HOMESTEAD AT STERLING RANCH FILING NO. 1 COUNTY OF EL PASO, STATE OF COLORADO STREET IMPROVEMENT PLANS

AGENCIES

OWNER/DEVELOPER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JIM MORLEY (719) 471–1742
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955–5485
COUNTY ENGINEERING:	EL PASO COUNTY DEVELOPMENT SERVICES 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520–6300
TRAFFIC ENGINEERING:	EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT. 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE P.E. (719) 520–6460
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS—HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668—8769
FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495–4300
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668–3556
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495–2283
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922–1987 AT&T (LOCATORS) (719) 635–3674

BENCHMARKS

- 1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION NORTHING = 411416.273EASTING = 235167.071ELEVATION = 7023.42
- 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION NORTHING = 410095.404EASTING = 235052.131ELEVATION = 7000.40
- 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDISION NORTHING = 411399.962EASTING = 233849.817ELEVATION = 7030.82





APPROVALS:

ENGINEER'S STATEMENT:

VIRGIL A SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

OWNER/DEVELOPER STATEMENT: THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

CLASSIC HOMES DIRECTOR OF PLANNING AND ENGINEERING

EL PASO COUNTY:

MANUAL AS AMENDED.

JENNIFER IRVINE, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR

STERLING RANCH METROPOLITAN DISTRICT: THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT

BLACK FOREST FIRE PROTECTION DISTRICT:

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE BLACK FOREST FIRE PROTECTION DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THE WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE BLACK FOREST FIRE PROTECTION DISTRICT.

<u>SHEET</u>	INDEX
SHEET 1	TITLE SHEET
SHEET 2	NOTES & DETAILS
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SHEET 7 SIGNAGE & STRIPING

Complete index; delete sheets 23-32.

DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS.

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA

FOR AND ON BEHALF OF THE BLACK FOREST FIRE PROTECTION DISTRICT

DATE

DATE

- WHEATLAND DRIVE STA 0+00.00 TO 13+50.00 - WHEATLAND DRIVE STA 13+50.00 TO 17+81.93

- SCOBY COURT – RYEGATE WAY
- CUTBANK WAY

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

RANCH IMPROVEMENT STERLING ΑT STREE HOMESTEAD FOR BEHA M&S CONS INC.

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<u>סכ</u>	INERAL CONSTRUCTION NOTES:	<u> </u>	<u> 1 A</u>
•	IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.	1. 2.	A S C
2.	THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR	.3	TI P C
z	ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION	0.	M
<i>.</i>			a
•.	ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.		b. c. d.
).	ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).	4.	N
	ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.		R
7.	ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.		EI FI C
3.	ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST	5.	II C T
	CONFORM TO EFC ECM SECTION 3.32 - COLVERTS.	6.	С
).	ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.	7.	IN IT R C
<u>51</u>	GNING AND STRIPING NOTES:	8.	C
•	ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).	9.	A
2.	REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS	10). C C
3.	ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES.	11	. A
1.	ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.	12	
5.	STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.		1
5. 7.	ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS	13	5. S
	NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"	14	. C S
3.	ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.	15	5. Т
). 0	ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.	10	C D
U. 1.	ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE STOP BARS SHALL BE 24" IN WIDTH CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG		

- PER CDOT S-627-1. 12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1. 13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEVELOPMENT SERVICES (719) 520-6819 PRIOR TO AND UPON COMPLETION OF
- SIGNING AND STRIPING. 14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY PUBLIC SERVICE DEPARTMENT (PSD) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.



DARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO RINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.

TRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR OR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).

TRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER AGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING: PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)

CITY OF COLORADO SPRINGS/EL PASO COUNTY DRÀINAGE CRITERIA MANUAL, VOLUMES 1 AND 2 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CDOT M & S STANDARDS

WITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION ATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST ENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE INEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS M REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET TERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE STRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY DEVELOPER'S RESPONSIBILITY TO RECTIFY.

TRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY DEVELOPMENT SERVICES DEPARTMENT (DSD) -PECTIONS, PRIOR TO STARTING CONSTRUCTION.

THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL WIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), JONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND JNTY AND STATE FUGITIVE DUST PERMITS.

ITRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.

STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DSD.

ITRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO INTY DSD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.

CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.

HT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.

NING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND IPING NOTES WILL BE PROVIDED.]

ITRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND CIAL TRANSPORT PERMITS.

LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL AIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE TURBANCE, GRADING, OR CONSTRUCTION.

Revise all references to DSD to be PCD and DOT to be DPW.









LINE TABLE				
LINE	LENGTH	DIRECTION		
€L5	331.87'	N38°06'42"E		
€L6	155.54'	N89°44'40"E		
CENTERI INF				
	CURVE T	ABLE		

CURVE | RADIUS | LENGTH | DELTA

QC3 300.00' 270.35' 51°37'58"

CURB FLOWLINE LINE TABLE				
LINE	LENGTH	DIRECTION		
፹ L1	9.96'	N4°30'05"W		
FL L2	17.46'	N9°18'07"W		
F_ L3	17.06'	S9°18'07"E		
፹ L4	10.03'	S14°03'57"E		

CURB FLOWLINE CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA			
₽_C1	25.00'	34.13'	78°13'29"			
FLC2	44.17'	138.75'	180°00'00"			
F_C3	25.00'	35.32'	80°57'13"			

EXISTING GROUND 2+62.72 =7098.09 EL. 7100 PROPOSED GRADE © FLOWLINE 7095 END KNUCKLE STA 2+62.72= STA 16+88.02 EL=7098.09 SEE STREET LEFT PROFILE TO LEFT WHEATLAND DRIVE KNUCKLE \$TA 0+00.00 TO STA 2+62.72 2+00

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					LP EL LP STA PVI STA	: 7071.17 A: 1+31.16 A: 1+26.78			
		7080	7080	A. 0+00.00 EL=7074.87		13.06 00' VC		A. 2+84.70 EL=7074.87	7080
		7075	7075		//////////////////////////////////////	PVT: 1+66.7	EXISTING GROU @ FLOWL		7075
		7070	7070	ST 48 TC	98 A 0+25.83 '' STORM CROSSING ~ P=7070.38	A STA 1+13.59	PROPOSED GR Ø FLOWLINE	ADE	7070
то 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				E-SAC = EFT FLOWLINE EFT FLOWLINE		-48" STORM CROSSIN TOP=7067.72	G	-SAC = RIGHT FLOWLINE EFT	
				BEGIN CUL-D STA 0+00.00 STA 3+52.73 EL=7074.87 SEE STREET I PROFILE TO L		STA 1+42.3 8" SAN SEV TOP=7060.2	35 WER CROSSING 25	END CUL-DE- STA 2+84.70 STA 3+52.73 EL=7074.87 SEE STREET I PROFILE TO L	
		7080			SCOBY C STA 0+00	OURT CUL-I	DE-SAC 2+84.70		
	<u> </u>	7075							
– म म 0		7070							
4+0	00			0+00	1+00		2+00	3+0	00

40 SESE C R, F PRC STA 0+37.16 EL<u>=70</u>73.61 STA 1+19.43 EL=7071.22 FΤ -STA 1+24.34, 0.83' LT EL=7071.19 CORNER INLET BOX STA 1+27.55, 0.83' LT EL=7071.17 CORNER INLET BOX — STA 1+34.76, 0.83' LT EL=7071.17 100 BT --STA 1+37.97, 0.83' LT EL=7071.19 STA 1+42.88 R R R PRC EL=7071.22 STA 2+47.54 EL=7073.86 PT END CUL-DE-SAC STA 2+84.70 (SC-CDS) = STA 3+52.73, 16.17 RT (SC) EL=7074.87 39 38

<u>5</u>2 _

	CURVE	IADLE			
CURVE	RADIUS	LENGTH	DELTA		
€C4	200.00'	106.89'	30°37'22"		
CURB FLOWLINE CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA		
ÆC5	45.83'	37.16'	46°27'28"		
ÆC6	44.17'	210.38'	272°54'56"		
币C7	45.83'	37.16'	46°27'28"		

	CENTERLINE LINE TABLE						
	LIN	IE	LENGT	Ή	DIREC	TION	
	ΨL	.7	220.53	3'	S51°53	18"E	
	ΨL	.8	90.54	,	S21°15	'56"E	
			CENT CURVE	ER T	LINE ABLE		
UF	RVE	R	ADIUS	LE	ENGTH	DELT	ΓA

				STA 0+00.00 TO STA	<u> </u>
	7095	P EL: 7088.32 LP STA: 0+89.00 PVI STA: 0+74.00 PVI EL: 7088.42 K:14.56 30.00' VC + C K:14.56	7095		
	7090	CENTERLINE	7090		
35	7085	PROPOSED GRADE	7085		
grade @ /Line 30		BEGIN CUL-DE STA 0+65.24= STA 2+84.70 STA 2+84.70 EL=7088.67 TO RIGHT TO RIGHT PCR FLOWLINE PRO TO RIGHT PCR FL 0+86.41 FLLD VERIFY FLL VERIFY EL=7088.18 EL=7088.18		7095	
75		LEFT FLOWLINE		7090	
		00.00 0.420 0.422		/030	
	7095	CB STA. 0483.10 EXISTING CROUND 0 EXISTING CROUND 0 EL=7087.35 A. 1+10.84 F. 1+10.88 CENTERTINE	7095	7085	
35	7090	PROPOSED GRADE	7090		STA 0400
BO RADE @ /LINE	7085	N CUL-DE-SAC 0+65.24= 0+00.00 0+00.00 7088.65 0+00.00 7088.65 CUL-DE-SAC CUL-DE-SAC CUL-DE-SAC CUL-DE-SAC TING E-E NT/ 1+10.84 7087.35 7087.35	7085		
75					
		0+00 1+00 2+00 CUTBANK WAY - STA 0+00.00 TO STA 0+86.4	<u> </u>		C

	HP EL HP ST/ PVI ST/ PVI EL	= 7092.09 A: 1+47.85 A: 1+50.00 = 7092.65			RGIL A. SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL	CONSULTANTS, INC.
OWLINE CB STA. 0+00.00 EXI2 0+00.00 EXI2 0+00.00	NG GROUND @ FLOWLINE 67% PROPOSED GF @ FLOWLINE	=14.19 00' VC 000' VC 000 06 + 1 :: 1	M_INE	7095 7090 7085	APRV'D. BY: DATE:	IABLE FOR, UNAUTHORIZED CHANGES TO OR NG AND MUST BE APPROVED BY THE PREPARER
EL=7088.65 EL=7088.65 SEE STREET RIGHT FLC PROFILE TO LEFT	CUTBANK WA	AY CUL-DE-SAC TO STA 2+84.70	END CUL-DE-SAC END CUL-DE-SAC STA 2+84.70= STA 0+65.24 ELE-7088.65 SEE STREET LEFT FLOV PROFILE TO LEFT		8Y: DESCRIPTION:	PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR L SE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITIN
)+00	1+00	2+00	3+00		REVISIONS: NO. DATE: B	THE ENGINEER USES OF THESE PLAN

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GENERAL NOTES

- 1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WOODMEN HILLS METROPOLITAN DISTRICT (WHMD, THE DISTRICT) SPECIFICATIONS.
- 2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
- 3. ALL STATIONING IS CENTER LINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE CENTER LINE UNLESS OTHERWISE NOTED.
- 4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
- 5. ALL OVER-LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WATER AND WASTEWATER INFRASTRUCTURE.
- 6. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
- 7. DUCTILE IRON PIPES, INCLUDING FITTINGS, VALVES AND FIRE HYDRANTS, SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINOUS COATINGS.
- 8. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING.
- 9. ALL PIPE MATERIAL, BACKFILL AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS, COLORADO DEPARTMENT OF TRANSPORTATION, EL PASO COUNTY DEPARTMENT OF TRANSPORTATION, COLORADO SPRINGS UTILITIES AND THE GEOTECHNICAL ENGINEER.
- 10. COMPACTION TESTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
- 11. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
- 12. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
- 13. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
- 14. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
- 15. ALL UNUSED SALVAGED WATER UTILITY MATERIAL SHALL BE RETURNED TO THE METROPOLITAN DISTRICT AS REQUESTED.
- 16. AT THE CONTRACTOR'S EXPENSE, ALL UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED SUCH THAT THEY SHALL FUNCTION CONTINUOUSLY DURING CONSTRUCTION OPERATIONS. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT SHALL BE REPLACED IMMEDIATELY BY THE CONTRACTOR OR BY THE DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR/DEVELOPER.
- 17. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY BOTH THE DISTRICT AND THE DISTRICT ENGINEER PRIOR TO EXECUTION.
- 18. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
- 19. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE DISTRICT AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE DISTRICT. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.
- 20. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
- 21. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN METROPOLITAN DISTRICT:
- a) PRIOR TO THE START OF CONSTRUCTION, A <u>PRE-CONSTRUCTION MEETING IS REQUIRED</u> A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. <u>NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/APPROVED</u> PLAN SETS ARE RECEIVED BY THE DISTRICT.
- b) THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
- 22. TESTING OF FACILITIES:
- a) THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
- b) ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS
 TEST 100 % OF ALL LINES
- MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).
- c) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
- ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
- ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
 SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
- ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
- 23. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
- 24. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE <u>24 MONTHS</u> COMMENCING AFTER PRELIMINARY ACCEPTANCE.
- 25. ACCEPTANCE:
- a) THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
- b) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR (THE DISTRICT MAY REQUIRE CLEANING AND RE-VIDEO OF THE SYSTEM, DEPENDING ON THE SEVERITY OF THE CONTAMINATION).
- 26. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
- 27. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE AN EIGHT INCH (MIN.) WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS THE PROPERTY LINE. AN EIGHT INCH SEWER MAIN SHALL BE INSTALLED FOR SERVICE TO COMMERCIAL/BUSINESS DEVELOPMENTS, AND A MANHOLE SHALL BE LOCATED WHERE THE MAIN ENTERS THE PROPERTY. THE END OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATE COLORED CARSONITE MARKER ALONG WITH TRACER WIRE.
- 28. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES AND/OR SERVICES, CONSTRUCTION MUST BE COMMENCED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS.
- 29. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.

- WATER SYSTEM INSTALLATION NOTES
- 1. ALL WATER AND FORCE MAIN PIPE SHALL BE AWWA C900 PVC, OR EQUAL, PRESSURE CLASS 200. ALL WATER AND FORCE MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER AND FORCE MAIN PIPE SHALL HAVE A MINIMUM COVER DEPTH OF FIVE AND ONE-HALF (5.5) FEET.
- 2. ALL WATER VALVES ASSOCIATED WITH THE POTABLE WATER SYSTEM SHALL BE OPEN CLOCKWISE. ALL VALVES INSTALLED IN LANDSCAPED AREAS AND/OR NOT WITHIN PAVED STREETS SHALL BE MARKED WITH CARSONITE MARKERS. ALL VALVES ASSOCIATED WITH THE RAW WATER SYSTEM SHALL BE OPEN COUNTERCLOCKWISE AND MARKED WITH CARSONITE MARKERS AS APPLICABLE.
- 3. THE DEVELOPER OR HIS ENGINEER SHALL LOCATE ALL FIRE HYDRANTS AND SERVICE STUB OUTS FOR FUTURE DEVELOPMENT. ANY REQUIRED REALIGNMENT, (HORIZONTAL OR VERTICAL), SHALL BE AT THE EXPENSE OF THE DEVELOPER. FIRE HYDRANT LOCATION SHALL BE REVIEWED AND APPROVED BY THE APPLICABLE FIRE AUTHORITY.
- 4. FIRE HYDRANTS SHALL BE OPEN RIGHT WITH 7/8" X 7/8" SQUARE TAPERED ALONG WITH SERVICE CAPS. LUBRICATION TYPE: (GREASE). ACCEPTABLE BRANDS ARE AMERICAN AVK SERIES 2700 (MODERN) AND MUELLER SUPER CENTURION 250.
- 5. ALL MAIN LINES (PVC & DUCTILE IRON) SHALL BE INSTALLED WITH COATED #12 TRACER WIRE WITH TEST STATIONS AT INTERVALS NO GREATER THAN 500 FT (VALVE BOXES CAN BE USED AT INTERSECTIONS AND SERVICE STUBS).
- 6. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER LINE WITHOUT SHUTDOWN, OR ELSE NOTIFY THE DISTRICT OF ANY SERVICE SHUTDOWNS NECESSARY TO CONNECT TO EXISTING LINES.
- 7. IRRIGATION SERVICES SHALL HAVE A STOP AND WASTE CURB STOP VALVE INSTALLED ALONG WITH TRACER WIRE EXTENDING BACK TO THE MAIN LINE.
- 8. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS:
- a) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL PRESSURE TESTING, FLUSHING, BAC-T TESTING, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
- b) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
- c) ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

OWNER/DEVELOPER: SR L 20 B COLO JIM M JIM M CIVIL ENGINEER: M & 20 B COLO JIM M 20 B COUNTY ENGINEER: M & 20 B COLO VIRGI COUNTY ENGINEERING: EL P. AND 2880 COLO JEFF TRAFFIC ENGINEERING: EL P. AT JENN WATER DESOURCES: STER	AND, LLC BOULDER CRESCENT, SUITE 201 BRADO SPRINGS, CO 80903 MORLEY (719) 471–1742 S CIVIL CONSULTANTS, INC. BOULDER CRESCENT, SUITE 110 BRADO SPRINGS, CO 80903 L A. SANCHEZ P.E. (719) 955–5485 ASO COUNTY PLANNING COMMUNITY DEVELOPMENT INTERNATIONAL CIRCLE, SUITE 110 BRADO SPRINGS, CO 80910 RICE, P.E. (719) 520–6300 ASO COUNTY DEPARTMENT OF PUBLIC WORKS	ERLING RANCH FILING	ER PLANS	. DATE: 11/10/2017	SHEET 1 OF 4
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L34 196.79' N56° 29' 31"W L35 122.47' N51° 53' 18"W	L33	10.41'	N53° 35' 15"W
L35 122.47' N51° 53' 18"W	L34	196.79'	N56°29'31"W
	L35	122.47'	N51° 53' 18"W

WATER LINE-CURVE TABLE						
CURVE	DELTA	RADIUS	LENGTH			
C2	4°36'13"	389.33'	31.28'			

FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

LINES

-ING NO. 1		17	WT02
AT STERLING RANCH FII	WATER PLANS	SCALE: DATE: 11/10/20	1"=50' SHEET 2 OF 4 VERTICAL: 1"=5'
HOMESTEAD		PROJECT NO. 09-005	DESIGNED BY: VAS Drawn BY: EY Checked By: GW
0 Boulder Crescent, suite 110	Colorado Springs, co 80903 Hone: 719.955.5485		
20			CIVIL CONSULTANTS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160	FOR AND ON BEHALF OF	CONSULTANTS, CONSULTANTS, INC.	
<pre>/: DATE:</pre>			s to or e preparer
NS: ATE: BY: DESCRIPTION: APRV'D. B'			E Engineer Preparing These Plans will not be responsible, or liable for, unauthorized change: Es of these plans. All changes to the plans must be in writing and must be approved by th. These plans.

REVISIONS:	VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160			
NO. DATE: BY: DESCRIPTION: APRV'D. BY: DATE:		20 BOULDER CRESCENT, SUITE 110	HUMESIEAU AI SIEKLING	J KANCH FILING NU. I
	FOR AND ON BEHALF OF	COLORADO SPRINGS, CO 80903 PHONE: 719.955.5485	WATER	PLANS
	M&S CIVIL CONSULTANTS,		PROJECT NO. 09-005 SCALE:	DATE: 11/10/2017
	INC.		HURIZONTAL	
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.		CIVIL CONSULTANTS, INC.	DESIGNED BY: VAS 1"=50" DRAWN BY: EY VERTICAL: CHECKED BY: GW 1"=5'	SHEET 3 OF 4 WT03

GENERAL NOTES

- ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WOODMEN HILLS METROPOLITAN DISTRICT (WHMD, THE DISTRICT) SPECIFICATIONS.
- ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
- . ALL STATIONING IS CENTER LINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE CENTER LINE UNLESS OTHERWISE NOTED.
- 4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
- ALL OVER-LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WATER AND WASTEWATER INFRASTRUCTURE.
- ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
- DUCTILE IRON PIPES, INCLUDING FITTINGS, VALVES AND FIRE HYDRANTS, SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINOUS COATINGS.
- . ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING.
- ALL PIPE MATERIAL, BACKFILL AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS, COLORADO DEPARTMENT OF TRANSPORTATION, EL PASO COUNTY DEPARTMENT OF TRANSPORTATION, COLORADO SPRINGS UTILITIES AND THE GEOTECHNICAL ENGINEER.
- 10. COMPACTION TESTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
- 1. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
- 12. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
- 13. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
- 4. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
- 15. ALL UNUSED SALVAGED WATER UTILITY MATERIAL SHALL BE RETURNED TO THE METROPOLITAN DISTRICT AS REQUESTED.
- 16. AT THE CONTRACTOR'S EXPENSE, ALL UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED SUCH THAT THEY SHALL FUNCTION CONTINUOUSLY DURING CONSTRUCTION OPERATIONS. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT SHALL BE REPLACED IMMEDIATELY BY THE CONTRACTOR OR BY THE DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR/DEVELOPER.
- 7. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY BOTH THE DISTRICT AND THE DISTRICT ENGINEER PRIOR TO EXECUTION.
- 18. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
- 19. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE DISTRICT AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE DISTRICT. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.
- 20. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
- 21. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN METROPOLITAN DISTRICT:
- a) PRIOR TO THE START OF CONSTRUCTION, A <u>PRE-CONSTRUCTION MEETING IS REQUIRED</u> A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.
- b) THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.

22. TESTING OF FACILITIES:

- a) THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
- b) ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS • TEST 100 % OF ALL LINES
- MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).
- c) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
- ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
- ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION. • SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
- ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
- 23. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
- 24. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIÉS PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
- 25. ACCEPTANCE:
- a) THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
- b) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR (THE DISTRICT MAY REQUIRE CLEANING AND RE-VIDEO OF THE SYSTEM, DEPENDING ON THE SEVERITY OF THE CONTAMINATION).
- 26. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
- 27. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE AN EIGHT INCH (MIN.) WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS THE PROPERTY LINE. AN EIGHT INCH SEWER MAIN SHALL BE INSTALLED FOR SERVICE TO COMMERCIAL/BUSINESS DEVELOPMENTS, AND A MANHOLE SHALL BE LOCATED WHERE THE MAIN ENTERS THE PROPERTY. THE END OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATE COLORED CARSONITE MARKER ALONG WITH TRACER WIRE.
- 28. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES AND/OR SERVICES, CONSTRUCTION MUST BE COMMENCED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS.
- 29. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.

WASTEWATER SYSTEM INSTALLATION NOTES

1. SANITARY SEWER LENGTHS ARE MH CENTER-MH CENTER. ALL SANITARY SEWER PIPES SHALL BE SDR 35 PVC OR EQUAL. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE DISTRICT. ALL NEWLY CONSTRUCTED RESIDENTIAL SANITARY SEWER TAPS SHALL USE PRE-MANUFACTURED IN-LINE PVC PUSH-ON WYES. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE-EXISTING MAINS.

2. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 - RUBR-NEK JOINT WRAP OR EQUIVALENT AND COATED.

3. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:

a) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL THE COMPLETION OF ALL JET CLEANING. PRESSURE TESTING. VACUUM TESTING, CCTV INSPECTION, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.

b) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.

c) ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

d) DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.

	AGENCIESOWNER/DEVELOPER:CIVIL ENGINEER:COUNTY ENGINEERING:TRAFFIC ENGINEERING:WATER RESOURCES:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JIM MORLEY (719) 471–1742 M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955–5485 EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520–6300 EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520–6460 STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300	STEAD AT STERLING RANCH FILING NO.	SANITARY SEWER PLANS	VO. 09-005 SCALE: DATE: 11/10/2017	BY: DLM N/A : ELY VERTICAL: SHEET 1 OF 5 SS01 BY: GW N/A
	FIRE DISTRICT:	JOHN MCGINN (719) 668–8769 BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908	HOME	<u> </u>	PROJECT	DESIGNED DRAWN B CHECKED
	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668–3556		JRENCENI, JUILE I SPRINGS, CO 8090 55.5485		
	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495–2283		ZU BOULLDEK (COLORADO (PHONE: 719.9		
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PRINT NAME	LOPER	DATE	40. 37160	FOR AND ON BEHALF OF	M&S CIVIL CONSULTANT INC.	
PRINT NAME DBA ADDRESS DISTRICT APE	<u>PROVALS</u>		A. SANCHEZ, COLORADO P.E. NO. 37160	FOR AND ON BEHALF OF	M&S CIVIL CONSULTANT INC.	
PRINT NAME DBA ADDRESS DISTRICT APP THE WOODMEN HILLS FOR THE DESIGN AN	DOPER <u>PROVALS</u> S METROPOLITAN DISTRICT RECOGNIZI D HAS LIMITED ITS SCOPE OF REVIEW VOODMEN HILLS METF	ES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY ACCORDINGLY.	VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160	FOR AND ON BEHALF OF	M&S CIVIL CONSULTANT INC.	
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TRACT J. 10 PROP 8" 9 PVC SAN SEW 8 8	FOR BURIED 48 HRS B CALL 1-8	FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES UTILITY INFORMATION EFORE YOU DIG 300-922-1987	ESTEAD AT STERLING RANCH FILING NO. 1 SANITARY SFWFR PLANS	DT NO. 09-005 SCALE: Date: 11/10/2017 ED BY: DLM HORIZONTAL: T=50' BY: ELY 1"=50' SHEET 2 OF 5 SSO2 ID BY: GW 1"=5' SHEET 2 OF 5 SSO2
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331.87 LF 6" PASSIVE UNDERDRAIN 6" PASSIVE UNDERDRAIN 6" PASSIVE UNDERDRAIN	MATCHLINE - STA 13+50 - SE	7080		HESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED - CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED
1+00 12+00 13+00			REVISIONS: No. DATE: BY: DESCRIPTI	THE ENGINEER PREPARING THE USES OF THESE PLANS. ALL

<u>STREET</u>	ABBREVIATIONS

CBW	CUT BANK WAY
RW	RYEGATE WAY
SC	SCOBY COURT
ND	WHEATLAND DRIVE
DB	DINES BOULEVARD
NCDS	WHEATLAND DRIVE
< NI	KNUCKLE

SANITARY SEWER LINE TABLE					
LINE LENGTH DIRECTION					
L4 114.84' N89°44'40"E					
L5	82.19'	S9°16'09"E			
L6	113.10'	S79°51'30"E			

SANITARY SEWER CURVE TABLE						
CURVE DELTA RADIUS LENGTH						
C3 16°53'46" 300.00' 88.47						
C4 25°43'23" 300.00' 134.69'						
C5	C5 9°00'49" 300.00' 47.20'					

	7105	7105				7105		709
	7100	7100	EXIS	TING GROUND © CL PIPE	-71	7100		709(
	7095	7095		PROPOSED GR © CL PIPE PROP 8"_ PVC WATER	ADE	7095		708
	/030	,030			82.19 LF ~ 8" PVC SDR35	© © 2.007		,
	7090	7090				7090		708(
	7085	7085	UN	PROP 6" PASSIVE IDERDRAIN		7085		707
RAIN	7080	7080				<u></u> 7080		7070
			00.00 7, 5, DIA MH 02.49	51.68 WATER CROSS WATR)=7094.2 SSWR)=7089.3 90'	+62.19 (WCDS)= +62.19 (WCDS)= 5+33.60 (WD) 5, 5' DIA MH 100.97 (8") (W)=7088 (8") (N)=7088	2.9' (E)=708		
			STA 0+ SSMH RIM=71 CUT=12	STA 04 8" PVC BOP (8 TOP (8 CLR=4.	STA 10 STA 10 SSMH- INV IN INV IN			
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SANITARY SEWER LINE TABLE						
LINE	LENGTH	DIRECTION				
L7	80.64'	S51°53'18"E				
L8	186.37'	S56°29'31"E				
L9	63.98'	S50°26'12"E				
L10	162.95'	S51°53'18"E				
L11	185.57'	S21°15'56"E				

	SANITAR CURVE	Y SEWE TABLE	ĪR
CURVE	DELTA	RADIUS	LENGTH
C5	4°36'13"	400.00'	32.14'
C6	6°03'19"	399.99'	42.27'
C7	31°50'51"	200.67'	111.54'

	7095	7085			
	7000	7080	EX 54" STORM SEW		
	7090	/080			
-EXISTING GROUND	7085	7075		PROPC FINISH CR	DSED
	/085	/0/3	162.95 LF ~ 8" PV		
	7080	7070		5R35 @ 3.79%	
42.27 LF ~ 8" PVC SDR35 @ 2.52%	7075	7065	IA MH (SE)=7074.44 IG 0 0	PASSIVE	111.54 LF ~ 8" @ 3.7g
63.98 LF ~ 8" PVC SDR35 @ 2.52% EXIST 40.00 LF ~ 8" PVC SDR35 @ 2.52%	7070	7060	STA 0+09.73 SSMH-9, 5' RIM=7086.74 INV OUT (8") CUT=12.3 STRM)=7075.2 "SSWR)=7075.64 54'	72.68	6" PASSIVE UNDERDRAIN
6" PASSIVE UNDERDRAIN	7065	7055	STA 04 EX 48 BOP (4 TOP (8 CLR=2	PC STA 1- EL=707	
T (8") (SE)=7071 T (8") (SE)=7071 <u>+93.92</u> 70.00 C AND CONNECT 8" PVC SSWR 8" PVC SSWR SAN-RYEGATE) 5 DIA MH 5 DIA MH 5 DIA MH (E)= 7067.37 (SW)=7067.07	7060	7050			
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HOMESTEAD AT STERLING RANCH FILING NO. 1 COUNTY OF EL PASO, STATE OF COLORADO STORM SEWER PLANS

<u>AGENCIES</u>

OWNER/DEVELOPER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JIM MORLEY (719) 471–1742
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955–5485
COUNTY ENGINEERING:	EL PASO COUNTY DEVELOPMENT SERVICES 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520–6300
TRAFFIC ENGINEERING:	EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT. 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE P.E. (719) 520–6460
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS—HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668–8769
FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495–4300
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668–3556
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495–2283
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922–1987 AT&T (LOCATORS) (719) 635–3674

BENCHMARKS

- 1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION NORTHING = 411416.273EASTING = 235167.071ELEVATION = 7023.42
- 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION NORTHING = 410095.404EASTING = 235052.131ELEVATION = 7000.40
- 3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDISION NORTHING = 411399.962EASTING = 233849.817ELEVATION = 7030.82

NOVEMBER 2017

APPROVALS:

ENGINEER'S STATEMENT:

DETAILED DRAINAGE CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT: THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS. ERRORS. OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS.

VIRGIL A SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

OWNER/DEVELOPER STATEMENT: THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

CLASSIC HOMES DIRECTOR OF PLANNING AND ENGINEERING

EL PASO COUNTY:

MANUAL AS AMENDED.

JENNIFER IRVINE, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE BLACK FOREST FIRE PROTECTION DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THE WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE BLACK FOREST FIRE PROTECTION DISTRICT.

FOR AND ON BEHALF OF THE BLACK FOREST FIRE PROTECTION DISTRICT

<u>SHEET INDEX</u>

SHEET 1	TITLE SHEET
SHEET 2	STORM SEWER NOTES
SHEET 3	STORM SEWER NOTES
SHEET 4	KEY MAP
SHEET 5	PLAN & PROFILE – S
SHEET 6	PLAN & PROFILE - V

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA

STERLING RANCH METROPOLITAN DISTRICT:

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

BLACK FOREST FIRE PROTECTION DISTRICT:

DATE

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DATE

& DETAILS & DETAILS

SCOBY COURT INLET & LATERAL TO EXISTING 18" STORM SEWER WHEATLAND DRIVE INLETS & LATERAL TO EXISTING 36" STORM SEWER

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						CIVIL CONSULTANTS, INC.
	VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160		FOR AND ON Behalf of	M&S CIVIL	CONSULIANIS, INC.	
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STANDARD CONSTRUCTION NOTES:

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIME INCLUDING THE FOLLOWING: 3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
- 3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERA MANUAL VOLUMES 1 AND 2. 3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- 3.4 CDOT M&S STANDARDS.
- 4. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
- 5. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS. DPW
- 6. ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO YOUNTY DOW AND MUTCD CRITERIA.
- . CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT INCLUENING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 8. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

STORM SEWER GENERAL NOTES

- 1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- 2. ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
- 3. HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
- 4. JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET." IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALIGNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
- 5. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- 6. MANHOLE WIDTHS AND LENGTHS SHOWN ON PLAN REFER TO THE EXTERIOR WALL DIMENSIONS.
- 7. ALL STORM SEWER SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE. SPECIFIC SEGMENTS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
- 8. SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
- 9. THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
- 10. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- 11. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
- 12. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- 13. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT 🖗 OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- 14. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- 15. STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
- 16. CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
- 17. THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
- 18. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION

ADDITIONAL NOTES:

RIPRAP CHANNEL: THE SIZE OF RIPRAP AND BOULDERS SHALL BE AS INDICATED ON THE PLANS. BOULDERS FOR GROUTED BOULDER FOREBAY SHALL MEET THE SAME REQUIREMENTS FOR DURIBILITY AND SPECIFIC GRAVITY AS RIPRAP. BOULDERS USED IN GROUTED BOULDER FOREBAY SHALL BE CLEAN AND FREE OF SOIL TO PROVIDE A PROPER BOND WITH THE GROUT.

SCALE: NOT TO SCALE

STORM SEWER MANHOLE DETAIL TYPE II SD 3-2

TYPE SD 3-7

SOIL RIPRAP NOTES:

- 1. THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME.
- 2. SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS.
- 3. CONTRACTOR SHALL COOPERATE WITH ENGINEER IN OBTAINING AND PROVIDED SAMPLES OF ALL SPECIFIED MATERIALS.
- 4. CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
- 5. RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO TABLE SHOWN TO THE RIGHT.
- 6. THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN ON THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT LARGER THAN THE THICKNESS OF THE RIPRAP.
- 7. NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD $(\frac{1}{3})$ OF ITS LENGTH.
- 8. THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
- 9. MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (165) POUNDS PER CUBIC FOOT.
- 10. RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85. 11. BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK.
- 12. ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

STRUCTURAL CONCRETE NOTES:

- 1. ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
- SPECIFIED: BAR SIZE #5 #6 1'-9'' 2'-2'' 2''-7'' 3''-4'' 4''-3''SPLICE LENGTH ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.
- 3. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
- 4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
- IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
- 7. PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

EC -- EPOXY COATED O.F. -- OUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE N.F. -- NEAR FACE T.O.C. -- TOP OF CONCRETE B.O.C. -- BOTTOM OF CONCRETE CONT. -- CONTINUOUS

- 12" MIN

the second

NEXT_JOINT

PLAN VIEW

3" R 🗹

PIPE ID

R.C.P. CONNECTION DETAIL

- 6. FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE
- ABBREVIATIONS

NOTE

TYPE III MANHOLES SHALL BE USED WHEN

A. PIPE IS 48" OR LARGER INSIDE DIAMETER.

D. NO CHANGE IN HORIZONTAL ALIGNMENT

2. TYPE III MANHOLES SHALL BE FABRICATED

DELIVERED TO THE SITE AS A SINGLE UNIT.

FIELD FABRICATION SHALL NOT BE PERMITTED.

APPROPRIATE AND TYPICALLY WHEN THE

FOLLOWING CONDITIONS ARE MET:

C. NO CHANGE IN PIPE MATERIAL

E. SLOPE IS FLAT AND CONTINUOUS

BY THE MANUFACTURER/SUPPLIER AND

3. EITHER LADDER OR STEPS SHALL BE

B. NOT CHANGE IN PIPE SIZE

2. STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE

5. BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL

TYPICAL RESIDENTIAL STREET SCALE: NTS

TYPE I SD 3—1

PIPE ID	BW	
48" AND SMALLER	6'-4"	
54	6'-10"	
60" AND LARGER	OD + 16"	

NOTES

TYPE I MANHOLE SHALL BE USED WHEN APPROPRIATE AND TYPICALLY FOR PIPE SIZES LARGER THAN 30 INCHES I.D..

VIEW AND DETAILS SHOWN ARE TYPICAL FOR STRAIGHT THROUGH DESIGN ONLY. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT

EITHER LADDER OR STEPS SHA E INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". LOWEST STEP SHALL BE BE A MAXIMUM OF 16" ABOVE THE

. FLOOR OF THE MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1 MAX., ½" PER FT. MIN). FLOOR SHALL BE SHAPED AND CHANNELED; SEE SD_3-2 FOR TYPICAL CHANNEL DETAILS.

SCALE: NOT TO SCALE

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987	H FILING NO. 1	DETAILS	10/2017	OF 6 ST02
NTED BY THE SS OTHERWISE	HOMESTEAD AT STERLING RANC	STORM SEWER NOTES &	PROJECT NO. 09-005 SCALE: DATE: 11/	DESIGNED BY: DLM N/A N/A SHEET 2 CHECKED BY: VAS N/A SHEET 2
PORTLAND CEMENT. GTH. BACKFILL NT OF CONCRETE NT SHALL BE -T-180).	20 BOULDER CRESCENT, SUITE 110	COLORADO SPRINGS, CO 80903 PHONE: 719.955.5485		CIVIL CONSULTANTS, INC.
SEWER SEWER - 1'	VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160	FOR AND ON BEHALF OF	M&S UVIL CONSULTANTS, INC.	
IER 6'-4" 6'-10" ER OD + 16" HOLE SHALL BE USED ATE AND TYPICALLY LARGER THAN 30 PETAILS SHOWN ARE RAIGHT THROUGH DESIGN ENGINEER SHALL FOLE BASE AND DIMENSIONS FOR E SIZES AND ALIGNMENT. DER OR STEPS SHALL HEN MANHOLE DEPTH LOWEST STEP SHALL BE OF 16" ABOVE THE THE MANHOLE SHALL BE A SMOOTH, HARD HALL SLOPE TOWARDS 1 MAX., ½" PER FT. HALL BE SHAPED AND E SD_3-2 FOR TYPICAL S. CALE: NOT TO SCALE	REVISIONS: APRV'D. BY: DATE: DATE: DATE: DATE:			THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

							PR	DPOSED GRA	
						6.31	_F - 18" RCP @ Q100=1	● 1.00%_ 0.1 CFS	
					EXISTING G STORM CE	12.50 LF - Round @ Nterline	18" RCP @ 1.00 Q100=10.1 CF	% S	
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STORM 3 EXTENSION

POR LOCATING & MARKING ELECTRIC, WATEH & TELEPHONE UNES FOR BURED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987	HOMESTEAD AT STERLING RANCH FILING NO. 1	903 STORM SEWER PLANS	PROJECT NO. 09-005SCALE: DESIGNED BY:DATE:11/10/2017DESIGNED BY:DLM1"=50'HORIZONTAL: T=50'HORIZONTAL: T=50'T1/10/2017DESIGNED BY:DLM1"=50'SHEET 5 OF 6STO5CHECKED BY:VAS1"=5'1"=5'
		COLORADO SPRINGS, CO 80 PHONE: 719.955.5485	CIVIL CONSULTANTS, INC.
NOTE: SEE STERLING RANCH FILING X STREET IMPROVEMENT PLANS FOR CURB AND GUTTER TRANSITION TO INLET INFORMATION.	P.E. NO. 37160	FOR AND ON BEHALF OF	M&S CIVIL CONSULTANTS, INC.
	/IRGIL A. SANCHEZ, COLORADO I		
	APRV'D. BY: DATE:		DR, UNAUTHORIZED CHANGES TO OR MUST BE APPROVED BY THE PREPARER
			: PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FC HANGES TO THE PLANS MUST BE IN WRITING AND
	REVISIONS: NO. DATE: BY: DESCRIPTION:		NOLTHESE PLANS. ALL CHORD OF THESE PLANS. ALL CH

STA 3+29.74 TO 4+05.48

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		ANCH FILIN DR CURB A IFORMATION		FOR E 48 HI CALL
		G X STREE ND GUTTER I.		RURIED UTILITY IN RS BEFORE 1-800-92
				OR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES JFORMATION YOU DIG 2-1987
REVISIONS: NO. DATE:	BY: DESCRIPTION: APRV'D. BY: DATE:	rgil a. sanchez, colorado p.e. no. 37160	20 BOUILDED CDESCENT SUITE 110	HOMESTEAD AT STERLING RANCH FILING NO. 1
		FOR AND ON BEHALF OF	COLORADO SPRINGS, CO 80903 PHONE: 719.955.5485	STORM SEWER PLANS
		CONSULTANTS, CONSULTANTS, INC.		PROJECT NO. 09-005 SCALE: DATE: 11/10/2017 DESIGNED BY: DLM
DF THE ENGIN	NEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER E PLANS.		CIVIL CONSULTANTS, INC.	DRAWN BY: ELY 1"=50" CHECKED BY: VAS 1"=5' SHEET 6 OF 6 STO6

STERLING RANCH FIL. NO. 1 COUNTY OF EL PASO, STATE OF COLORADO STORM SEWER PLANS ALTERNATE #1

NOVEMBER 2017

The start of the s	STORM 3 STORM 3 STORM 3 STORM 3 STA 7+26.58 (STRM_01) INSTALL 8.0'x8.33' EPC TYPE 1 MH EXTEND SEWER PRIOR TO CONSTRUCTING CROS SSING	TRACT 'G' (FUTURE STERLING RANCH RESIDENTIAL) STA 8496.24 (STRM_01) INSTALL 8.0'x8.0' EPC TYPE 1 MH N 30'00'CO' W, 140,74' STA 10+43.65 (STRM_01) TALL 8.0'x8.0' EPC TYPE 1 MH STA 10+43.65 (STRM_01) TALL 8.0'x8.0' EPC TYPE 1 MH STA 11+52 (FUTURE STERLING RANCH RESIDENTIAL)	(FUT) SANITARY CROSSING RCP ROSSING CFUT) WATER CROSSING (FUT) WATER CROSSING CFUT) CFUT) WATER CROSSING CFUT) CFUT) WATER CROSSING CFUT) CFUT	MATCHLINE - STA 14+00.00 SEE SHEET STOGA	20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 PHONE: 719,955.5485 STERLING RANCH FILING NO. 1 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 STORM SEWER PLANS 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 STORM SEWER PLANS 20 BOULDER CRESCENT, SUITE 110 PHONE: 719,955.5485 PROJECT NO. 09-002 FILE: \dug\Const Dug\Storm - District\ST05A.dwg 20 BOULDER CRESCENT, NUC. DESIGNED BY: ET SCALE DATE: 11/10/2017 20 BOULDER WILL TANTS, INC. DESIGNED BY: ELY HORIZ: 1"=50' SHEET 5A OF 29 ST05A
				7000	CIVIL CO
NOTE: BRIDGE 54" STORM SEWER ATOP 8" & 12" SANI USING FLOW FILL.	ITARY SEWER	EXISTING GROUND © STORM SEWER Q	GRADE @ SEWER Q OVERLOT) 51.15 LF - 54" RCP @ 0.43% Q100=164.1 CFS 100YR HGL 100YR HGL	7090	. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.
16 Q100=	62.99 LF - 54" RCP @ 2.00% =164.1 CFS	100YR HGL- 100YR HGL- 142.22 UF 100=164.1 CF	@ 3.46% S	7080 V V V V V V V V	ANCHEZ, COLORADO P.E.
		$74 \ \frac{54^{"} \ RCP}{0100 = 164.1} \otimes 3.46\%$	RE) SSING SSING SSING SSING SSING SSING	HS HS 7070 S I 00 7065	VIRGIL A. S VIRGIL A. S OR PREPARER
© 6.95%			.54 .54 .05 .05 .05 .078.0° .1 MH .56 .58.0° .1 MH .58.0° .280 .280 .280 .280 .280 .280 .289 .289 .289 .289 .289 .2075.36 (FUT T .265 .2703.68 (FUT T .265 .2703.68 (FUT T .203 .2075.36 (FUT T .2015.37 (FUT T .2075.36 (FUT T .2075.36 (FUT T .2075.37 (FUT T .2075.36 (FUT T .2075.36 (FUT T .2005.36 (FUT .2005.36 (FUT T .2005.36 (FUT T .2005.36 (FUT .2005.36 (FUT .2005.36 (FUT .2005.36 (FUT .2005.36 (FUT .2005.36 (FUT .2005.36 (FUT .20	STRM)=7075.93 SLEEVE)=7073.36 (FUT STA 14+00.	APRV ^T D. BY: ADTHORIZED CHANGES 1 BE APPROVED BY THE F
1 CFS 183.86 LF - 54" RCP @ 0.84% Q100=164.1 CFS	× 8+96.24 × 8+96.24 × 8+96.24 × 8+96.24 × 8+0' × 1ALL 8.0'×8.0' = 7073.20 = 7075.21 (NW)	 OUT(54")=7064.21 (S A 10+43.65 ORM MH 04 STALL 8.0'x8.0' EPC TYI 10,077.73 NW(54")=7070.08 (S OUT(54")=7070.08 (S 	STA 11+92 STORM MH INSTALL 8. STORM MH INV 0UT(54") STA 12+4 INSTALL F INSTALL F STA 12+4 INV=7076 INV=7076 STA 12+4 INV=7076 STA 12+4 INV=7076 STA 12+4 INV=7076 STA 12+4 INV=7076 STA 13+10 STA 13+10 STA 13+10 STA 12+4 INV=7076 STA 13+10 STA 13+1	MATCHLINE - CLR=2.57'	ISIBLE, OR LIABLE FOR, U BE IN WRITING AND MUST
54" INV=7050.50 STA 4+33.60 STA 4+33.60 END REDUCER 54" INV=7051.06 STA 6+11.46 STA 6+11.46 STA 6+17.46 INV=7059.34 CLR=1.77' CLR=1.77' CLR=1.77' CLR=1.77' STA 6+17.46 INSTALL PREFAB 2'38' VLR PREFAB 2'40' VLR PR	DO (OT OTIM) = 7058.69 CLR=2.40' STA 7+78.80 STA 7+78.80 ATER CROSSING BOP (54" STRM)=7061.41 TOP (36" SLEEVE) TOP (36" SLEEVE) WATER CROSSING BOP (54" STRM)=7061.41 TOP (36" SLEEVE) = 7056.07 CLR=5.34' STA 7+93.66 12" SANTARY CROSSING BOP (54" STRM)=7061.71 TOP (12" SSWR)=7059.40 CLR=2.31' STA STA 7059.40 CLR=2.31' STA STA 7059.40 CLR=2.31' NNTARY CROSSING			7050 7045	BY: DESCRIPTION: BY: DESCRIPTION: EER PREPARING THESE PLANS WILL NOT BE RESPONS FILESE PLANS. ALL CHANGES TO THE PLANS MUST B PLANS.
5+00 6+00 7+00 ALT#1 - STORM 1A - STA 1+80.21 1	8+00 9+00 TO STA 14+00.00	10+00 11+00	12+00 13+00	14+00	REVISIONS: NO. DATE: NO. DATE: NO. DATE: NO. DATE: NO. DATE: NO. DATE: NO. DATE:

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					1" = 50'	
					0 25 50	100
	WILDF FILING	RIDGE NO. 2	A		Scale in Feet	
			STA 16+49.03 TOG=7087.00	12		
	R0	W (EXISTING)	INSTALL 4'X14' MOD.	CDOT TYPE D INLET		
			VOLLMER RO	EDGE OF ROAD (PROP)		
	STA: 15	+12.15	STORM 14 SEE SHEET STO6B	EDGE OF ROAD (PROP)		
	INSTALL FLA 8.0'x8.0' EPC TYPE ROW (PROP)		FOR P&P			
	PROP 5	54" RCP	TRACT 'J'	SAND FILTER POND W-9		
	► <u>N 59°45′21"</u> W,		TRACT 'G'			
			(FUTURE HOMESTEAD AT STERLING RANCH FILING NO. RESIDENTIAL)	1		
	MATCHLINE	- 31A 14+00.00 -	SLL SHLLT STUJA			
	<u>ALT #1 - STC</u>	ORM 1A - STA 14+0	0.00 TO STA 16+47.0	<u>03</u>		
NOTE: ALL MAN	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.	<u>D3</u>		
NOTE: ALL MAN	ALT #1 - STC	DRM 1A - STA 14+0	0.00 TO STA 16+47.0	<u>D3</u>		
NOTE: ALL MAN	ALT #1 - STC	DRM 1A - STA 14+0	D.OO TO STA 16+47.	D GRADE		
NOTE: ALL MAN	ALT #1 - STC	DRM 1A - STA 14+0	D.OO TO STA 16+47.	D GRADE SEWER &		
NOTE: ALL MAN 7090	ALT #1 - STC	DRM 1A - STA 14+0	D.OO TO STA 16+47.	D GRADE D GRADE SEWER &		
NOTE: ALL MAN 7090	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.	D GRADE SEWER Q		
NOTE: ALL MAN 7090	ALT #1 - STC NHOLE LIDS ON STORM 1 SHALL PROPOSED GRADE PROPOSED GRADE STORM SEWER Q 261.80 LF S4" RCP Q+00=164.1 CFS	DRM 1A - STA 14+0	SECURED.	D GRADE D GRADE SEWER &		
NOTE: ALL MAN 7090	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.	D GRADE SEWER Q Image:		
NOTE: ALL MAN 7090 7085 7085	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.	D GRADE D GRADE SEWER Q		
NOTE: ALL MAN 7090 7085 7085 7075	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.0 SECURED. D PROPOSE Image: Start 10 Image: St	D GRADE SEWER Q Image: Sewer Q		
NOTE: ALL MAN 7090 7085 7085 7075	ALT #1 - STC	DRM 1A - STA 14+0	D.00 TO STA 16+47.(D. GRADE D. GRADE SEWER Q		

								A. SANCHEZ, COLOI	37160 37160
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								- A	1 IN ALITHORIZED
									OR LIABI F FOR
									BE RESPONSIBLE
								DESCRIPTION:	DEF ARING THE SET
17- 0 \$	+00 STA 16+4	7.03						DNS: DATE: BY:	

			3	G
REVISIONS: VIRGIL A. SANCHEZ,	Z, COLORADO P.E. NO. 37160			
NO. DATE: BY: DESCRIPTION: APRV'D. BY: DATE:	Statistical States	20 BOULDER CRESCENT, SUITE 110	SIERLING RANCH FILING NO. I	
	FOR AND ON BEHALF OF	COLORADO SPRINGS, CO 80903 PHONE: 719.955.5485	STORM SEWER PLANS	
	CONSULTANTS,		PROJECT NO. 09-002 FILE: \dwg\Const Dwg\Storm - District\ST06A.dwg	
	INC.		DESIGNED BY: ET SCALE DATE: 11/10/2017	
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.	VONAL ENGLAND	VIL CONSULTANTS, INC.	DRAWN BY: ELY HORIZ: 1"=50' SHEET 6A OF 29 SI CHECKED BY: VAS VERT: 1"=5'	ST06A

	FOR LOCATIN & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY 48 HRS BEFORE CALL 1-800-9	INFORMATION E YOU DIO 22-1987

XISTING GROUND STORM SEWER Q	M / M			
		7125	7125	
		7120	7120	
24" RCP @ 2.31% 26.3 CFS		7115	PROPOSED GRADE © CL STORM SEWER 7115	@ STORM SEWER Q 79.28 LF - 18" RCP @ 6.07% Q100=12.3 CFS
		7110	7110	
		7105	7105	
		7100	7100 =	
	STA: 20+20.75 STRM MH 19 INSTALL EPC TYPE II MH (4' D TOB=7127.15' INV IN(24")=7120.63 (NW) INV OUT(24")=7120.33 (SW) STA: 20+95.40 STA: 20+95.40 STAM INLET 2 STRM INLET 2	T08=7126.86' INV 0UT(24")= 7122.79 (SE)	5TA: 1+00 5TA: 1+00 5TRM MH 17 NSTALL EPC TYPE II MH (4' D RIM=7113.51' NV IN(24")=7103.69 (NE) NV IN(18")=7103.19 (SW)	STA: 1+82.74 STRM INLET 3 INSTALL 2.9'X2.9' CDOT TYPE TOB=7112.99' INV OUT(18")=7109.00 (SE)
20+00	21+00	1	1+00	2+00

\09002A\Sterling Ranch District\dwg\Const Dwg\Storm - District\ST06D.dwg Plotstamp: 11/10/2017 12:

TRUST	² 088		RANCH FILING NO. 1 M SEWER PLANS \dwg\const Dwg\Street & Storm Plans\ST06F.dwg SCALE 2: 1"=20' SHEET 6F OF 29 STOGF
EXIST ROW X X X X X X X X X X X X X	X X OF PAVEMENT Og I		ULDER CRESCENT, SUITE 110 RADO SPRINGS, CO 80903 E: 719.955.5485 PROJECT NO. 09-002 FILE: DESIGNED BY: ET HORIZ CHECKED BY: VAS VERT:
	OWNER: JAYNES AMIEE R LIVING TRUST	1" = 20' 10 20 40 Scale in Feet	2000 COLO PHONI IS, INC.
MENT	CAUTION!! OVERHEAD POWER POWER PROTECT EXISTING FENCE IN PLACE CAUTION!! OVERHEAD PROP COOT TYPE D INLET PROP COOT TYPE D INLET PROP 2.772 PROP 24" RCP STORM SEW SEE SHEET STORD PROP 24" RCP STORM SEW SEE SHEET STORD CAUTION!! OVERHEAD PROP COT CAUTION!! OVERHEAD PROP 24" RCP CAUTION!! OVERHEAD CAUTION!! CAUTION	EXIST ROW	VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160 FOR AND O BEHALF OF M&S CIVIL CONSULTAN INC.
<u>NLET</u>	PROP VOLLMER ROAD T - T - T - T - T - T - T - T - T - T -		APRV'D. BY: DATE: APRV'D. BY: DATE: SPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR UST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER
SOIL RETENTION BLANKET OVER 4" MIN. THICKNESS OF TOPSOIL AND SEEDED F CERTIFIED WEED FREE MULCH PER ACRE MECHANICALLY CRIMPED INTO THE SHALL BE CONSTRUCTED. THE FENCE SHALL BE REMOVED UPON THE LATER EURV OR WQCV OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKET (ETS SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS F DDITIONAL BLANKET OR OTHER EROSION CONTROL MEASURES.	TRAP. TRAPIZODAL PROP MAJ CONT INLET PROTECTION IP EX EXISTING PROP MIN CONT STRAW BALE DITCH SBB IL IN FUT FUTURE EXIST MAJ CONT STRAW BALE DITCH SBB IL IN FUT FUTURE EXIST MAJ CONT STRAW BALE DITCH SBB IL IN FUT FUTURE EXIST MAJ CONT SILT FENCE/ SULT FENCE/ CHECK SF SHALL BE R EROSION CONCRETE WASH-OUT & SLOPE NORTH AMERICAN GREEN SC250 EROSION CONTROL OR APPROVED EQUAL SILT FENCE/ CMA CONCRETE WASH-OUT BASIN	VEHICLE TRACKING CONTROL EX. FLOW ARROW PROP. FLOW ARROW PROPERTY LINE PROP STORM SEWER PIPE	REVISIONS: NO. DATE: BY: DESCRIPTION: DATE: BY: DESCRIPTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESUBLESS OF THESE PLANS. ALL CHANGES TO THE PLANS MILL NOT BE RESUBLESS OF THESE PLANS.

