# CONSTRUCTION PLANS
## for
# HANNAH RIDGE AT FEATHERGRASS FILING NO. 3
# EL PASO COUNTY, COLORADO

SITE MAP
SCALE 1"=200'

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## COMPANIES AND AGENCIES

### OWNER/DEVELOPER
ELITE PROPERTIES OF AMERICA, INC
6385 CORPORATE DRIVE, SUITE 200
COLORADO SPRINGS, CO 80919
(719) 592-9333

### ENGINEER
M.V.E., INC.
1903 LELARAY STREET, STE 200
COLORADO SPRINGS, CO 80909
(719) 635-5736

### EL PASO COUNTY PLANNING
EPC PLANNING AND COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE, SUITE 110
COLORADO SPRINGS, CO 80910
(719) 520-6300

### STREETS AND RIGHTS-OF-WAY
EPC DEPARTMENT OF PUBLIC WORKS
3275 AKERS DRIVE
COLORADO SPRINGS, CO 80922
(719) 520-6460

### NATURAL GAS
COLORADO SPRINGS UTILITIES
111 SOUTH CASCADE AVENUE
P.O. BOX 1103
COLORADO SPRINGS, CO 80947-1015
(719) 226-3218

### ELECTRIC
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 EAST WOODMEN ROAD
FALCON, CO 80831
(719) 495-2283

### WATER & WASTEWATER
CHEROKEE METROPOLITAN DISTRICT
6250 PALMER PARK BOULEVARD
COLORADO SPRINGS, CO 80915
(719) 597-5080

### TELEPHONE
CENTURYLINK
555 TECH CENTER DRIVE SUITE 110
COLORADO SPRINGS, CO 80919
866.301.9889

## OWNERS STATEMENT
I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

_____ 9-22-17
DATE

DOUGLAS M. STUMPKE
ELITE PROPERTIES OF AMERICA, INC
6385 CORPORATE DRIVE, SUITE 200
COLORADO SPRINGS, CO 80919

## 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 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 IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY ERROR OR DEFECTS. ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED DRAINAGE PLANS AND SPECIFICATIONS.

_____ 9/21/17
DATE

DAVID R. GORMAN, P.E. COLORADO NO. 31672
FOR AND ON BEHALF OF M.V.E., INC.

COLORADO REGISTERED 31672 PROFESSIONAL ENGINEER

## EL PASO COUNTY
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 THE 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 MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

Approved
By:Jennifer Irvine, County Engineer
Date:10/02/2017
El Paso County Department of Public Works

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

THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS MAY NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

## FALCON FIRE DEPARTMENT APPROVAL
NOTE: FIRE FLOW DEMAND IS 1500 GPM FOR A 3 HOUR DURATION AT A 20 PSI MINIMUM RESIDUAL MAIN LINE PRESSURE DURING PEAK DEMAND.

UPON DETAILED REVIEW OF THE AVAILABLE WATER SUPPLY, FIRE HYDRANT LOCATIONS AND HOSE LAY DISTANCES, THESE PLANS ARE HEREBY CONSIDERED APPROVED.

FIRE DEPARTMENT SIGNATURE: _____

DATE:_____

## CHEROKEE METROPOLITAN DISTRICT APPROVAL
THE APPROVAL DATE ON THE PLAN(S) EXPIRES IN ONE (1) YEAR AND SHALL REQUIRE RESUBMITTAL AND APPROVAL IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

_____ DATE_____
CHEROKEE METROPOLITAN DISTRICT

CALL BEFORE YOU DIG... COLORADO 811 CALL 811 OR 1-800-922-1987
48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER

VICINITY MAP
NTS

BENCHMARK
THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).

BASIS OF BEARINGS:
BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N89°39'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".

N

50 0 100 200 400
1" = 200' 1:2,400


MVE, INC.
ENGINEERS · SURVEYORS
1903 lelaray street, suite 200 colorado springs co 80909 719.635.5736


REVISIONS

DESIGNED BY DRG
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

HANNAH RIDGE
AT FEATHERGRASS NO. 3

COVER SHEET

MVE PROJECT 60970
MVE DRAWING 60970030-F3

**SEPTEMBER 6, 2017**
**SHEET 1**

## EL PASO COUNTY STANDARD CONSTRUCTION NOTES

1. 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.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION 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).

3. 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 TIMES, INCLUDING THE FOLLOWING:
   a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   d. CDOT M & S STANDARDS

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

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

6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.

7. IT IS THE CONTRACTOR'S 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 STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.

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

9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.

10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.

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

12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.

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

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

15. 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 OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

## GENERAL NOTES

1. ALL CONSTRUCTION WITHIN EL PASO COUNTY PUBLIC RIGHT-WAYS SHALL BE IN ACCORDANCE WITH MOST CURRENT STANDARDS AND SPECIFICATIONS OF EL PASO COUNTY.

2. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATING CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.

3. BEFORE COMMENCING ANY EXCAVATION, CALL 1-800-922-1987 FOR EXISTING UTILITY LOCATIONS.

4. CONTRACTOR SHALL SCHEDULE AND HOLD A PRE-CONSTRUCTION MEETING A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION WITH CHEROKEE METROPOLITAN DISTRICT, EL PASO COUNTY, ENGINEER AND CONTRACTOR.

5. CONTRACTOR IS RESPONSIBLE FOR ALL OF HIS OPERATIONS ON THE SITE. CONTRACTOR SHALL OBSERVE ALL SAFETY AND OSHA REGULATIONS DURING CONSTRUCTION OPERATIONS. TRENCH WIDTHS AND SLOPE ANGLES SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD AND OCCORDING TO SAFETY AND OSHA REGULATIONS.

6. ANY NECESSARY PERMITS SUCH AS SWMP, FUGITIVE DUST, ACCESS, C.O.E. 404, ESQCP PERMIT, ETC. SHALL BE OBTAINED PRIOR TO CONSTRUCTION.

7. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.

8. SOIL PREPARATION, SEEDING, AND MULCHING WILL BE REQUIRED ON ALL DISTURBED AREAS NOT SURFACED. THE FOLLOWING TYPES AND RATES SHALL BE USED:

| GRASS | VARIETY | AMOUNT IN PLS lbs. PER ACRE |
|---|---|---|
| SIDEOATS GRAMA | EL RENO | 3.0 lbs. |
| WESTERN WHEATGRASS | BARTON | 2.5 lbs. |
| SLENDER WHEAT GRASS | NATIVE | 2.0 lbs. |
| LITTLE BLUESTEM | PASTURA | 2.0 lbs. |
| SAND DROPSEED | NATIVE | 0.5 lbs. |
| SWITCH GRASS | NEBRASKA 28 | 3.0 lbs. |
| WEEPING LOVE GRASS | MORPHA | 1.0 lbs. |
| | TOTAL | 14.0 lbs. |

9. SEEDING APPLICATION: DRILLED TO A DEPTH OF .25" TO .50" INTO SOIL WHERE POSSIBLE. BROADCAST AND RAKED TO COVER ON STEEPER THAN 3:1 SLOPES WHERE ACCESS IS LIMITED OR UNSAFE FOR EQUIPMENT.

10. THE CONTRACTOR SHALL RESTORE ALL ROADWAYS IMPACTED BY HIS CONSTRUCTION ACTIVITY. GRAVEL ROADWAYS, TO THE EXTENT CONSTRUCTION ACTIVITY WILL IMPACT THEM, SHALL HAVE THE GRAVEL STRIPPED, STOCKPILED AND REINSTALLED. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THIS ACTIVITY. IN THE EVENT THE GRAVEL IS CONTAMINATED OR LOST, THE CONTRACTOR SHALL PROVIDE MAKEUP GRAVEL AT NO ADDITIONAL COST TO THE OWNER.

11. GRADING OF THE PROJECT SITE SHALL BE FINALIZED SUCH THAT ALL AREAS DRAIN FREELY AWAY FROM NEW MANHOLES.

12. ANY SIGNS, DELINEATOR POSTS, MAIL BOXES, NEWSPAPER BOXES AND OTHER APPURTENANCES REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN THE SAME LOCATION AND IN AN ACCEPTABLE CONDITION AT NO ADDITIONAL COST TO THE OWNER.

13. IN THE EVENT THE CONTRACTOR REMOVES EXISTING FENCING, THE FENCING SHALL BE REINSTALLED IN A CONDITION, AS GOOD AS, OR BETTER THAN ORIGINALLY FOUND AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL COORDINATE ANY REQUIRED FENCE REMOVAL WITH THE LAND OWNER.

14. THE CONTRACTOR SHALL RESTORE DRAINAGE CONFIGURATIONS ALTERED AS A RESULT OF HIS CONSTRUCTION ACTIVITY.

15. SUFFICIENT CLEARANCE SHALL BE MAINTAINED BETWEEN THE EXCAVATION FOR THE NEW SANITARY SEWER FACILITIES AND ANY POWER OR TELEPHONE POLE OR GUY WIRE. IN CASES WHERE FAILURE OF A POLE IS POSSIBLE, THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY FOR ASSISTANCE TO TEMPORARILY BRACE OR SUPPORT THE POLE AS REQUIRED.

16. NO EXCAVATED MATERIAL SHALL BE PLACED UNDER OVERHEAD ELECTRIC CONDUCTORS OR AROUND POLES OR TEMPORARILY STORED UNDER LINES WITHOUT FIRST CONSULTING WITH THE ELECTRIC UTILITY TO DETERMINE IF ADEQUATE CLEARANCES WILL BE RETAINED. NO PERSON, TOOL OR EQUIPMENT SHALL OPERATE CLOSER THAN 10 FEET TO ANY PORTION OF ANY ENERGIZED LINE WITHOUT FIRST COMPLYING WITH THE PROVISIONS OF COLORADO REVISED STATUTES 1973, SECTION 1, TITLE 9, ARTICLE 2.5. 102 AND 103.

17. PORTIONS OF THE PROJECT LIE WITHIN COUNTY ROAD RIGHTS-OF-WAY. TRAFFIC CONTROL SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND REQUIREMENTS SET FORTH BY THE EL PASO COUNTY DEPARTMENT OF TRANSPORTATION (DOT) WITHIN THEIR PERMIT PROVISIONS AS APPROPRIATE.

18. THE CONTRACTOR SHALL CONTACT THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS' REPRESENTATIVE 48 HOURS PRIOR TO CONSTRUCTION IN COUNTY ROAD RIGHTS-OF-WAY. (EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, 3275 AKERS DRIVE, COLORADO SPRINGS, CO 80922. (719) 520-6460).

19. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE PROVISIONS OF THE EL PASO COUNTY DOT UTILITY PERMIT. APPROVAL OF THE TRAFFIC CONTROL PLAN FOR ALL WORK CONTAINED WITHIN THE COUNTY RIGHTS-OF-WAY SHALL BE OBTAINED PRIOR TO THE INITIATION OF ANY CONSTRUCTION WITHIN THE RESPECTIVE RIGHT-OF-WAY.

20. COMPLETE CLOSURE OF ANY COUNTY ROAD SHALL NOT BE ALLOWED UNLESS APPROVED IN ADVANCE BY EL PASO COUNTY DOT. ANY CLOSURES PROPOSED SHALL ONLY BE CONSIDERED AFTER SUBMISSION AND APPROVAL OF AN ACCEPTABLE TRAFFIC CONTROL PLAN.

21. ASPHALT DESIGN SHALL BE ACCORDING TO GEOTECHNICAL TESTING AND DESIGN TO BE COMPLETED FOLLOWING ROUGH GRADING. THE DESIGN AND TESTING SHALL BE COMPLETED IN ACCORDANCE WITH EPC STANDARDS AND APPROVED BY EPC PRIOR TO PAVING.

## EL PASO COUNTY STANDARD GRADING & EROSION CONTROL NOTES:

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS.

2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.

3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.

4. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.

5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY DSD INSPECTIONS STAFF.

6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.

7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.

8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).

9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.

10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.

11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.

12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

13. EROSION CONTROL BLANKETING SHALL BE USED ON SLOPES STEEPER THAN 3:1.

14. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.

15. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

17. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

18. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.

19. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

20. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

21. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.

22. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

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

24. PRIOR TO ACTUAL CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.

26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. AND SHALL BE CONSIDERED A PART OF THESE PLANS.

27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION, WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| EL | ELEVATION | EC | EDGE OF CONCRETE |
| PC | POINT OF CURVATURE | ROW | RIGHT-OF-WAY |
| PI | POINT OF INTERSECTION | R | RADIUS |
| PT | POINT OF TANGENCY | T | TANGENT |
| PCR | POINT OF CURVE RETURN | L | LENGTH |
| PRC | POINT OF REVERSE CURVATURE | LF | LINEAR FEET |
| PVC | POINT OF VERTICAL CURVATURE | CL | CENTERLINE |
| PVI | POINT OF VERTICAL INTERSECTION | X.XX' R | DIMENSION RIGHT OF CL |
| PVT | POINT OF VERTICAL TANGENCY | X.XX' L | DIMENSION LEFT OF CL |
| GB | GRADE BREAK | PL | PROPERTY LINE |
| CSP | CORRUGATED STEEL PIPE | PVRC | POINT OF VERTICAL REVERSE CURVATURE |
| RCP | REINFORCED CONCRETE PIPE | | |
| CBC | CONCRETE BOX CULVERT | VC | VERTICAL CURVE |
| TBC | TOP BACK CURB | AP | ANGLE POINT |
| TC | TOP OF CURB | STA | STATION |
| BT | BEGIN TAPER | INV | INVERT |
| ET | END TAPER | | |

## SANITARY SEWER CONSTRUCTION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARD AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.
2. SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC.
3. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
4. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
5. INFILTRATION AND EXFILTRATION TESTS CONDUCTED BY AND AT THE EXPENSE OF THE CONTRACTOR SHALL BE PERFORMED ON A REPRESENTATIVE PORTION OF THE PROJECT IN ACCORDANCE WITH SECTION 7.04 OF THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS.
6. ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH (IAW) COLORADO SPRINGS DETAILS STANDARD MANHOLE DETAIL 1. EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED IAW COLORADO SPRINGS STANDARDS.
7. WHERE NECESSARY, THE CONTRACTOR SHALL PROVIDE 3 DEGREE BENDS ON ALL CURVILINEAR SANITARY SEWER PIPE.
8. SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE CONSTRUCTION MANAGER.
9. OVERLOT GRADING AND STREET SUBGRADE MUST BE WITHIN ± ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
10. WHILE CONSTRUCTING THE SANITARY SEWER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FILED MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM.
11. CONTRACTOR TO CONSTRUCT ALL MANHOLES AND STRUCTURES TO FINISHED GRADE.
12. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE DISTRICT, TWO (2) COPIES OF "AS-CONSTRUCTED" PLANS AND TWO (2) SETS OF ELECTRONIC DATA FILES OF THE PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR RECORD.
    A. THE TWO (2) COPIES SHALL BE COMPLETE WITH ALL "AS-CONSTRUCTED" INFORMATION TOGETHER WITH A CERTIFICATION BY THE PARTY RESPONSIBLE FOR CONSTRUCTION THAT ALL DATA THEREON IS ACCURATE AND REPRESENTS ACTUAL CONSTRUCTED CONDITIONS.
    B. THE TWO PLAN SETS SHALL BE SUBMITTED ON SHEETS THAT ARE 24" X 36" IN SIZE.
    C. THE PLAN SET SHALL BE ON A DURABLE MEDIA THAT CAN BE RUN THROUGH PHOTOCOPYING EQUIPMENT.
    D. THE TWO ELECTRONIC DATA FORMATS SHALL BE SUBMITTED. THE FIRST ELECTRONIC DATA FILE SET SHALL BE IN AUTOCAD 2006 OR NEWER FORMAT WITH NO EXTERNAL REFERENCE DRAWINGS. ALL EXTERNAL REFERENCES MUST BE BOUND INTO THE DRAWING SET. THE SECOND SET OF ELECTRONIC DATA FILES SHALL BE IN ADOBE ACROBAT .PDF FORMAT.
    E. "AS-CONSTRUCTED" PLANS SHALL BE SUBMITTED WITHIN TWO WEEKS OF COMPLETION OF THE WATER AND/OR SANITARY SEWER UTILITIES.
    F. NO AUTHORIZATION TO CONNECT TO THE SYSTEM OR DISCHARGE TO THE SYSTEM WILL BE ALLOWED UNTIL THE "AS-CONSTRUCTED" DOCUMENTS HAVE BEEN RECEIVED AND ACCEPTED BY THE DISTRICT.
    G. ALL PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS SHALL BE PREPARED BY OR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF COLORADO. ALL PLANS AND SPECIFICATIONS SHALL BEAR THE SEAL AND SIGNATURE OF SAID LICENSED PROFESSIONAL ENGINEER.
13. TRACER WIRE IS TO BE INSTALLED WITH ALL SANITARY SEWER MAIN LINES AND SERVICES (FROM MAIN LINE TO THE BUILDING STRUCTURE). ALL NONMETALLIC PIPES SHALL HAVE A TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE WITH NO. 12 TYPE COPPER CONNECTORS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. ALL POINTS OF CONNECTION SHALL BE PROTECTED FROM CORROSION BY AN EPOXY OR SILICON COATING. ROUTE TRACER WIRE TO SURFACE AT ALL MANHOLES AND CLEANOUT LOCATIONS

FOR PIPELINES 1.04% OR LESS GRADE THE FOLLOWING ADDITIONAL INSTALLATION PRACTICES SHALL BE USED.
(a) THE BOTTOM OF THE PIPE TRENCH SHALL BE PLATE TAMPED PRIOR TO THE INSTALLATION OF ANY PIPE OR BEDDING MATERIAL.
(b) SELECT BEDDING MATERIAL SHALL BE INSTALLED PER CHAPTER 2 OF THE "COLORADO SPRINGS UTILITIES, WASTEWATER STANDARDS".
(c) TRENCH BACKFILL MATERIAL SHALL BE INSTALLED PER CHAPTER 2 OF THE "COLORADO SPRINGS UTILITIES, WASTEWATER STANDARDS".
(d) PIPELINES HAVING A SLOPE OF LESS THAN 1.04% SHALL BE "AS CONSTRUCTED" BY A LICENSED SURVEYOR OR AN APPOINTED REPRESENTATIVE UNDER HIS DIRECT SUPERVISION. THE "AS CONSTRUCTED" MANHOLE INVERTS SHALL BE RECORDED ON THE RECORD DRAWING(S) AND SUBMITTED TO CHEROKEE METROPOLITAN DISTRICT.

TYPICAL UTILITY PLACEMENT
SCALE: 1" = 10'

## LEGEND

EXISTING

PROPERT

6/3 HANNAH RIDGE DRIVE SECTION
STA 4+06.11 TO STA 4+80.08
SCALE: 1" = 10'

5/3 HANNAH RIDGE DRIVE SECTION
STA 2+63.85 TO STA 4+06.11
SCALE: 1" = 10'

4/3 HANNAH RIDGE DRIVE SECTION
STA 1+18.67 TO STA 2+63.84
SCALE: 1" = 10'

3/3 HUNTER JUMPER DRIVE SECTION
STA 20+48.02 TO STA 21+44.34
SCALE: 1" = 10'

2/3 HUNTER JUMPER DRIVE SECTION
STA 18+53.45 TO STA 19+88.91
SCALE: 1" = 10'

PAVEMENT NOTE:
ESTIMATED PAVEMENT THICKNESS:
3" ASPHALT OVER 8" BASE COURSE

*(ASPHALT DESIGN SHALL BE ACCORDING TO GEOTECHNICAL TESTING AND DESIGN TO BE COMPLETED FOLLOWING ROUGH GRADING. THE DESIGN AND TESTING SHALL BE COMPLETED IN ACCORDANCE WITH EPC STANDARDS AND APPROVED BY EPC PRIOR TO PAVING.)*

1/3 HUNTER JUMPER DRIVE SECTION
STA 1+00.00 TO STA 14+95.18
SCALE: 1" = 10'

EPC TYPE A

14/3 EPC TYPE A STANDARD VERTICAL CURB & GUTTER
SCALE 1"=1'

| RADII | |
|---|---|
| A | 1/8" TO 1/4" |
| B | 1-1/2" |
| C | 1-1/2" TO 2" |

EPC TYPE B

15/3 EPC TYPE B STANDARD MEDIAN CURB & GUTTER
SCALE 1"=1'

EPC OPTIONAL TYPE C

16/3 EPC OPTIONAL TYPE C STANDARD RAMP CURB & GUTTER
SCALE 1"=1'

SEE EL PASO COUNTY STANDARD DRAWINGS SD_2-41 & SD_2-42 FOR ADDITIONAL CONSTRUCTION NOTES.

12/3 PEDESTRIAN INTERSECTION RAMP DETAIL (EPC SD_2-40)
SCALE: NOT TO SCALE

RE: CITY OF COLORADO SPRINGS ENGINEERING DIVISION STANDARD SPECIFICATION 509.03, & EPC SIDEWALK RESOLUTION #16-446.

10/3 TYPICAL CONCRETE WALK
SCALE: 1" = 1.5'

13/3 PARALLEL PEDESTRIAN RAMP DETAIL (EPC SD_2-50)
SCALE: NOT TO SCALE

TYPICAL CUL-DE-SAC DETAIL
SCALE: NTS

SEE EL PASO COUNTY STANDARD DRAWINGS SD_2-41 & SD_2-42 FOR ADDITIONAL CONSTRUCTION NOTES.

MIDBLOCK HANDICAP RAMP DETAIL
SCALE 1"=4'-0"

PAVEMENT NOTE:
ESTIMATED PAVEMENT THICKNESS:
3" ASPHALT OVER 8" BASE COURSE

*(ASPHALT DESIGN SHALL BE ACCORDING TO GEOTECHNICAL TESTING AND DESIGN TO BE COMPLETED FOLLOWING ROUGH GRADING. THE DESIGN AND TESTING SHALL BE COMPLETED IN ACCORDANCE WITH EPC STANDARDS AND APPROVED BY EPC PRIOR TO PAVING.)*

8/3 URBAN LOCAL - 50' ROW TYPICAL STREET SECTION
BREECHES WAY (STA 3+55.00 TO STA 6+10.00), GRAND PRIX COURT, EQUINE COURT (STA 1+00.00 TO STA 16+22.21), HORSEMANSHIP COURT, PONY CLUB DRIVE (STA 1+00.00 TO STA 23+26.98), ELECTRONIC DRIVE (STA 1+00.00 TO STA 6+60.97)
SCALE: 1" = 10'

PAVEMENT NOTE:
ESTIMATED PAVEMENT THICKNESS:
3" ASPHALT OVER 8" BASE COURSE

*(ASPHALT DESIGN SHALL BE ACCORDING TO GEOTECHNICAL TESTING AND DESIGN TO BE COMPLETED FOLLOWING ROUGH GRADING. THE DESIGN AND TESTING SHALL BE COMPLETED IN ACCORDANCE WITH EPC STANDARDS AND APPROVED BY EPC PRIOR TO PAVING.)*

7/3 URBAN LOCAL - 60' ROW TYPICAL STREET SECTION
HANNAH RIDGE DRIVE (STA 5+30.00 TO STA 13+12.93), SHAWNEE DRIVE, ELECTRONIC DRIVE (STA 6+60.97 TO STA 17+94.05), WINSLOW PARK DRIVE
SCALE: 1" = 10'

NOTES:

A) The median paving shall be constructed with 4 inch thick, integrally colored concrete, embossed with a running bond 4" x 8" brick pattern as shown.

B) Install 1/2" x 4" expansion material at median noses, fixed objects, and at transverse joints at 50 ft. intervals (maximum) along the median.

C) The color additive shall be an approved commercially pure or synthetic mineral pigment, factory formulated and packaged in cubic yard dosage increments. The mixture shall be "Chromix" as manufactured by L.M. Scofield Company, "Davis Colors" as manufactured by Davis Color Company, Pigment No. 678, 5 lbs/sack, or an approved equal.

D) Patterned concrete to be colored L.M. Scofield Company "Santa Barbara Brown, C–35", Davis Color Company, Pigment No. 678, 5 lbs/sack, or an approved equal.

E) The Matching curing compound shall be a blend of waxes and pigments in a solvent emulsion base and conform to the requirements of ASTM C–309. The curing compound shall be "Lithocrome Colorwax" as manufactured by L.M. Scofield Company, Davis Color–Seal, as manufactured by Davis Color Company, or approved equal.

F) The concrete mix design shall conform to the requirements of the color admixture manufacturer and shall meet CDOT Class B concrete requirements, unless otherwise approved.

G) For weed control prior to median paving, apply a pre–emergent herbicide to median subgrade area per manufacturer's specifications for paving under Barrier 50 label (pbi Gordon). Trifluralin is labeled for use under asphalt under the Treflan 4EC label (Elanco).

ALL MEDIAN TREATMENT TO BE CONSTRUCTED PER EL PASO COUNTY STANDARDS.

17/3 MEDIAN DETAIL (EPC SD_2-21)
SCALE: NOT TO SCALE

NOTES

1. W – WIDTH SALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL ROADS.

2. T – SQUARED–OFF RETURN TO BE POURED MONOLITHIC 8" PCC OR 9" FOR COLLECTORS MINIMUM WITH 6x6 – 4.4 W.W.F. OR #4 @ 18 E.W.

2. ▨ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).

3. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR

ALL CROSS PANS TO BE CONSTRUCTED PER EL PASO COUNTY STANDARDS.

11/3 CROSS PAN DETAIL (EPC SD_2-26)
SCALE: NOT TO SCALE

VICINITY MAP
NTS

BENCHMARK
THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).

BASIS OF BEARINGS:
BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N89°39'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".

MVE, INC.
ENGINEERS, SURVEYORS
1903 lelaray street, suite 200 colorado springs co 80909 719.635.5736

REVISIONS

DESIGNED BY DRG
DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

# HANNAH RIDGE
## AT FEATHERGRASS NO. 3
## GENERAL NOTES & DETAILS

MVE PROJECT **60970**
MVE DRAWING 60970032-F3

**SEPTEMBER 6, 2017**
**SHEET 3**

WATER LOWERING #01

| NAME | STATION | INV ELEV |
|---|---|---|
| 8" GATE VLV | 2+82.21 | 6467.63 |
| 3.9° VERTICAL BEND | 3+02.21 | 6466.39 |
| 1.8° VERTICAL BEND | 3+22.21 | 6466.39 |
| 8" DUCTILE IRON PIPE STA 2+82.21 TO 3+62.50 | | |

WATER LOWERING #02

| NAME | STATION | INV ELEV |
|---|---|---|
| 8" GATE VLV | 5+37.40 | 6463.10 |
| 3.6° VERTICAL BEND | 5+57.40 | 6461.86 |
| 3.8° VERTICAL BEND | 5+77.40 | 6461.86 |
| 8" DUCTILE IRON PIPE STA-5+37.40 TO 6+02.50 | | |

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
BASIS OF BEARINGS:
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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'

LOCATION: Attached ☒ Detached ☐

DESIGN SPEED

CURB TYPE: A☒ B☐ C☐ ☐ ☐

ROW WIDTH: 50' FL-FL VARIES

STREET TYPE: LOCAL LOW VOLUME

PAVEMENT:

TYPE: HMA ☐ PCC ☐

THICKNESS:

COMPOSITE SECTION:

HMA BASE

SUBGRADE STABILIZATION:

CHEMICAL TYPE MECHANICAL THICKNESS

VERTICAL SCALE
1" = 5' 1:60

HORIZONTAL SCALE
1" = 50' 1:600

COLORADO LICENSED
DAVID TRAYNOR JOHNSON
31672
PROFESSIONAL ENGINEER
9/21/17

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co 80909
www.mvecivil.com

REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970040-F3**

**SEPTMEBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

**BREECHES WAY PLAN/ PROFILE**
FROM STA 1+00.00
TO STA 6+10.00
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 4**

**LEGEND**

1 CURB TRANSITIONS BETWEEN TYPE A AND TYPE C (MODIFIED)

CURVILINEAR SEWER PIPE NOTE:
THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER SEWER PIPE. NOTICE: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH SEWER PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

KEYMAP
NOT TO SCALE

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'
LOCATION: Attached ☒ Detached ☐
DESIGN SPEED
CURB TYPE: A☐ B☐ C☒
ROW WIDTH: 50' FL-FL 32.33'
STREET TYPE: LOCAL

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS:
COMPOSITE SECTION:
HMA BASE
SUBGRADE STABILIZATION:
CHEMICAL TYPE MECHANICAL THICKNESS

VERTICAL SCALE
1" = 5' 1:60
HORIZONTAL SCALE
1" = 50' 1:600

COLORADO LICENSED
DAVID RAYMOND GOSSETT
31672
9/21/17
PROFESSIONAL ENGINEER

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co 80909
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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970041-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

**GRAND PRIX COURT PLAN/ PROFILE**
FROM STA 1+00.00
TO STA 12+00.00
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 5**

**LEGEND**

(T) CURB TRANSITIONS BETWEEN TYPE A AND TYPE C (MODIFIED)

CURVILINEAR SEWER PIPE NOTE:
THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER SEWER PIPE. NOTICE: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH SEWER PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

KEYMAP
NOT TO SCALE

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR, ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
BASIS OF BEARINGS:
BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N89°39'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".

**DESIGN DATA:**

SIDEWALKS: WIDTH 5'
LOCATION: Attached ☒ Detached ☐
DESIGN SPEED
CURB TYPE: A☐ B☐ C☒ ☐ ☐
ROW WIDTH: 50' FL-FL 32.33'
STREET TYPE: LOCAL

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS:
COMPOSITE SECTION:
HMA BASE
SUBGRADE STABILIZATION:
CHEMICAL TYPE MECHANICAL THICKNESS

VERTICAL SCALE
1" = 5' 1:60
HORIZONTAL SCALE
1" = 50' 1:600

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DAVID RAYMOND JOHNSON
31672
9/21/17
PROFESSIONAL ENGINEER

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970049-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

**HORSEMANSHIP COURT PLAN/ PROFILE**
FROM STA 1+00.00
TO STA 6+71.09
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 13**

HUNTER JUMPER DRIVE
CENTERLINE DATA:

STA-1+00.00
N: 11228.52'
E: 4886.61'

S 80°14'01" E
255.00'

STA-3+55.00
N: 11185.27'
E: 5137.92'

S 80°14'01" E
28.41'

L=49.33'
Δ=9°25'17"
R=300.00'

S 89°39'18" E
195.64'

STA-6+36.28
N: 11174.94'
E: 5408.63'

S 89°39'18" E
295.00'

STA-9+21.38
N: 11173.17'
E: 5703.63'

S 89°39'18" E
573.81'

NOTES:

SEE STREET / STORM DRAIN PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS AND REQUIRED INTERIM MEASURES.

CURVILINEAR SEWER PIPE NOTE:
THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER SEWER PIPE. NOTICE: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH SEWER PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

KEYMAP
NOT TO SCALE

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
BASIS OF BEARINGS:
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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'

LOCATION: Attached [X] Detached [ ]

DESIGN SPEED

CURB TYPE: A[X] B[ ] C[ ] [ ] [ ]

ROW WIDTH: 60' FL-FL 40.00'

STREET TYPE: LOCAL

PAVEMENT:

TYPE: HMA [ ] PCC [ ]

THICKNESS:

COMPOSITE SECTION:

HMA BASE

SUBGRADE STABILIZATION:

CHEMICAL TYPE MECHANICAL THICKNESS

VERTICAL SCALE
1" = 5' 1:60

HORIZONTAL SCALE
1" = 50' 1:600

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970050-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

**HUNTER JUMPER DRIVE PLAN/ PROFILE**
FROM STA 1+00.00
TO STA 12+00.00
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 14**

CURVILINEAR SEWER PIPE NOTE:
THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER SEWER PIPE. NOTICE: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH SEWER PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

KEYMAP
NOT TO SCALE

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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'
LOCATION: Attached [X] Detached [ ]
DESIGN SPEED
CURB TYPE: A[ ] B[ ] C[X] [ ] [ ]
ROW WIDTH: 50' FL-FL 32.33'
STREET TYPE: LOCAL

PAVEMENT:
TYPE: HMA [ ] PCC [ ]
THICKNESS:
COMPOSITE SECTION:
HMA BASE
SUBGRADE STABILIZATION:
CHEMICAL TYPE
MECHANICAL THICKNESS

VERTICAL SCALE 1" = 5' 1:60
HORIZONTAL SCALE 1" = 50' 1:600

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970053-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

**PONY CLUB LANE PLAN/ PROFILE**
FROM STA 14+00.00
TO STA 25+30.32
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 17**

WINSLOW PARK DRIVE
CENTERLINE DATA:

STA-1+00.00 N: 11999.36' E: 5072.80' | S 65°51'43" E 255.00' | N: 11895.09' E: 5305.51' | S 65°51'43" E 255.00' | STA-6+10.00 N: 11790.81' E: 5538.21' | S 65°51'43" E 40.22' | L=187.12' Δ=26°48'10" R=400.00' | STA-8+37.33 N: 11739.83' E: 5757.08' | L=182.61' Δ=26°09'28" R=400.00' | N 61°10'39" E 48.42' | STA-10+68.36 N: 11812.28' E: 5973.75' | N 61°10'39" E 265.00'

| WATER CROSSING #9 | | |
|---|---|---|
| NAME | STATION | INV ELEV |
| 8" GATE VLV | 9+57.96 | 6462.77 |
| BEG 16" STEEL SLEEVE | 9+82.96 | 6462.19 |
| END 16" STEEL SLEEVE | 10+02.96 | 6461.99 |
| 8" GATE VLV | 10+27.96 | 6462.07 |
| 8" DUCTILE IRON PIPE STA-9+57.96 TO 10+27.96 | | |

**LEGEND**

(1) CURB TRANSITIONS BETWEEN TYPE A AND TYPE C (MODIFIED)

NOTES:

SEE STREET / STORM DRAIN PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS AND REQUIRED INTERIM MEASURES.

CURVILINEAR SEWER PIPE NOTE:
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KEYMAP
NOT TO SCALE

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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'
LOCATION: Attached [X] Detached [ ]
DESIGN SPEED
CURB TYPE: A[X] B[ ] C[X] [ ] [ ]
ROW WIDTH: 60' FL-FL VARIES
STREET TYPE: LOCAL

PAVEMENT:
TYPE: HMA [ ] PCC [ ]
THICKNESS:
COMPOSITE SECTION:
HMA BASE
SUBGRADE STABILIZATION:
CHEMICAL TYPE MECHANICAL THICKNESS

VERTICAL SCALE 1" = 5' 1:60
HORIZONTAL SCALE 1" = 50' 1:600

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REVISIONS

MVE PROJECT 60970
MVE DRAWING 60970058-F3

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

**WINSLOW PARK DRIVE PLAN/PROFILE**
FROM STA 1+00.00
TO STA 12+00.00
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 22**

KEYMAP
NOT TO SCALE

NOTES:

SEE STREET / STORM DRAIN PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS AND REQUIRED INTERIM MEASURES.

CURVILINEAR SEWER PIPE NOTE:
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KEYMAP
NOT TO SCALE

KEYMAP
NOT TO SCALE

F LINE - SANITARY PROFILE
SCALE: (H) 1" = 50' (V) 1" = 5'
START STA 0+00.00, END STA 4+00.00

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**DESIGN DATA:**

SIDEWALKS: WIDTH N/A
LOCATION: Attached ☐ Detached ☐
DESIGN SPEED
CURB TYPE: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐
ROW WIDTH: N/A FL-FL N/A
STREET TYPE: N/A

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS:
COMPOSITE SECTION:
HMA BASE
SUBGRADE STABILIZATION:
CHEMICAL TYPE MECHANICAL THICKNESS

N

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970065-F3**

**SEPTEMBER 6 ,2017**

DESIGNED BY TJW
DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

**MISC SANITARY PLANS/ PROFILES**

HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 25**

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'

LOCATION: Attached ☒ Detached ☐

DESIGN SPEED

CURB TYPE: 1 ☒ 2 ☐ 3 ☐ 4 ☐ 5 ☐

ROW WIDTH: 60' FL-FL 40.00'

STREET TYPE: LOCAL

PAVEMENT:

TYPE: HMA ☐ PCC ☐

THICKNESS:

COMPOSITE SECTION:

HMA BASE

SUBGRADE STABILIZATION:

CHEMICAL TYPE MECHANICAL THICKNESS

N

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DAVID RAYMOND GORMAN
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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970102-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

**HUNTER JUMPER DRIVE STORM DRAIN**
FROM STA 6+81.54
TO STA 11+21.38
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 28**

MANHOLE RISER LOCATION DETAIL
SCALE: 1" = 10'

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**DESIGN DATA:**

SIDEWALKS: WIDTH 5'

LOCATION: Attached ☒ Detached ☐

DESIGN SPEED

CURB TYPE: A☒ B☐ C☐ ☐ ☐

ROW WIDTH: 60' FL-FL 34.00'

STREET TYPE: LOCAL

PAVEMENT:

TYPE: HMA ☐ PCC ☐

THICKNESS:

COMPOSITE SECTION:

HMA BASE

SUBGRADE STABILIZATION:

CHEMICAL TYPE MECHANICAL THICKNESS

N

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REVISIONS

MVE PROJECT 60970
MVE DRAWING 60970104-F3

**SEPTEMBER 6, 2017**

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**WINSLOW PARK STORM DRAIN**

HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 30**

## RIPRAP CHANNEL GRADING

SCALE: 1" = 50'

## CHANNEL SECTION D-D

(RIP-RAP CHANNEL)

1" = 10'

## 60" RCP EXTENSION

SCALE: 1" = 50'

## RAILROAD 7'x7' CBC INLET / OUTLET PROTECTION

SCALE: 1" = 40'

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BASIS OF BEARINGS:
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**DESIGN DATA:**

SIDEWALKS: WIDTH N/A

LOCATION: Attached ☐ Detached ☐

DESIGN SPEED _____

CURB TYPE: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

ROW WIDTH: N/A FL-FL N/A

STREET TYPE: N/A

PAVEMENT:

TYPE: HMA ☐ PCC ☐

THICKNESS: _____

COMPOSITE SECTION:

HMA _____ BASE _____

SUBGRADE STABILIZATION:

CHEMICAL TYPE _____ MECHANICAL THICKNESS _____

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REVISIONS

MVE PROJECT **60970**

MVE DRAWING **60970066-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY TJW
DRAWN BY TJW
CHECKED BY _____
AS-BUILTS BY
CHECKED BY _____

**MISC STORM PLANS/ PROFILES**

HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 31**

STA: 1+00.00
N: 10833.38'
E: 5969.84'

STA: 1+13.03
N: 10834.38'
E: 5956.85'

STA: 1+37.08
N: 10843.72'
E: 5934.69'

STA: 1+67.40
N: 10865.29'
E: 5913.38'

STA: 1+97.71
N: 10893.37'
E: 5901.95'

STA: 4+88.82
N: 11184.46'
E: 5903.70'

STA: 6+56.32
N: 11351.96'
E: 5904.71'

STA: 11+14.82
N: 11810.45'
E: 5907.47'

STA: 11+80.82
N: 11876.45'
E: 5907.86'

STA: 14+68.09
N: 12113.42'
E: 6046.19'

N 85°34'48" W
13.03'

N 67°09'18" W
24.05'

N 44°39'18" W
30.32'

N 22°09'18" W
30.32'

N 00°20'42" W
291.10'

N 00°20'42" W
167.50'

N 00°20'42" W
458.50'

N 00°20'42" W
66.00'

L=287.27'
Δ=59°51'13"
R=275.00'

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
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**DESIGN DATA:**

SIDEWALKS: WIDTH N/A
LOCATION: Attached ☐ Detached ☐
DESIGN SPEED N/A
CURB TYPE: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐
ROW WIDTH: N/A FL-FL N/A
STREET TYPE: N/A

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS: N/A
COMPOSITE SECTION:
HMA N/A BASE N/A
SUBGRADE STABILIZATION:
CHEMICAL TYPE N/A
MECHANICAL THICKNESS N/A

VERTICAL SCALE
1" = 5' 1:60
HORIZONTAL SCALE
1" = 50' 1:600

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970090-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

**TRIBUTARY DRAINAGE IMPROVEMENTS**
FROM STA 1+00.00
TO STA 14+00
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 33**

NOT A PART OF FILING NO. 3, FOR INFORMATION ONLY

KEYMAP
NOT TO SCALE

STA 12 + 20 TO STA 16 + 40

CHANNEL SECTION A-A
(TYPICAL CHANNEL)
1" = 10'

STA 11 + 80 TO STA 12 + 20
STA 16 + 40 TO STA 17 + 60

CHANNEL SECTION B-B
(RIP-RAP CHANNEL)
1" = 10'

STA 12 + 20 TO STA 16 + 40

CHANNEL SECTION C-C
(GROUTED RIP-RAP CHANNEL)
1" = 10'

CHANNEL SECTION D-D
(RIP-RAP CHANNEL)
1" = 10'

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**DESIGN DATA:**

SIDEWALKS: WIDTH N/A
LOCATION: Attached ☐ Detached ☐
DESIGN SPEED N/A
CURB TYPE: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐
ROW WIDTH: N/A FL-FL N/A
STREET TYPE: N/A

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS: N/A
COMPOSITE SECTION:
HMA N/A BASE N/A
SUBGRADE STABILIZATION:
CHEMICAL TYPE N/A
MECHANICAL THICKNESS N/A

VERTICAL SCALE
1" = 5' 1;60
HORIZONTAL SCALE
1" = 50' 1;600

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REVISIONS

MVE PROJECT **60970**
MVE DRAWING **60970091-F3**

**SEPTEMBER 6, 2017**

DESIGNED BY
DRAWN BY TJW 8/22/2013
CHECKED BY ____
AS-BUILTS BY
CHECKED BY ____

**TRIBUTARY DRAINAGE IMPROVEMENTS**
FROM STA 14+00.00
TO STA 22+64.46
HANNAH RIDGE AT FEATHERGRASS NO. 3

**SHEET 34**

## DETAIL "C"
## (6' X 10' BOX CULVERT & WINGWALLS)

SCALE 1/8" = 1'-0"

## CHANNEL SECTION D-D

(RIP-RAP CHANNEL)

1" = 10'

| BOX CULVERT / HEADWALL / WINGWALL DIMENSIONS TABLE | | | | |
|---|---|---|---|---|
| | A | B | C | D |
| HEIGHT (H) | 8'-4" | 8'-4" | 7'-8" | |
| R | 6' | 6' | 6' | |
| S | 12' | 12' | 10' | |
| T(t) | 13" | 13" | 10" | |
| T(b) | 15" | 15" | 10" | |
| y | | | | 11'-8" |
| x1 | | | | 21'-0" |
| SLOPE (IN) | | | | |
| SLOPE (OUT) | | | | |
| k | 2' | 2' | 2' | 7'-5" |
| k2 | 2' | | | |
| L | 28'-4" | 28'-0" | 28'-0" | 27'-5 1/2" |
| L2 | 20'-0" | | | |
| m | 7'-4.5" | 7'-4.5" | 7'-4.5" | 8'-8" |
| a (MIN) | 1'-0" | 1'-0" | 1'-0" | 2'-2" |
| a (MAX) | 2'-0" | 2'-0" | 2'-0" | 2'-2" |
| b (MIN) | 1'-8" | 1'-8" | 1'-8" | 4'-0" |
| b (MAX) | 3'-8" | 3'-8" | 3'-8" | 4'-0" |

## GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS D (BOX CULVERT).
2. CONSTRUCTION JOINTS ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL PROVIDE A PLAN DENOTING LOCATION OF CONTRACTOR'S PROPOSED CONSTRUCTION JOINTS FOR STAGED CONSTRUCTION PRIOR TO THE BEGINNING OF ANY BOX CULVERT FORMING. THE CONSTRUCTION JOINT DETAIL FOR STAGED CONSTRUCTION SHALL BE AS SHOWN IN SECTION C-C AS DEPICTED ON THESE PLANS.
3. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS PLACED.
4. THE CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
5. STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD.
6. BACKFILL SHALL NOT BEGIN UNTIL TOP SLAB HAS REACHED DESIGN STRENGTH = $F_c'$.
7. REINFORCING STEEL SHALL BE GRADE 60 - UNCOATED.
8. ALL DIMENSIONS ARE PERPENDICULAR TO THE CENTERLINE OF THE BOX.
9. ALL TRANSVERSE REINFORCING SHALL BE NORMAL TO THE CENTERLINE OF THE BOX.
10. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ IN.
11. STANDARD PLANS REFERENCED ARE COLORADO DEPARTMENT OF TRANSPORTATION M-STANDARD PLANS. THEY ARE M-601-1, M-601-2, M-601-10, M-601-20
12. WINGWALL FOOTINGS AND FLOOR OF BOX CULVERT SHALL BE PLACED MONOLITHICALLY
13. WINGWALL AND APRON CONCRETE SHALL BE: CONCRETE CLASS B, OR D (BOX CULVERT) FOR CBC'S
14. AN ALTERNATE PRECAST CONCRETE BOX CULVERT MAY BE USED FOR THIS PROJECT IN ACCORDANCE WITH STANDARD PLAN NO. M-603-3 DATED JULY 04, 2012. TAPER SHALL BE HAND FORMED AND CONSTRUCTED ON SITE.

## LOAD DATA

LIVE LOAD = AASTO, HS 20-44 AND ALTERNATE MILITARY LOADING

DEAD LOAD CASE 1: VERTICAL EARTH LOAD = 120 LBS./CU. FT.
HORIZONTAL EARTH LOAD = 30 LBS./CU. FT.

DEAD LOAD CASE 2: VERTICAL EARTH LOAD = 120 LBS./CU. FT.
HORIZONTAL EARTH LOAD = 60 LBS./ CU. FT.

FUTURE HMA OVERLAY = 48 LBS./ SQ. FT. BASED ON 4 IN. THICKNESS
LIVE LOAD SURCHARGE ON EXTERIOR WALLS = 2 FT. OF EARTH

## DESIGN DATA

UNIT STRESS: $F_s$ = 24,000 PSI
$F_c$ = 1,200 PSI
N = 9
EQUIVALENT FLUID PRESSURE = 36 LBS./CU. FT.
MAXIMUM TOE PRESSURE = 1 TON/SQ. FT.

## VICINITY MAP

NTS

BENCHMARK

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
BASIS OF BEARINGS:
BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1, ASSUMED TO BEAR N89°39'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".

## DETAIL "D"
## (60" & 90" PIPE HEADWALL & WINGWALLS)

SCALE 1/8" = 1'-0"

FRONT VIEW

## L BAR DETAIL

SCALE: NOT TO SCALE"

## STORM DRAIN TO CBC CONNECTION DETAIL

NOT TO SCALE

## STIRRUP DETAIL

SCALE ½" = 1'-0"

## SECTION A-A

SCALE ½" = 1'-0"

## SECTION B-B

SCALE ½" = 1'-0"

NOTE: REBAR & SPACING PER LATEST CDOT M-601-1 STANNDARDS.

## SECTION C-C

SCALE ½" = 1'-0"


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DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

HANNAH RIDGE
AT FEATHERGRASS NO. 3

# BOX CULVERT
## & HEADWALL DETAILS

MVE PROJECT **60970**
MVE DRAWING 60970093-F3

**SEPTEMBER 6, 2017**
**SHEET 35**

## SWQC BASIN "B" (PRIVATE)

SCALE: 1" = 30'

## SWQC BASINS "E1" & "E2" (PRIVATE)

SCALE: 1" = 30'

KEYMAP
NOT TO SCALE

KEYMAP
NOT TO SCALE

## CONCENTRATED IN-FLOW DETAIL

SCALE: NTS

## SECTION 'A'

SCALE: 1" = 4'

## TYPICAL SWQC BASIN (SAND FILTER)

SCALE: N.T.S.

| SAND FILTER DATA TABLE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SAND FILTER BASIN | BASE AREA (SQUARE FEET) | FILTER BASIN VOLUME ($FT^3$) | FILTER BASIN BTM/INV IN ELEV | POND DEPTH (FT) | TOP OF BOX ELEVATION (W.S.) | OUTLET ORIFICE DIAMETER (IN) | INV OUT ELEV | RESTRICTOR PLATE HEIGHT (FT) |
| B | 8,839 | 25,961 | 6459.00 | 2.5 | 6461.50 | 2" | 6456.25 | 0.70 |
| E1 | 1,053 | 3,014 | 6455.00 | 2.0 | 6457.00 | 1-1/16" | 6452.42 | N/A |
| E2 | 2,919 | 7,425 | 6450.20 | 2.0 | 6452.20 | 1-3/4" | 6448.28 | 0.66 |

**SAND FILTER SPECIFICATIONS, NOTES & REFERENCES:**

REFERENCE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCD), *URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3*, SECTION T-6, FOR FULL SET OF SAND FILTER DETAILS AND SPECIFICATIONS AS IDENTIFIED.

- **FILTER MATERIAL** - CLASS B or CLASS C FILTER MATERIAL, PER SOIL MATERIAL GRADATION TABLE
- **PERMEABLE GEOTEXTILE SEPARATOR FABRIC** - TENCATE MIRAFI 170N, OR EQUAL, PER UDFCD TABLE SF-3.
- **CONCENTRATED INFLOW** - PER CONCENTRATED INFLOW DETAIL
- **SLOTTED PIPE** - CONTECH A-2000, OR EQUAL, PER PIPE SPECIFICATION TABLE

## SOIL MATERIAL GRADATION TABLE

(SOURCE: UDFCD BIORETENTION (RG) TABLE B-1 & SAND FILTER BASIN (SFB) TABLE SF-1)

| STANDARD SIEVE SIZE | % PASSING | | |
|---|---|---|---|
| | GROWING MEDIA[1][2] | FILTER MATERIAL[3] | |
| | | CLASS B | CLASS C |
| 1-1/2" | | 100 | |
| 3/4" | | | 100 |
| NO. 4 | 100 | 20-60 | 60-100 |
| NO. 10 | 85-100 | | |
| NO. 50 | | 10-30 | 10-30 |
| NO. 100 | | | 0-10 |
| NO. 200 | 80-90 | 0-3 | 0-3 |
| NO. 230 | 3-17 | | |

[1] RAIN GARDEN ONLY
[2] LESS THAN 1.5% ORGANIC MATERIAL
[3] APPLIES TO BOTH SAND FILTER BASIN AND RAIN GARDEN

TABLE SF-2 (SLOTTED PIPE DIMENSIONS)

| PIPE Ø | SLOT LENGTH | SLOT WIDTH | SLOT CENTERS | OPEN AREA (PER SF) |
|---|---|---|---|---|
| 4" | 1-1/16" | 0.032" | 0.413" | 1.90 SQ. IN. |

NOTES:

1. ORIFICE AND RESTRICTOR PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

3. ALL ORIFICE PLATES SHALL BE MOUNTED WITH 3" x 1/4" STAINLESS STEEL CONCRETE ANCHOR BOLTS W/ WASHERS, AND NUTS AS SHOWN.

## MANHOLE / INLET RESTRICTOR PLATE DET.

SCALE: 1" = 2.0'

NOTE: REFERENCE EPC TYPE I MANHOLE STANDARDS FOR ALL OTHER INFORMATION.

## MODIFIED TYPE I MANHOLE

SCALE: 1" = 2'-0"

## VICINITY MAP

NTS

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REVISIONS

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DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

# HANNAH RIDGE AT FEATHERGRASS NO. 3

# STORM WATER QUALITY BASIN DETAILS

MVE PROJECT 60970
MVE DRAWING 60970106-F3

**SEPTEMBER 6, 2017**
**SHEET 37**

TRAFFIC CONTROL LEGEND

INSTALL CDOT TYPE 3 BARRICADE (DIRECTION AS INDICATED) WHERE SHOWN BETWEEN FILINGS. - REF CDOT S-630-02

COLORADO LICENSED
DAVID G. RAYMOND GRAHAM
31672
9/21/17
PROFESSIONAL ENGINEER

VICINITY MAP
NTS

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N

10 0 50 100 200
1" = 100' 1:1,200

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# HANNAH RIDGE AT FEATHERGRASS NO. 3

## STREET / STORM PHASING PLAN & NOTES

MVE PROJECT **60970**
MVE DRAWING 60970069-F3

**SEPTEMBER 6, 2017**
**SHEET 39**

## EL PASO COUNTY STANDARD SIGNING AND STRIPING NOTES

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
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.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
4. 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.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. 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 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"
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. 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. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. 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 PLANNING AND COMMUNITY DEVELOPMENT (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.

VICINITY MAP
NTS

BENCHMARK

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N

10 0 20 50 100

1" = 50' 1:600

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REVISIONS

DESIGNED BY
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AS-BUILTS BY
CHECKED BY

# HANNAH RIDGE
## AT FEATHERGRASS NO. 3

# STRIPING AND
## SIGNAGE PLAN

MVE PROJECT 60970
MVE DRAWING 60970094-F3

SEPTEMBER 6, 2017
**SHEET** 40

WATER KEY MAP
SCALE 1"=200'

## WATER SYSTEM CONSTRUCTION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARDS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS SHALL GOVERN.

2. ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D241 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS (SAND CREEK) R MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.

3. ALL FITTINGS SHALL BE CONSTRUCTED OF GRAY-IRON MATERIAL AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL BE WRAPPED WITH A 9-MIL THICKNESS POLYETHYLENE MATERIAL PER AWWA STANDARD C105.

4. ALL WATER PIPES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE (5) FEET BELOW FINISHED GRADE.

5. ALL BENDS, TEE, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.

6. FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPES, FITTINGS, VALVES, APPURTENANCES, MATERIALS AND LABOR THAT ARE NECESSARY TO INSTALL A COMPLETE AND USEABLE FIRE HYDRANT. FIRE HYDRANT ASSEMBLIES SHALL BE ONE OF THE FOLLOWING TYPES:

   A. MUELLER CENTURION, MODEL A-473
   B. KENNEDY VALVE
   C. AMERICAN AVK
   D. OR ENGINEER/DISTRICT APPROVED EQUAL.

7. VALVE BOXES SHALL BE TYLER SLIP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.

8. CONTRACTOR SHALL PRESSURE TEST AND DISINFECT THE SYSTEM PRIOR TO CONNECTING TO EXISTING MAINS.

9. ALL WATER SYSTEM COMPONENTS SHALL BE FLUSHED AND CHLORINATED PER AWWA C-601, "DISINFECTING WATER MAINS" PRIOR TO ACCEPTANCE. THE CONTRACTOR SHALL PRODUCE A 25 MG/L SOLUTION BY ADHERING CHLORINE TABLETS TO THE PIPE SECTION WITH PERMATEX CLEAR TRV INSIDE THE SYSTEM. CHLORINATION SHALL OCCUR PRIOR TO HYDROSTATIC TESTING. THE CONTRACTOR SHALL OBTAIN A BACTERIOLOGICAL SAMPLE AFTER THE SYSTEM HAS BEEN FLUSHED. A CLEAN BACTERIOLOGICAL SAMPLE MUST BE OBTAINED PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.

10. HYDROSTATIC TESTING: ALL WATER SYSTEM MAINS SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI OR 1½ TIMES THE STATIC OPERATING PRESSURE, WHICH EVER IS GREATER. MAXIMUM ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING: *10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.

11. ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS. SERVICE LINE STOP VALVES/BOXES SHALL BE LOCATED A MINIMUM OF 7 FEET BEYOND THE PROPERTY LINE OR PER THE SERVICE DETAIL ON THE UTILITY SERVICE PLAN. ALL OTHER VALVES SHALL BE LOCATED PER THESE PLANS.

12. WHEN IT IS NECESSARY TO RAISE OR LOWER WATER MAINS AT OTHER UTILITY CROSSINGS THE CONTRACTOR SHALL INSURE A MINIMUM CLEARANCE OF 18" WHERE POSSIBLE BETWEEN THE OUTSIDE DIAMETER OF PIPES.

13. WHILE CONTRUCTING THE WATER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION: SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE WATER SYSTEM.

14. COMPACTION TESTING RESULTS OF ALL TRENCHES AND BEDDING MATERIAL SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO ACCEPTANCE OF THE WATER SYSTEM.

15. PRIOR TO TAPPING ANY EXISTING WATER MAIN THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR SAID TAP IN ACCORDANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS.

16. PVC PIPE MUST BE PRESSURIZED PRIOR TO TAPPING.

17. THE WATER SYSTEM CONTRACTOR SHALL INSTALL ALL IRRIGATION TAPS AND METERS PER THESE PLANS.

18. FIRE FLOW DEMAND IS 1500 GPM FOR A 3 HOUR DURATION AT A 20-PSI MINIMUM RESIDUAL MAIN LINE PRESSURE.

19. ALL NONMETALLIC PIPES SHALL HAVE A TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE WITH NO. 12 TYPE COPPER CONNECTORS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. THE TRACER WIRE SHALL ALSO BE PERMANENTLY CONNECTED TO ALL FIRE HYDRANT TEE, METALLIC PIPE BENDS, MAIN VALVE AND OTHER METALLIC FITTINGS AND APPURTENANCES. ALL POINTS OF CONNECTION SHALL BE PROTECTED FROM CORROSION BY AN EPOXY OR SILICON COATING. GROUND TRACER WIRES TO SURFACE AT ALL VALVE BOXES.

20. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.

21. ALL VALVES SHALL BE INSTALLED IN ACCORDANCE WITH COLORADO SPRINGS STANDARDS EXCEPT FOR NOTE 11 ABOVE. SPACING SHALL BE EQUIDISTANT FROM TEES, ELBOWS, BENDS AND OTHER APPURTENANCES AT 3 FOOT WHERE POSSIBLE.

22. HIGH DEFLECTION COUPLINGS ARE NOT TO BE USED IN THE INSTALLATION OF CURVILINEAR WATER PIPE.

23. TAPS WILL NOT BE RELEASE UNTIL THE FOLLOWING CONDITIONS ARE MET:

   A. WATER AND SEWER LINES ARE INSTALLED AND PRESSURE TESTED TO THE DISTRICT STANDARDS. ALL 2X4 MARKERS ARE INTACT AND PAINTED FOR SERVICES.
   B. AS CONSTRUCTED DRAWINGS HAVE BEEN SUBMITTED TO THE DISTRICT. DRAWINGS TO INCLUDE ANY CHANGES FROM CONSTRUCTION DRAWINGS. THE LENGTH, DEPTH, GRADE AND LOCATION OF ALL SEWER SERVICES. THE LENGTH DEPTH AND LOCATION OF WATER SERVICES.
   C. ALL ELECTRIC AND GAS UTILITIES ARE INSTALLED.
   D. THE FIRST LIFT OF HOT MIX ASPHALT MUST BE INSTALLED.

24. CONTRACTOR IS TO NOTIFY CHEROKEE METROPOLITAN DISTRICTS' INSPECTOR 24 HOURS PRIOR TO ALL STORM SEWER CRITICAL CROSSING OVER WATER AND SEWER LINES, TO VERIFY CLEARANCE.

25. FIRE HYDRANTS MUST BE PAINTED, BLUE CAPS AND BONNETS; WHITE BARREL SECTIONS. COLOR CODES ARE AS FOLLOWS: CHEROKEE BLUE, PRODUCT NUMBER 58155; CHEROKEE WHITE, PRODUCT NUMBER 58101, BOTH GLOSS OIL BASE EXTERIOR DEVOE-BAROX. CAN BE PURCHASED AT THE PAINT SPOT 5849 PALMER PARK BLVD COLORADO SPRINGS, CO 80915, OR EQUAL BRAND.

CURVILINEAR PIPELINE : THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER PIPE. NOTICE: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

COLORADO LICENSED
DAVID THEODORE JAMMAY
31672
9/21/17
PROFESSIONAL ENGINEER

VICINITY MAP
NTS

BENCHMARK
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## ## 0 ### ### ###

1" = ###' 1:#####

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REVISIONS

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DRAWN BY TJW
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CHECKED BY ____

HANNAH RIDGE
AT FEATHERGRASS NO. 3

# WATER PLANS
## COVER SHEET

MVE PROJECT **60970**
MVE DRAWING 60970070-F3

**SEPTEMBER 6, 2017**
**SHEET 41**

CURVILINEAR PIPE NOTE:
THERE IS NO DEFLECTION ALLOWED AT THE JOINTS ON 12-INCH AND SMALLER PIPE. NOTICE:: MECHANICAL MEANS SHOULD NOT BE EMPLOYED TO ACCOMPLISH THESE RADII. IT IS THE INTENT THAT THE WORKER SHOULD ACCOMPLISH THIS MANUALLY IN THE TRENCH. ON 4-INCH TO 12-INCH PIPE, THE CURVE SHOULD BE ACCOMPLISHED BY BENDING THE PIPE RATHER THAN DEFLECTING JOINTS. THERE SHALL BE NO DEFLECTION IN THE JOINTS UPON COMPLETION TO AVOID OVER-STRESSING THE BELL AND PREVENT POSSIBLE BREAKAGE AND/OR LEAKS.

NOTE:
SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

COLORADO LICENSED
DAVID RAYMOND GRAHAM
31672
9/21/17
PROFESSIONAL ENGINEER

VICINITY MAP
NTS

BENCHMARK

THE BENCHMARK FOR THESE PLANS IS THE TOP OF #4 REBAR, PANEL POINT NO. 1, LOCATED ON THE SOUTH EDGE OF CONSTITUTION AVE AND THE WEST EDGE OF THE ROCK ISLAND TRAIL, 535 FEET WEST OF THE CENTERLINE OF SHAWNEE DR. ELEVATION = 6486.63. (EPC DATUM ELEVATION = 6485.29).
BASIS OF BEARINGS:
BEARING REFERRED TO HEREIN ARE BASED ON THE SOUTH LINE OF TRACT FF, HANNAH RIDGE AT FEATHERGRASS FILING NO. 1. ASSUMED TO BEAR N89°39'18"W MONUMENTED AT EACH END W/ NO. 5 REBAR W/ ALUMN CAP MARKED "POLARIS, PLS 27605".

N

10 0 20 50 100
1" = 50' 1:600

MVE, INC.
ENGINEERS, SURVEYORS
1903 lelaray street, suite 200 colorado springs co 80909 719.635.5736

REVISIONS

DESIGNED BY DRG
DRAWN BY TJW 8/22/2013
CHECKED BY
AS-BUILTS BY
CHECKED BY

# HANNAH RIDGE AT FEATHERGRASS NO. 3

## WATER PLAN SOUTHWEST

MVE PROJECT **60970**
MVE DRAWING 60970072-F3

**SEPTEMBER 6, 2017**
**SHEET 43**

WATER CROSSING #9

| NAME | STATION | INV ELEV |
|---|---|---|
| 8" GATE VLV | 9+57.96 | 6462.77 |
| BEG 16" STEEL SLEEVE | 9+82.96 | 6462.19 |
| END 16" STEEL SLEEVE | 10+02.96 | 6461.99 |
| 8" GATE VLV | 10+27.96 | 6462.07 |
| 8" DUCTILE IRON PIPE STA-9+57.96 TO 10+27.96 | | |

WATER LOWERING #5

| NAME | STATION | INV ELEV |
|---|---|---|
| 8" GATE VLV | 9+89.34 | 6450.95 |
| 3.2° VERT DEFLECTION | 11+06.38 | 6444.44 |
| BEG 16" STEEL SLEEVE | 11+11.38 | 6444.10 |
| END 16" STEEL SLEEVE | 11+31.38 | 6444.10 |
| 45° VERT BEND | 11+36.38 | 6444.44 |
| 45° VERT BEND | 11+43.90 | 6452.03 |
| 8" DUCTILE IRON PIPE STA-9+89.34 TO 11+63.90 | | |

WATER LOWERING #6

| NAME | STATION | INV ELEV |
|---|---|---|
| 45° VERT BEND | 14+97.86 | 6445.18 |
| 45° VERT BEND | 15+00.18 | 6442.86 |
| 45° VERT BEND | 15+15.18 | 6442.86 |
| 45° VERT BEND | 15+17.50 | 6445.18 |
| 8" GATE VLV | 15+37.50 | 6445.73 |

CURVILINEAR PIPE NOTE:
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NOTE:
SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

VICINITY MAP
NTS

BENCHMARK
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1" = 50' 1:600

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REVISIONS

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DRAWN BY TJW
CHECKED BY
AS-BUILTS BY
CHECKED BY

HANNAH RIDGE
AT FEATHERGRASS NO. 3

**WATER PLAN**
**SOUTHEAST**

MVE PROJECT **60970**
MVE DRAWING 60970073-F3

**SEPTEMBER 6, 2017**
**SHEET 44**

VICINITY MAP

NTS

BENCHMARK

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N

10 0 50 100 200

1" = 100' 1:1,200

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REVISIONS

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DRAWN BY TJW
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AS-BUILTS BY
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# HANNAH RIDGE AT FEATHERGRASS NO. 3

## UTILITY SERVICE PLAN & NOTES

MVE PROJECT 60970

MVE DRAWING 60970085-F3

**SEPTEMBER 6, 2017**

**SHEET 52**

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SANITARY SEWER SERVICE LINES

PIPE MATERIAL & MINIMUM SLOPE REQUIREMENTS:

| PIPE DIA. | BURY DEPTH | MATERIAL | MIN SLOPE |
|---|---|---|---|
| 4" | 6' - 14' | SDR 35 PVC | 2.08% |
| 4" | 14' - 24' | SDR 26 PVC | 1.04% |
| 4" | 24' - 30' | SCHEDULE 80 PVC | 1.04% |




TYPICAL SERVICE LOCATION

SCALE: NTS

UTILITY SERVICE NOTES:

MINIMUM DEPTH OF SANITARY SEWER PIPE IS 6-FEET OF COVER. IF THIS MINIMUM CANNOT BE ACHEIVED THE THE FOLLOWING APPLIES; OTHERWISE THE SEWER PIPE MUST HAVE 6-FEET OF COVER:

- DEPTH GREATER THAN 6-FEET; MATERIAL TYPE SDR 35
- DEPTH BETWEEN 4-FEET AND 6-FEET; MATERIAL TYPE SCH 40 OR CAST IRON PIPE (CIP)
- DEPTH LESS THAN 4-FEET; MATERIAL TYPE SCH 40 OR CIP WITH CONCRETE CAP.

THREE (3) FOOT SEPARATION REQUIRED BETWEEN SERVE TAPS ON ALL MAINS.

WATER SERVICE MUST BE OVER THE SEWER AT ALL TIMES. SEWER SERVICE PIPE LOCATED WITHIN 1-FOOT OF THE WATER SERVICE LINE MUST BE CONSTRUCTED WITH SCH 40 PIPE OR CIP.

ALL EXTERIOR SEWER CLEANOUTS MUST HAVE A CAST IRON, TRAFFIC-RATED COVER, OR EQUIVALENT WITH CONCRETE COLLAR.

SEE UTILITY PHASING PLAN FOR PHASED CONSTRUCTION LIMITS.

VICINITY MAP
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# HANNAH RIDGE AT FEATHERGRASS NO. 3

## UTILITY PHASING PLAN & NOTES

MVE PROJECT 60970
MVE DRAWING 60970087-F3

**SEPTEMBER 6, 2017**
**SHEET 53**