APPENDIX 9

Glen at Widefield Filing No. 11 - SWMP Amendment

Glen at Widefield Filing No. 11 SWMP Amendment

An Objective of the Stormwater Management Plan (SWMP) is to function as a living document which can be updated and modified to suit current conditions over the life of a project's improvements. For this purpose, an amendment is provided herein to address improvements specific to Filing No. 11.

Checklist Items are carried forward below from the EPC 'STORMWATER MANAGEMENT PLAN CHECKLIST' to clarify impacts related to Filing No 11:

1. <u>STORMWATER MANAGEMENT PLAN (SWMP)</u>

    5. EDB for Basin 'D' is planned for construction (with Filing 10) ahead of this project. The EDB will be updated with 2 presedimentation forebays, and the outlet plates at the outlet structure will be modified to accommodate Filing 11 Development. The limits of the filing are reflected on Sheet 22. There is no additional phasing planned.
    6. Construction Schedule is indicated on the Filing 11 SWMP Exhibit. The anticipated date of Final Stabilization is expected to be Spring 2022.
    7. Estimates of Disturbance and Limits for Filing 11 are reflected on SWMP Exhibit.
    9. Ground Cover is mostly-bare ground based on physical inspection. Most of the site is in an overlot graded condition.
    12. Spill Prevention will be provided in the event batch plants are used.
    13. Spoils Areas are identified on Sheet 22 for Filing 11 improvements.
    16. There are No Stream Crossings within Filing 11.
    17. Construction Site Boundaries for Filing No. 11 are provided with this amendment.

    17d. Areas of Cut and Fill for Filing 11 Improvements are reflected on the SWMP Map

    17e. Refer to SWMP Map for waste and spoils location(s).

    17f. There are no asphalt batch plants planned for this project.

    17i. There are no streams or wetlands impacted by this development.

    18. Structural Controls for Filing 11 consist of surface flow captured within new curb and gutter along with new crosspan conveyance which release to a storm pipe collection network that releases into EDB 'D'. The EDB is updated and modified with this Filing from existing condition.
    21. SWMP Updating is accomplished by the inclusion of individual appendices for each filing which provide a summary of relevant declarations along with a SWMP Plan Map

Exhibit. This exhibit is provided as a basis for procedure, and is intended to be updateable if/when site conditions require changes (i.e. Filing 10 was Appendix 8, and Filing 11 will be Appendix 9).

2. ADDITIONAL REPORTS/PERMITS/DOCUMENTS

   a) Appendix 9 has been added to this current and active SWMP to reflect Filing No 11 Specific Information (See SWMP Exhibit for Filing No. 11 & Sheet 22 of Construction Drawings as part of this addendum's Appendix).

Operations and Maintenance Manual
For
Extended Detention Basin

The Glen at Widefield Filing No. 11
Colorado Springs, Colorado

Prepared for:

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Kiowa Project No. 19016

January 2020

Extended Detention Basin

Maintenance Recommendations

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater runoff ends. Compared to a flood control detention basin, the extended basin uses a much smaller outlet that extends the emptying time for the more frequently occurring runoff events to facilitate pollutant removal. The basins are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. However, EDBs may develop wetland vegetation and sometimes shallow pools in the bottom portions of the facilities.

Extended detention basins have low to moderate maintenance requirements. Routine and nonroutine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. The dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant. Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided. The basic elements of the maintenance requirements are presented in Table EDB-1.

Table EDB-1
Extended Detention Basin Maintenance Considerations

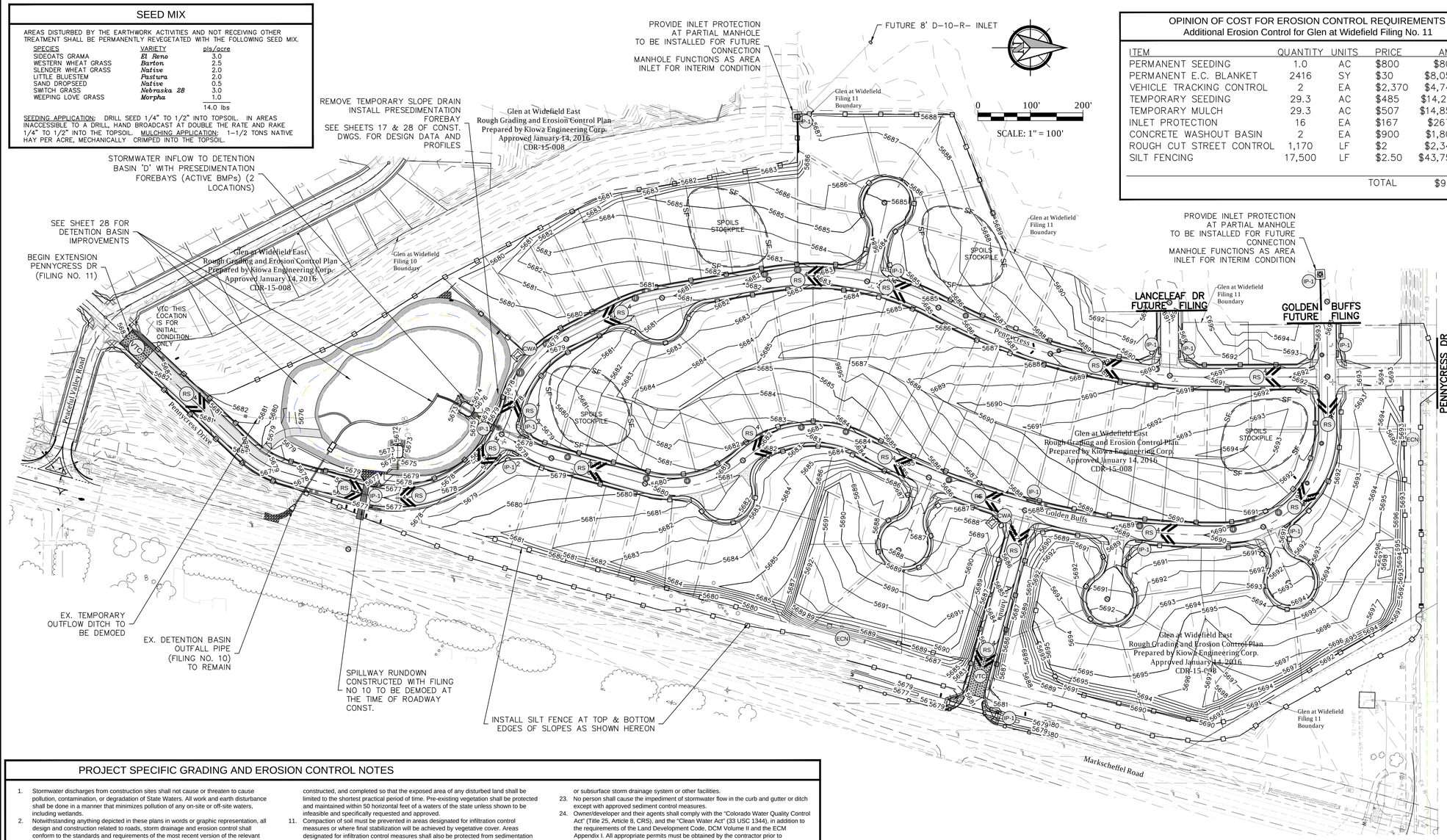
Required Action	Maintenance Objective	Frequency of Action
Mowing	Occasional mowing to limit unwanted Vegetation. Maintain irrigated turf grass As 2 to 4 inches tall and nonirrigated native Turf grasses at 4 to 6 inches.	Routine – Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter from the entire Pond to minimize outlet clogging and And improve aesthetics. Outlet structure Trash racks should be clear of any blockage.	Routine – including just before annual storm seasons (that is, April and May) and Following significant rainfall Events.
Erosion and sediment control	Repair and revegetate eroded areas on slopes.	Nonroutine – Periodic and Repair as necessary based on Inspection.
Structural	Repair pond inlets, outlets, forebays, Low flow channel liners, and energy Dissipators whenever damage is discovered.	Nonroutine- Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin Continues to function as initially intended. Examine the outlet for clogging, erosion, Slumping, excessive sedimentation Levels, overgrowth, embankment and Spillway integrity, and damage to any Structural element.	Routine – Annual inspection Hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of Outlets.
Nuisance control	Address odor, insects, and overgrowth Issues associated with stagnant or Standing water in the bottom zone.	Nonroutine- Handle as necessary per inspection Or local complaints.

SEED MIX

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

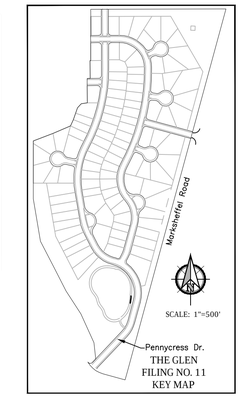
SPECIES	VARIETY	pls/acre
SIDEOATS GRAMA	*El Reno*	3.0
WESTERN WHEAT GRASS	*Barton*	2.5
SLENDER WHEAT GRASS	*Native*	2.0
LITTLE BLUESTEM	*Pastura*	2.0
SAND DROPSEED	*Native*	0.5
SWITCH GRASS	*Nebraska 28*	3.0
WEEPING LOVE GRASS	*Morpha*	1.0
		14.0 lbs

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.



OPINION OF COST FOR EROSION CONTROL REQUIREMENTS
Additional Erosion Control for Glen at Widefield Filing No. 11

ITEM	QUANTITY	UNITS	PRICE	AMOUNT
PERMANENT SEEDING	1.0	AC	$800	$800.00
PERMANENT E.C. BLANKET	2416	SY	$30	$8,053.00
VEHICLE TRACKING CONTROL	2	EA	$2,370	$4,740.00
TEMPORARY SEEDING	29.3	AC	$485	$14,210.00
TEMPORARY MULCH	29.3	AC	$507	$14,855.00
INLET PROTECTION	16	EA	$167	$2672.00
CONCRETE WASHOUT BASIN	2	EA	$900	$1,800.00
ROUGH CUT STREET CONTROL	1,170	LF	$2	$2,340.00
SILT FENCING	17,500	LF	$2.50	$43,750.00
			TOTAL	$93,220



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 RESTABLISHED 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.

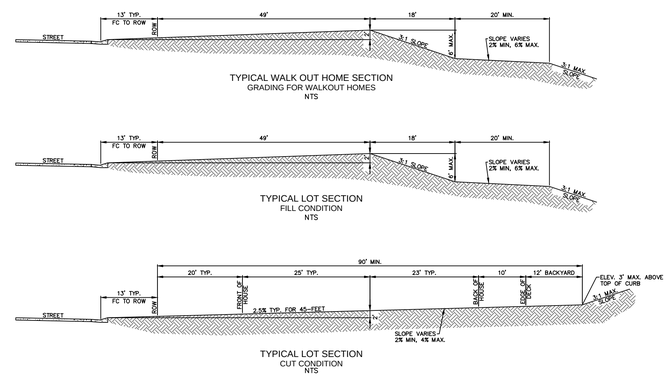
SHADED AREA DENOTES PERMANENT EROSION BLANKET. CURLEX HEAVY DUTY EROSION CONTROL BLANKET BY AMERICAN EXCELSIOR OR EQUAL SHALL BE USED.

LEGEND

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

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 LOT CROSS SECTIONS

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WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 11
Grading & Erosion Control Plan
Overall
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	Dec 31, 2020
Design:	MJK
Drawn:	MJK
Check:	AWMc
Revisions:	

SHEET
22
22 of 30 Sheets

19016-GW11-22-EC.dwg/Jan 06, 2021

Memorandum

To:	El Paso County
From:	Kiowa Engineering
Date:	01-07-2020
Project:	The Glen Filing No 11.
Subject:	SWMP Checklist – Summarized as Appendix

The checklist items specific to Filing 11 have been declared in summary form and included into a new Appendix Addendum (Appendix 9) to continue forward with the existing permit acquired with Filing No 7.

Please refer to the SWMP Appendix 9 for values related to Filing 11.

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