THE GLEN AT WIDEFIELD FILING NO. 10

RESIDENTIAL SUBDIVISION CONSTRUCTION DRAWINGS

PREPARED FOR WIDEFIELD INVESTMENT GROUP

GENERAL NOTES

1. Profile design lines are based on centerline, as shown, unless otherwise noted.
2. All new construction to conform to the specifications of El Paso County Planning and Community Development, Widefield Water and Sanitation District, and the Fountain Mutual Irrigation Company (FMIC). Any asphalt removed is to be replaced to meet the specifications of the El Paso County Planning and Community Development.
3. For pavement design, curb and gutter, and sidewalks see individual plan and profile sheets. Pavement design to be based on Resistance Value 'R' derived from Hveem tests and are to be approved by the Engineering Division of the El Paso County Planning and Community Development prior to work above subgrade.
4. At intersections, all curb returns will have 20-foot radius unless otherwise noted.
5. All existing utilities have been shown according to the best available information. The contractor is responsible for field location and verification prior to beginning work. If it appears that there could be a conflict with any utilities, whether indicated on the plans or not, the contractor is to notify the engineer and owner immediately. The contractor is responsible for the protection and repair (if necessary) of all utilities..
6. A Pre-Construction meeting shall be held with the El Paso County Planning and Community Development and Widefield Water and Sanitation District prior to any construction.
7. Approved plans, Engineering Criteria Manual, etc. is required to be on-site at all times during construction.
8. All necessary permits, such as SWMP, ESQCP, Fugitive Dust, Access, C.O.E. 404, etc. shall be obtained prior to construction.
9. All handicap ramps to be per El Paso County Standard SD_2-40.
10. The contractor shall coordinate exact locations and layout with the El Paso County Planning and Community Development on the placement of any pedestrian ramps prior to construction of the curb. Pedestrian ramp locations are as shown on the plans.
11. Where appropriate, neatly saw cut all existing concrete and asphalt. Repair/replace all disturbed existing items with like materials and thicknesses.
12. All disturbed areas shall be revegetated with native grasses within 21 days of excavation per Erosion Control Plan.
13. The prepared Erosion/Sediment Control Plan is to be considered a part of these plans and its requirements adhered to during the construction of this project.
14. All storm and sanitary sewer pipe lengths and slopes are figured from center of manhole or bend. Pipe lengths are given as a horizontal length.
15. All storm sewer bedding to be per CDoT Standards.
16. All storm sewer pipe shall be Class III B Wall unless otherwise shown on the storm sewer plan and profile sheets.
17. All wyes and bends used in construction of storm sewer facilities shall be factory fabricated, unless approved by the El Paso County Development Services Department.
18. Construction and materials used in all storm and sanitary sewer manholes shall be per specifications. Storm sewer radial deflections to be grouted or Installed per manufacturer's recommendations.
19. Storm sewer manholes sizes as follows unless otherwise shown:
    18" thru 36" use 48" I.D. manhole
    42" thru 48" use 60" I.D. manhole
    54" thru 60" use 72" I.D. manhole
    NOTE: Manhole sizes tabulated here shall be increased, if necessary, to accommodate incoming laterals.
20. Sanitary sewer manhole sizes and facilities per Widefield Water and Sanitation District Specifications. Sanitary sewers to be installed with Class 'C' bedding. Sanitary sewers deeper than 12-feet shall require Class 'B' bedding. Pipe used for construction of sanitary sewer shall be SDR 35 unless shown otherwise on plan and profiles.
21. For additional utility notes, see Utility Plan and/or Service Plan.
22. All horizontal stationing is based on the 'Face of Curb', unless otherwise shown.
23. All vertical design and top of curb are based on the design point shown in the typical cross section.
24. The curb line design point is located at the intersection of the face and top of curb for the Type III Standard 6-inch vertical curb. See typical street section for design point locations.
25. Water and sanitary sewer service provided by Widefield Water and Sanitation District. Telephone service provided by Qwest Communications. Gas service provided by Blackhills Energy. Electric service provided by Mountain View Electric.
26. All utility construction to be conducted in conformance with the current Widefield Water and Sanitation District Specifications and/or El Paso County Specifications, whichever is greater.
27. Vertical curb to be used between curb returns (CR) and at curb inlets. Transitions from ramp to vertical curb shall be 10-feet unless otherwise approved by the El Paso County Planning and Community Development. All other curb & gutter to be ramp curb & gutter.
28. Cross pans to be 6' wide and per El Paso County Standard Detail SD_2-26.
29. Contractor responsible for meeting all Widefield Water and Sanitation District criteria when connecting to existing stubs.
30. Curb returns shall be straight graded from CR to CR unless otherwise noted.
31. Inlets are Type 'R' inlets (CDOT STD M-604-12) unless otherwise noted.
32. USPS CBU Mailboxes are to be determined by USPS.

BENCHMARK: Monument is located at the Northwest corner of the Intersection of Powers Boulevard and Fontaine Street. The monument is a 3-inch aluminum cap (FIMS ID #206). Located 51.3 feet west of the west edge of asphalt of Powers Blvd and 65.5 feet north of the north edge of asphalt of Fontaine Street. Elevation=5897.89 feet (NGVD 1929, 1960 Adj.)

BASIS OF BEARINGS is based upon a portion of the Easterly boundary of the Glen at Widefield Subdivision Filing No. 5B as recorded under Reception No. 206712326 in the records of the Clerk and Recorder's Office, County of El Paso, Satet of Colorado; said line being also a portion of the Easterly Right-of-Way Autumn Glen Avenue as described In said subdivision, being monumented at the Point of Tangency of said boundary by a found cap and rebar marked "PLSC 25968" and at the Point of Curvature of said boundary by a found rebar and cap marked "PLSC 25968". Said line bears N29°46'44"W, a distance of 1154.12 feet.

EL PASO COUNTY STANDARD 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 (P&CDD) - 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 P&CDD. 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 P&CDD.
10. Contractor shall coordinate geotechnical testing per ECM standards. Pavement design shall be approved by El Paso County P&CDD 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.

INDEX OF SHEETS

1	Cover Sheet
2	Plan and Profile - Peaceful Valley Road Revised (05+60.00 to Marksheffel Rd) (Sidewalks and Pedestrian Ramps Only)
3	Plan and Profile - Pennycress Drive (13+81.16 to 21+00)
4	Plan and Profile - Pennycress Drive (21+00 to 29+19.91)
5	Plan and Profile - Buffalo Bur Trail (0+00 to 3+44)
6	Overall Signage and Striping Plan
7	Grading and Erosion Control Plan
8	Grading and Erosion Control Details
9	Utility Plan
10	Utility Services Plan
11	Storm Sewer Sedimentation Basin Plan (Basin D)
12	Storm Sewer Basin D Outlet Structure
13	Sedimentation Basin Details
14	Site Details
15	Utility Details

811 Know what's below. Call before you dig.

SCALE: 1"=200'

SITE MAP

KEY MAP
SCALE: 1"=800'

Kiowa Project No. 19006
September 27, 2019
Revised: 1.

ABBREVIATIONS

ASSY	= ASSEMBLY	NTS	= NOT TO SCALE
BNDY	= BOUNDARY	OD	= OUTSIDE DIAMETER
BOP	= BOTTOM OF PIPE	PC	= POINT OF HORIZONTAL CURVATURE
CL	= CENTERLINE	PP	= PROPOSED
CRA	= CONCRETE REVERSE ANCHOR	PT	= POINT OF HORIZONTAL TANGENCY
CTRB	= CONCRETE THRUST BLOCK	PVC	= POLY VINYL CHLORIDE PIPE
CR	= POINT OF CURB RETURN	PVC	= POINT OF VERTICAL CURVATURE
DIP	= DUCTILE IRON PIPE	PVI	= POINT OF VERTICAL INTERSECTION
EL	= ELEVATION	PVT	= POINT OF VERTICAL TANGENCY
ESMT	= EASEMENT	RCB	= REINFORCED CONCRETE BOX
EX.	= EXISTING	RCP	= REINFORCED CONCRETE PIPE
FC	= FACE OF CURB	ROW	= RIGHT OF WAY
FES	= FLARED END SECTION	RT	= RIGHT
FLG	= FLANGE	SHT	= SHEET
FL	= FLOWLINE	SS	= SANITARY SEWER
GB	= GRADE BREAK	STA	= STATION
HP	= HIGH POINT	STD	= STANDARD
HORIZ	= HORIZONTAL	TA	= TOP OF ASPHALT
HYD	= HYDRANT	TC	= TOP OF CURB
I.D.	= INSIDE DIAMETER	TOP	= TOP OF PIPE
LT	= LEFT	TYP	= TYPICAL
LF	= LINEAR FEET	VC	= VERTICAL CURVE
LP	= LOW POINT	VERT	= VERTICAL
MAX	= MAXIMUM		
MH	= MANHOLE		

TYPICAL PUBLIC IMPROVEMENT EASEMENT

WIDEFIELD WATER AND SANITATION DISTRICT GENERAL NOTES

1. All utility construction to be conducted in conformance with the current Widefield Water and Sanitation District specifications. Compaction requirements shall be 95% Standard Proctor as determined by ASTM D698, unless otherwise approved by the Widefield Water and Sanitation District or a higher standard is imposed by another agency having right-of-way jurisdiction.
2. All materials and workmanship shall be subject to inspection by the Widefield Water and Sanitation District. The Widefield Water and Sanitation District reserves the right to accept or reject any such materials and workmanship that does not conform to its standards and specifications.
3. The Developer or his Engineer has located all fire hydrants and future service stubs. Any required realignment, either horizontal or vertical, shall be at the expense of the Developer.
4. All ductile iron pipe, to include fittings, valves and fire hydrants will be wrapped with polyetheylene tubing, and electrically isolated.
5. All ductile iron pipe and fittings shall be double bonded. Specifications for cathodic protection on both Dip mains and PVC mains is specified in the Standards and Specifications.
6. PVC main lines shall be installed with coated No. 12 tracer wire.
7. The Contractor is required to notify the Widefield Water and Sanitation District (390-7111) a minimum of 48 hours and a maximum of 96 hours prior to the start of construction. The Contractor shall also notify affected utility companies 48 hours prior to construction adjacent to the known utility lines.
8. The location of all utilities as shown on these drawings are approximate only. The location of all utilities shall be verified prior to construction by the Contractor.
9. The Contractor shall field excavate and verify the vertical and horizontal location of all tie-ins. Contractor shall notify the Widefield Water and Sanitation District and the Engineer of the field verified information prior to construction.
10. All bends shall be field staked prior to construction.
11. Any water utility material removed and not reused shall be returned to the Widefield Water and Sanitation District if the District so requests.
12. The Contractor shall at his expense support and protect all utility mains so that they will function continuously during construction. Should a utility main fail as a result of the Contractor's operation, it will be replaced immediately by either the Contractor or the Widefield Water and Sanitation District at full cost of labor and materials to the Contractor.
13. Any pumping or bypass operations must be reviewed and approved prior to execution by both the Widefield Water and Sanitation District and the Engineer.
14. Contractor must replace or repair any damage to all surface improvements, including but not limited to fences, curb and gutter and/or asphalt that may be caused during construction.
15. All water lines 6" and larger, and all sewer lines 8" and larger, shall have as "As-Built" plans prepared and approved prior to final acceptance by the Widefield Water and Sanitation District.
16. Prior to construction, a Pre-Construction Conference is required a minimum of 72 hours in advance of commencement of work. To set the Pre-Construction conference, contact Brandon Bernard, Water Superintendent (464-2051) and/or Mark McCormick, Wastewater Superintendent (491-0128) of the Widefield Water and Sanitation District for a time. No Pre-Construction Conference times will be set until 4 sets of signed drawings are received by the Widefield W & S District.
    Pre-Construction Date /Initials_____.

LEGEND

STREET R.O.W.	CURB & GUTTER (CURB SECTION AS SHOWN ON PLANS)
STREET CENTER LINE	EXISTING FORCE MAIN
PROPOSED WATER	EXISTING WATER
PROPOSED WATER HYDRANT	EXISTING WATER HYDRANT
PROPOSED WATER VALVE	EXISTING WATER VALVE
PROPOSED SANITARY MH	EXISTING SANITARY MH
PROPOSED SANITARY SEWER	EXISTING SANITARY SEWER
PROPOSED STORM SEWER	EXISTING STORM SEWER
PROPOSED STORM INLET	EXISTING STORM INLET
PROPOSED STORM MH	EXISTING STORM MH
PROPOSED STORM FES	EXISTING STORM FES
PROPOSED BOXBASE MH	

VICINITY MAP
SCALE: N.T.S.

STATEMENTS

Design Engineer's Statement:

These detailed plans and specifications were prepared under my direction and supervision. Said plans and specifications have been prepared according to the criteria established by the County for detailed roadway, drainage, grading and erosion control plans and specifications, and said plans and specifications are in conformity with applicable master drainage plans and master transportation plans. Said plans and specifications meet the purposes for which the particular roadway and drainage facilities are designed and are correct to the best of my knowledge and belief. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparation of these detailed plans and specifications.

_____ _____
Richard N. Wray, P.E. #19310 Date
For and on behalf of Kiowa Engineering Corp.

Owner/Developer's Statement:

I, the owner/developer have read and will comply with all of the requirements specified in these detailed plans and specifications.

_____ _____
J. Ryan Watson, President Date
Glen Development Company
3 Widefield Boulevard
Colorado Springs, Colorado 80911

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, and Engineering Criteria Manual as amended.

In accordance with ECM Section 1.12, 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 will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Directors discretion.

_____ _____
Jennifer Irvine, P.E. Date
County Engineer / ECM Administrator

UTILITY APPROVALS

WATER AND SEWER MAIN EXTENSIONS

Any changes or alterations affecting the grade, alignment, elevation and/or depth of cover of any water or sewer mains or other appurtenance shown on this drawing shall be the responsibility of the Owner/Developer. The Owner/Developer shall be responsible for all operational damages and defects in installation and material for mains and services from the date of approval until final acceptance is issued.

Signed _____ Date _____

Print Name J. Ryan Watson

DBA: GLEN DEVELOPMENT COMPANY

Address: 3 Widefield Boulevard
Colorado Springs, CO 80911
(719) 392-0194

FIRE AUTHORITY APPROVAL

The number of fire hydrants and hydrant locations shown on this water installation plan are correct and adequate to satisfy the fire protection requirements as specified by the Fire District serving the property noted on the plans.

Security Fire Department

Signed _____ Date _____
Security Fire Department

DISTRICT APPROVALS

The Widefield Water and Sanitation District recognizes the design engineer as having responsibility for the design. The Widefield Water and Sanitation District has limited its scope of review accordingly.

WIDEFIELD WATER AND SANITATION DISTRICT
WASTEWATER DESIGN APPROVAL

Date: _____ By: _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

WIDEFIELD WATER AND SANITATION DISTRICT
WATER DESIGN APPROVAL

Date: _____ By: _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

GOVERNING AGENCIES

El Paso County Planning & Community Development Department
2880 International Circle Suite 110
Colorado Springs Colorado
(719) 520-6300

Widefield Water & Sanitation District
37 Widefield Blvd.
Colorado Springs, Colorado
(719) 390-7111

Black Hills Energy
18965 Bas Camp Road Unit A7
Monument, Colorado
(719) 359-0586

Mountain View Electric Association
11140 East Woodmen Road
Falcon, Colorado
(719) 495-2283

DEVELOPER:

WIDEFIELD Investment Group
3 WIDEFIELD BOULEVARD
COLORADO SPRINGS, CO 80911

PREPARED BY:

Kiowa Engineering Corporation — Celebrating 30 years
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

PCD File No. SF-19-_____

19016-Cover-01-CV.dwg/Sep 23, 2019

CURVE DATA	
7F	Δ=81°01'06" L=28.28' R=20.00'
7G	Δ=103°07'13" L=36.00' R=20.00'
20E	Δ=6°18'07" L=20.13' R=183.00'
20F	Δ=10°26'25" L=39.54' R=217.00'
20G	Δ=14°41'46" L=46.94' R=183.00'
20H	Δ=18°50'05" L=71.33' R=217.00'
20I	Δ=90°20'56" L=31.54' R=20.00'
20J	Δ=89°57'21" L=31.40' R=20.00'

PROFILE VIEW OF PEACEFUL VALLEY ROAD

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719)630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
Plan and Profile - Peaceful Valley Road
(Sidewalks & Pedestrian Ramps Only) Sta: (05+60.00 to Marksheffel Rd)
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
2
2 of 15 Sheets

19016-GW10-02-PP.dwg/Sep 24, 2019

CURVE DATA	
6N	Δ=90°42'56" L=31.67' R=20.00'
6O	Δ=19°32'06" L=1022.84' R=3000.00'
6P	Δ=6°38'34" L=345.85' R=2983.00'
6Q	Δ=19°32'06" L=1028.64' R=3017.00'
7A	Δ=90°39'27" L=31.65' R=20.00'
7B	Δ=2°34'35" L=134.13' R=2983.00'
7C	Δ=35°47'51" L=124.96' R=200.00'
7D	Δ=35°47'51" L=135.58' R=217.00'
7E	Δ=35°47'51" L=114.34' R=183.00'
7F	Δ=81°01'06" L=28.28' R=20.00'
7G	Δ=103°07'13" L=36.00' R=20.00'
20D	Δ=47°14'18" L=164.89' R=200.00'
20E	Δ=1°14'12" L=3.95' R=183.00'
20F	Δ=5°22'31" L=20.36' R=217.00'

0 50' 100'
SCALE: 1"=50'

PROFILE VIEW OF PENNYCRESS DRIVE

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
Plan and Profile - Pennycress
Sta: (13+81.16 to 21+00.00)
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
3
3 of 15 Sheets

19016-GW10-03-PP.dwg/Sep 26, 2019

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 9

Plan and Profile - Future Pennycress Drive

Sta: (21+00.00 to 29+19.91) For Reference & Coordination

EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET

4

19016-GW10-04-PP.dwg/Sep 25, 2019

CURVE DATA	
7A	Δ=90°39'27" L=31.65' R=20.00'
7B	Δ=2°34'35" L=134.13' R=2983.00'
18A	Δ=50°06'35" L=153.05' R=175.00'
18B	Δ=45°56'06" L=151.52' R=189.00'
18C	Δ=11°46'17" L=33.08' R=161.00'
18D	Δ=91°27'26" L=71.83' R=45.00'
18E	Δ=6°42'57" L=5.27' R=45.00'
18F	Δ=243°59'01" L=191.62' R=45.00'

PROFILE VIEW OF BUFFALO BUR TRAIL

PROFILE VIEW OF BUFFALO BUR TRAIL CDS

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719)630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 9
Plan and Profile - Buffalo Bur Trail
Sta: (0+00 to 3+44.00)
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
5
5 of 15 Sheets

19016-GW10-05-PP.dwg/Sep 26, 2019

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 Development Services.
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 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.

General Notes:

1. Before excavating, contractor shall verify location of underground utilities.
2. Contractor shall be responsible for any monumentation and/or benchmarks which will be disturbed or destroyed by construction. Such points shall be referenced and replaced with appropriate monumentation by a registered professional authorized to practice land surveying.
3. Approval of these plans by the County does not authorize any work to be performed until a permit has been issued.
4. The approval of theses plans or issuance of a permit by El Paso County does not authorize the contractor, subdivider, or owner to violate any Federal, State, or City laws, ordinances, regulations, or policies.
5. The contractor shall be responsible for all new, temporary and existing traffic signs from the start of the construction project until acceptance by El Paso County.
6. All traffic signs, pavement, and traffic signals shall meet or exceed M.U.T.C.D. Standards.
7. The contractor shall not remove any existing signs, pavement markings or traffic signals during the project without authorization of the Engineering Inspector assigned to the project.
8. The contractor shall prepare a detailed Traffic Control Plan, submit to El Paso County for approval, and obtain appropriate permits.
9. The contractor shall be responsible for all work zone traffic control. The contractor shall be responsible for furnishing, installing and maintaining the temporary traffic control devices throughout the duration of the project.

NOTE:

1. STOP SIGN PLACEMENT LOCATIONS SHALL BE PER SECTION 2B–9 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION AND CDoT S–614–1.

STOP SIGN
R1-1

SIGN DETAILS

SCALE: 1/4" =1'–0"

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
SIGNING & STRIPING PLAN
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET

6

19016–GW10–06–SP.dwg/Sep 26, 2019

SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	pls/acre
SIDEOATS GRAMA	*El Reno*	3.0
WESTERN WHEAT GRASS	*Barton*	2.5
SLENDER WHEAT GRASS	*Native*	2.0
LITTLE BLUESTEM	*Pastura*	2.0
SAND DROPSEED	*Native*	0.5
SWITCH GRASS	*Nebraska 28*	3.0
WEEPING LOVE GRASS	*Morpha*	1.0
		14.0 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1–1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

EROSION CONTROL INSPECTION AND MAINTENANCE

A THOROUGH INSPECTION OF THE EROSION CONTROL PLAN/STORMWATER MANAGEMENT SYSTEM SHALL BE PERFORMED EVERY 14 DAYS AS WELL AS AFTER ANY RAIN OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION:

* WHEN STRAW BALE BARRIERS HAVE SILTED UP TO HALF THEIR HEIGHT, THE SILT SHALL BE REMOVED, FINAL GRADE REESTABLISHED AND SLOPES RESEEDED IF NECESSARY. ANY STRAW BALES THAT HAVE SHIFTED OR DECAYED SHALL BE REPAIRED OR REPLACED.
* ANY ACCUMULATED TRASH OR DEBRIS SHALL BE REMOVED FROM OUTLETS.

AN INSPECTION AND MAINTENANCE LOG SHALL BE KEPT.

SHADED AREA DENOTES PERMANENT EROSION BLANKET. CURLEX HEAVY DUTY EROSION CONTROL BLANKET BY AMERICAN EXCELSIOR OR EQUAL SHALL BE USED.

LEGEND

- SILT FENCE
- VTC — VEHICLE TRACKING CONTROL
- IP-1 — INLET PROTECTION
- TSD — TEMPORARY SLOPE DRAIN
- ECN — EROSION CONTROL NETTING
- RCS — ROUGH–CUT STREET CONTROL INITIAL CONDITION ONLY
- CWA — CONCRETE WASHOUT AREA
- TSB — TEMPORARY SEDIMENT BASIN
- RS — ROCK SOCK(S) (COUNT)

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS
Additional Erosion Control for Glen at Widefield Filing No. 10

ITEM	QUANTITY	UNITS	PRICE	AMOUNT
PERMANENT SEEDING	1.0	AC	$800	$800.00
PERMANENT E.C. BLANKET	526	SY	$30	$2,580.00
VEHICLE TRACKING CONTROL	2	EA	$2,370	$4,740.00
INLET PROTECTION	1	EA	$167	$167.00
CONCRETE WASHOUT BASIN	1	EA	$900	$900.00
ROUGH CUT STREET CONTROL	1,170	LF	$2	$2,340.00
SILT FENCING	2,012	LF	$2.50	$5,030.00
			TOTAL	$16,557

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

1. 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.
2. 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.
3. 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. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.
4. Once the ESQCP is approved and a "Notice to Proceed" has been issued, the contractor may install the initial stage erosion and sediment control measures as indicated on the approved 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 staff.
5. Control measures must be installed prior to commencement of activities that could contribute pollutants to stormwater. Control measures for all slopes, channels, ditches, and disturbed land areas shall be installed immediately upon completion of the disturbance.
6. All temporary sediment and erosion control measures shall be maintained and remain in effective operating condition until permanent soil erosion control measures are implemented and final stabilization is established. All persons engaged in land disturbance activities shall assess the adequacy of control measures at the site and identify if changes to those control measures are needed to ensure the continued effective performance of the control measures. All changes to temporary sediment and erosion control measures must be incorporated into the Stormwater Management Plan.
7. Temporary stabilization shall be implemented on disturbed areas and stockpiles where ground disturbing construction activity has permanently ceased or temporarily ceased for longer than 14 days.
8. Final stabilization must be implemented at all applicable construction sites. Final stabilization is achieved when all ground disturbing activities are complete and all disturbed areas either have a uniform vegetative cover with individual plant density of 70 percent of pre-disturbance levels established or equivalent permanent alternative stabilization method is implemented. All temporary sediment and erosion control measures shall be removed upon final stabilization and before permit closure.
9. All permanent stormwater management facilities shall be installed as designed in the approved plans. Any proposed changes that affect the design or function of permanent stormwater management structures must be approved by the ECM Administrator prior to implementation.
10. Earth disturbances shall be conducted in such a manner so as to effectively minimize 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. Pre-existing vegetation shall be protected and maintained within 50 horizontal feet of a waters of the state unless shown to be infeasible and specifically requested and approved.
11. Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).
12. Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be a stabilized conveyance designed to minimize erosion and the discharge of sediment off site.
13. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to enter State Waters, including any surface or subsurface storm drainage system or facilities. Concrete washouts shall not be located in an area where shallow groundwater may be present, or within 50 feet of a surface water body, creek or stream.
14. During dewatering operations of uncontaminated ground water may be discharged on site, but shall not leave the site in the form of surface runoff unless an approved State dewatering permit is in place.
15. Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.
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. 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. Control measures may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
18. Tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.
19. The owner/developer shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, soil, and sand that may accumulate in roads, storm drains and other drainage conveyance systems and stormwater appurtenances as a result of site development.
20. 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.
21. No chemical(s) having the potential to be released in stormwater are to be stored or used onsite unless permission for the use of such chemical(s) is granted in writing by the ECM Administrator. In granting approval for the use of such chemical(s), special conditions and monitoring may be required.
22. Bulk storage of allowed petroleum products or other allowed liquid chemicals in excess of 55 gallons shall require adequate secondary containment protection to contain all spills onsite and to prevent any spilled materials from entering State Waters, any surface or subsurface storm drainage system or other facilities.
23. No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.
24. Owner/developer and their agents 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 of the Land Development Code, DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply.
25. All construction traffic must enter/exit the site only at approved construction access points.
26. Prior to construction the permittee shall verify the location of existing utilities.
27. A water source shall be available on site during earthwork operations and shall be utilized as required to minimize dust from earthwork equipment and wind.
28. The soils report for this site has been prepared by _____ and shall be considered a part of these plans.
29. At least ten (10) days prior to the anticipated start of construction, for projects that will disturb one (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
30. Base mapping was provided by Pinnacle Land Surveying. The date of the last survey update was May 2019.
31. Proposed Construction Schedule:
    Begin Construction: Spring 2020
    End Construction: Autumn 2020
    Total Site Area = 292.29 Acres
32. Area to be disturbed = 172.8 Acres (est.).
    Existing 100-year runoff coefficient = 0.50
    Proposed 100-year runoff coefficient = 0.51
    Existing Hydrologic Soil Groups: B & C
    (B–Nelson-Tassel fine sandy loams; B–Stoneham sandy loam; C–Nunn clay loam)
33. Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-18%).
34. Site is located in the West Fork Jimmy Camp Creek Drainage Basin.

TYPICAL WALK OUT HOME SECTION
GRADING FOR WALKOUT HOMES
NTS

TYPICAL LOT SECTION
FILL CONDITION
NTS

TYPICAL LOT SECTION
CUT CONDITION
NTS

TYPICAL LOT CROSS SECTIONS

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719)630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
7
7 of 15 Sheets

19016-GW10-07-EC.dwg/Sep 27, 2019

STAKING PATTERNS BY SLOPE

ECB–3. OUTSIDE OF DRAINAGEWAY

STAKING PATTERNS BY ECB TYPE

TABLE ECB–1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	–	100%	–	DOUBLE/ NATURAL
STRAW–COCONUT	30% MIN	70% MAX	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF ECB.
   –TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   –AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

EROSION CONTROL BLANKET (ECB)

NTS

ROUGH CUT STREET CONTROL INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF ROUGH CUT STREET CONTROL MEASURES.

2. ROUGH CUT STREET CONTROL SHALL BE INSTALLED AFTER A ROAD HAS BEEN CUT IN, AND WILL NOT BE PAVED FOR MORE THAN 14 DAYS OR FOR TEMPORARY CONSTRUCTION ROADS THAT HAVE NOT RECEIVED ROAD BASE.

ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

ROUGH CUT STREET CONTROL PLAN

SECTION A

SECTION B

TABLE RCS–1

W (FT)	X (FT)
20–30	5
31–40	7
41–50	9
51–60	10.5
61–70	12

TABLE RCS–2

LONGITUDINAL STREET SLOPE (%)	SPACING (FT)
<2	NOT TYPICALLY NEEDED
2	200
3	200
4	150
5	100
6	50
7	25
8	25

ROUGH-CUT STREET CONTROL (RCS)

NTS

PLAN VIEW

SECTION A–A

NOTES:
1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
2. EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM.

CONCRETE WASHOUT AREA (CWA)

EPC STD SD_3-84 NTS

SECTION A

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT–OF–WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON–WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

VEHICLE TRACKING CONTROL (VTC)

NTS

STANDARD EPC GRADING AND EROSION CONTROL NOTES

1. Construction may not commence until a Construction Permit is obtained from Development Services and a Preconstruction Conference is held with Development Services 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 to regulations and standards must be requested, and approved in writing.
4. A separate Stormwater Management Plan (SWMP) 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. The SWMP 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 BMP's 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 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. And area that is going to remain an interim for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMP's 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 wit hearth disturbance shall implement and maintain acceptable soil erosion and sediment control measures including BMP's 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 is to 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. BMPs 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 constructions debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance 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, Article8, 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 the 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 permitee 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 entitled *Subsurface Soil Investigation The Glen at Widefield, Filing #6, Widefield, Colorado* has been prepared by Soil Testing and 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, Colorado 80246-1530
    Attn: Permits Unit

TEMPORARY SEDIMENT BASIN "A"

A. 0.38 ac–ft REQUIRED TO SPILLWAY CREST.

B. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 1 COLUMN OF 5 $^{3}/_{32}$" ø HOLES.

C. 8' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE "M" RIPRAP TO TOE OF SLOPE.

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF SEDIMENT BASIN.
   –TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   –FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   –FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND–DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AN A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

ROUGH CUT STREET CONTROL INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF ROUGH CUT STREET CONTROL MEASURES.

2. ROUGH CUT STREET CONTROL SHALL BE INSTALLED AFTER A ROAD HAS BEEN CUT IN, AND WILL NOT BE PAVED FOR MORE THAN 14 DAYS OR FOR TEMPORARY CONSTRUCTION ROADS THAT HAVE NOT RECEIVED ROAD BASE.

ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

(DETAILS ADAPTED FROM AURORA, COLORADO. NOT AVAILABLE IN AUTOCAD)

TEMPORARY SEDIMENT BASIN (TSB)

NTS

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF INLET PROTECTION.
   –TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. INSPECT INLET AND OUTLET POINTS AFTER STORMS FOR CLOGGING OR EVIDENCE OF OVERTOPPING. BREACHES IN PIPE OR OTHER CONVEYANCE SHALL BE REPAIRED AS SOON AS PRACTICABLE IF OBSERVED.

5. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.

INLET PROTECTION (IP-1)

NTS

SLOPE DRAIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION AND LENGTH OF SLOPE DRAIN
   –PIPE DIAMETER, D, AND RIPRAP SIZE, D50.

2. SLOPE DRAIN SHALL BE DESIGNED TO CONVEY PEAK RUNOFF FOR 2–YEAR 24–HOUR STORM AT A MINIMUM. FOR LONGER DURATION PROJECTS, LARGER MAY BE APPROPRIATE.

3. SLOPE DRAIN DIMENSIONS SHALL BE CONSIDERED MINIMUM DIMENSIONS; CONTRACTOR MAY ELECT TO INSTALL LARGER FACILITIES.

4. SLOPE DRAINS INDICATED SHALL BE INSTALLED PRIOR TO UPGRADIENT LAND–DISTURBING ACTIVITIES.

5. CHECK HEADWATER DEPTHS FOR TEMPORARY AND PERMANENT SLOPE DRAINS. DETAILS SHOW MINIMUM COVER; INCREASE AS NECESSARY FOR DESIGN HEADWATER DEPTH.

6. RIPRAP PAD SHALL BE PLACED AT SLOPE DRAIN OUTFALL.

7. ANCHOR PIPE BY COVERING WITH SOIL OR AN ALTERNATE SUITABLE ANCHOR MATERIAL.

SLOPE DRAIN MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. INSPECT INLET AND OUTLET POINTS AFTER STORMS FOR CLOGGING OR EVIDENCE OF OVERTOPPING. BREACHES IN PIPE OR OTHER CONVEYANCE SHALL BE REPAIRED AS SOON AS PRACTICABLE IF OBSERVED.

5. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

TERMINATION OF RIPRAP LINED SLOPE DRAIN

TEMPORARY SLOPE DRAIN PROFILE

SECTION A

TEMPORARY SLOPE DRAIN (TSD)

NTS

SILT FENCE

SECTION A

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH O

SUBSEQUENT TO STRIPPING AND GRUBBING THE FOLLOWING OVERLOT/PIPE INSTALLATION PROCEDURES ARE ANTICIPATED FOR THE SANITARY SEWER LOCATED ON PROPOSED EMBANKMENTS:

- THE REMOVAL AND REPLACEMENT OF METASTABLE SOIL.
- TESTING OF THE FILL SUBSEQUENT TO THE PENETRATION OF THE METASTABLE SOIL WILL CONTINUE UNTIL A MINIMUM OF 7 FEET OF STRUCTURAL FILL HAS BEEN PLACED ABOVE THE PROPOSED SEWER LINE ELEVATION.
- UTILITY TRENCHES SHALL BE EXCAVATED AND SANITARY SEWER LINE INSTALLED. THE PIPE SHALL BE PROPERLY BEDDED AND STRUCTURAL FILL PLACED AND TESTED TO THE PREVIOUS GRADE.
- THE OVERLOT AND EMBANKMENT FILL CAN BE COMPLETED.
- WHERE THE SANITARY SEWER IS PLACED IN EMBANKMENT FILL DURING THE OVERLOT PROCESS, STE SHALL MONITOR AND TEST ALL WORK ASSOCIATED WITH THE AFFECTED PORTIONS.

ADDITIONAL UTILITY NOTES

GAS – ALL GAS MAINS AND SERVICES ARE TO BE INSTALLED PER THE CITY OF COLORADO SPRINGS.

ELECTRIC – ALL ELECTRIC SERVICES ARE TO BE INSTALLED PER THE CITY OF FOUNTAIN ELECTRIC DIVISION.

UTILITY CONTACTS

SEWER:	WIDEFIELD W&S DISTRICT (WWSD)	390-7111
WATER:	WIDEFIELD W&S DISTRICT (WWSD)	390-7111
ELECTRIC:	MOUNTAIN VIEW ELECTRIC	495-2283
GAS:	PEOPLES NATURAL GAS	800-303-0752
PHONE:	US WEST	636-4632

LEGEND

PROPOSED 8" PVC WATER MAIN (DR 18) WITH MJ FITTINGS (UNLESS OTHERWISE NOTED)

WIDEFIELD WATER & SANITATION DISTRICT STANDARD FIRE HYDRANT ASSEMBLY. INSTALL PER WIDEFIELD WATER AND SANITATION DISTRICT CONSTRUCTION SPECIFICATIONS

8" GATE VALVE (UNLESS OTHERWISE NOTED)

TEE w/CONCRETE THRUST BLOCK

MINIMUM RADIUS SHOWN FOR WATER MAIN = 290'
PER WWSD SPECIFICATIONS AND EL PASO COUNTY ECM 4.3.6.A.1&2, THE MINIMUM COVER OVER WATER MAIN & SERVICES AND SANITARY SEWER MAINS & SERVICES IS 5 FEET.

WATER AND SEWER MAIN EXTENSIONS

Any changes or alterations affecting the grade, alignment, elevation and/or depth of cover of any water or sewer mains or other appurtenance shown on this drawing shall be the responsibility of the Owner/Developer. The Owner/Developer shall be responsible for all operational damages and defects in installation and material for mains and services from the date of approval until final acceptance is issued.

Signed _____ Date _____

Print Name J. Mark Watson, President

DBA: GLEN DEVELOPMENT COMPANY

Address: 3 Widefield Boulevard
Colorado Springs, CO 80911
(719) 392-0194

FIRE AUTHORITY APPROVAL

The number of fire hydrants and hydrant locations shown on this water installation plan are correct and adequate to satisfy the fire protection requirements as specified by the Security Fire District.

Security Fire Department

Signed _____ Date _____
Security Fire Department

WATER AND SEWER SERVICE EXTENSIONS
TYPICAL CONNECTION EXAMPLES

UTILITY APPROVALS

DISTRICT APPROVALS

The Widefield Water and Sanitation District recognizes the design engineer as having responsibility for the design. The Widefield Water and Sanitation District has limited its scope of review accordingly.

WIDEFIELD WATER AND SANITATION DISTRICT
WASTEWATER DESIGN APPROVAL

Date: _____ By: _____

PROJECT NO. _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

WIDEFIELD WATER AND SANITATION DISTRICT
WATER DESIGN APPROVAL

Date: _____ By: _____

PROJECT NO. _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

811 Know what's below. Call before you dig.

FOR STORM SEWER DESIGN SEE SHEET 6

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
UTILITY PLAN
WATER & WASTEWATER MAIN
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
9
9 of 15 Sheets

19016-GW10-09-UT.dwg/Sep 26, 2019

SUBSEQUENT TO STRIPPING AND GRUBBING THE FOLLOWING OVERLOT/PIPE INSTALLATION PROCEDURES ARE ANTICIPATED FOR THE SANITARY SEWER LOCATED ON PROPOSED EMBANKMENTS:

- THE REMOVAL AND REPLACEMENT OF METASTABLE SOIL.
- TESTING OF THE FILL SUBSEQUENT TO THE PENETRATION OF THE METASTABLE SOIL WILL CONTINUE UNTIL A MINIMUM OF 7 FEET OF STRUCTURAL FILL HAS BEEN PLACED ABOVE THE PROPOSED SEWER LINE ELEVATION.
- UTILITY TRENCHES SHALL BE EXCAVATED AND SANITARY SEWER LINE INSTALLED. THE PIPE SHALL BE PROPERLY BEDDED AND STRUCTURAL FILL PLACED AND TESTED TO THE PREVIOUS GRADE.
- THE OVERLOT AND EMBANKMENT FILL CAN BE COMPLETED.
- WHERE THE SANITARY SEWER IS PLACED IN EMBANKMENT FILL DURING THE OVERLOT PROCESS, STE SHALL MONITOR AND TEST ALL WORK ASSOCIATED WITH THE AFFECTED PORTIONS.

ADDITIONAL UTILITY NOTES

GAS – ALL GAS MAINS AND SERVICES ARE TO BE INSTALLED PER THE CITY OF COLORADO SPRINGS.

ELECTRIC – ALL ELECTRIC SERVICES ARE TO BE INSTALLED PER THE CITY OF FOUNTAIN ELECTRIC DIVISION.

UTILITY CONTACTS

SEWER:	WIDEFIELD W&S DISTRICT (WWSD)	390–7111
WATER:	WIDEFIELD W&S DISTRICT (WWSD)	390–7111
ELECTRIC:	MOUNTAIN VIEW ELECTRIC	495–2283
GAS:	PEOPLES NATURAL GAS	800–303–0752
PHONE:	US WEST	636–4632

LEGEND

PROPOSED 8" PVC WATER MAIN (DR 18) WITH MJ FITTINGS (UNLESS OTHERWISE NOTED)

WIDEFIELD WATER & SANITATION DISTRICT STANDARD FIRE HYDRANT ASSEMBLY. INSTALL PER WIDEFIELD WATER AND SANITATION DISTRICT CONSTRUCTION SPECIFICATIONS

8" GATE VALVE (UNLESS OTHERWISE NOTED)

TEE w/CONCRETE THRUST BLOCK

MINIMUM RADIUS SHOWN FOR WATER MAIN = 290'
PER WWSD SPECIFICATIONS AND EL PASO COUNTY ECM 4.3.6.A.1&2, THE MINIMUM COVER OVER WATER MAIN & SERVICES AND SANITARY SEWER MAINS & SERVICES IS 5 FEET.

WATER AND SEWER MAIN EXTENSIONS

Any changes or alterations affecting the grade, alignment, elevation and/or depth of cover of any water or sewer mains or other appurtenance shown on this drawing shall be the responsibility of the Owner/Developer. The Owner/Developer shall be responsible for all operational damages and defects in installation and material for mains and services from the date of approval until final acceptance is issued.

Signed _____ Date _____

Print Name J. Mark Watson, President

DBA: GLEN DEVELOPMENT COMPANY

Address: 3 Widefield Boulevard
Colorado Springs, CO 80911
(719) 392–0194

FIRE AUTHORITY APPROVAL

The number of fire hydrants and hydrant locations shown on this water installation plan are correct and adequate to satisfy the fire protection requirements as specified by the Security Fire District.

Security Fire Department

Signed _____ Date _____
Security Fire Department

WATER AND SEWER SERVICE EXTENSIONS
TYPICAL CONNECTION EXAMPLES

UTILITY APPROVALS

DISTRICT APPROVALS

The Widefield Water and Sanitation District recognizes the design engineer as having responsibility for the design. The Widefield Water and Sanitation District has limited its scope of review accordingly.

WIDEFIELD WATER AND SANITATION DISTRICT
WASTEWATER DESIGN APPROVAL

Date: _____ By: _____

PROJECT NO. _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

WIDEFIELD WATER AND SANITATION DISTRICT
WATER DESIGN APPROVAL

Date: _____ By: _____

PROJECT NO. _____

In case of errors or omissions with the sewer design as shown on this document the standards as defined in the "Rules and Regulations for Installation of Sewer Mains and Services" shall rule.
Approval expires 180 days from Design Approval.

Know what's below. Call before you dig.

FOR STORM SEWER DESIGN SEE SHEET 6

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
UTILITY SERVICES PLAN
WATER & WASTEWATER UTILITY SERVICES
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
10
10 of 15 Sheets

19016-GW10-09-UT.dwg/Sep 26, 2019

A TYPICAL GRASS-LINED CHANNEL SECTION
SCALE: 1"=10'

CLASSIFICATION AND GRADATION OF RIPRAP			
RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	d50* (INCHES)
TYPE VL	70–100	12	
	50–70	9	
	35–50	6	6**
	2–10	2	
TYPE L	70–100	15	
	50–70	12	
	35–50	9	9**
	2–10	3	
TYPE M	70–100	21	
	50–70	18	
	35–50	12	12**
	2–10	4	

* d50=MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.
** MIX VL, L AND M RIPRAP WITH 35% TOPSOIL (BY VOLUME) AND BURY WITH 4–6 INCHES OF TOPSOIL, ALL VIBRATION COMPACTED & REVEGETATE. (TABLE MD-7: CLASSIFICATION AND GRADATION OF ORDINARY RIPRAP. UDFCD, DRAINAGE CRITERIA MANUAL, VOL. 1)

LOCATION	B	W	Y
NORTH RUNDOWN	1'	7'	1'
SOUTH RUNDOWN	1'	7'	1'

RIPRAP RUNDOWN DETAIL -
STORM OUTFALL AT MARKSHEFFEL ROAD
SCALE: NTS

PROFILE VIEW OF ALIGNMENT - STORM OUTFALL

PROFILE VIEW OF TEMP OUTFLOW DITCH

SEDIMENT BASIN GENERAL NOTES

INSTALLATION REQUIREMENTS:

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.

2. THE AREA UNDER WHICH THE ENBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.

3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN IT'S VOLUME IN 40 HOURS.

4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.

5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAX DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 689.

7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS:

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.

2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.

3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY EL PASO COUNTY.

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
Proposed Basin 'D'
Filing 10 Portions Only
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
11
11 of 15 Sheets

19016-GW10-11-ST.dwg/Sep 25, 2019

Z 18 OUTLET STRUCTURE DETAIL
PLAN VIEW
SCALE: NTS

STRUCTURE NOTES:
1. PRIOR TO CONSTRUCTION, CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
2. GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE 2-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE AND 3-INCH MIN CLEARANCE TO EDGE OF CONCRETE PLACED AGAINST SOIL, UNLESS OTHERWISE NOTED.

BAR SIZE	#4	#5	#6
MIN. SPLICE LENGTH	1'-3"	1'-9"	2'-0"

3. CONCRETE FOR THE OUTLET STRUCTURE AND FOREBAYS SHALL BE CDOT CLASS D CONCRETE.
4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK, SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE AND THE JOINT SHALL BE SEALED, REFER TO DETAILS.
5. ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/4-INCH CHAMFER UNLESS OTHERWISE NOTED.
6. BACKFILLING AGAINST WALLS SHALL NOT COMMENCE UNTIL CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH.
7. SUBGRADE TO BE 12" THK CLEAN FILL COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM M698 UNDER STRUCTURES.
8. OUTLET STRUCTURE STEPS SHALL CONFORM TO AASHTO M199.
9. FOREBAY: CONSTRUCTION JOINTS SHALL BE INSTALLED AT 10' O.C. MAXIMUM. THE JOINTS SHALL BE SEALED WITH A JOINT SEALANT.

E 18 MAJOR STORM GRATE DETAIL
SCALE: NTS

F 18 WQCV ORIFICE PLATE
SCALE: NTS

WQCV WELL-SCREEN NOTES:
1. WELL-SCREEN SHALL BE STAINLESS STEEL AND ATTACHED BY INTERMITTANT WELDS OR STAINLESS STEEL BOLTS ALONG EDGE OF THE MOUNTING FRAME.
2. WQCV WELL SCREEN
   - TYPE OF SCREEN: STAINLESS STEEL #93 VEE WIRE (JOHNSON VEE WIRE TM STAINLESS STEEL SCREEN OR EQUIVALENT WITH 60% OPEN AREA)
   - SCREEN SLOT OPENING DIMENSION: 0.139" (SCREEN #93 VEE WIRE SLOT OPENING)
   - TYPE AND SIZE OF SUPPORT ROD: TE 0.074"x0.50"
   - SPACING OF SUPPORT ROD (O.C.): 1.0 INCH
   - TOTAL SCREEN THICKNESS: 0.655"
   - CARBON STEEL HOLDING FRAME TYPE: 3/4" x 1.0" ANGLE

J 18 WQCV ORIFICE PLATE AND WELL SCREEN
SCALE: NTS

K 18 WQCV WELL SCREEN
SCALE: NTS

L 18 DETAIL A
SCALE: NTS

M 18 DETAIL C
SCALE: NTS

A 18 SECTION A-A
SCALE: NTS

GRATE AND ORIFICE PLATE NOTES:
1. GRATES AND ORIFICE PLATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE. GRATES TO BE BOLTED DOWN TO OUTLET STRUCTURE 18" O.C.
2. GRATES AND ORIFICE PLATES SHALL BE STAINLESS STEEL, ALUMINUM OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND HOT POWDER PAINTED AFTER GALVANIZED.
3. FIELD VERIFY GRATE DIMENSION PRIOR TO FABRICATION.

B 18 SECTION B-B
SCALE: NTS

C 18 SECTION C-C
SCALE: NTS

D 18 SECTION D-D
SCALE: NTS

ELEVATION VIEW

O 19 EMERGENCY SPILLWAY
SCALE: NTS

SECTION A-A

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
DETENTION BASIN DETAILS
BASIN 'D' OUTLET STRUCTURE DETAILS
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
12
12 of 15 Sheets

19016-GW10-12-ST.dwg/Sep 25, 2019

TEMPORARY SEDIMENT BASIN "A"

A. 0.38 ac-ft REQUIRED TO SPILLWAY CREST.

B. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 1 COLUMN OF 5 $^{21}/_{32}$" ø HOLES.

C. 8' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "B"

D. 2.62 ac-ft REQUIRED TO SPILLWAY CREST.

E. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 1 COLUMN OF 5 $1^{13}/_{16}$" DIA. HOLES.

F. 28' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "C"

G. 4.32 ac-ft REQUIRED TO SPILLWAY CREST.

H. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 3 COLUMNS OF $1^{13}/_{16}$" DIA. HOLES.

I. 40' LONG SPILLWAY, 2' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "D"

J. 5.12 ac-ft REQUIRED TO SPILLWAY CREST.

K. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 3 COLUMNS OF $1^{13}/_{16}$" DIA. HOLES.

L. 45' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN

SCALE: NTS

SEDIMENT BASIN GENERAL NOTES

INSTALLATION REQUIREMENTS:

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.

2. THE AREA UNDER WHICH THE ENBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.

3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN IT'S VOLUME IN 40 HOURS.

4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.

5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAX DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 689.

7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTUAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS:

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.

2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.

3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADECUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY EL PASO COUNTY.

P / 19 DETENTION BASIN TYPICAL CROSS SECTION

SCALE: NTS

NOTE:
1. 12% MAX SLOPE ALONG MAINT. TRAIL.

Q / 19 MAINTENANCE TRAIL SECTION

SCALE: NTS

SIDE LOT SWALE SECTION

SCALE: 1"=5'

TYPICAL SLOPE BUFFER
FROM SIDEWALK TO 3:1 SLOPE

SCALE: NTS

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
DETENTION BASIN & MISC DETAILS
BASIN D
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET

13

13 of 15 Sheets

19016-GW10-13-ST.dwg/Sep 26, 2019

GENERAL NOTES

▲ — EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK AND SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE.

CONCRETE SHALL BE PER EL PASO COUNTY ENGINEERING DIVISION SPECIFICATIONS.

PEDESTRIAN RAMP DETAILS

EPC STD. SD_2-40

NOT TO SCALE

GENERAL NOTES

1. All work shall be done in accordance with current Engineering Manual and ADA requirements.
2. Contractor to notify Engineering Division inspection staff 48 hours prior to conconcrete placement.
3. Pedestrian ramp construction shall be a minimum 3000 psi concrete, minimum 4" thick, non-colored, non-scored, coarse broom finish.
4. Ramp location and length may require modification to maintain the 12:1 maximum running ramp slope and 20:1 detectable warning area due to street intersection grades and / or alignment.
5. Detectable warning area shall start a minimum of 6" but not more than 8" from the flow line of the curb at any point.
6. Detectable warning area shall be prefabricated reddish integrally colored truncated-dome surfaced thermoplastic.
7. The detectable warning area shall be 24" in length and the full width of the ramp.
8. Ramp width required is the same as approaching sidewalk, 4' minimum.
9. all ramps will be perpendicular to traffic with the exception of mid-block or terminal ramps which may be parallel subject to approval.
10. Avoid palcing drainage structures, traffic signal / signage, utilities / junction boxes, or other obstructions within proposed ramp areas.
11. Where the 1'- 6" flared side(s) of a perpendicular curb ramp is (are) contiguous with a pedestrian or hard surface area, the flare width shall be increased to 8' minimum and the maximum flare slope shall not exceed 10:1.
12. Pedestrian walkway and / or location of existing or future pedestrian ramps on opposite corners shall be reviewed before construction new ramps. New ramps shall align with existing ramps and pedestrian walkway.
13. At marked pedestrian crossings, the bottom of the ramps, exclusive of the flare sides, shall be totally contained within the markings.
14. Sidewalk cross-slope: 1/4"/ft.
15. Concrete mix design shall conform to the requirements of the color admixture manufacturer and the following:
    1) 28-day compressive strength = 4,000 PSI (min.)
    2) Water/cement ratio = 0.45 (max.)
    3) Cement content = 6-1/2 sacks/C.Y. (min.) (Type II cement)
    4) Maximum aggregate size = 3/4"
    5) Entrained air content = 6% - 10%
    6) Slump = 1 inch (min.) - 4 inches (max.)

PLAN VIEW

SECTION A-A

NOTES

1. W - WIDTH SHALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL RAODS.
2. T - SQUARED-OFF RETURN TO BE POURED MONOLITHIC 8" P.C.C. MINIMUM WITH 6x6 - 4,4 W.W.F. OR #4 @ 18" E.W.
3. ▨ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).
4. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR

CROSS PAN DETAIL

EPC STD. SD_2-26

NOT TO SCALE

EPC TYPE A CURB & GUTTER

NTS

LENGTH FOR RADII		
A=1/8"-1/4"	B=1-1/2"	C=1-1/2"-2"

CURB & GUTTER DETAILS

EPC STD. SD_2-20

NOT TO SCALE

EPC OPTIONAL TYPE C CURB & GUTTER

NTS

ROAD CLASSIFICATION: URBAN
RESIDENTIAL LOCAL LOW VOLUME
RESIDENTIAL DESIGN SPEED=20 mph

APPLICABLE STREETS

Buffalo Bur Trail
Pennycress Drive

TYPICAL STREET SECTION
GLEN AT WIDEFIELD FILING NO. 10

NOT TO SCALE

NOTES

1. TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.

2. VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.

3. EITHER LADDER OF STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.

4. PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.

5. BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., ½" PER FOOT. MIN.).

6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1., ½" PER FT. MIN.) . FLOOR SHALL BE SHAPED AND CHANNELED; SEE DETAILS THIS SHEET.

SCALE: NOT TO SCALE

DATE APPROVED: André P. Brackin, DEPARTMENT OF TRANSPORTATION	Storm Sewer Manhole Detail Type II Standard Drawing	EL PASO COUNTY DEPARTMENT OF TRANSPORTATION
	REVISION DATE: 11/10/04	FILE NAME: SD_3-2

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719)630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
SITE DETAILS
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET

14

19016-GW10-14-DT.dwg/Sep 25, 2019

UNDERDRAIN NOTES

1. UNDERDRAIN TO BE CONSTRUCTED WHERE INDICATED BY A DASHED LINE (----).
2. SOLID DRAIN PIPE WILL BE USED IN AREAS AS SHOWN ON THE PLANS AND AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
3. ALL UNDERDRAIN CONSTRUCTION SHALL CONFORM WITH THE LATEST CITY OF COLORADO SPRINGS STANDARDS.
4. ENGINEERING FABRIC TO HAVE A MINIMUM 12-INCH OVERLAP ABOVE UNDERDRAIN GRANULAR FILL.
5. UNDERDRAIN PIPE TO BE CONSTRUCTED WITH THE TOP OF PIPE EQUAL TO OR BELOW THE BOTTOM OF THE SANITARY SEWER PIPE.
6. GEOTECHNICAL ENGINEER TO DETERMINE EXTENT OF ACTIVE/PASSIVE UNDERDRAIN DEPENDING UPON CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
7. THE CONNECTION BETWEEN THE ACTIVE AND PASSIVE PORTIONS OF THE UNDERDRAIN SYSTEM IS TO BE CONSTRUCTED WITH A NON-PERMEABLE BARRIER SO THAT ALL COLLECTED GROUNDWATER IS DIRECTED INTO THE PASSIVE PIPE SECTION.

PASSIVE UNDERDRAIN DETAIL

NOT TO SCALE

ACTIVE UNDERDRAIN DETAIL

NOT TO SCALE

3/4" GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS, MILD STEEL, ASTM A 307, ROD LUG SHALL BE COATED WITH COAL-TAR, EPOXY PAINT OR APPROVED EQUAL.

LOCATION OF 1" DIA HOLES

NOTE:
CONCRETE JOINT FASTENERS REQUIRED ON THE FIRST TWO PIPE JOINTS FROM A FLARED END SECTION.

PIPE DIAMETER	F
18"-30"	5"
36"-42"	6"
48"-60"	7"
72"-84"	9"

CONCRETE PIPE JOINT FASTENER DETAIL

NOT TO SCALE

TYPICAL CULVERT OUTLET PROTECTION

NOT TO SCALE

GENERAL NOTES:

1. Hydrant nozzles shall be positioned at right angles to curb. If no curb or sidewalk exists, nozzles shall be placed at right angle to street or alley.
2. Hydrants shall be placed a minimum of 5.0 feet from any utility or drainage structure.
3. Any hydrant being installed with conditions other than those mentioned and/or detailed below will require signed approval from the Widefield Water District and Security Fire District.
4. See Site Utility Plan for hydrant locations and flange elevations.
5. The upper exposed section of the hydrant above ground shall be painted rustoleum 659 yellow or equal. The buried portion of the hydrant shall be given a bituminous coating in accordance with Section 10-8.1 of AWWA Standard C110.

FIRE HYDRANT DETAIL

NOT TO SCALE

SUBSEQUENT TO STRIPPING AND GRUBBING THE FOLLOWING OVERLOT/PIPE INSTALLATION PROCEDURES ARE ANTICIPATED FOR THE SANITARY SEWER LOCATED ON PROPOSED EMBANKMENTS:

- THE REMOVAL AND REPLACEMENT OF METASTABLE SOIL.
- TESTING OF THE FILL SUBSEQUENT TO THE PENETRATION OF THE METASTABLE SOIL WILL CONTINUE UNTIL A MINIMUM OF 7 FEET OF STRUCTURAL FILL HAS BEEN PLACED ABOVE THE PROPOSED SEWER LINE ELEVATION.
- UTILITY TRENCHES SHALL BE EXCAVATED AND SANITARY SEWER LINE INSTALLED. THE PIPE SHALL BE PROPERLY BEDDED AND STRUCTURAL FILL PLACED AND TESTED TO THE PREVIOUS GRADE.
- THE OVERLOT AND EMBANKMENT FILL CAN BE COMPLETED.
- WHERE THE SANITARY SEWER IS PLACED IN EMBANKMENT FILL DURING THE OVERLOT PROCESS, STE SHALL MONITOR AND TEST ALL WORK ASSOCIATED WITH THE AFFECTED PORTIONS.

TYPICAL JOINT-TRENCH UTILITY SERVICE DETAIL

NOT TO SCALE

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
UTILITY DETAILS
BASIN 'D' OUTLET STRUCTURE DETAILS
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET

15

19016-GW10-15-DT.dwg/Sep 25, 2019