2		2.1	0.90	0.96	0.90	10	0.2	0.9	1082	2.5%	3.0	5.9	6.9	16.1	4.7	7.9	8.9	15.9	1.89	OS2	2.02																						
OS3		0.43	0.22	0.46	0.22	90	1.8	12.0	0	0.0%	0.0	0.0	12.0	10.5	4.1	6.8	0.4	1.3	0.09	OS3	0.20																						
OS4		0.61	0.22	0.46	0.22	75	1.5	10.9	0	0.0%	0.0	0.0	10.9	10.4	4.1	6.8	0.5	7.9	0.13	OS4	0.28																						
OS5		1.54	0.90	0.96	0.90	10	0.2	0.9	1805	2.1%	3.0	9.9	10.8	20.1	4.0	6.7	5.6	10.0	1.39	OS5	1.48																						
A		2.79	0.38	0.55	0.38	65	1.3	8.3	1449	2.8%	3.0	8.0	16.3	18.4	3.4	5.7	3.6	8.7	1.06	A	1.53																						
B		2.70	0.38	0.55	0.38	60	1.2	8.0	1381	2.8%	3.0	7.6	15.6	18.0	3.5	5.8	3.6	8.6	1.03	B	1.49																						
C		2.82	0.38	0.55	0.38	100	1.2	12.2	411	3.0%	3.0	2.3	14.5	12.8	3.8	6.3	4.2	10.1	1.11	C	1.61																						
D		2.9	0.38	0.55	0.38	100	2	10.3	245	2.1%	3.0	1.3	11.7	11.9	3.9	6.5	4.3	10.4	1.10	D	1.60																						
E		5.34	0.38	0.55	0.38	100	2	10.3	61	3.3%	3.0	0.3	10.7	10.9	4.0	6.8	8.2	19.9	2.03	E	2.94																						
F		1.12	0.90	0.96	0.90	10	0.2	0.9	1525	2.8%	3.0	8.4	9.3	18.5	4.2	7.1	4.3	7.7	1.01	F	1.08																						
G		0.61	0.22	0.46	0.22	100	2	12.6	0	2.2%	3.0	0.0	12.6	10.6	4.0	6.8	0.5	1.9	0.13	G	0.28																						
EX-H		0.19	0.90	0.96	0.90	10	0.2	0.9	280	2.1%	3.0	1.5	5.0	11.6	5.2	8.7	0.9	1.6	0.17	EX-H	0.18																						
M		1.15	0.22	0.46	0.22	100	2	12.6					12.6	10.6	4.0	6.8	1.0	3.6	0.25	M	0.53																						
M2		1.6	0.08	0.35	0.08	100	2	14.7	1015	2.4%	2.3	7.4	22.1	16.2	3.4	5.7	0.4	3.2	0.13	M2	0.56																						
N		2.08	0.22	0.46	0.22	75	1.5	10.9	818	2.9%	3.0	4.5	15.4	15.0	3.5	5.9	1.6	5.7	0.46	N	0.96																						
O		0.57	0.22	0.46	0.22	100	4	10.1	0	2.7%	3.0	0.0	10.1	10.6	4.1	6.9	0.5	1.8	0.13	O	0.26																						
W-2		10	0.08	0.35	0.08	100	2	14.7	1113	4.0%	2.3	8.2	22.8	16.7	3.4	5.6	2.7	19.7	0.80	W-2	3.50																						
OS1 Historic		111.7	0.08	0.35															8.94	OS1 Historic	39.10																						
SUB-BASIN OS1A		2.7	0.08	0.35	0.08	100	0.57	22.2	1174	2.5%	1.5	12.9	35.1	17.1	3.3	5.6	0.7	5.3	0.22	SUB-BASIN OS1A	0.95																						
SUB-BASIN OS1B		9.09	0.08	0.35	0.08	100	0.57	22.2	1174	2.5%	2.3	8.6	30.8	17.1	3.3	5.6	2.4	17.8	0.73	SUB-BASIN OS1B	3.18																						
SUB-BASIN OS1C		5.84	0.08	0.35	0.08	300	9	22.2	907	3.3%	2.3	6.6	28.8	16.7	3.4	5.6	1.5	11.1	0.45	SUB-BASIN OS1C	1.97																						
SUB-BASIN OS1D		94.3	0.08	0.35	0.08	100	0.57	22.2	4800	3.0%	2.3	35.2	57.3	37.2	2.2	3.6	16.3	119.3	7.54	SUB-BASIN OS1D	33.01																						
V1A		0.31	0.90	0.96	0.90	20	0.4	1.3					5.0	10.1	5.2	8.7	1.4	2.6	0.28	V1A	0.30																						
V1B		0.26	0.90	0.96	0.90	20	0.4	1.3					5.0	10.1	5.2	8.7	1.2	2.2	0.23	V1B	0.25																						
V1C		0.21	0.90	0.96	0.90	20	0.4	1.3					5.0	10.1	5.2	8.7	1.0	1.7	0.19	V1C	0.20																						
V1D		0.13	0.90	0.96	0.90	20	0.4	1.3					5.0	10.1	5.2	8.7	0.6	1.1	0.12	V1D	0.12																						
V2		0.32	0.90	0.96	0.90	20	0.4	1.3					5.0	10.1	5.2	8.7	1.5	2.7	0.29	V2	0.31																						
RP-2B		2.04	0.63	0.76	0.63	50	1	4.8	1380	2.2%	3.0	7.6	12.4	17.9	3.8	6.4	4.9	9.9	1.29	RP-2B	1.55																						
RP-2C		1.28	0.74	0.84	0.74	50	1	3.7	692	2.2%	3.0	3.8	7.5	14.1	4.6	7.7	4.3	8.2	0.95	RP-2C	1.08																						

* Intensity equations assume a minimum travel time of 5 minutes.

Calculated by: ET

Date: 11/7/2017

Checked by: VAS

HOMESTEAD AT STERLING RANCH FILING NO.1 AMENDED STERLING RANCH FILING NO.1 MDDP FINAL DRAINAGE REPORT (Basin Routing Summary)

From Area Runoff Coefficient Summary																COMMENTS	
DESIGN POINT	CONTRIBUTING BASINS	CA _s	CA ₁₀₀	OVERLAND			PIPE / CHANNEL FLOW			Time of Travel (T _t)		INTENSITY *		TOTAL FLOWS			
				C _s	Length (ft)	Height (ft)	T _c (min)	Length (ft)	Slope (%)	Velocity (fps)	T _t (min)	TOTAL (min)	I _s (in/hr)	I ₁₀₀ (in/hr)	Q _s (c.f.s.)		Q ₁₀₀ (c.f.s.)
PROPOSED DRAINAGE BASIN ROUTING SUMMARY																	
1	A	1.06	1.53									16.3	3.4	5.7	3.6	8.7	15' AT-GRADE INLET
2	B	1.03	1.49									15.6	3.5	5.8	3.6	8.6	15' AT-GRADE INLET
3	C	1.11	1.61									12.8	3.8	6.3	4.2	10.1	6' SUMP INLET
4	D, E, F	4.14	5.61									11.7	3.9	6.5	16.1	36.7	EX 15' AT-GRADE INLET
5	G, EX-H, FLOWBY DP4	1.07	3.02									11.7	3.9	6.5	4.2	19.7	EX 15' AT-GRADE INLET
6	OS2, OS3, OS4, OS5	3.50	3.97									10.8	4.0	6.7	14.1	26.7	EX 15' AT-GRADE INLET
7	OS1A, V1A	0.50	1.24									17.1	3.3	5.6	1.6	7.0	EX 12" CMP CULVERT
8	OS1B,V1B, DP6	1.46	4.67									17.1	3.3	5.6	4.8	26.3	2.9x5.7' CDOT TYPE D INLET
9	OS1C, V1C	0.64	2.18									16.7	3.4	5.6	2.2	12.3	2.9x2.9' CDOT TYPE C INLET
10	OS1D, V1D, W-2, V2	8.75	36.94									37.2	2.2	3.6	18.9	133.7	4'x14' MOD CDOT TYPE D INLET
12	RP-2B	1.29	1.55									12.4	2.2	3.6	2.8	5.6	CDOT EMBANKMENT PROTECTOR TYPE 5
13	M, M2, RP2C, DP10	2.61	3.71									16.2	3.4	5.7	8.9	21.2	WQCV SAND FILTER POND W-9

* Intensity equations assume a minimum travel time of 5 minutes.

Calculated by: ET

Date: 11/7/2017

Checked by: VAS

Calculation
Sheets have
been
updated
accordingly

HOMESTEAD AT STERLING RANCH FILING NO.1 FINAL DRAINAGE REPORT

(CDOT Type R Inlet Calculations - Sump Condition)

Urban Local Roadway-50' ROW-30' Pavement-6" Vertical Curb Maximum allowable depth for MINOR (0.43') & MAJOR (0.66') storm						
Inlet Length	Storm	Depth	Eqn. 7-31 $Q_w = C_w N_w L_e D^{3/2}$	Eqn. 7-32 $Q_o = C_o N_o (L_e H_c) (2g(D - 0.5H_c))^{1/2}$	Eqn. 7-29 $Q_m = C_m (Q_w Q_o)^{1/2}$	
5	Q5	0.43	5.1	5.7	5.0	
5	Q100	0.66	9.7	8.6	8.5	
6	Q5	0.43	6.1	6.8	6.0	
6	Q100	0.66	11.6	10.3	10.2	
8	Q5	0.43	8.1	9.1	8.0	
8	Q100	0.66	15.4	13.8	13.6	
10	Q5	0.43	10.2	11.4	10.0	
10	Q100	0.66	19.3	17.2	17.0	
12	Q5	0.43	12.2	13.7	12.0	
12	Q100	0.66	23.2	20.7	20.3	
14	Q5	0.43	14.2	16.0	14.0	
14	Q100	0.66	27.0	24.1	23.7	
15	Q5	0.43	15.2	17.1	15.0	
15	Q100	0.66	29.0	25.8	25.4	
16	Q5	0.43	16.2	18.2	16.0	
16	Q100	0.66	30.9	27.5	27.1	

Table 7-7. Coefficients for various inlets in sumps

Inlet Type	Nw	Cw	No	Co	Cm
CDOT Type 13 Grate	0.7	3.3	0.43	0.6	0.93
Denver No. 16 Grate	0.73	3.6	0.31	0.6	0.9
Curb Opening for Type 13/No. 16 Combination	1	3.7	1	0.66	0.86
CDOT Type R Curb Opening	1	3.6	1	0.67	0.93

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

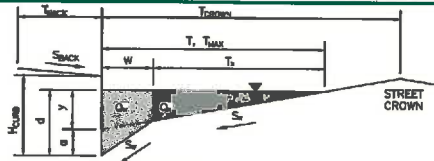
(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Homestead at Sterling Ranch Filing No. 1

Inlet ID:

Inlet DP1

**Gutter Geometry (Enter data in the blue cells)**

Maximum Allowable Width for Spread Behind Curb

Side Slope Behind Curb (leave blank for no conveyance credit behind curb)

Manning's Roughness Behind Curb (typically between 0.012 and 0.020)

Height of Curb at Gutter Flow Line

Distance from Curb Face to Street Crown

Gutter Width

Street Transverse Slope

Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)

Street Longitudinal Slope - Enter 0 for sump condition

Manning's Roughness for Street Section (typically between 0.012 and 0.020)

$T_{BACK} = 8.0$ ft
 $S_{BACK} = 0.020$ ft/ft
 $n_{BACK} = 0.020$

$H_{CURB} = 6.00$ inches
 $T_{CROWN} = 17.0$ ft
 $W = 2.00$ ft
 $S_x = 0.020$ ft/ft
 $S_w = 0.083$ ft/ft
 $S_o = 0.022$ ft/ft
 $n_{STREET} = 0.020$

Max. Allowable Spread for Minor & Major Storm

Max. Allowable Depth at Gutter Flowline for Minor & Major Storm

Allow Flow Depth at Street Crown (leave blank for no)

	Minor Storm	Major Storm	
$T_{MAX} =$	17.0	17.0	ft
$d_{MAX} =$	5.1	7.8	inches
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	check = yes

MINOR STORM Allowable Capacity is based on Depth Criterion

MAJOR STORM Allowable Capacity is based on Depth Criterion

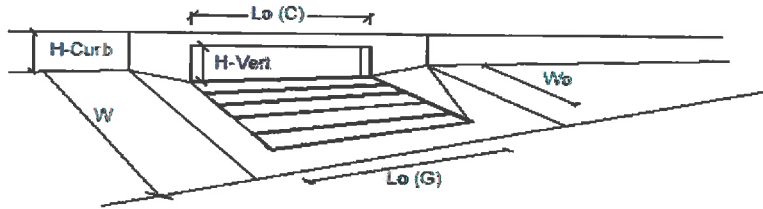
Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

	Minor Storm	Major Storm	
$Q_{allow} =$	8.4	28.1	cfs

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR		MAJOR	
Type of Inlet	CDOT Type R Curb Opening	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		B_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	3	3	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_0 =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_0 =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_{r-G} =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_{r-C} =	0.10	0.10	
Street Hydraulics: OK - $Q < \text{Allowable Street Capacity}$		MINOR		MAJOR	
Total Inlet Interception Capacity		Q =	3.6	8.8	cfs
Total Inlet Carry-Over Flow (flow bypassing Inlet)		Q_b =	0.0	0.1	cfs
Capture Percentage = Q_i/Q_a =		C% =	100	99	%

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

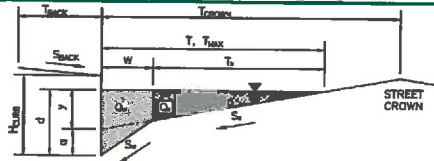
(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project:

Homestead at Sterling Ranch Filing No. 1

Inlet ID:

Inlet DP2

**Gutter Geometry (Enter data in the blue cells)**

Maximum Allowable Width for Spread Behind Curb

Side Slope Behind Curb (leave blank for no conveyance credit behind curb)

Manning's Roughness Behind Curb (typically between 0.012 and 0.020)

Height of Curb at Gutter Flow Line

Distance from Curb Face to Street Crown

Gutter Width

Street Transverse Slope

Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)

Street Longitudinal Slope - Enter 0 for sump condition

Manning's Roughness for Street Section (typically between 0.012 and 0.020)

T _{BACK}	8.0	ft
S _{BACK}	0.020	ft/ft
n _{BACK}	0.020	

H _{CURB}	6.00	Inches
T _{CROWN}	17.0	ft
W	2.00	ft
S _x	0.020	ft/ft
S _w	0.083	ft/ft
S _o	0.022	ft/ft
n _{STREET}	0.020	

Max. Allowable Spread for Minor & Major Storm

Max. Allowable Depth at Gutter Flowline for Minor & Major Storm

Allow Flow Depth at Street Crown (leave blank for no)

	Minor Storm	Major Storm	
T _{MAX}	17.0	17.0	ft
d _{MAX}	5.1	7.8	Inches
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	check = yes

MINOR STORM Allowable Capacity is based on Depth Criterion

MAJOR STORM Allowable Capacity is based on Depth Criterion

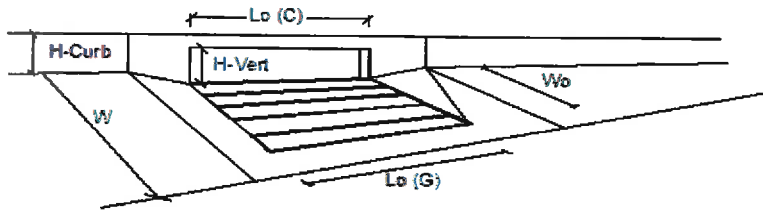
	Minor Storm	Major Storm	
Q _{allow}	9.4	29.1	cfs

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR		MAJOR	
Type of Inlet	CDOT Type R Curb Opening	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	3.0	3.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		N_o =	3	3	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W , Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_r-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_r-C =	0.10	0.10	
Street Hydraulics: OK - $Q < \text{Allowable Street Capacity}$					
Total Inlet Interception Capacity		Q =	3.6	8.5	cfs
Total Inlet Carry-Over Flow (flow bypassing Inlet)		Q_b =	0.0	0.1	cfs
Capture Percentage = Q/Q_b =		$C\%$ =	100	99	%

width	2.91	area	8.4681	open area x 70%	2.963835
length	2.91	blockage	0.5		
perimeter	11.64	blockage	4	avail perm.	7.64
				Orifice	Weir
12	0			0	0
12.1	0.1			4.512822	0.748954
12.2	0.2			6.382094	2.118361
12.3	0.3			7.816437	3.891678
12.4	0.4			9.025644	5.991631
12.5	0.5			10.09098	8.373559
12.6	0.6			11.05411	11.00733
12.7	0.7			11.9398	13.87082
12.8	0.8			12.76419	16.94689
12.9	0.9			13.53847	20.22175
13	1			14.2708	23.684
13.1	1.1			14.96734	27.32399
13.2	1.2			15.63287	31.13343
13.3	1.3			16.27121	35.10509
13.4	1.4			16.88543	39.2326
13.5	1.5			17.47808	43.51029
13.6	1.6			18.05129	47.93305
13.7	1.7			18.60684	52.49627
13.8	1.8			19.14628	57.19576
13.9	1.9			19.67094	62.02767
14	2			20.18195	66.98847

DP3 $Q_{100} = 12.1 \text{ cfs}$
 CDOT TYPE C AREA INLET

Design of this facility
 was part of
 MDDPSR
 (Filing No.1)
 Improvements thus
 is not needed in this
 report

width	2.91	area	16.587	open area x 70%	5.80545
length	5.7	blockage	0.5		
perimeter	17.22	blockage	4	avail perm.	13.22
				Orifice	Weir
12	0			0	0
12.1	0.1			8.839548	1.295965
12.2	0.2			12.50101	3.665542
12.3	0.3			15.31055	6.73403
12.4	0.4			17.6791	10.36772
12.5	0.5			19.76583	14.48933
12.6	0.6			21.65238	19.04671
12.7	0.7			23.38725	24.0016
12.8	0.8			25.00202	29.32433
12.9	0.9			26.51864	34.99105
13	1			27.95311	40.982
13.1	1.1			29.31747	47.28051
13.2	1.2			30.62109	53.87224
13.3	1.3			31.87144	60.74467
13.4	1.4			33.07456	67.88678
13.5	1.5			34.23542	75.28874
13.6	1.6			35.35819	82.94174
13.7	1.7			36.44639	90.83778
13.8	1.8			37.50303	98.96962
13.9	1.9			38.5307	107.3306
14	2			39.53166	115.9146

DP2 $Q_{100} = 25.1$ cfs
 CDOT TYPE D AREA INLET

Design of this facility
 was part of
 MDDPSR
 (Filing No.1)
 Improvements thus
 is not needed in this
 report

width	4	area	56	open area x 76%	21.28
length	14	blockage	0.5		
perimeter	36	blockage	4	avail perm.	32
				Orifice	Weir
87	0			0	0
87.1	0.1			32.40155	3.136979
87.2	0.2			45.82271	8.872718
87.3	0.3			56.12113	16.30022
87.4	0.4			64.8031	25.09584
87.5	0.5			72.45207	35.0725
87.6	0.6			79.36727	46.10399
87.7	0.7			85.72645	58.09767
87.8	0.8			91.64543	70.98174
87.9	0.9			97.20465	84.69844
88	1			102.4627	99.2
88.1	1.1			107.4638	114.446
88.2	1.2			112.2423	130.4018
88.3	1.3			116.8255	147.037
88.4	1.4			121.2355	164.325
88.5	1.5			125.4907	182.242
88.6	1.6			129.6062	200.7667
88.7	1.7			133.595	219.8797
88.8	1.8			137.4681	239.5634
88.9	1.9			141.2351	259.8018
89	2			144.9041	280.58
89.1	2.1			148.4826	301.8844
89.2	2.2			151.9767	323.7022
89.3	2.3			155.3924	346.0218
89.4	2.4			158.7345	368.832
89.5	2.5			162.0078	392.1224
89.6	2.6			165.2161	415.8835
89.7	2.7			168.3634	440.106
89.8	2.8			171.4529	464.7814
89.9	2.9			174.4877	489.9014
90	3			177.4706	515.4583

Design of this facility
was part of
MDDPSR
(Filing No.1)
Improvements thus
is not needed in this
report

DP 4 $Q_{100} = 133 \text{ cfs}$

MOD. CDOT TYPE D AREA INLET.

HYDRAULIC CALCULATIONS

***HOMESTEAD AT STERLING RANCH FILING NO.1
AMENDED STERLING RANCH FILING NO.1 MDDP
(Storm Sewer Routing Summary)***

PIPE RUN	Contributing Pipes/Design Points	Equivalent CA_5	Equivalent CA_{100}	Maximum T_C	Intensity*		Flow		PIPE SIZE
					I_5	I_{100}	Q_5	Q_{100}	
1	DP1	1.06	1.53	16.3	3.4	5.7	3.6	8.7	30" RCP
2	DP2, PR1	2.09	3.02	16.3	3.4	5.7	7.1	17.2	36" RCP
3	DP3	1.11	1.61	12.8	3.8	6.3	4.2	10.1	18" RCP
4	DP7	0.50	1.24	17.1	3.3	5.6	1.6	7.0	EX 12" CMP
5	DP8	1.46	4.67	17.1	3.3	5.6	4.8	26.3	24" RCP
6	DP9	0.64	2.18	16.7	3.4	5.6	2.2	12.3	18" RCP
7	PR5, PR6	2.10	6.85	17.1	3.3	5.6	7.0	38.6	30" RCP
8	DP10	8.75	36.94	37.2	2.2	3.6	18.9	133.7	54" RCP
9	OUTFLOW EDB POND W-9	0.18	1.53	16.2	3.4	5.7	0.6	8.7	18" RCP
10	PR7, PR9	2.28	8.38	17.1	3.3	5.6	7.6	47.2	30" RCP
11	PR8, PR10	11.03	45.32	37.2	2.2	3.6	23.8	164.1	54" RCP
12	OUTFLOW EDB POND 4	PEAK OUTFLOW FROM POND 4 UD DET v3.04					2.7	36.2	30" RCP
13	PR11, PR12	SUMMATION OF PR11 & PR18					26.5	200.3	60" RCP

* Intensity equations assume a minimum travel time of 5 minutes.

DP - Design Point

EX - Existing Design Point

FB- Flow By from Design Point

INT- Intercepted Flow from Design Point

Calculated by: ET

Date: 11/7/2017

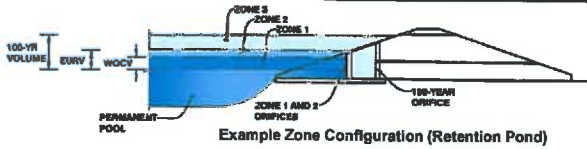
Checked by: VAS

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Revision to Pond W-2 Sterling Ranch Filling No.1 MDDP

Basin ID: East Vollmer Road, Homestead Backyards and Landscape area 3:1 Pond slope



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	0.69	0.108	Filtration Media
Zone 2 (EURV)	2.21	0.344	Circular Orifice
Zone 3 (100-year)	3.07	0.259	Weir & Pipe (Restrict)
		0.710	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth = 3.30 ft (distance below the filtration media surface)
Underdrain Orifice Diameter = 1.49 Inches

Calculated Parameters for Underdrain

Underdrain Orifice Area = 0.0 ft²
Underdrain Orifice Centroid = 0.06 feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice = N/A ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate = N/A ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing = N/A inches
Orifice Plate: Orifice Area per Row = N/A inches

Calculated Parameters for Plate

WQ Orifice Area per Row = N/A ft²
Elliptical Half-Width = N/A feet
Elliptical Slot Centroid = N/A feet
Elliptical Slot Area = N/A ft²

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (optional)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Orifice Area (sq. inches)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Orifice Area (sq. inches)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

User Input: Vertical Orifice (Circular or Rectangular)

Zone 2 Circular Not Selected
Invert of Vertical Orifice = 0.69 N/A ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice = 2.21 N/A ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter = 3.92 N/A inches

Calculated Parameters for Vertical Orifice

Zone 2 Circular Not Selected
Vertical Orifice Area = 0.08 ft²
Vertical Orifice Centroid = 0.16 ft

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

Zone 3 Weir Not Selected
Overflow Weir Front Edge Height, H_o = 2.21 N/A ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length = 2.91 N/A feet
Overflow Weir Slope = 0.00 N/A
H:V (enter zero for flat grate)
Horiz. Length of Weir Sides = 2.91 N/A feet
Overflow Grate Open Area % = 70% N/A %
Debris Clogging % = 50% N/A %

Calculated Parameters for Overflow Weir

Zone 3 Weir Not Selected
Height of Grate Upper Edge, H_u = 2.21 N/A feet
Over Flow Weir Slope Length = 2.91 N/A feet
Grate Open Area / 100-yr Orifice Area = 8.08 N/A
Overflow Grate Open Area w/o Debris = 5.93 N/A ft²
Overflow Grate Open Area w/ Debris = 2.96 N/A ft²

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Zone 3 Restrictor Not Selected
Depth to Invert of Outlet Pipe = 3.55 N/A ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter = 18.00 N/A inches
Restrictor Plate Height Above Pipe Invert = 7.80 N/A inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

Zone 3 Restrictor Not Selected
Outlet Orifice Area = 0.73 ft²
Outlet Orifice Centroid = 0.38 feet
Half-Central Angle of Restrictor Plate on Pipe = 1.44 N/A radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage = 3.08 ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = 12.00 feet
Spillway End Slopes = 3.00 H:V
Freeboard above Max Water Surface = 0.67 feet

Calculated Parameters for Spillway

Spillway Design Flow Depth = 0.64 feet
Stage at Top of Freeboard = 4.39 feet
Basin Area at Top of Freeboard = 0.40 acres

Routed Hydrograph Results

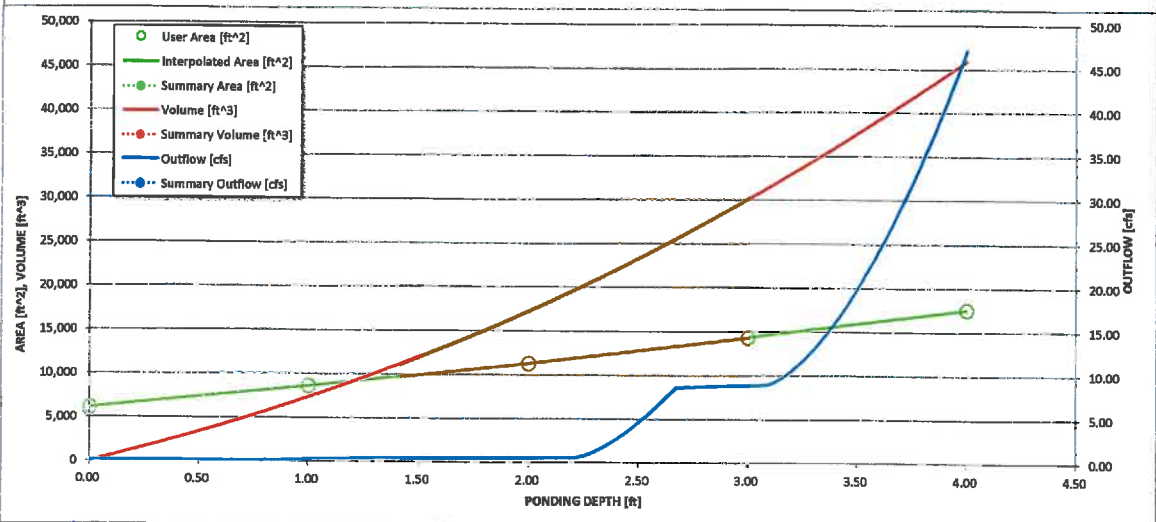
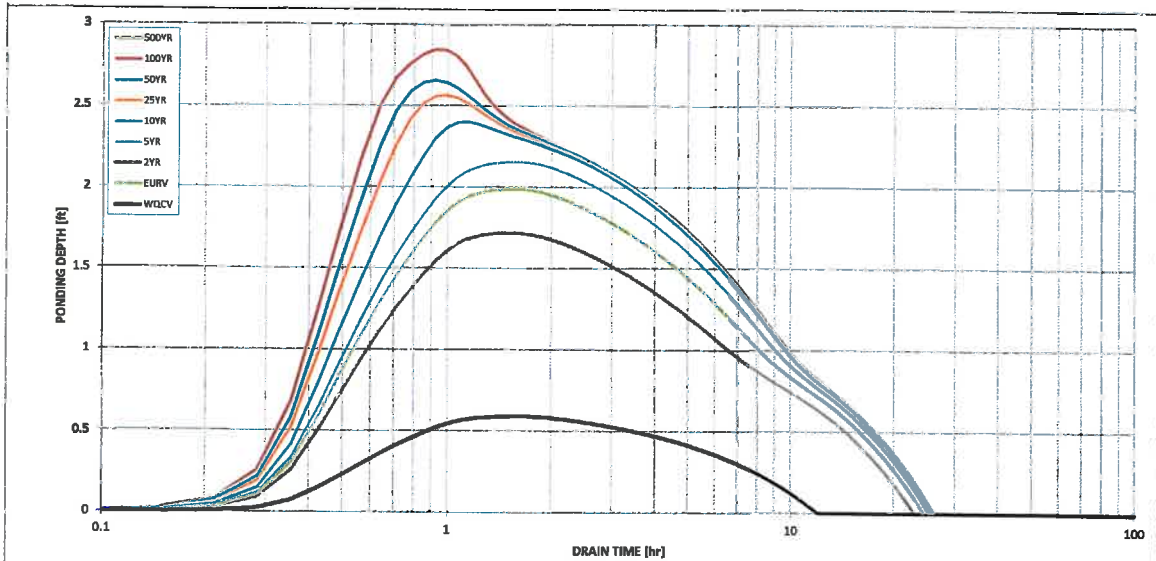
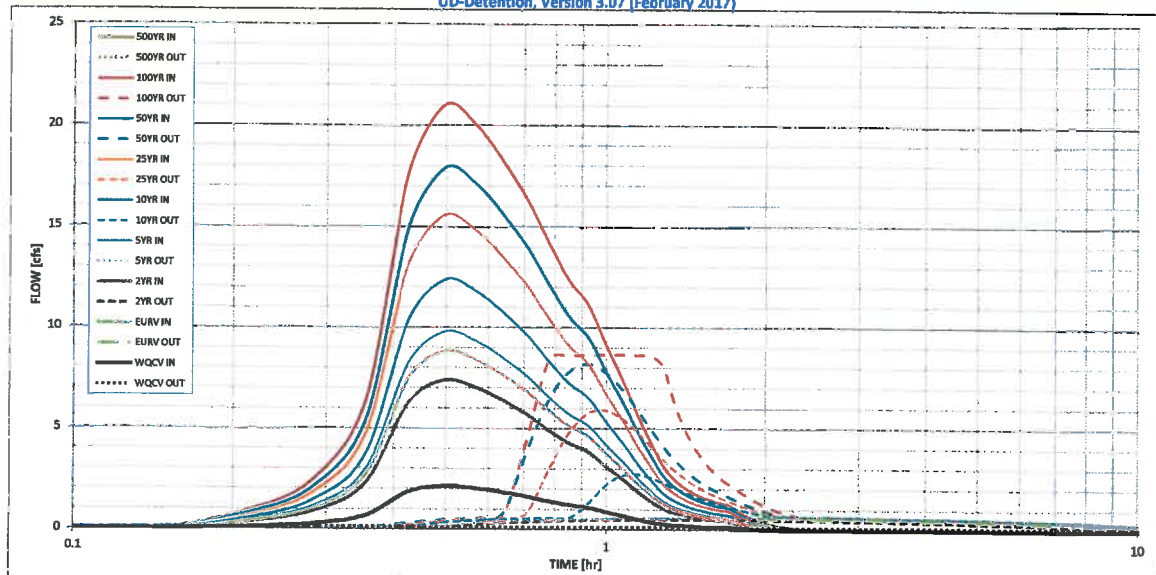
	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period									
One-Hour Rainfall Depth (in)	0.53	1.07	1.19	1.50	1.75	2.00	2.25	2.52	0.00
Calculated Runoff Volume (acre-ft)	0.108	0.451	0.376	0.500	0.634	0.799	0.922	1.083	0.000
OPTIONAL Override Runoff Volume (acre-ft)									
Inflow Hydrograph Volume (acre-ft)	0.107	0.451	0.376	0.500	0.634	0.800	0.923	1.083	#N/A
Predevelopment Unit Peak Flow, q (cfs/acre)	0.00	0.00	0.01	0.03	0.25	0.81	1.11	1.49	0.00
Predevelopment Peak Q (cfs)	0.0	0.0	0.1	0.2	1.5	4.7	6.5	8.7	0.0
Peak Inflow Q (cfs)	2.1	8.8	7.4	9.8	12.4	15.5	17.9	21.0	#N/A
Peak Outflow Q (cfs)	0.1	0.6	0.5	0.6	2.7	5.9	8.2	8.7	#N/A
Ratio Peak Outflow to Predevelopment Q	N/A	N/A	N/A	4.0	1.8	1.3	1.2	1.0	#N/A
Structure Controlling Flow	Filtration Media	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	#N/A
Max Velocity through Grate 1 (fps)	N/A	N/A	N/A	N/A	0.4	0.9	1.3	1.3	#N/A
Max Velocity through Grate 2 (fps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	#N/A
Time to Drain 97% of Inflow Volume (hours)	12	23	22	24	24	23	23	23	#N/A
Time to Drain 99% of Inflow Volume (hours)	12	24	23	25	25	25	25	25	#N/A
Maximum Ponding Depth (ft)	0.59	1.99	1.72	2.15	2.40	2.56	2.66	2.84	#N/A
Area at Maximum Ponding Depth (acres)	0.17	0.26	0.24	0.27	0.29	0.30	0.30	0.32	#N/A
Maximum Volume Stored (acre-ft)	0.092	0.390	0.323	0.435	0.505	0.552	0.579	0.638	#N/A

In speaking with UDFCD they recognize that it often difficult to design an outfall structure that meets all discharge goals. Please look at the Predevelopment peak vs the outflow and not that the actual cfs difference is minimal although the ratio isn't the desired ration of 1.0.

Address these values meeting release requirements in the report. Revise if necessary.

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)



S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

UD-Detention, Version 3.07 (February 2017)

Basin ID: East Vollmer Road, Homestead backyards and Landscape area 3:1 Pond slope



Required Volume Calculation

Selected BMP Type	SF
Watershed Area	5.87 acres
Watershed Length	575 ft
Watershed Slope	0.024 ft/ft
Watershed Imperviousness	70.00% percent
Percentage Hydrologic Soil Group A	0.0% percent
Percentage Hydrologic Soil Group B	100.0% percent
Percentage Hydrologic Soil Group C/D	0.0% percent
Desired WQCV Drain Time	12.0 hours

Location for 1-hr Rainfall Depths = User Input

Water Quality Capture Volume (WQCV) = 0.108 acre-feet

Water column volume (m ³) =	0.100
Excess lithon B ₁ volume (EIBV) =	0.451

Excess Oilseed Ruminant Volume (EORV) -	0.451	acre-feet
0.000	0.000	0.000

2-yr Runoff Volume ($P_1 = 1.19$ in.) =	0.376	acre-foot
--	-------	-----------

5-yr Runoff Volume ($P_1 = 1.5$ in.) =	0.500	acre-feet
---	-------	-----------

10-yr Runoff Volume ($P1 = 1.75 \text{ in.}$) =	0.634	acre-feet
---	-------	-----------

25-yr Runoff Volume (P1 = 2 in.) =	0.799	acre-feet
------------------------------------	-------	-----------

50-yr Runoff Volume ($P1 = 2.25$ in.) =	0.922	acre-feet
--	-------	-----------

100-yr Runoff Volume (P1 = 2.52 in.) =	1.083	acre-feet
--	-------	-----------

500-yr Buffoff Volume ($B_1 = 0$ in) = 0 000

500-yr Return Volume ($F = 0$ in.)	0.000
Annualized Cost (\$/ft ³)	0.050

Approximate 2-yr Detention Volume =	0.353	acre-feet
-------------------------------------	-------	-----------

Approximate 5-yr Detention Volume =	0.470	acre-feet
-------------------------------------	-------	-----------

Approximate 10-yr Detention Volume =	0.593	acre-feet
--------------------------------------	-------	-----------

Approximate 25-yr Detention Volume = 0.637 acre-feet

Approximate 50-yr Detention Volume =	0.663	acre-foot
--------------------------------------	-------	-----------

Approximate 100-yr Detention Volume =	0.710	acre-feet
---------------------------------------	-------	-----------

Figure 1

Storage Calculation

0.400

Zone 1 Volume (WQCV) =	0.108	acre-feet
------------------------	-------	-----------

Zone 2 Volume (EURV - Zone 1) = 0.344 acre-feet

Zone 3 Volume (100-year - Zones 1 & 2) =	0.259	acre-feet
--	-------	-----------

Total Detention Basin Volume =	0.710	acre-feet
--------------------------------	-------	-----------

Initial Surchage Volume (ISV) =	N/A	ft ³
---------------------------------	-----	-----------------

Initial Surge Depth (ISD) =	N/A	#
-----------------------------	-----	---

Total Available Detention Depth (H _{LD}) =	user
--	------

Depth of Trickle Channel (H) =	N/A
Flow Rate (Q) =	N/A

Dept or Mobile Channel (HTG) =	#
N/A	N/A
N/A	N/A

Slope of Trickle Channel (S_{TC}) =	N/A	ft/ft
---	-----	-------

Slopes of Main Basin Sides (S_{main}) =

user	H:V
------	-----

$$\text{Basin Length-to-Width Ratio } (R_{LW}) = \frac{\text{user}}{\text{user}}$$

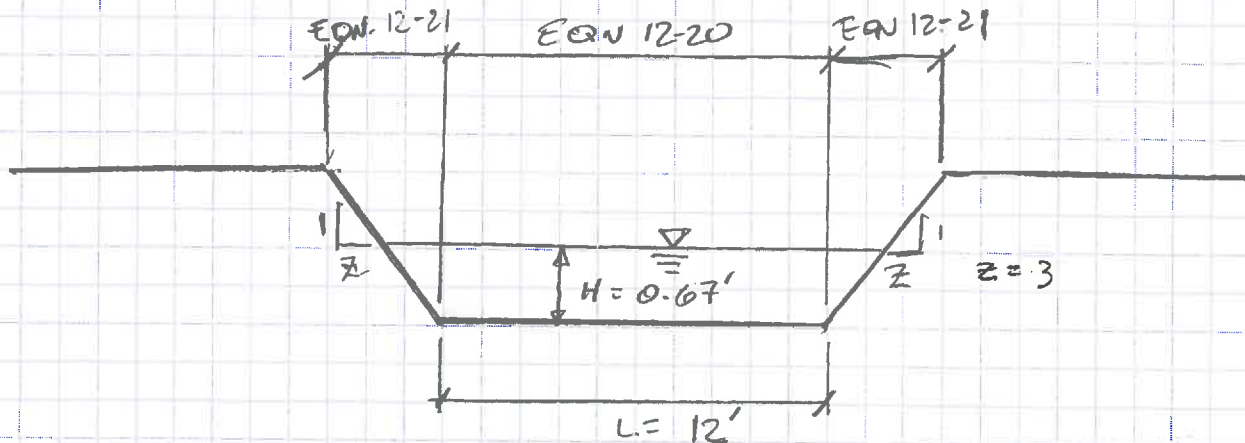
1

Figure 1

UD-Detention_v3.07 SF 3-1, Basin

PROJECT: HOMESTEAD, (STELLING RANCH)
DATE: 11/15/2017

SIZE SPILLWAY - POND W-2



From UDFCD 12-33 (STORAGE)

$$Q_{100} = 21 \text{ cfs (TOTAL INFLOW)}$$

$$\text{EQN 12-20 } Q = C_L H^{1.5} = 3.0 (12) (0.67)^{1.5} = 19.74 \text{ cfs}$$

$$\text{EQN 12-21 } Q = 2/5 C_L Z H^{2.5} = 4/5 (3.0) (3) (0.67)^{2.5} = 1.32 \text{ cfs}$$

$$Q_{\text{TOTAL}} = 19.74 \text{ cfs} + (2) 1.32 \text{ cfs} = \underline{22.38 > 21 \text{ cfs}} \text{ OK}$$

SPILLWAY RUNDOWN PROTECTION

RZPRAP SIZING (UDFCD 12-34)

$$Q_{100} = 21 \text{ cfs} \quad \text{SLOPE } 5.8\%$$

FIGURE 12-21

BASED ON SLOPE AND UNIT DISCHARGE

$$\text{UNIT DISCHARGE} = 21 \text{ cfs} / 12 \text{ ft} = 1.75 \text{ ft}$$

FROM FIGURE 12-21 ~ TYPE VL
RECOMMEND SIZE UP TO TYPE L

TYPE L $D_{50} = 9"$

$$\text{SOIL RZPRAP DEPTH } 2D_{50} = 2 \times 9" = 18" \text{ THICK}$$

This facility was evaluated
in the MDDPSR and thus
the Alternative sheets
were removed from this
package

Stormwater Detention and Infiltration Design Data Sheet

Worksheet Protected

Stormwater Facility Name: FSD Pond W-9

Facility Location & Jurisdiction: Sterling Ranch S subdivision, Vollmer Road, El Paso County / El Paso County

User Input: Watershed Characteristics

Watershed Slope =	0.024	ft/ft
-------------------	-------	-------

Watershed Length =	575	ft
--------------------	-----	----

Watershed Area = 5.87 acres

Watershed Imperviousness = 70.0% percent

Percentage Hydrologic Soil Group A = 0.0% percent

Percentage Hydrologic Soil Group B = 100.0% percent

Percentage Hydrologic Soil Groups C/D = 0.0% percent

Location for 1-hr Rainfall Depths (use dropdown):

User Input

WQCV Treatment Method = Sand Filter

[illegible]

After completing and printing this worksheet to a pdf, go to:

<https://mapature.digitaldataservices.com/gvh/?viewer=cswdif>

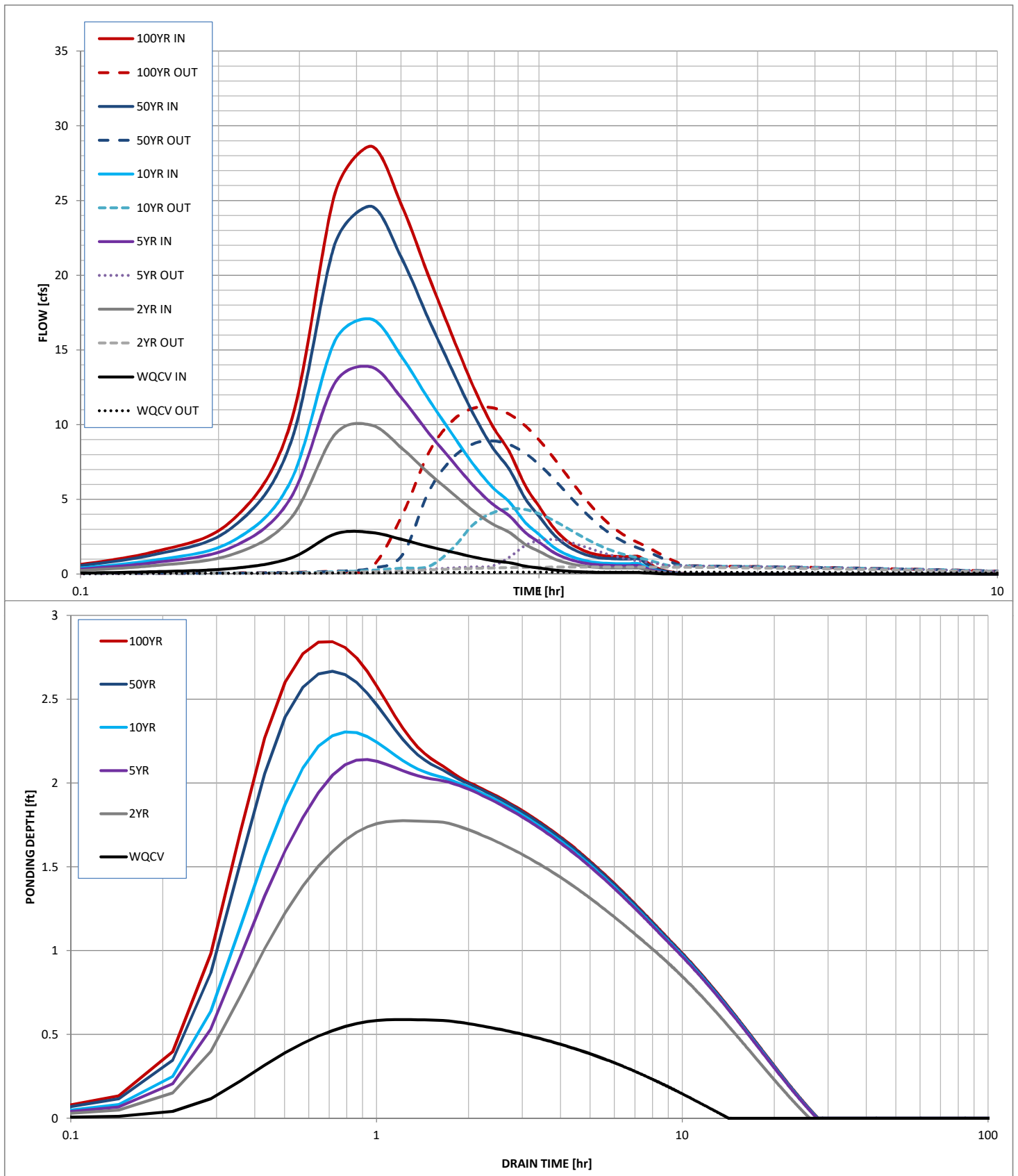
create a new stormwater facility, and

attach the pdf of this worksheet to that record.

Routed Hydrograph Results

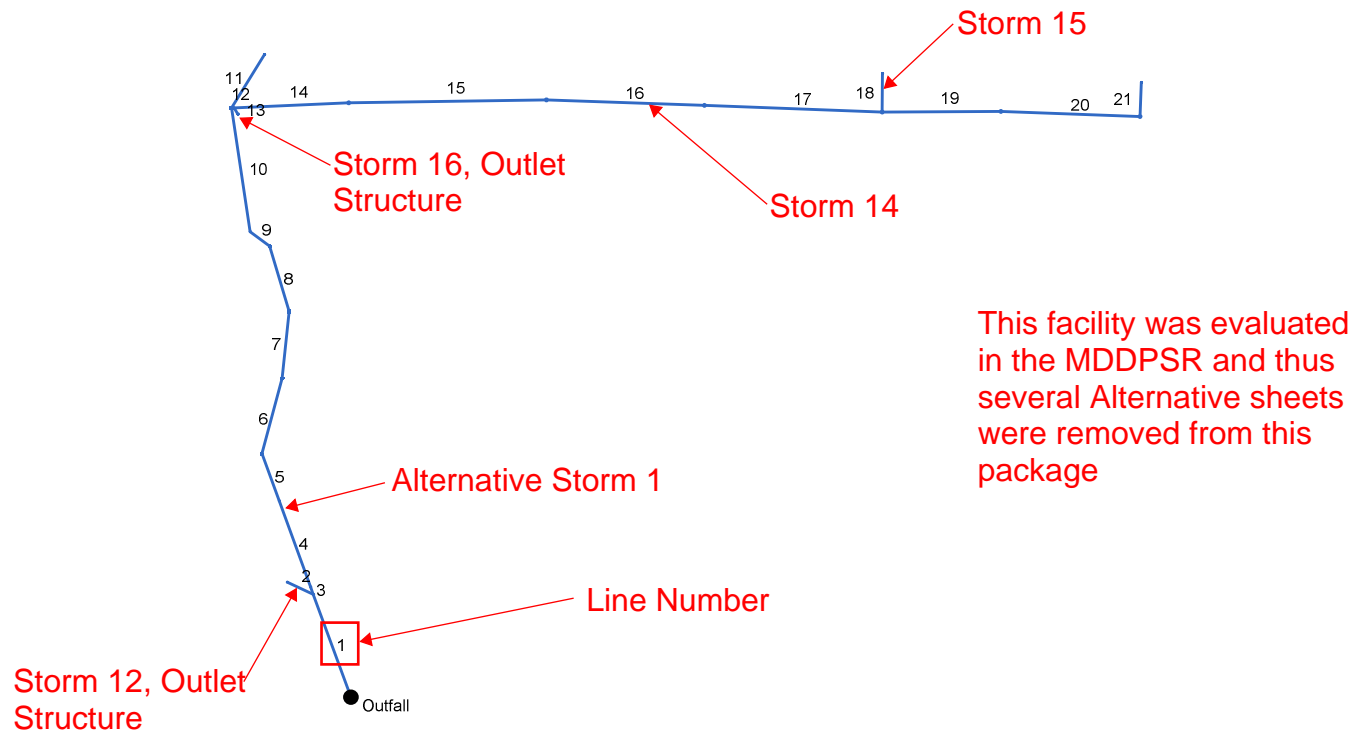
Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	
One-Hour Rainfall Depth =	0.50	1.19	1.50	1.75	2.25	2.52	in
Calculated Runoff Volume =	0.108	0.386	0.536	0.661	0.955	1.111	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	0.107	0.386	0.536	0.661	0.954	1.111	acre-ft
Time to Drain 97% of Inflow Volume =	13.4	23.6	24.3	23.7	22.4	21.8	hours
Time to Drain 99% of Inflow Volume =	13.9	25.3	26.4	26.2	25.7	25.5	hours
Maximum Ponding Depth =	0.59	1.77	2.14	2.31	2.67	2.84	ft
Maximum Poned Area =	0.17	0.25	0.27	0.28	0.31	0.32	acres
Maximum Volume Stored =	0.091	0.339	0.432	0.478	0.584	0.639	acre-ft

Stormwater Detention and Infiltration Design Data Sheet

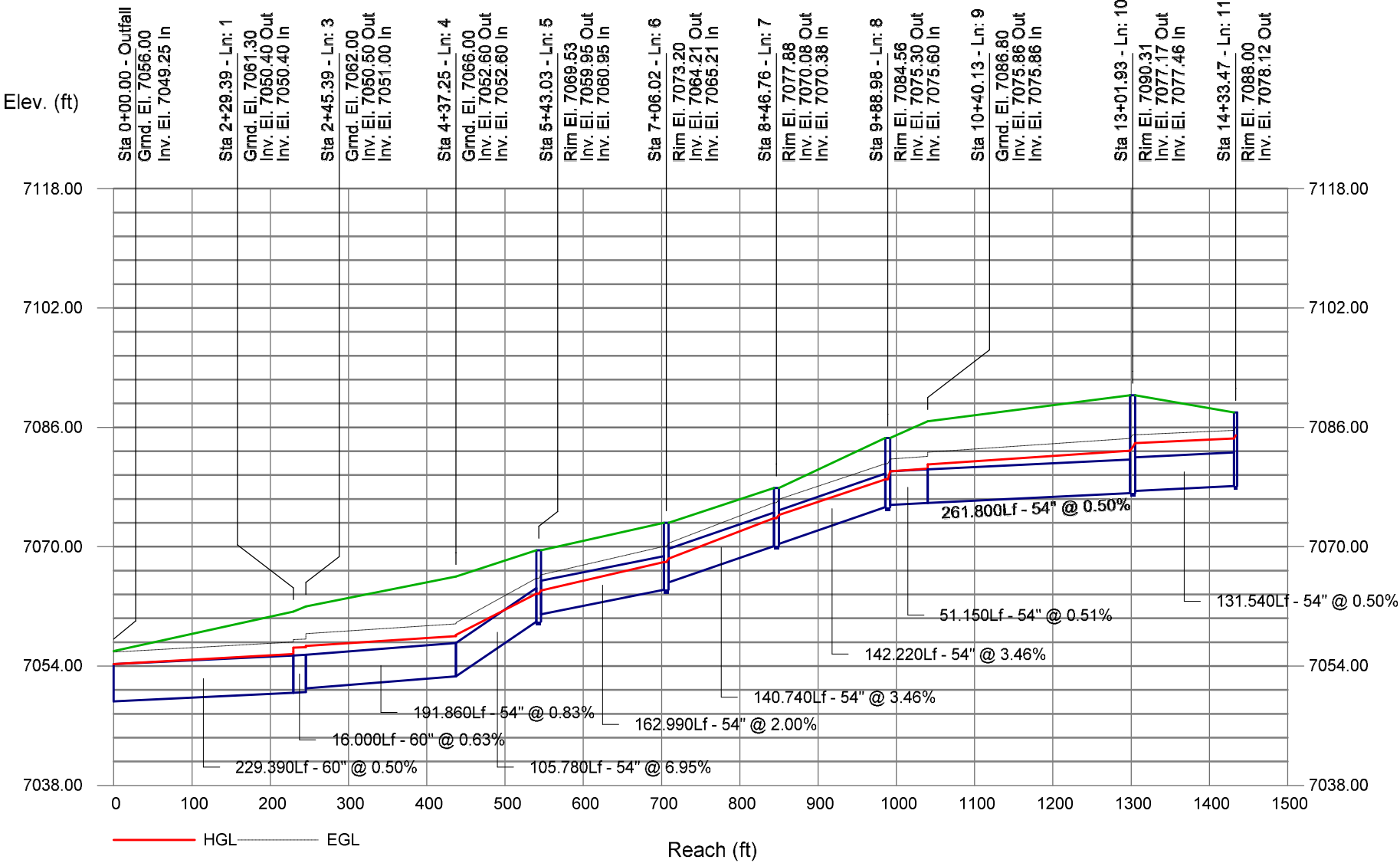


Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan

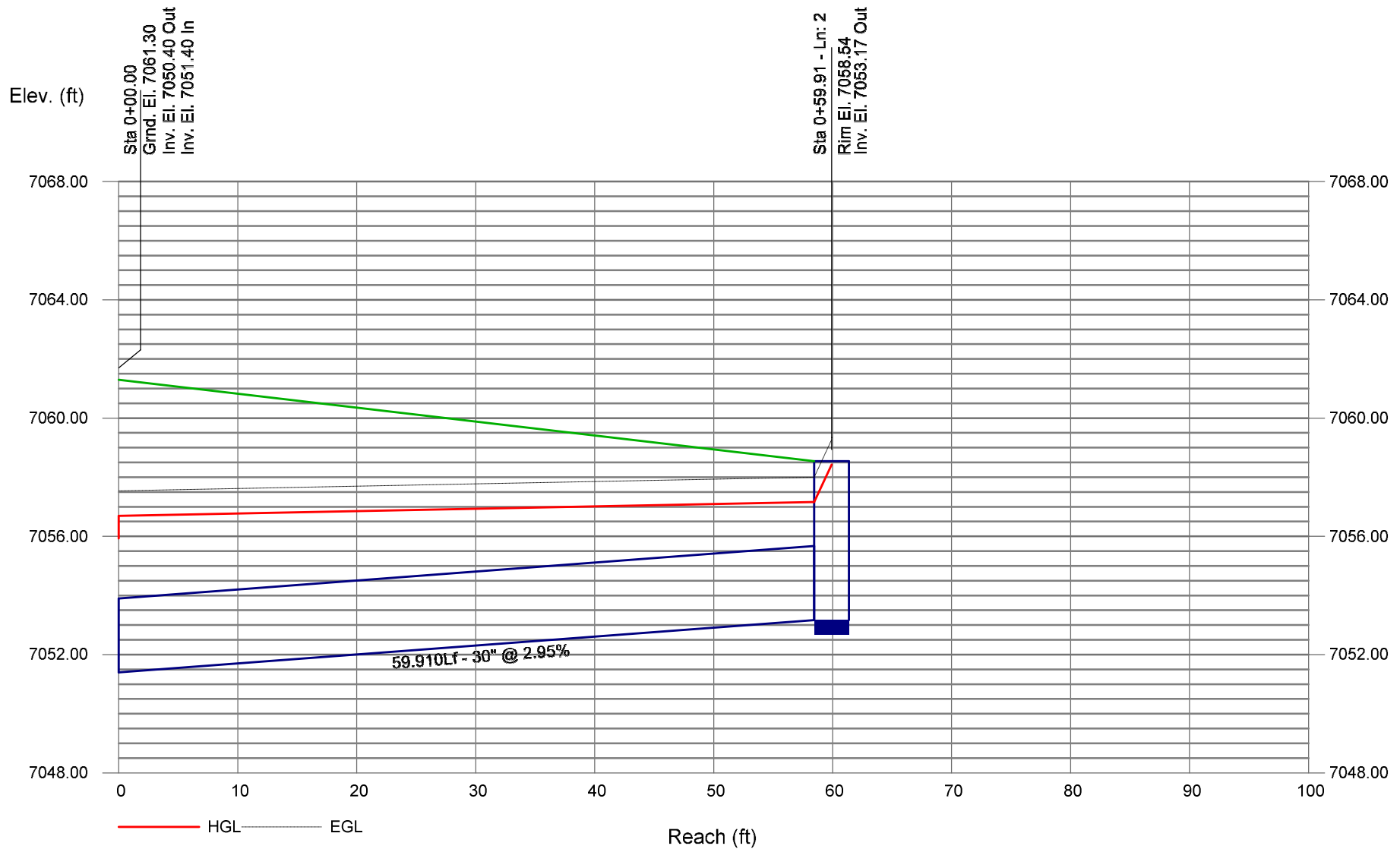
Alternative Storm 1 and Storms 12, 14, 15, 16 Plan View



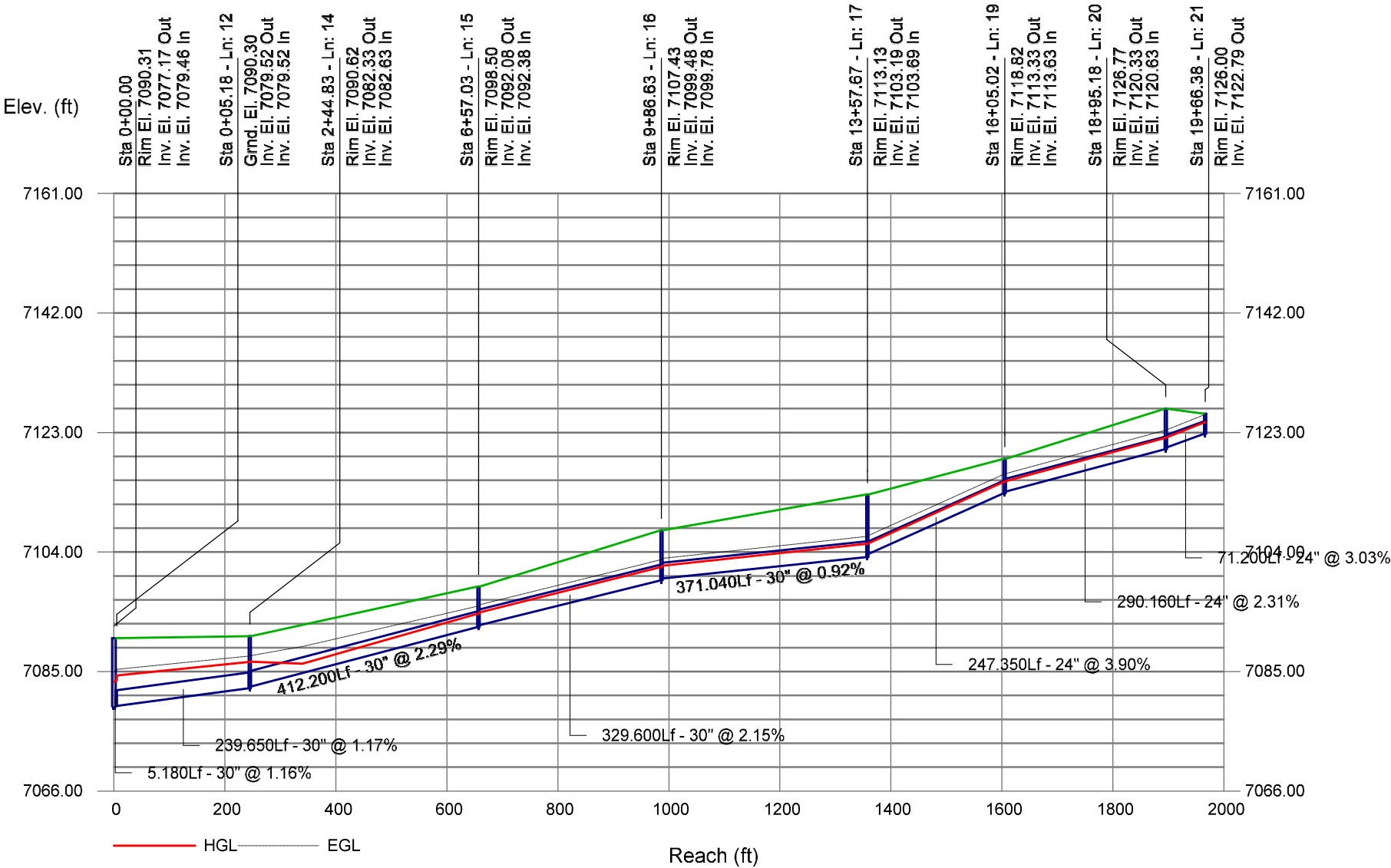
Alternative Storm 1 Profile



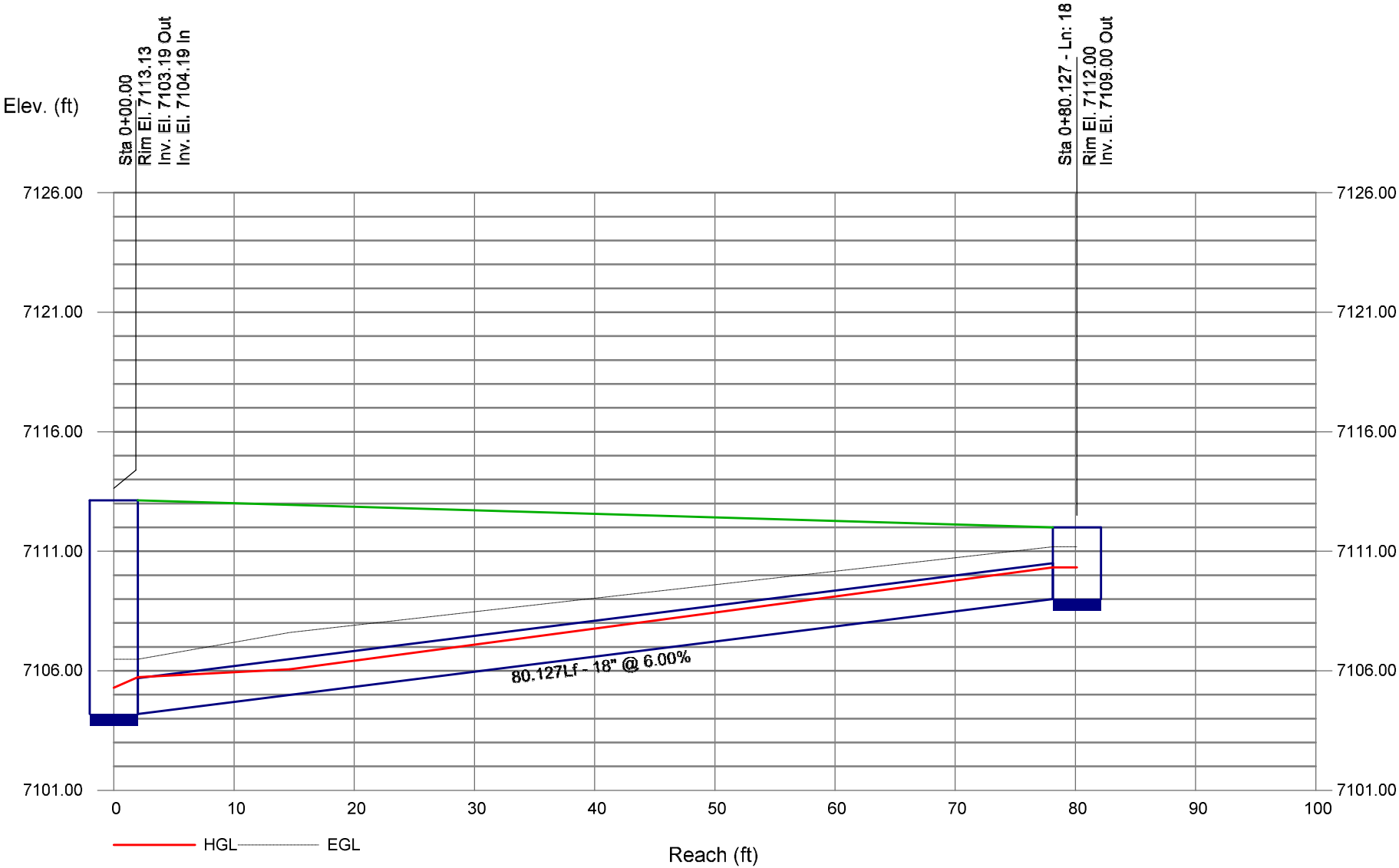
Storm 12 Outlet Structure Profile



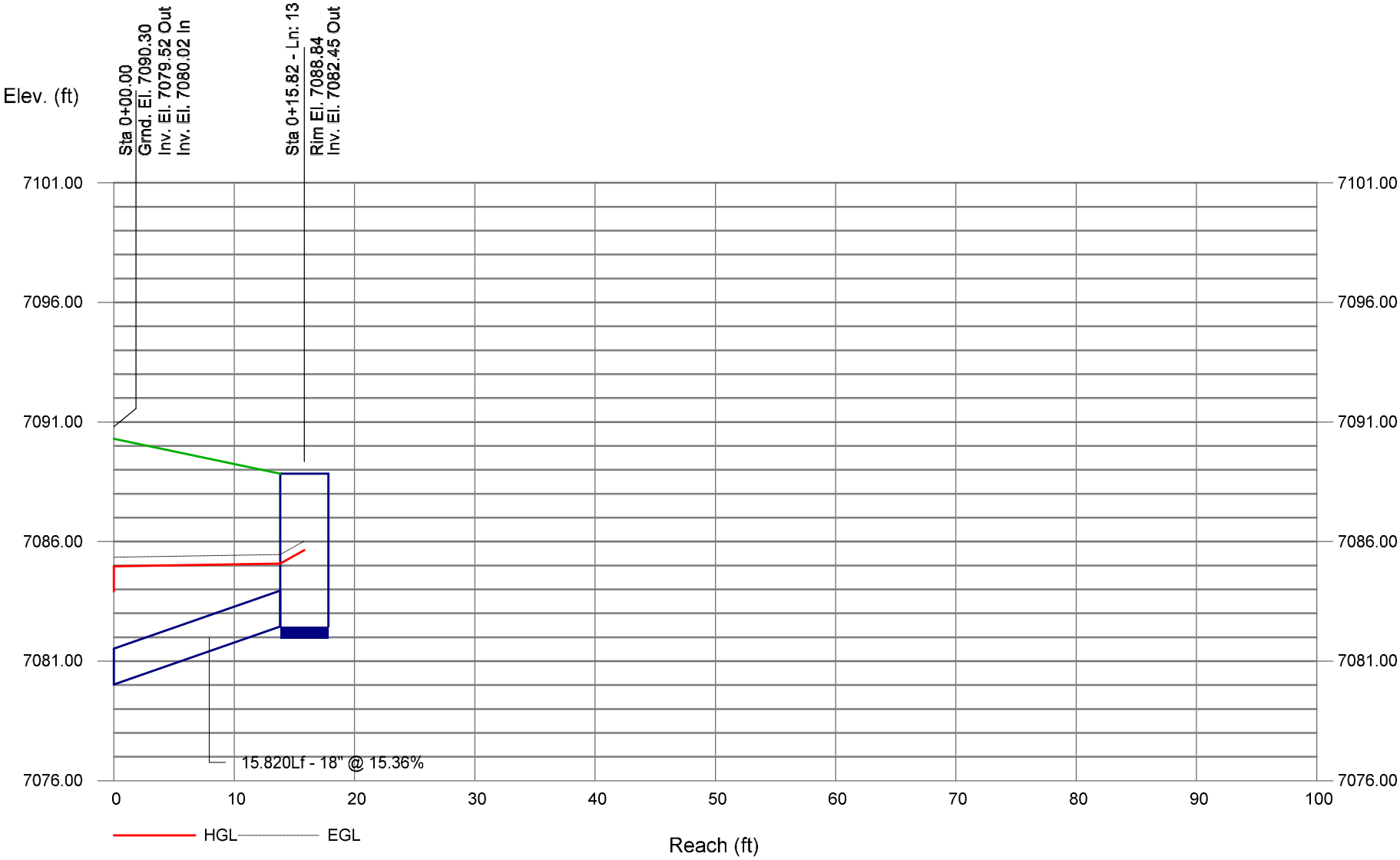
Storm 14 Profile



Storm 15 Profile



Storm 16 Outlet Structure Profile



Line No.	Line ID	Line Size (in)	Line Type	Junct Type	J-Loss Coeff	n-val Pipe	Flow Rate (cfs)	Invert Dn (ft)	Invert Up (ft)	Line Slope (%)	HGL Dn (ft)	HGL Up (ft)	Minor Loss (ft)	HGL Jnct (ft)	Vel Ave (ft/s)	
1	Storm 1	60	Cir	None	0.20	0.013	199.90	7049.25	7050.40	0.50	7054.25	7055.60	0.32	7055.93	10.18	
2	Storm 12 , Out. Struct.	30	Cir	Generic	1.50	0.013	36.20	7051.40	7053.17	2.95	7056.69	7057.16	1.27	7058.43	7.38	
3	Storm 1, Typ 3 MH	60	Cir	None	0.15	0.013	163.70	7050.40	7050.50	0.63	7056.46	7056.52	0.16	7056.68	8.34	
4	Storm 1	54	Cir	None	0.10	0.013	163.70	7051.00	7052.60	0.83	7056.68	7058.01	0.16	7058.18	10.29	
5	Storm 1	54	Cir	MH	0.28 z	0.013	163.70	7052.60	7059.95	6.95	7058.18	7063.68	n/a	7063.68	10.95	
6	Storm 1	54	Cir	MH	0.05 z	0.013	163.70	7060.95	7064.21	2.00	7064.13	7067.94	n/a	7067.94	12.62	
7	Storm 1	54	Cir	MH	0.10 z	0.013	163.70	7065.21	7070.08	3.46	7068.39	7073.81	n/a	7073.81	12.62	
8	Storm 1	54	Cir	MH	0.60 z	0.013	163.70	7070.38	7075.30	3.46	7074.26	7079.03	n/a	7079.03	11.42	
9	Storm 1	54	Cir	None	0.35	0.013	163.70	7075.60	7075.86	0.51	7080.10	7080.46	0.58	7081.03	10.29	
10	Storm 1	54	Cir	MH	0.30	0.013	163.70	7075.86	7077.17	0.50	7081.03	7082.85	0.49	7083.34	10.29	
11	Storm 1, Type D Mod. In.	54	Cir	Generic	0.40	0.013	133.70	7077.46	7078.12	0.50	7083.89	7084.50	0.44	7084.94	8.41	
12	Storm 14	30	Cir	None	0.20	0.013	47.20	7079.46	7079.52	1.16	7083.55	7083.62	0.29	7083.91	9.62	
13	Storm 16, Out. Struct.	18	Cir	Generic	1.50	0.013	8.70	7080.02	7082.45	15.36	7084.97	7085.08	0.57	7085.64	4.92	
14	Storm 14	30	Cir	MH	0.05	0.013	38.60	7079.52	7082.33	1.17	7084.38	7086.51	0.05	7086.56	7.86	
15	Storm 14	30	Cir	MH	0.05 z	0.013	38.60	7082.63	7092.08	2.29	7086.56	7094.18 j	n/a	7094.18	8.32	
16	Storm 14	30	Cir	MH	0.05 z	0.013	38.60	7092.38	7099.48	2.15	7094.41	7101.58	n/a	7101.58	8.90	
17	Storm 14	30	Cir	MH	0.25 z	0.013	38.60	7099.78	7103.19	0.92	7101.81	7105.29	n/a	7105.29	8.90	
18	Storm 15, Type C In.	18	Cir	Generic	1.50 z	0.013	12.30	7104.19	7109.00	6.00	7105.73	7110.33 j	n/a	7110.33	7.20	
19	Storm 14	24	Cir	MH	0.05 z	0.013	26.30	7103.69	7113.33	3.90	7105.40	7115.12	n/a	7115.12	9.04	
20	Storm 14	24	Cir	MH	1.00 z	0.013	26.30	7113.63	7120.33	2.31	7115.25	7122.12	n/a	7122.12	9.25	
21	Storm 14, Type D In.	24	Cir	Generic	1.50 z	0.013	26.30	7120.63	7122.79	3.03	7122.25	7124.58	n/a	7124.58	9.25	

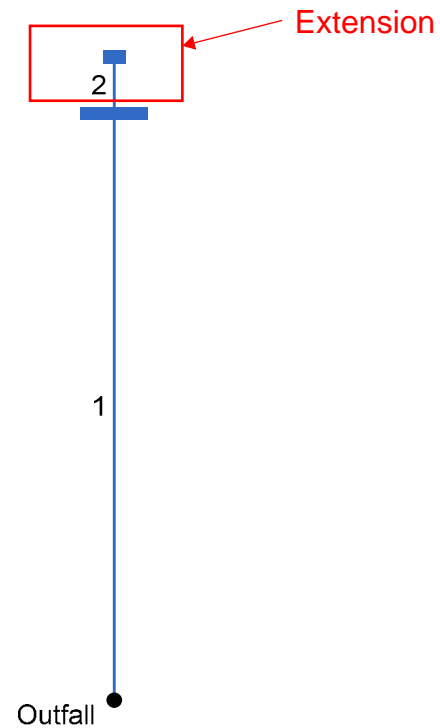
Project File: Sterling Ranch Storms 1, 14, 15, 16 - 11-08-17.stm

Number of lines: 21

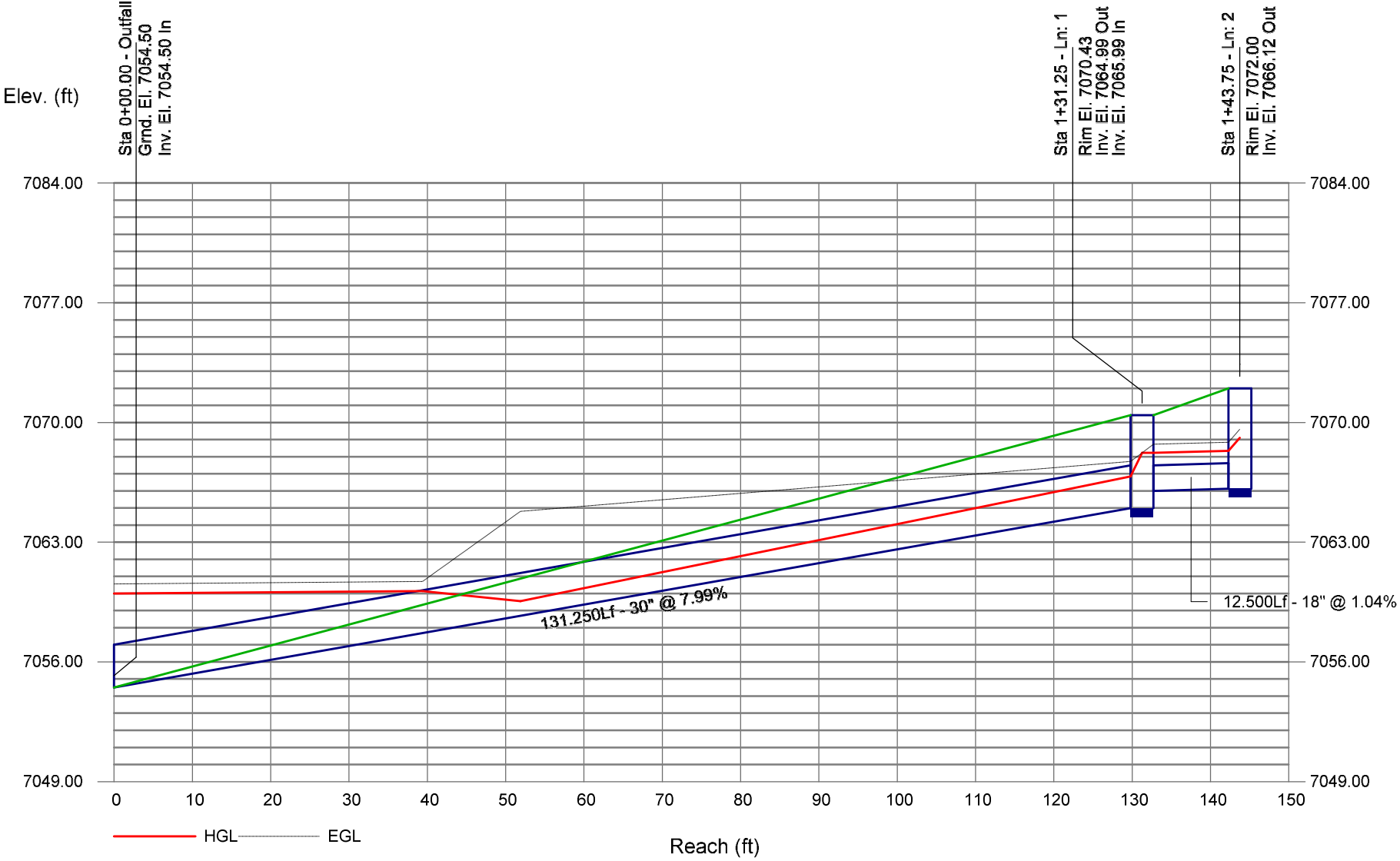
Date: 11/9/2017

NOTES: ** Critical depth

Storm 3 Extension Plan View



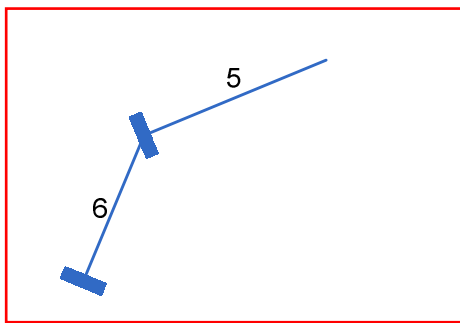
Storm 3 Extension Profile



Line No.	Line ID	Line Size (in)	Line Type	Junct Type	J-Loss Coeff	n-val Pipe	Flow Rate (cfs)	Invert Dn (ft)	Invert Up (ft)	Line Slope (%)	HGL Dn (ft)	HGL Up (ft)	Minor Loss (ft)	HGL Jnct (ft)	Vel Ave (ft/s)	
1	Storm 3	30	Cir	Curb	1.50	0.013	29.40	7054.50	7064.99	7.99	7060.00	7066.84 j	n/a	7068.23 i	6.78	
2	Storm 3	18	Cir	Curb	1.50	0.013	10.10	7065.99	7066.12	1.04	7068.23	7068.34	0.76	7069.10	5.72	
Project File: Sterling Ranch Storm 3 - 7-27-16.stm											Number of lines: 2			Date: 11/9/2017		
NOTES: i Inlet control; ** Critical depth																

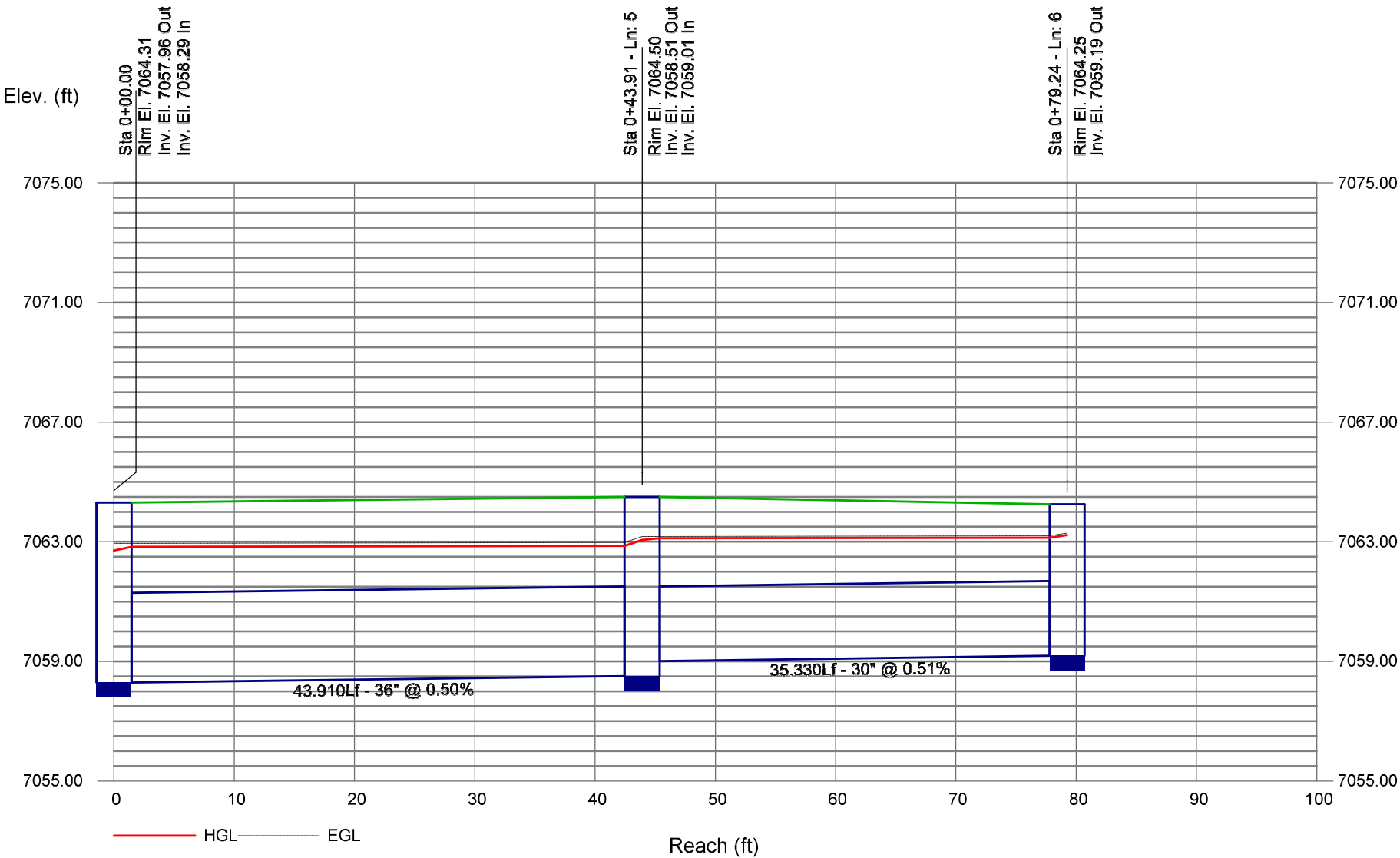
Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan

Storm 4 Extension Plan View



Extension

Storm 4 Extension Profile



Line No.	Line ID	Line Size (in)	Line Type	Junct Type	J-Loss Coeff	n-val Pipe	Flow Rate (cfs)	Invert Dn (ft)	Invert Up (ft)	Line Slope (%)	HGL Dn (ft)	HGL Up (ft)	Minor Loss (ft)	HGL Jnct (ft)	Vel Ave (ft/s)	
1	Homestead, Storm 4 Extension	36	Cir	None	0.40	0.013	42.10	7054.50	7054.83	1.46	7060.00	7060.09	0.22	7060.31	5.96	
2		36	Cir	None	0.40	0.013	42.10	7054.83	7056.81	1.46	7060.31	7060.85	0.22	7061.07	5.96	
3		36	Cir	Curb	1.50	0.013	42.10	7056.81	7057.05	1.50	7061.07	7061.14	0.83	7061.97	5.96	
4		36	Cir	Curb	1.50	0.013	27.60	7057.55	7057.96	0.99	7062.28	7062.35	0.36	7062.71	3.90	
5		36	Cir	Curb	1.70	0.013	19.30	7058.29	7058.51	0.50	7062.83	7062.86	0.20	7063.06	2.73	
6		30	Cir	Curb	1.50	0.013	9.70	7059.01	7059.19	0.51	7063.12	7063.14	0.09	7063.23	1.98	
Project File: Sterling Ranch Storm 4 - 7-27-16.stm										Number of lines: 6			Date: 11/9/2017			
NOTES: i Inlet control; ** Critical depth																

DRAINAGE MAP

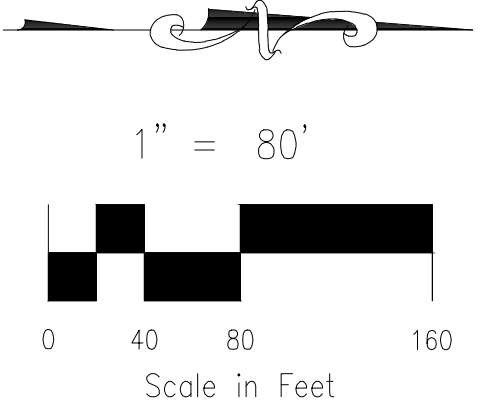
HOMESTEAD AT STERLING RANCH FILING NO. 1

COUNTY OF EL PASO, STATE OF COLORADO FINAL DRAINAGE MAP

NOVEMBER 2017

All infrastructure designed
and constructed with SR
Filing No. 1 have been
shown on the map as
existing facilities.

Existing



- LEGEND**
- BASIN DESIGNATION: Z, C5, C100
 - ACRES: 25, .25, .35
 - PIPE RUN REFERENCE LABEL: 4, 6
 - SURFACE DESIGN POINT
 - BASIN BOUNDARY
 - EXISTING CONTOUR: (6920)
 - PROP CONTOUR: 6920
 - FILING NO. 4 BOUNDARY
 - EXISTING STORM SEWER PIPE
 - EXISTING STORM SEWER PIPE
 - CROSSSPAN
 - INLET
 - EXISTING FLOW DIRECTION ARROW
 - FLOW DIRECTION
 - FLARED END SECTION
 - H.P. X
 - L.P. X
 - HIGH POINT
 - LOW POINT

BASIN SUMMARY			
BASIN	AREA (ACRES)	Q ₅	Q ₁₀₀
OS2	2.10	8.9	15.9
OS3	0.43	0.4	1.3
OS4	0.61	0.5	1.9
OS5	1.54	5.6	10.0
A	2.79	3.6	8.7
B	2.70	3.6	8.6
C	2.92	4.2	10.1
D	2.90	4.3	10.4
E	5.34	8.2	19.9
F	1.12	4.3	7.7
G	0.61	0.5	1.9
EX-H	0.19	0.9	1.6
M	1.15	1.0	3.6
M2	1.60	0.4	3.2
N	2.08	1.6	5.7
O	0.57	0.5	1.8
W-2	10.00	2.7	19.7
OS1 HISTORIC	111.70	18.9	136.8
SUB-BASIN OS1A	2.70	0.7	5.3
SUB-BASIN OS1B	9.09	2.4	17.8
SUB-BASIN OS1C	5.64	1.5	11.1
SUB-BASIN OS1D	94.3	16.3	119.5
V1A	0.31	1.4	2.6
V1B	0.26	1.2	2.2
V1C	0.21	1.0	1.7
V1D	0.13	0.6	1.1
V2	0.32	1.5	2.7
RP-2B	2.04	4.9	9.9
RP-2C	1.28	4.3	8.2

Basin summary, design
point summary, storm
sewer summary and pond
summary have been
updated as necessary

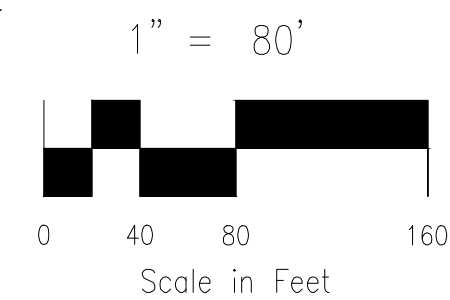
DESIGN POINT SUMMARY			
DESIGN POINT	Q ₅	Q ₁₀₀	STRUCTURE
1	3.6	8.7	15' AT-GRADE INLET
2	3.6	8.6	B
3	4.2	10.1	8' SUMP INLET
4	16.1	36.7	D, E, F
5	4.2	19.7	G, EX-H, FLOWBY DP4
6	14.1	26.7	OS2, OS3, OS4, OS5
7	1.6	7.0	OS1A, V1A
8	4.8	26.3	OS1B, V1B, DP6
9	2.2	12.3	OS1C, V1C
10	18.9	133.7	OS1D, V1D, W-2, V2
12	2.8	5.6	RP-2B
13	8.9	21.2	M, M2, RP2C, DP10

STORM SEWER SUMMARY			
PIPE RUN	Q ₅	Q ₁₀₀	CONTRIBUTING PIPES
1	3.6	8.7	30" RCP
2	7.1	17.2	36" RCP
3	4.2	10.1	18" RCP
4	1.6	7.0	EX 12" CMP
5	4.8	26.3	24" RCP
6	2.2	12.3	18" RCP
7	7.0	36.6	30" RCP
8	18.9	133.7	54" RCP
9	0.6	8.7	18" RCP
10	7.6	47.2	30" RCP
11	23.8	164.1	54" RCP
12	2.7	36.2	30" RCP
13	26.5	200.3	60" RCP

REVISED POND W-8 FSD BASIN DATA	
WQ WATER SURFACE EL =	7086.59
WQ VOLUME=0.092 AC-FT	
EURV WATER SURFACE EL =	7087.99
EURV VOLUME=0.390 AC-FT	
100-YR WATER SURFACE EL=	7088.84
SPILLWAY CREST EL=	7088.84
TOP OF EMBANKMENT EL=	7090.5
100-YR VOLUME=	0.638 AC-FT
100-YR INFLOW =	21.2 CFS
100-YR RELEASE =	8.7 CFS

Revise any "proposed" to be
"existing" or "by others" if it
is part of S.R. Filing No. 1.

All infrastructure designed
and constructed with SR
Filing No. 1 have been
shown on the map as
existing facilities.



20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

HOMESTEAD AT STERLING RANCH FIL NO. 1

FINAL DRAINAGE MAP

PROJECT NO. 09-005	SCALE: HORIZONTAL: 1"=80' VERTICAL: N/A	DATE: 11/09/2017	SHEET 1 OF 1	FDM01
DESIGNED BY: CMN	CHECKED BY: VAS			

Markup Summary

dsdrice (20)		
<div><div>155-5485</div><div>#09-005</div><div># SF-17-025</div></div>	<div><div>Subject: Text Box</div><div>Page Label: 1</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 12:16:05 PM</div><div>Color: <div></div></div></div>	<div>SF-17-025</div>
<div><div><div>155-5485</div><div>#09-005</div><div># SF-17-025</div></div><div><div>Subject: Cloud+</div><div>Page Label: 4</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 12:12:55 PM</div><div>Color: <div></div></div></div></div>	<div>Revise to state that Filing 1 is constructing pond W-9.</div>	
<div><div>and the ov</div><div>1 and the 1</div><div>2. The de</div></div>	<div><div>Subject: Delete</div><div>Page Label: 5</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 1:36:37 PM</div><div>Color: <div></div></div></div>	<div>Delete</div>
<div><div><div>155-5485</div><div>#09-005</div><div># SF-17-025</div></div><div><div>Subject: Text Box</div><div>Page Label: 5</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 1:36:05 PM</div><div>Color: <div></div></div></div></div>	<div>Address overall Sterling Ranch MDDP (provide) and add reference.</div>	
<div><div><div>155-5485</div><div>#09-005</div><div># SF-17-025</div></div><div><div>Subject: Cloud+</div><div>Page Label: 6</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 1:54:05 PM</div><div>Color: <div></div></div></div></div>	<div>DP5</div>	
<div><div><div>155-5485</div><div>#09-005</div><div># SF-17-025</div></div><div><div>Subject: Cloud+</div><div>Page Label: 6</div><div>Lock: Unlocked</div><div>Status:</div><div>Checkmark: Unchecked</div><div>Author: dsdrice</div><div>Date: 3/4/2018 1:55:38 PM</div><div>Color: <div></div></div></div></div>	<div>revise</div>	

- verify

verify

— not on plan?

not on plan?

Delete

Address WQCV (maintenance of vegetated buffer/
swale if deviation is requested?)

Provide statement confirming pond design sizing and attributes provided with S.R. Filing 1, and/or any revisions necessary.

This could be 42% based on average lot size.

every owner not increasing its capacity per acre, some storage
and/or treatment. The proposed drainage facilities will
all flow to the existing and existing flow to the local creek drainage.
Water Quality Pool will be used to discharge developed flow into
the creek. The flow will be at or below the existing flow. Once
constructed, the flow rates will add temporary drainage
capacity to the local creek drainage. The project shall not adversely

see redline on
output sheet

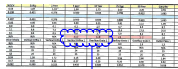
Subject: Callout
Page Label: 11
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:06:34 PM
Color: ■

see redline on output sheet

e

Subject: Delete
Page Label: 12
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:05:43 PM
Color: ■

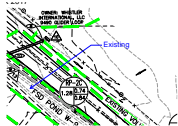
Delete



Address these values meeting
release requirements in the
report. Revise if necessary.

Subject: Cloud+
Page Label: 34
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:04:20 PM
Color: ■

Address these values meeting release
requirements in the report. Revise if necessary.



Subject: Callout
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 12:13:55 PM
Color: ■

Existing



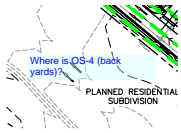
Subject: Cloud+
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 12:08:14 PM
Color: ■

Revise any "proposed" to be "existing" or "by
others" if it is part of S.R. Filing No. 1.



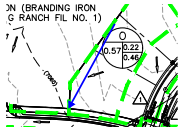
Subject: Cloud+
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:56:47 PM
Color: ■

fix



Subject: Text Box
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:59:54 PM
Color: ■

Where is OS-4 (back yards)?



Subject: Arrow
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 3/4/2018 1:31:09 PM
Color: ■

show rear lot swale

cneises (35)



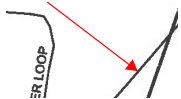
Subject: Text Box
Page Label: 20
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 7/11/2017 10:15:21 AM
Color: ■

SITE



Subject: Polygon Sketch to Scale
Page Label: 20
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 7/11/2017 10:14:05 AM
Color: ■

7 sf



Subject: Arrow
Page Label: 20
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 7/11/2017 10:16:09 AM
Color: ■

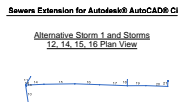


Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:25:01 PM
Color: ■

Storm 14

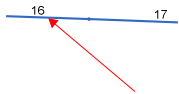


Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:27:21 PM
Color:

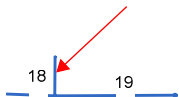


Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:09:48 PM
Color:

Alternative Storm 1 and Storms 12, 14, 15, 16 Plan View



Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:25:35 PM
Color:



Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:25:27 PM
Color:

Line Number

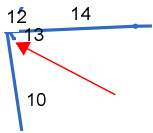
Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:27:32 PM
Color:

Line Number

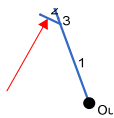


Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:25:08 PM
Color:

Storm 15



Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:24:33 PM
Color:

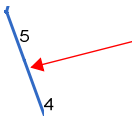


Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:26:17 PM
Color:

Alternative Storm 1

Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:23:37 PM
Color:

Alternative Storm 1



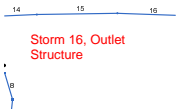
Subject: Arrow
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:23:37 PM
Color:

Storm 12, Outlet Structure



Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:26:26 PM
Color:

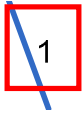
Storm 12, Outlet Structure



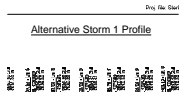
Storm 16, Outlet Structure

Subject: Text Box
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:25:54 PM
Color:

Storm 16, Outlet Structure

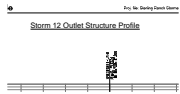


Subject: Rectangle
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:27:18 PM
Color:



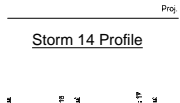
Subject: Text Box
Page Label: 41
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:08:08 PM
Color:

Alternative Storm 1 Profile



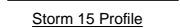
Subject: Text Box
Page Label: 42
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:18:31 PM
Color:

Storm 12 Outlet Structure Profile



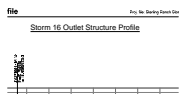
Subject: Text Box
Page Label: 43
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:12:20 PM
Color:

Storm 14 Profile



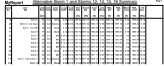
Subject: Text Box
Page Label: 44
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:13:07 PM
Color:

Storm 15 Profile



Subject: Text Box
Page Label: 45
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:18:14 PM
Color:

Storm 16 Outlet Structure Profile

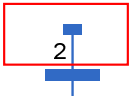


Subject: Text Box
Page Label: 46
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:14:39 PM
Color: ■

Alternative Storm 1 and Storms 12, 14, 15, 16
Summary



Subject: Arrow
Page Label: 47
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:19:56 PM
Color: ■



Subject: Rectangle
Page Label: 47
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:19:45 PM
Color: ■

ms Extension for Autodesk® AutoCAD® Civi
Storm 3 Extension Plan View



Subject: Text Box
Page Label: 47
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:15:52 PM
Color: ■

Storm 3 Extension Plan View

Extension

Subject: Text Box
Page Label: 47
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:19:32 PM
Color: ■

Extension

Storm 3 Extension Profile



Subject: Text Box
Page Label: 48
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: cneises
Date: 11/9/2017 4:16:04 PM
Color: ■

Storm 3 Extension Profile



Subject:
Page Label: [1] Filing 1 Working Vicinity Maps MARKSHEFFEL RD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



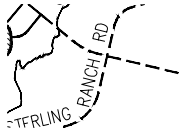
Subject:
Page Label: [1] Filing 1 Working Vicinity Maps BURGESS RD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing 1 Working Vicinity Maps POWERS BLVD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



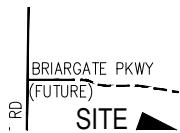
Subject:
Page Label: [1] Filing 1 Working Vicinity Maps COWPOKE RD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing 1 Working Vicinity Maps RANCH RD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing 1 Working Vicinity Maps E WOODMEN RD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



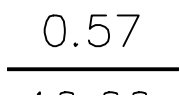
Subject:
Page Label: [1] Filing 1 Working Vicinity Maps BRIARGATE PKWY
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



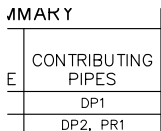
Subject:
Page Label: [1] Filing 1 Working Vicinity Maps (FUTURE)
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



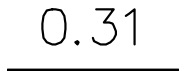
Subject:
Page Label: [1] Filing 1 Working Vicinity Maps STERLING
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.57
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 CONTRIBUTING PIPES
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.31
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

— (6920) —

Subject:
Page Label: [1] Filing No. 3 (6920)
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Q₅

Subject:
Page Label: [1] Filing No. 3 Q 5
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

(0.21)

Subject:
Page Label: [1] Filing No. 3 0.21
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS4

Subject:
Page Label: [1] Filing No. 3 OS4
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9

Subject:
Page Label: [1] Filing No. 3 9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.21

Subject:
Page Label: [1] Filing No. 3 0.21
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.55

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.55

OS2, OS3, OS4, OS5
OS1A, V1A
OS1B, V1B, DP6
OS1C, V1C,

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1B, V1B, DP6

0.22

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.22

0.46

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.46

4.3

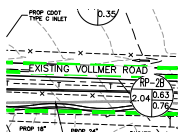
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.3

0.61

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.61



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING VOLLMER ROAD

DESIGN
POINT

1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DESIGN POINT

V1B

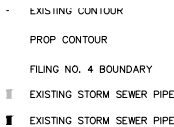
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1B

8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FILING NO. 4 BOUNDARY

164.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

164.1



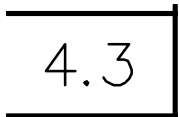
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7



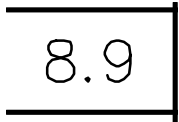
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP3



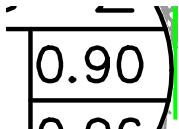
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.3



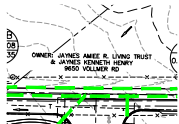
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.9



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90

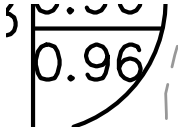


Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

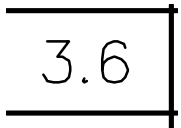
OWNER: JAYNES AMIEE R. LIVING TRUST &
JAYNES KENNETH HENRY 9650 VOLLMER RD



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



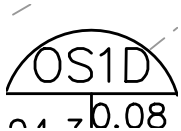
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



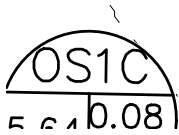
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

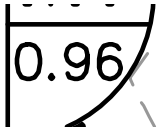
160

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



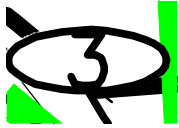
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1C



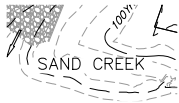
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96



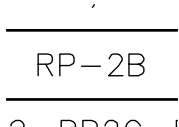
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3



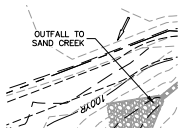
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SAND CREEK



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RP-2B



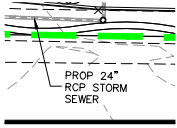
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OUTFALL TO SAND CREEK

12

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

12



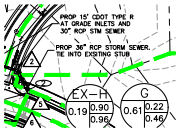
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 24" RCP STORM SEWER

1.60

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.60



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 36" RCP STORM SEWER. TIE INTO
EXSISTING STUB

10.0

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10.0

94.3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

94.3

6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6

E

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

E

1.5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.5

13

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

13

VAS

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

VAS

18" RCP

EX 12" CMP

24" RCP

12" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 12" CMP

30" RCP	Subject:	54" RCP
54" RCP	Page Label: [1] Filing No. 3	
18" RCP	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	
1.6	Subject:	1.6
	Page Label: [1] Filing No. 3	
	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	
10.1	Subject:	10.1
	Page Label: [1] Filing No. 3	
	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	
DESIGNED BY: DRAWN BY: CHECKED BY:	Subject:	CHECKED BY:
	Page Label: [1] Filing No. 3	
	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	
1.5	Subject:	1.5
	Page Label: [1] Filing No. 3	
	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	
18" RCP	Subject:	30" RCP
30" RCP	Page Label: [1] Filing No. 3	
54" RCP	Lock: Unlocked	
	Status:	
	Checkmark: Unchecked	
	Author: AutoCAD SHX Text	
	Date:	
	Color: <input type="checkbox"/>	

EX-H

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.22

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

30" RCP
36" RCP
18" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SCALE:
HORIZONTAL:

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

19.9

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1D

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1D

26.3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

26.3

38.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

38.6

0.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.6

(7060)

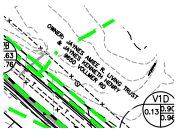
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

(7060)

1.9

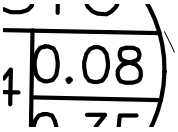
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.9



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OWNER: JAYNES AMIEE R. LIVING TRUST &
JAYNES KENNETH HENRY 9650 VOLLMER RD



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.08

15' AT-GRADE INLET
8' SUMP INLET
15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 12" CMP CULVERT
2.9'x5.7' CDOT TYPE D INLET

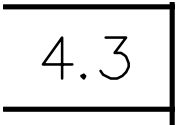
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 15' AT-GRADE INLET

24" RCP
18" RCP
30" RCP

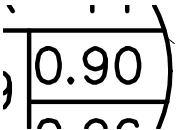
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

18" RCP



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.3



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 54" RCP STORM SEWER. STERLING
RANCH FIL. NO. 1, STORM 1

SUB-BASIN OS1A
SUB-BASIN OS1B
SUB-BASIN OS1C
SUB-BASIN OS1D
V1A

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SUB-BASIN OS1C



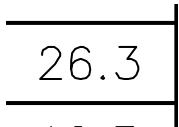
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6



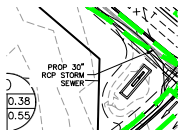
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

M



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

26.3



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 30" RCP STORM SEWER

OUTFLOW EDD
POND W-9
PR7, PR9
PR8, PR10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PR7, PR9

1.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.7

0.19

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.19

5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5

200.3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

200.3

7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7

0.61

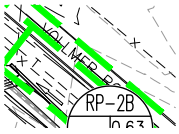
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.61

8.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

VOLLMER ROAD

40

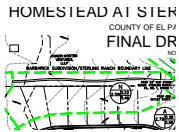
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

40

8.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

BARBARICK SUBDIVISION/STERLING RANCH
BOUNDARY LINE

0.13

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.13

2.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.2

OS3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS3

0.38

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.38

A

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

A

10.0

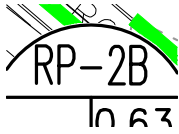
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10.0



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING DINES BLVD



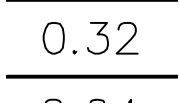
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RP-2B



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1A



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.32



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

A



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.9

36.2

Subject:
Page Label: [1] Filing No. 3 36.2
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8

Subject:
Page Label: [1] Filing No. 3 8
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Q₁₀₀

Subject:
Page Label: [1] Filing No. 3 Q 100
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9

Subject:
Page Label: [1] Filing No. 3 9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

11

Subject:
Page Label: [1] Filing No. 3 11
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.38

Subject:
Page Label: [1] Filing No. 3 0.38
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

-(7060)-



Subject:
Page Label: [1] Filing No. 3 (7060)
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

40

Subject:
Page Label: [1] Filing No. 3 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

47.2

Subject:
Page Label: [1] Filing No. 3 47.2
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.13

Subject:
Page Label: [1] Filing No. 3 0.13
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

U
W-2
OS1 HISTORIC
SUB-BASIN OS1A
SUB-BASIN OS1B

Subject:
Page Label: [1] Filing No. 3 OS1 HISTORIC
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Z

Subject:
Page Label: [1] Filing No. 3 Z
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.35
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

ACRES

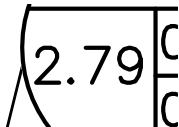
Subject:
Page Label: [1] Filing No. 3 ACRES
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



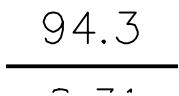
Subject:
Page Label: [1] Filing No. 3 DP10
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 EXISTING BRIARGATE PKWY
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 2.79
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

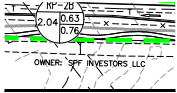


Subject:
Page Label: [1] Filing No. 3 94.3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4

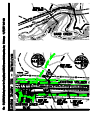
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OWNER: SPF INVESTORS LLC



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

File: O:\09005A\Sterling Ranch No 2\dwg\Eng
Exhibits\Proposed Drainage Map.dwg Plotstamp:
11/10/2017 9:51 AM

PIPE RUN

1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PIPE RUN

2.9'x5.7' CDOT TYPE D INLET
2.9'x2.9' CDOT TYPE C INLET
4'x14' MOD CDOT TYPE D INLET
CDOT EMBANKMENT PROTECTOR TYPE 5
FSD WQCV POND W-9

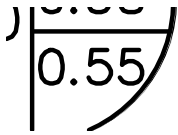
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4'x14' MOD CDOT TYPE D INLET

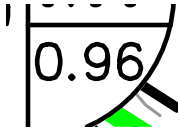
- * FILING NO. 4 BOUNDARY
- EXISTING STORM SEWER PIPE
- EXISTING STORM SEWER PIPE
- CROSSSPAN
- INLET

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING STORM SEWER PIPE



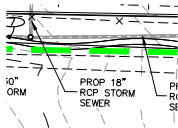
Subject:
Page Label: [1] Filing No. 3 0.55
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



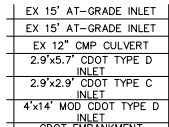
Subject:
Page Label: [1] Filing No. 3 0.96
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



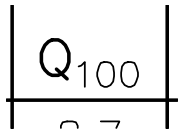
Subject:
Page Label: [1] Filing No. 3 N
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 PROP 18" RCP STORM SEWER
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 2.9'x5.7' CDOT TYPE D INLET
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 Q 100
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.79

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.79

0.43

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.43

7.0

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.0

0.35

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.35

17.8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

17.8



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PLANNED RESIDENTIAL SUBDIVISION

09-005

Subject:
Page Label: [1] Filing No. 3 09-005
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 EX POND 4
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.15

Subject:
Page Label: [1] Filing No. 3 1.15
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

E

Subject:
Page Label: [1] Filing No. 3 E
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PIPE SIZE
30" RCP

Subject:
Page Label: [1] Filing No. 3 PIPE SIZE
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SURFACE DESIGN POI
BASIN BOUNDARY
EXISTING CONTOUR

Subject:
Page Label: [1] Filing No. 3 BASIN BOUNDARY
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

40 80
Scale in Feet

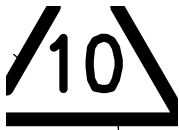
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Scale in Feet

CROSSSPAN
INLET
EXISTING FLOW DIRECTION
ARROW
FLOW DIRECTION
FLARED END SECTION

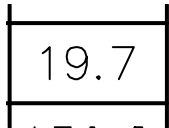
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING FLOW DIRECTION ARROW



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

19.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

M



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.55

OS1B, V1B, DP6
OS1C, V1C,
OS1D, V1D, W-2, V2
RP-2B
M, M2, RP2C, DP10

Subject:
Page Label: [1] Filing No. 3 OS1D, V1D, W-2, V2
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS5

Subject:
Page Label: [1] Filing No. 3 OS5
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90

Subject:
Page Label: [1] Filing No. 3 0.90
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.3

Subject:
Page Label: [1] Filing No. 3 1.3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.26

Subject:
Page Label: [1] Filing No. 3 0.26
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

N

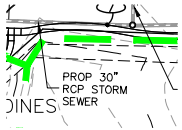
Subject:
Page Label: [1] Filing No. 3 N
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2, OS3, OS4, C
OS1A, V1A
OS1B, V1B, DP6

Subject: OS1A, V1A
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2

Subject: 2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject: PROP 30" RCP STORM SEWER
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.8

Subject: 2.8
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

C

Subject: C
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.70

Subject: 2.70
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.54

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.54

(0.31)

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.31



3 RANCH FIL NO. 1

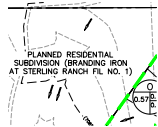
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FOR BURIED UTILITY INFORMATION

0.46

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.46



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PLANNED RESIDENTIAL SUBDIVISION
(BRANDING IRON AT STERLING RANCH FIL
NO. 1)

2.04

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.04

BASIN

A

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

BASIN

L.P.
x

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

L.P.

5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5

2.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.7

13

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

13

0.35

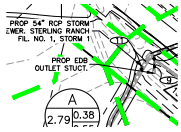
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.35

1.8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.8



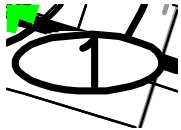
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP EDB OUTLET STUCT.

W-2	
OS1 HISTORIC	1
SUB-BASIN OS1A	
SUB-BASIN OS1B	
SUB-BASIN OS1C	

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SUB-BASIN OS1A



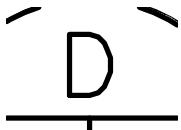
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1

5.64

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.64



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

D

2.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.1

0.5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.5

2.90

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.90

STRUCTURE
15' AT-GRADE INLET
15' AT-GRADE INLET
8" SUMP INLET
15' AT-GRADE INLET
EX 15' AT-GRADE INLET

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

15' AT-GRADE INLET

0.22

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.22

E MAP
11/09/2017

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

11/09/2017

V2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V2

2.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.08

D

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

D

UNION, VIU, W=4, V2		INLET	
RP-20		CDOT EMBANKMENT PROTECTOR TYPE 1	
M, M2, RP2C, DP10		FSD WGVY POND W-	
STORM SEWER SUMMARY			
E RUN	Q ₅	Q ₁₀₀	CONTRIBUT PIPES
1	3.6	8.7	30" ROP
2	7.1	17.2	36" ROP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

STORM SEWER SUMMARY

19.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

19.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OWNER: SR LAND, LLC

<div>2.6</div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>2.6</div>
<div> <div>LEGEND</div> <div>BASIN DESIGNATION</div> <div>(</div> </div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>BASIN DESIGNATION</div>
<div>0</div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>0</div>
<div>18.9</div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>18.9</div>
<div>5.6</div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>5.6</div>
<div>9.09</div>	<div> <div>Subject:</div> <div>Page Label: [1] Filing No. 3</div> <div>Lock: Unlocked</div> <div>Status:</div> <div>Checkmark: Unchecked</div> <div>Author: AutoCAD SHX Text</div> <div>Date:</div> <div>Color: <input type="checkbox"/></div> </div> <div>9.09</div>

17.2

Subject:
Page Label: [1] Filing No. 3 17.2
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.7

Subject:
Page Label: [1] Filing No. 3 2.7
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10	2.2	47.2	30' RCP	PR7, PR8
11	23.8	34.1	30' RCP	PR8, PR9
12	2.7	38.2	30' RCP	OUTFLOW EDB
13	28.5	29.3	48' RCP	PR11, PR12

REVISED POND W-8 FSD
BASIN DATA
WD WATER SURFACE EL = 7086.59
WD VOLUME=0.092 AC-FT
EURY WATER SURFACE EL = 7087.09
EURY VOLUME=0.390 AC-FT
100-YR WATER SURFACE EL=7088.84
SPILLWAY CREST EL=7088.84

Subject:
Page Label: [1] Filing No. 3 REVISED POND W-8 FSD BASIN DATA
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 CUT BANK WAY (50' ROW)
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

END, END
DP10
OUTFLOW EDB
POND W-9
PR7, PR9
PR8 PR10

Subject:
Page Label: [1] Filing No. 3 OUTFLOW EDB POND W-9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

C

Subject:
Page Label: [1] Filing No. 3 C
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.2

Subject: 1.2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2

Subject: 2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

H.P.

Subject: H.P.
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1A

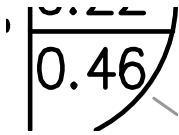
Subject: V1A
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9.09

Subject: 9.09
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

30" RCP
54" RCP
30" RCP

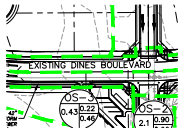
Subject: 54" RCP
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.46
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

15' AT-GRADE INLET
15' AT-GRADE INLET
8' SUMP INLET
15' AT-GRADE INLET
< 15' AT-GRADE INLE

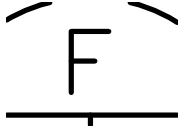
Subject:
Page Label: [1] Filing No. 3 8' SUMP INLET
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 EXISTING DINES BOULEVARD
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.9

Subject:
Page Label: [1] Filing No. 3 8.9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 F
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 PLANNED RESIDENTIAL SUBDIVISION
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING 15' CDOT TYPE R AT GRADE INLET
AND RCP STORM SEWER



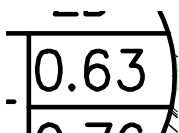
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

MATCHLINE - SEE ABOVE RIGHT

EXISTING CONTOUR
PROP CONTOUR
FILING NO. 4 BOUN

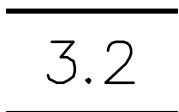
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP CONTOUR



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.63



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3.2



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING DINES BOULEVARD



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 15' CDOT TYPE R AT GRADE INLETS
AND 30" RCP STM SEWER

36" RCP
18" RCP
EX 12" CMP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

18" RCP

11.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

11.1

DP1
DP2, PR1
DP3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP2, PR1

0.08

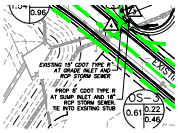
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.08

0.7

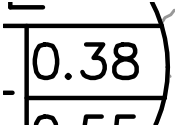
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 8' CDOT TYPE R AT SUMP INLET AND
18" RCP STORM SEWER. TIE INTO EXSITING
STUB



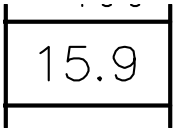
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.38



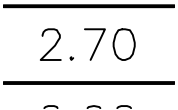
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4



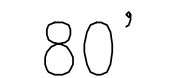
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

15.9



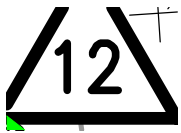
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.70



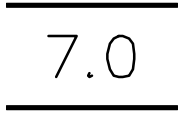
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

80'



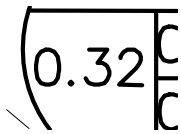
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

12



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.0



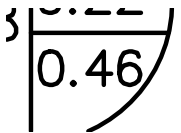
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.32



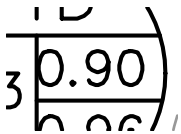
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DATE:



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.46



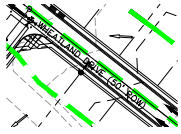
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90

4.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.2



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

WHEATLAND DRIVE (50' ROW)



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1B

80

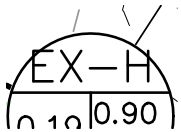
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

80

2.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.7



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX-H

2.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.2

OS1 HISTORIC
SUB-BASIN OS1A
SUB-BASIN OS1B
SUB-BASIN OS1C
SUB-BASIN OS1D

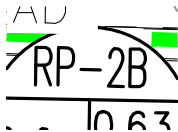
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SUB-BASIN OS1B

4.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.2



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RP-2B

0.46

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.46

2.4

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.4



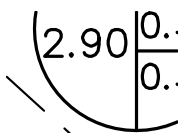
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6



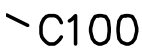
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.4



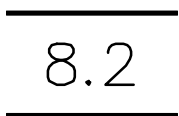
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.55



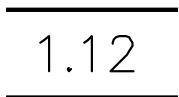
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

C100



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.2



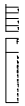
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.12

4.8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.8



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

MATCHLINE - SEE BELOW LEFT

5.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.7

POND 4
PR7, PR9
PR8, PR10
OUTFLOW EDB
POND 4

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PR8, PR10

2.92

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.92

RP-2B
RP-2C

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RP-2C

OS1B, V1B, DP6
OS1C, V1C,
1D, V1D, W-2,

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1C, V1C,

DP7

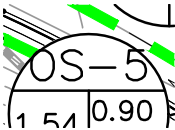
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP7

3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS-5

PROJECT NO. 09
DESIGNED BY:
DRAWN BY:
CHECKED BY:

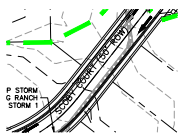
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DESIGNED BY:

N/A

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

N/A



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SCOBY COURT (50' ROW)

8.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.7

0.46

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.46

8.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.7

0.90

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90

AREA
(ACRES)
2.10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

AREA (ACRES)

STRUCTURE
5' AT-GRADE INLET
5' AT-GRADE INLET

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

STRUCTURE

CMN

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

CMN

B
C
D, E, F
G, EX-H, FLOWBY DP4
OS2, OS3, OS4, OS5
OS1A, VIA
OS1B, V1B, DP6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

G, EX-H, FLOWBY DP4

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OWNER: SPF INVESTORS LLC

2.92

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.92

9

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9

10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10

4.9

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.9

G

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

G

0.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.6

1.6

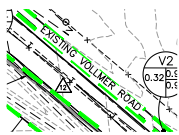


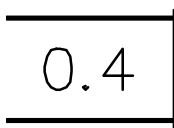
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.6

OS2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS2

EXISTING SITE	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	CROSSPAN
CROSSPAN		
INLET		
	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	EXISTING VOLLMER ROAD
	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	10
	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	1
	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	0.4
VZ RP-2B RP-2C	Subject: Page Label: [1] Filing No. 3 Lock: Unlocked Status: Checkmark: Unchecked Author: AutoCAD SHX Text Date: Color: <input type="checkbox"/>	RP-2B

DP9

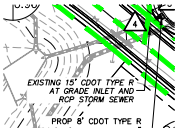
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP9

0.19

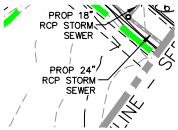
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.19



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING 15' CDOT TYPE R AT GRADE INLET
AND RCP STORM SEWER



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 24" RCP STORM SEWER

3.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3.6

DP8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP8

B

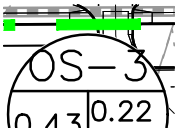
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

B

V1C

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1C



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS-3

8' SUMP INLET
15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 12" CMP CULVERT
2.9'x5.7' CDOT TYPE D INLET
2.9'x2.9' CDOT TYPE C

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 15' AT-GRADE INLET

2.10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.10



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.12

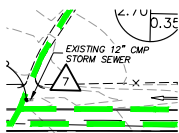
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SHEET 1 OF 1

10.00
111.70
270

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

111.70



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING 12" CMP STORM SEWER

4"x14" MOD CDOT TYPE D INLET
CDOT EMBANKMENT PROTECTOR TYPE 5
FSD WQCV POND W-9

R SUMMARY

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FSD WQCV POND W-9

0.5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.5

14.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

14.1

48 HRS BEFORE CALL 1-800-			
EAD AT STERLING RANCH FILL			
FINAL DRAINAGE MAP			
28-005	SCALE:	DATE: 11/09/2017	
DATE	HORIZONTAL:		
CAN	1"=40'		
USE	VERTICAL:	SHEET 1 OF 1	
	N/A		

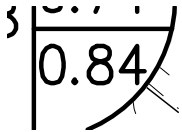
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FINAL DRAINAGE MAP

DP1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DP1



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.84



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RYEGATE WAY (50' ROW)

OS1D, V1D, W-2, V2
RP-2B
M, M2, RP2C, DP10
STORM SEWER

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

M, M2, RP2C, DP10

HIGH POINT

LOW POINT

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

HIGH POINT

3
0.35

Subject:
Page Label: [1] Filing No. 3 0.35
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10.00

Subject:
Page Label: [1] Filing No. 3 10.00
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

INLET

Subject:
Page Label: [1] Filing No. 3 INLET
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.38

Subject:
Page Label: [1] Filing No. 3 0.38
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

18.9

Subject:
Page Label: [1] Filing No. 3 18.9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

133.7

Subject:
Page Label: [1] Filing No. 3 133.7
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6

9.9

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9.9

5.34

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.34

DP9
PR5, PR6
DP10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PR5, PR6

23.8

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

23.8

0.96

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96

3.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3.6

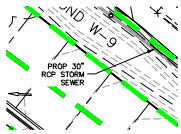
C

D, E, F

H, FLOWBY

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

D, E, F



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 30" RCP STORM SEWER

8.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8.2

10.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10.1

ARROW
FLOW DIRECTION
FLARED END SECTION
HIGH POINT

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FLARED END SECTION

12.3

Subject:
Page Label: [1] Filing No. 3 12.3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

F

Subject:
Page Label: [1] Filing No. 3 F
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.26

Subject:
Page Label: [1] Filing No. 3 0.26
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.6

Subject:
Page Label: [1] Filing No. 3 1.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

(1.15)

Subject:
Page Label: [1] Filing No. 3 1.15
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90

Subject:
Page Label: [1] Filing No. 3 0.90
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.70

Subject: 2.70
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.0

Subject: 7.0
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2

Subject: 2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.64

Subject: 5.64
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject: 48 HRS BEFORE YOU DIG
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SUB-BASIN OS1B
SUB-BASIN OS1C
SUB-BASIN OS1D
V1A
V1B

Subject: SUB-BASIN OS1D
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

.35

Subject:
Page Label: [1] Filing No. 3 .35
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1

Subject:
Page Label: [1] Filing No. 3 1
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0

Subject:
Page Label: [1] Filing No. 3 0
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3.6

Subject:
Page Label: [1] Filing No. 3 3.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

94.3

Subject:
Page Label: [1] Filing No. 3 94.3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.76

Subject:
Page Label: [1] Filing No. 3 0.76
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.0

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.0

0.63

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.63

36.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

36.7

0.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.08

B

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

B

16.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

16.1

40 80
Scale in Feet

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Scale in Feet

0

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0

4.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.2

1 0.96

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96

1.54

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.54

0.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

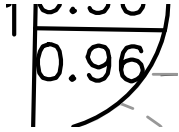
0.08

HIGH POINT

LOW POINT

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

LOW POINT



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS-3

80'

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

80'

1" =

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1" =



G RANCH FIL NO. 1
ACF MAP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

CALL 1-800-922-1987

8.6

Subject:
Page Label: [1] Filing No. 3 8.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.60

Subject:
Page Label: [1] Filing No. 3 1.60
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

CMN

Subject:
Page Label: [1] Filing No. 3 CMN
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PIPE RUN REFERENCE LABEL
SURFACE DESIGN POINT
BASIN BOUNDARY

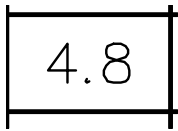
Subject:
Page Label: [1] Filing No. 3 SURFACE DESIGN POINT
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Q5

Subject:
Page Label: [1] Filing No. 3 Q 5
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROJECT NO. 0
DESIGNED BY:

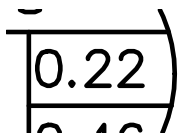
Subject:
Page Label: [1] Filing No. 3 PROJECT NO.
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



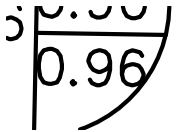
Subject:
Page Label: [1] Filing No. 3 4.8
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



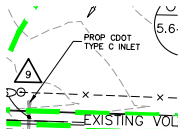
Subject:
Page Label: [1] Filing No. 3 1.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



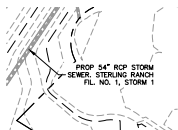
Subject:
Page Label: [1] Filing No. 3 0.22
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.96
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 PROP CDOT TYPE C INLET
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 PROP 54" RCP STORM SEWER. STERLING RANCH FIL. NO. 1, STORM 1
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 12" CMP
24" RCP
18" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

24" RCP

0.43

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.43

1.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.1

54" RCP
30" RCP
60" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

30" RCP

1.4

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.4

6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6

H.P.
X

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

H.P.

26.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

26.7

(0.61)

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.61

2.04

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.04

10.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10.1

15' AT-GRADE INLET
15' AT-GRADE INLET
8' SUMP INLET
15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 12" CMP CULVERT

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

15' AT-GRADE INLET

- C5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

C5

G

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

G

C

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

C

OS1D
b.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1D

W-2

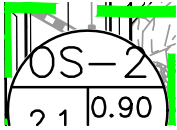
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

W-2

2.90

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.90



Subject: OS-2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 12" A1-URADE INLET
EX 12" CMP CULVERT
2.9'x5.7" CDOT TYPE D INLET
2.9'x2.9" CDOT TYPE C INLET
4'x14' MOD CDOT TYPE D INLET
CDOT EMBANKMENT PROTECTOR TYPE 5

Subject: 2.9'x2.9' CDOT TYPE C INLET
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9

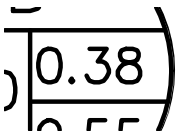
Subject: 9
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



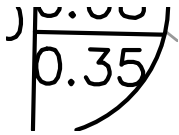
Subject: 0.9
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

LEGEND

Subject: %%%uLEGEND
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject: 0.38
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.35

1"=80'
VERTICAL:
N/A

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

VERTICAL:

BASIN
OS2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

BASIN



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5

PR8, PR10
OUTFLOW EDB
POND 4
PR11, PR12

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OUTFLOW EDB POND 4



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

11

.38

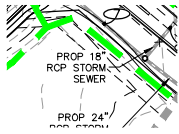
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

D

4.2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4.2



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 18" RCP STORM SEWER

1

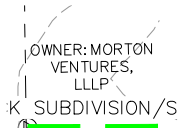
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1

119.5

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

119.5



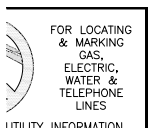
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OWNER:MORTON VENTURES, LLLP



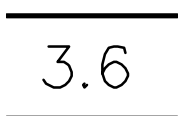
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

13



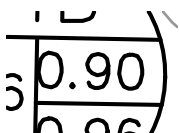
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FOR LOCATING & MARKING GAS, ELECTRIC,
WATER & TELEPHONE LINES



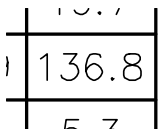
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3.6



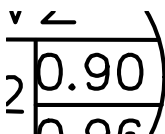
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90



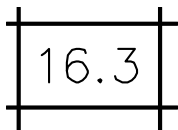
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

136.8



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.90



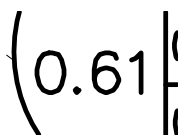
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

16.3

15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 15' AT-GRADE INLET
EX 12" CMP CULVERT
2.9'x5.7' CDOT TYPE D INLET
2.9'x2.9' CDOT TYPE C INLET

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EX 12" CMP CULVERT



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.61



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

12



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4

PIPE SIZE

30" RCP

36" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

30" RCP

2.9 X 2.9 CDOT TYPE C
INLET
4'x14' MOD CDOT TYPE D
INLET
CDOT EMBANKMENT
PROTECTOR TYPE 5
FSD WQCV POND W-9

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

CDOT EMBANKMENT PROTECTOR TYPE 5

C
D, E, F
G, EX-H, FLOWBY DP4
OS2, OS3, OS4, OS5
OS1A, V1A
OS1B, V1B, DP6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS2, OS3, OS4, OS5

7.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.6

25

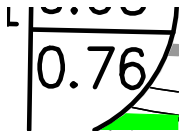
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

25

7.1

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.1



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.76

ORIZONIAL
1"=80'
VERTICAL :

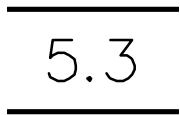
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1"=80'

1" =

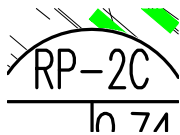
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1" =



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.3



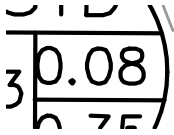
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

RP-2C

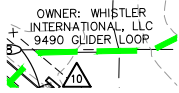


Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

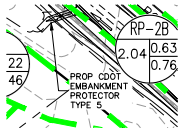
V1A



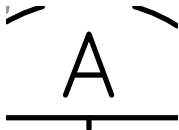
Subject:
Page Label: [1] Filing No. 3 0.08
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



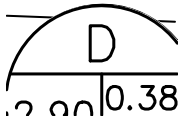
Subject:
Page Label: [1] Filing No. 3 OWNER: WHISTLER INTERNATIONAL, LLC
Lock: Unlocked 9490 GLIDER LOOP
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 PROP CDOT EMBANKMENT PROTECTOR
Lock: Unlocked TYPE 5
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 A
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 2.90
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 80
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7.7

18" RCP

30" RCP

54" RCP

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

30" RCP

160

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

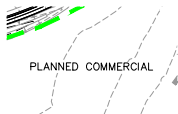
160

1+00	2+00	3+00	4+00
10	0.32	1.5	2.7
RP-2B	2.04	4.9	9.9
RP-2C	1.28	4.3	8.2

DESIGN POINT SUMMARY		
Q ₁₀₀	BASIN	STF
8.7	A	15' AT
8.6	B	15' AT
10.1	C	15' AT

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DESIGN POINT SUMMARY



PLANNED COMMERCIAL

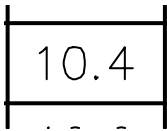
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PLANNED COMMERCIAL

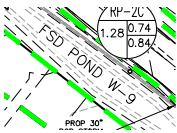
8.6

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

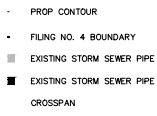
8.6



Subject:
Page Label: [1] Filing No. 3 10.4
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



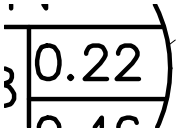
Subject:
Page Label: [1] Filing No. 3 FSD POND W-9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



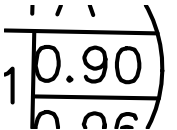
Subject:
Page Label: [1] Filing No. 3 EXISTING STORM SEWER PIPE
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 H.P.
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.22
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.90
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2

Subject: 2
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96

Subject: 0.96
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

26.5

Subject: 26.5
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.28

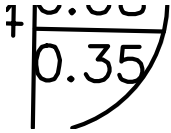
Subject: 1.28
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

54" RCP
18" RCP
30" RCP

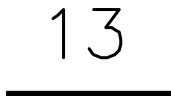
Subject: 18" RCP
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

OS1B
b.08

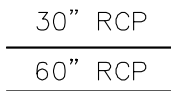
Subject: OS1B
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



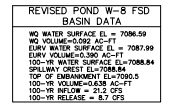
Subject:
Page Label: [1] Filing No. 3 0.35
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



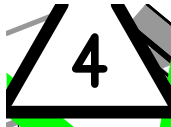
Subject:
Page Label: [1] Filing No. 3 13
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 60" RCP
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



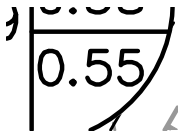
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐
WQ WATER SURFACE EL = 7086.59 WQ
VOLUME=0.092 AC-FT EURV WATER SURFACE
EL = 7087.99 EURV VOLUME=0.390 AC-FT
100-YR WATER SURFACE EL=7088.84
SPILLWAY CREST EL=7088.84 TOP OF
EMBANKMENT EL=7090.5 100-YR
VOLUME=0.638 AC-FT 100-YR INFLOW = 21.2
CFS 100-YR RELEASE = 8.7 CFS



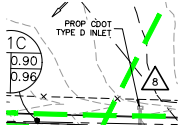
Subject:
Page Label: [1] Filing No. 3 4
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

BASIN SUMMARY			
BASIN	AREA (ACRES)	Q ₅	Q ₁₀
052	2.10	8.9	11

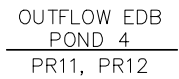
Subject:
Page Label: [1] Filing No. 3 BASIN SUMMARY
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



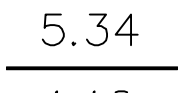
Subject:
Page Label: [1] Filing No. 3 0.55
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



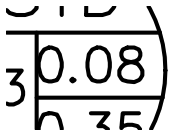
Subject:
Page Label: [1] Filing No. 3 PROP CDOT TYPE D INLET
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



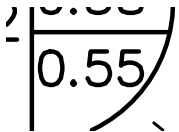
Subject:
Page Label: [1] Filing No. 3 PR11, PR12
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 5.34
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.08
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 0.55
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5.6

Subject:
Page Label: [1] Filing No. 3 5.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

12.3

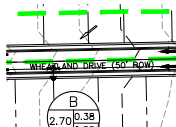
Subject:
Page Label: [1] Filing No. 3 12.3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.28

Subject:
Page Label: [1] Filing No. 3 1.28
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.70

Subject:
Page Label: [1] Filing No. 3 2.70
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 WHEATLAND DRIVE (50' ROW)
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.04

Subject:
Page Label: [1] Filing No. 3 2.04
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7

2.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

2.08

0.96

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.96

0.22

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.22

0.35

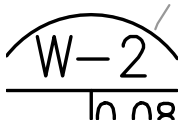
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.35

Q₁₀₀

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Q 100



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

W-2



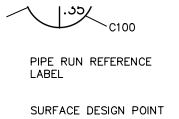
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

4



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

5



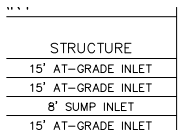
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PIPE RUN REFERENCE LABEL



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V1D



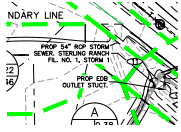
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

15' AT-GRADE INLET

0.08

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.08



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 54" RCP STORM SEWER. STERLING RANCH FIL. NO. 1, STORM 1

M2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

M2

3

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

3

10

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

10

21.2

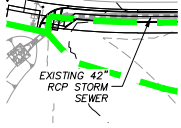
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

21.2

6920 -

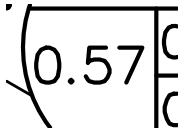
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6920



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING 42" RCP STORM SEWER



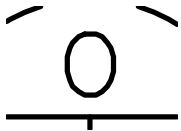
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.57

12

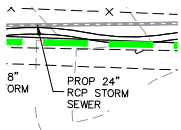
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

12



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

PROP 24" RCP STORM SEWER

3.6

Subject:
Page Label: [1] Filing No. 3 3.6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐



Subject:
Page Label: [1] Filing No. 3 7
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

18.9

Subject:
Page Label: [1] Filing No. 3 18.9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

9

Subject:
Page Label: [1] Filing No. 3 9
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

SCALE:
HORIZONTAL:
1"=80'
VERTICAL :

Subject:
Page Label: [1] Filing No. 3 HORIZONTAL:
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

BASIN BOUNDARY
EXISTING CONTOUR
PROP CONTOUR

Subject:
Page Label: [1] Filing No. 3 EXISTING CONTOUR
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

EXISTING FLOW DIRE
ARROW
FLOW DIRECTION
FLARED END SECTIO

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

FLOW DIRECTION

V2

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

V2

2.90 0.38
0.55

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.38

1.0

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

1.0



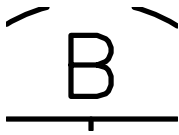
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

HOMESTEAD AT STERLING RANCH FIL NO. 1

133.7

Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

133.7



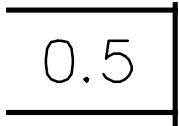
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

B

DESIGNED BY
DRAWN BY:
CHECKED BY:

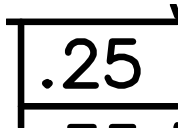
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

DRAWN BY:



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.5



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

.25



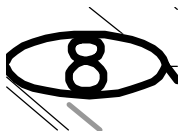
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

M2



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

8



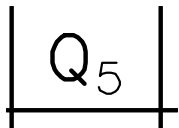
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

7



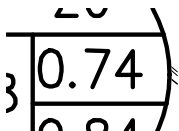
Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

6



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

Q 5



Subject:
Page Label: [1] Filing No. 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: AutoCAD SHX Text
Date:
Color: ☐

0.74