Security Drinking Water Mitigation Project
Grading and Erosion Control Plan

URS
URS Group, Inc.
An AECOM Company

PROJECT

PFOS / PFOA DRINKING WATER MITIGATION SYSTEM

Security Water District (SWD)

CLIENT

USACE Omaha District
1616 Capital Ave
Omaha, NE 68102

CONSULTANT

URS Group, Inc.
12120 Shamrock Plaza
Omaha, NE 68154
T +1 (402) 334 8181 F +1 (402) 334 1984

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

COVER SHEET

SHEET NUMBER

001

VERIFY PRINTED SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

ANSI D 22" x 34"
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5/28/2019

Security Vicinity Map

1 inch = 8,756 feet

AECOM
6200 South Quebec Street
Greenwood Village, Colorado 80111

M:\DCS\Projects\WTR\60589841_PAFB_PFAS\900_CAD_GIS\920_929_GIS_Graphics\Project Vicinity Map.mxd

ANSI D 22" x 34"

TYP. ACCESS ROAD SECTION (A)

NOT TO SCALE

AREAS OF SURFACE CUT

AREAS OF SURFACE FILL

URS

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
0	05/24/19	60% DESIGN

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

DRAINAGE AND GRADING PLAN

SHEET NUMBER

G-206

Last saved by: SCHWARTZE(2019-05-24) Last Plotted: 2019-05-24
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ANSI D 22" x 34"

0 50' 100'
1" = 50'

NOTES:

1. THESE PLANS ARE TO BE USED FOR LOCATION OF PROPOSED STORMWATER MANAGEMENT CONTROL MEASURES ONLY.
2. BMPS ARE NOT DRAWN TO SCALE AND PLACEMENT IS APPROXIMATE.

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I/R	DATE	DESCRIPTION
B	04/24/19	REV 1 SWMP
A	03/27/19	ISSUED FOR SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 1

SHEET NUMBER

G-210

ANSI D 22" x 34"

0 50' 100'
1" = 50'

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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 2

SHEET NUMBER

G-211

ANSI D 22" x 34"

0 50' 100'
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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 3

SHEET NUMBER

G-212

Last saved by: JEREMIAS.RODRIGUEZ1(2019-04-23) Last Plotted: 2019-04-24
Filename: M:\DCS\PROJECTS\WTR\60589841_PAFB_PFAS\900_CAD_GIS\910_CAD\20-SHEETS\G-210 SWMP SHEETS.DWG

ANSI D 22" x 34"

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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 4

SHEET NUMBER

G-213

Last saved by: JEREMIAS.RODRIGUEZ(2019-04-23) Last Plotted: 2019-04-24
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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 5

SHEET NUMBER

G-214

ANSI D 22" x 34"

NOTES:

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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORMWATER MANAGEMENT PLAN SHEET 6

SHEET NUMBER

G-215

ANSI D 22" x 34"

NOTES:

1. THESE PLANS ARE TO BE USED FOR LOCATION OF PROPOSED STORMWATER MANAGEMENT CONTROL MEASURES ONLY.
2. BMPS ARE NOT DRAWN TO SCALE AND PLACEMENT IS APPROXIMATE.

N

0 50' 100'
1" = 50'

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ISSUE/REVISION

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B	04/24/19	REV 1 SWMP
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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 7

SHEET NUMBER

G-216

ANSI D 22" x 34"

NOTES:

1. THESE PLANS ARE TO BE USED FOR LOCATION OF PROPOSED STORMWATER MANAGEMENT CONTROL MEASURES ONLY.
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ISSUE/REVISION

I/R	DATE	DESCRIPTION
B	04/24/19	REV 1 SWMP
A	03/27/19	ISSUED FOR SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORM WATER MANAGEMENT PLAN SHEET 8

SHEET NUMBER

G-217

ANSI D 22" x 34"

MATCHLINE THIS SHEET

N

0 50' 100'

1" = 50'

MATCHLINE THIS SHEET

NOTES:

1. THESE PLANS ARE TO BE USED FOR LOCATION OF PROPOSED STORMWATER MANAGEMENT CONTROL MEASURES ONLY.
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0 1"

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
B	04/24/19	REV 1 SWMP
A	03/27/19	ISSUED FOR SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

ZONE 1 STORMWATER MANAGEMENT PLAN

SHEET NUMBER

G-218

ANSI D 22" x 34"

0 50' 100'
1" = 50'

NOTES:

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
B	04/24/19	REV 1 SWMP
A	03/27/19	ISSUED FOR SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

ZONE 2 STORMWATER MANAGEMENT PLAN - SHEET 1

SHEET NUMBER

G-219

ANSI D 22" x 34"

0 50' 100'
1" = 50'

NOTES:

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I/R	DATE	DESCRIPTION
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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

ZONE 2 STORMWATER MANAGEMENT PLAN - SHEET 2

SHEET NUMBER

G-220

ANSI D 22" x 34"

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0 1"
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ISSUE/REVISION

I/R	DATE	DESCRIPTION
C	05/22/19	REV 2 SWMP
B	04/24/19	REV 1 SWMP
A	03/27/19	ISSUED FOR SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

SWMP BUILDING LAYOUT

SHEET NUMBER

G-221

Last saved by: HITOMI.OKADA(2019-05-22) Last Plotted: 2019-05-22
Filename: M:\DCS\PROJECTS\WTR\60589841_PAFB_PFAS\900_CAD_GIS\910_CAD\20-SHEETS\G-221 SWMP BUILDING LAYOUT.DWG

ANSI D 22" x 34"

BMP LEGEND

CD	CHECK DAM
CB	COMPOST BLANKET
CFB	COMPOST FILTER BERM
CWA	CONCRETE WASHOUT AREA
CF	CONSTRUCTION FENCE
CM	CONSTRUCTION MARKERS
DW	DEWATERING
DD	DIVERSION DITCH
ECB	EROSION CONTROL BLANKET
IP	INLET PROTECTION
RCD	REINFORCED CHECK DAM
RRB	REINFORCED ROCK BERM
RRC	RRB FOR CULVERT PROTECTION
SB	SEDIMENT BASIN
SCL (SCL)	SEDIMENT CONTROL LOG
ST	SEDIMENT TRAP
SM	SEEDING AND MULCHING
SF	SILT FENCE
SSA	STABILIZED STAGING AREA
SR	SURFACE ROUGHENING
TSD	TEMPORARY SLOPE DRAIN
TSC	TEMPORARY STREAM CROSSING
TER	TERRACING
VTC	VEHICLE TRACKING CONTROL
WW	VTC WITH WHEEL WASH
	ROCK AND RIPRAP GRADATIONS
RS	ROCK SOCKS
LDA (LDA)	LIMITS OF DISTURBED AREA
	FLOW ARROW

UTILITIES & EASEMENT LEGEND

T	EXISTING TELEPHONE LINE/CABLE
GAS	EXISTING GAS LINE
W	EXISTING WATER
ST	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
E	EXISTING UNDERGROUND ELECTRIC
EOH	EXISTING OVERHEAD ELECTRIC
FO	EXISTING FIBER OPTIC
CTV	EXISTING CABLE TELEVISION
	PROPOSED PERMANENT EASEMENT
	PROPOSED TEMPORARY CONSTRUCTION EASEMENT

Standard Notes for El Paso County Grading and Erosion Control Plans

Revised 8/24/16

1. Construction may not commence until a Construction Permit is obtained from Planning and Community Development and a Preconstruction Conference is held with Planning and Community Development Inspections.
2. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off site waters, including wetlands.
3. Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations 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, shall be located on site at all times and shall be kept up to date with work progress and changes in the field.
5. Once the ESQCP has been issued, the contractor may install the initial stage erosion and sediment control BMPs as indicated on the GEC. A preconstruction meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County PCD inspections staff.
6. Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within 21 calendar days after final grading, or final earth disturbance, has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than 30 days shall also be mulched within 21 days after interim grading. An area that is going to remain in an interim state for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMPs shall be maintained until permanent soil erosion control measures are implemented and established.
7. Temporary soil erosion control facilities shall be removed and earth disturbance areas graded and stabilized with permanent soil erosion control measures pursuant to standards and specification prescribed in the DCM Volume II and the Engineering Criteria Manual (ECM) appendix I.
8. All persons engaged in earth disturbance shall implement and maintain acceptable soil erosion and sediment control measures including BMPs in conformance with the erosion control technical standards of the Drainage Criteria Manual (DCM) Volume II and in accordance with the Stormwater Management Plan (SWMP).
9. All temporary erosion control facilities including BMPs and all permanent facilities intended to control erosion of any earth disturbance operations, shall be installed as defined in the approved plans, the SWMP and the DCM Volume II and maintained throughout the duration of the earth disturbance operation.
10. Any earth disturbance shall be conducted in such a manner so as to effectively reduce accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time.
11. Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be designed to limit the discharge to a non-erosive velocity.
12. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
13. Erosion control blanketing 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. BMP's may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
15. Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked offsite shall be cleaned up and properly disposed of immediately.
16. Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
17. The owner, site developer, contractor, and/or their authorized agents shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance system and stormwater appurtenances as a result of site development.
18. The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels.
19. No chemicals are to be used by the contractor, which have the potential to be released in stormwater unless permission for the use of a specific chemical is granted in writing by the ECM Administrator. In granting the use of such chemicals, special conditions and monitoring may be required.
20. Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled material from entering State Waters, including any surface or subsurface storm drainage system or facilities.
21. No person shall cause the impediment of stormwater flow in the flow line of the curb and gutter or in the ditchline.
22. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements included in the DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and laws, rules, or regulations of other Federal, State, or County agencies, the more restrictive laws, rules, or regulations shall apply.
23. All construction traffic must enter/exit the site at approved construction access points.
24. Prior to actual construction the 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 has been prepared by Ninyo & Moore Geotechnical & Environmental Sciences Consultants and shall be considered a part of these plans.
27. At least ten days prior to the anticipated start of construction, for projects that will disturb 1 acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this grading and erosion control plan may be a part. For information or application materials contact:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD – Permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: Permits Unit

Engineer's Statement:

This Grading and Erosion Control Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared according to the criteria established by the County for Grading and Erosion Control Plans. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

Laura Kindt _____ 05/22/19 _____

Name Date

El Paso County Grading and Erosion Control Plan

Submittal Checklist

Page 2 of 2

Owner's Statement:

The Owner will comply with the requirements of the Grading and Erosion Control Plan.

_____ _____

Name Date

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, and Engineering Criteria Manual as amended.

URS

URS Group, Inc.
An AECOM Company

PROJECT

PFOS / PFOA DRINKING WATER MITIGATION SYSTEM

Security Water District (SWD)

CLIENT

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CONSULTANT

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
C	06/04/19	REV 3 SWMP
B	05/22/19	REV 2 SWMP
A	04/24/19	REV 1 SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

SWMP LEGEND
AND BMP DETAILS 1

SHEET NUMBER

G-222

Last saved by: HITOMI.OKADA(2019-06-04) Last Plotted: 2019-06-04
Filename: M:\DCS\PROJECTS\WTR\60589841_PAFB_PFAS\900_CAD_GIS\910_CAD\20-SHEETS\SECURITY SWMP LEGEND AND DETAILS.DWG

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.

IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON–GRADE INLETS.

IP–3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

IP–4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

ROCK SOCK SECTION ROCK SOCK PLAN

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12–INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
–LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

CULVERT INLET PROTECTION PLAN SECTION A

SECTION B

CIP–1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
–LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT 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. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

NOTE: 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.

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. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. 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.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: 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.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

ROCK SOCK 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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: 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.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER NDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
A	04/24/19	REV 1 SWMP

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

SWMP LEGEND
AND BMP DETAILS 2

SHEET NUMBER

G-223

ANSI D 22" X 34"
Last saved by: HITOMI.OKADA(2019-04-22) Last Plotted: 2019-04-22
Filename: M:\DCS\PROJECTS\WTR60589841_PAFB_PFAS\900_CAD_GIS\910_CAD\20-SHEETS\SECURITY SWMP LEGEND AND DETAILS.DWG

SCL–2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

VTC–2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND–DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ⅓ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: 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.

VTC–3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(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.

NOTE: 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.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

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PROJECT

PFOS / PFOA DRINKING WATER MITIGATION SYSTEM

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ISSUE/REVISION

A	04/24/19	REV 1 SWMP
I/R	DATE	DESCRIPTION

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

SWMP LEGEND
AND BMP DETAILS 3

SHEET NUMBER

G-224

ANSI D 22" x 34"
Last saved by: HITOMI.OKADA(2019-04-23) Last Plotted: 2019-04-23
Filename: M:\DCS\PROJECTS\WTR\60589841_PAFB_PFAS\900_CAD_GIS\910_CAD\20-SHEETS\SECURITY SWMP LEGEND AND DETAILS.DWG

ANSI D 22" x 34"

GENERAL NOTES

1. THE CONTRACTOR'S SWMP ADMINISTRATOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION. THE SWMP SHALL BE MODIFIED IN COMPLIANCE TO THE CDPS STORMWATER CONSTRUCTION PERMIT. SWMP ADMINISTRATOR FOR CONSTRUCTION TO UPDATE SITE MAPS DURING CONSTRUCTION. SWMP SITE MAPS SHALL BE UPDATED TO INCLUDE BEST MANAGEMENT PRACTICES (BMPS) TO BE LOCATED BY THE CONTRACTOR AND SWMP ADMINISTRATOR FOR CONSTRUCTION.

2. PERIMETER CONTROL FOR THIS PROJECT IS AS FOLLOWS, INCLUDING BUT NOT LIMITED TO: EXISTING LANDFORMS, VEGETATIVE BUFFER STRIPS, EROSION LOGS, EXISTING PAVEMENT, DRIVEWAYS AND SIDEWALKS.

3. LIMITS OF CONSTRUCTION (LOC) FOR THIS PROJECT ARE DEFINED BY THE RIGHT OF WAY (ROW), TEMPORARY AND PERMANENT EASEMENTS.

4. CONTRACTOR SHALL MITIGATE IMPACT TO WETLANDS, IRRIGATION DITCHES, DRAINAGE CHANNELS AND WATERWAYS THROUGHOUT CONSTRUCTION. EROSION LOGS AND FENCE (PLASTIC) SHALL BE PLACED AROUND WETLANDS AND PONDS AS PERIMETER CONTROL.

5. STANDARD INSPECTIONS - A THOROUGH INSPECTION OF THE BMPS SHALL BE PERFORMED EVERY FOURTEEN (14) DAYS AND WITHIN (24) HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION. THESE INSPECTIONS SHALL INCLUDE INSPECTING EQUIPMENT FOR LEAKS AND REVIEWING EQUIPMENT MAINTENANCE PRACTICES.

6. POST-STORM EVENT INSPECTIONS AT TEMPORARILY IDLE SITES - IF NO ACTIVITIES OCCUR FOLLOWING A STORM EVENT, POST-STORM EVENT INSPECTIONS SHALL BE CONDUCTED PRIOR TO RECOMMENCING CONSTRUCTION ACTIVITIES, BUT NO LATER THAN (72) HOURS FOLLOWING THE STORM EVENT. THE OCCURRENCE OF ANY SUCH DELAYED INSPECTION MUST BE DOCUMENTED IN THE INSPECTION RECORD.

7. INSPECTIONS AT COMPLETED SITES/AREAS - FOR SITES OR PORTIONS OF SITES THAT MEET THE FOLLOWING CRITERIA, BUT FINAL STABILIZATION HAS NOT BEEN ACHIEVED DUE TO A VEGETATIVE COVER THAT HAS NOT BECOME ESTABLISHED, THE PERMITTEE SHALL INSPECT THE SITE AT LEAST ONCE EVERY MONTH IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.

8. WINTER INSPECTIONS - INSPECTIONS ARE NOT REQUIRED AT SITES WHERE CONSTRUCTION ACTIVITIES ARE TEMPORARILY HALTED, SNOW COVER EXISTS OVER THE ENTIRE SITE FOR AN EXTENDED PERIOD, AND MELTING CONDITIONS POSING A RISK OF SURFACE EROSION DO NOT EXIST. THIS EXCEPTION IS APPLICABLE ONLY DURING THE PERIOD WHERE MELTING CONDITIONS DO NOT EXIST.

9. ALL INSPECTIONS AND MAINTENANCE MUST BE DOCUMENTED BY THE CONTRACTOR'S SWMP ADMINISTRATOR AND MADE AVAILABLE TO EL PASO COUNTY AND CDPHE UPON REQUEST. ANY BMP THAT HAS BEEN COMPROMISED OR HAS BEEN DISTURBED SHALL BE REPLACED OR RECONSTRUCTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL BMP'S IN PLACE AND EFFECTIVE PRIOR TO A STORM EVENT.

10. THE CONTRACTOR SHALL KEEP A RECORD OF INSPECTIONS IN ACCORDANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT. INSPECTION REPORTS MUST BE UPDATED EVERY 14 DAYS AND SHALL REMAIN ON SITE AND AVAILABLE FOR REVIEW BY EL PASO COUNTY AND CDPHE UPON REQUEST.

11. STOCKPILES INCLUDING LANDSCAPING MATERIALS, EARTH MATERIALS AND DIRT FROM GRADING OR EXCAVATION SHALL NOT BE LOCATED ADJACENT TO WATERWAYS; SHALL BE STABILIZED WITHIN 14 DAYS OF ESTABLISHMENT BY SURFACE ROUGHENING, SEEDING, AND MULCHING; AND SHALL NOT EXCEED 10 FEET IN HEIGHT.

12. DISTURBED SOILS, WHICH WILL NOT BE PAVED, BUILT UPON, OR FULLY LANDSCAPED WITHIN 60 DAYS, SHALL BE SEEDED WITH PERMANENT VEGETATIVE COVER WITHIN 14 DAYS AFTER COMPLETION OF GRADING ACTIVITIES. REFER TO NEXT SHEET FOR ACCEPTABLE SEED MIX.

13. ALL STREETS WITHIN AND IMMEDIATELY SURROUNDING A CONSTRUCTION SITE SHALL BE CLEANED OF DIRT AND DEBRIS ON A DAILY BASIS. STREETS SHALL BE CLEANED BY SCRAPING AND SWEEPING THE DIRT OFF THE ROADWAYS. SCRAPED OR SWEPT MATERIAL SHALL NOT BE DEPOSITED IN THE STORM SEWER SYSTEM. DIRT TRACKED ONTO ROADWAYS AND OTHER PAVED SURFACES SHALL BE CLEANED UP BY THE END OF THE WORKDAY.

14. ALL CONSTRUCTION SITE OPERATORS SHALL CONTROL WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, HAZARDOUS CHEMICALS (TO INCLUDE, BUT NOT LIMITED TO HEAVY EQUIPMENT MAINTENANCE FLUIDS, MOTOR OIL, ANTIFREEZE AND VEHICLE FUEL), LITTER, AND SANITARY WASTE AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO STORMWATER QUALITY.

15. ALL POTENTIAL POLLUTION SOURCES ON-SITE SHALL BE IDENTIFIED AND CONTROL MEASURES INSTALLED AND PRACTICED TO MINIMIZE THE LIKELIHOOD OF A RELEASE.

16. ALL MATERIAL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT THE LOSS OF MATERIAL DURING TRANSPORT.

17. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE SHALL CONTAIN ALL WASHOUT WATER. STORMWATER SHALL NOT CARRY WASTES FROM THE DESIGNATED CONCRETE WASHOUT LOCATION. CONCRETE WASHOUT STRUCTURES SHALL BE PLACED THROUGHOUT THE PROJECT AS NEEDED.

18. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE SHALL BE LOCATED A MINIMUM OF 50 FEET HORIZONTAL FROM WATERS OF THE STATE. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE SHALL BE DESIGNATED AS - "CONCRETE WASHOUT."

19. THE CONTRACTOR SHALL CHECK THE CAPACITY FOR ALL CONCRETE WASHOUT AREAS. WASTE MATERIALS MUST BE REMOVED BY THE CONTRACTOR AND LEGALLY DISPOSED OF WHEN ACCUMULATIONS AMOUNT TO TWO-THIRDS (2/3) OF THE WET STORAGE CAPACITY OF THE STRUCTURE.

GENERAL NOTES - CONTINUED

20. ALL CONCRETE WASHOUT AREAS SHALL BE CLEARLY MARKED. THE CONCRETE WASHOUT CONTAINMENT STRUCTURE WILL INCLUDE A SIGN POSTED WITH THE WORDS "CONCRETE WASHOUT". THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE.

21. EACH CONCRETE TRUCK OPERATOR SHALL BE AWARE OF THE DESIGNATED CONCRETE WASHOUT AREA.

22. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF AT AN APPROVED WASTE SITE. CONCRETE WASHOUT WASTE MUST NOT BE BURIED.

23. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY LAND DISTURBANCE TAKES PLACE IN THE DRAINAGE AREA. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT. SEDIMENT SHALL BE REMOVED WHEN IT HAS ACCUMULATED TO ONE HALF (1/2) OF THE WET STORAGE VOLUME OF THE BASIN AND DISPOSED OF AT AN APPROVED LOCATION

24. ALL PORTABLE TOILET FACILITIES SHALL BE LOCATED A MINIMUM OF 20 FEET AWAY FROM ALL DRAINAGE SYSTEMS, RECEIVING WATERS AND AREAS SUSCEPTIBLE TO FLOODING, HIGH, HEAVY TRAFFIC AREAS OR DAMAGE BY CONSTRUCTION EQUIPMENT. ALL PORTABLE TOILET FACILITIES SHALL BE SECURED IN PLACE BY STAKES SET INTO THE GROUND TO PREVENT TIPPING. IF THE MINIMUM DISTANCE FROM ALL DRAINAGE SYSTEMS CANNOT BE MET, THE PORTABLE TOILET SHALL HAVE SECONDARY CONTAINMENT.

25. BMPS ARE NOT DRAWN TO SCALE AND PLACEMENT IS APPROXIMATE.

26. THE CONTRACTOR SHALL NOT DISTURB ANY AREA WITHIN 20 FEET OF THE RAILROAD CENTERLINE.

27. ALL EXISTING INLETS IN PROJECT AREA SHALL HAVE EROSION LOG INLET PROTECTION FOR THE DURATION OF THE PROJECT.

28. VEHICLE TRACKING PADS SHALL BE PLACED AT EACH CONSTRUCTION ENTRANCE AND EXIT.

29. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL TREES WITHIN PROJECT LIMITS.

30. UNLESS OTHERWISE NOTED, AREA OF DISTURBANCE WILL BE STABILIZED WITH PERMANENT SEED FOR VEGETATION AREAS. SURFACED AREAS, INCLUDING BUT NOT LIMITED TO PAVED, GRAVELED, LANDSCAPED, CHANNELS, RIPRAP, SIDEWALKS, RAMPS, CURB AND GUTTER, THAT ARE DISTURBED WILL BE RESURFACED BACK TO EXISTING CONDITIONS OR AS DETERMINED BY PROPERTY OWNER.

31. CONSTRUCTION FENCE SHALL BE UTILIZED TO DELINEATE OPEN TRENCH OPERATIONS AND SHALL BE RELOCATED ALONG WITH THE PROGRESSION OF THE UTILITY INSTALLATION AND TRENCHING OPERATIONS.

32. THE LOCATIONS AND PERIMETER CONTROLS FOR STAGING AREAS TO BE DETERMINED BY THE CONTRACTOR AND SWMP ADMINISTRATOR FOR CONSTRUCTION.

33. SLOPES 3:1 OR STEEPER SHALL BE PROTECTED WITH BIODEGRADABLE EROSION CONTROL BLANKETS.

34. STRUCTURAL AND/OR NONSTRUCTURAL BMP'S INTENDED TO CONTROL EROSION OF AN EARTH DISTURBANCE OPERATION SHALL BE INSTALLED BEFORE ANY EARTH DISTURBANCE OPERATIONS TAKE PLACE.

35. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION.

36. PERSONS ENGAGED IN EARTH DISTURBANCES SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, IN CONFORMANCE WITH THE EROSION CONTROL PLANS AND IN COMPLIANCE WITH THE CDPS STORMWATER CONSTRUCTION PERMIT.

37. EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME.

38. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.

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

40. EROSION AND SEDIMENT CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING.

41. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS SHALL ALSO BE TEMPORARILY STABILIZED WITHIN 14 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 30 DAYS SHALL BE SEEDED.

42. FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST SEVENTY PERCENT (70%) OF PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAS BEEN EMPLOYED.

GENERAL NOTES - CONTINUED

43. RECORDS OF SPILLS, LEAKS, OR OVERFLOWS THAT RESULT IN THE DISCHARGE OF POLLUTANTS MUST BE DOCUMENTED AND MAINTAINED. SOME SPILLS MAY NEED TO BE REPORTED TO THE DIVISION IMMEDIATELY: SPECIFICALLY, A RELEASE OF ANY CHEMICAL, OIL, PETROLEUM PRODUCT, SEWAGE, ECT., WHICH MAY ENTER WATERS OF THE STATE, MUST BE REPORTED. MORE GUIDANCE IS AVAILABLE ON THE WEB AT www.cdphe.state.co.us/emp/spillsandreleased.htm. THE DIVISION'S TOLL FREE 24-HOUR ENVIRONMENTAL EMERGENCY SPILL REPORTING LINE IS 1-877-518-5608. ALSO IMMEDIATELY CALL EL PASO COUNTY. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

44. ALL SLOPE CONTROL AND WETLAND PROTECTION BMP'S (TEMPORARY BERMS, EROSION LOGS) IN THE PROJECT AREA SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL SEEDING HAS BEEN ESTABLISHED AND WATERWAYS RESTORED TO PREVENT IMPACT TO THE RIVER AND WETLANDS.

45. IT IS ANTICIPATED THAT THE BMP'S IMPLEMENTED AT THE SITE WILL HAVE TO BE MODIFIED TO ADAPT TO CHANGING CONDITIONS OR TO ENSURE THAT POTENTIAL POLLUTANTS ARE BEING PROPERLY MANAGED AT THE SITE. WHEN BMP'S ARE MODIFIED, THE SWMP MUST BE MODIFIED TO ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS.

46. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL SILT FENCING AND SEDIMENT CONTROL LOGS SO THAT IT FUNCTIONS PROPERLY DURING CONSTRUCTION AND WORK SUSPENSIONS. ALL SILT FENCING SHALL BE REMOVED BY THE CONTRACTOR UPON SUBSTANTIAL PERMANENT STABILIZATION.

47. ALL INLET/OUTLET PROTECTION WILL BE CHECKED FOR MAINTENANCE AND FAILURE. SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF ONCE IT HAS ACCUMULATED TO HALF THE DESIGN OF THE TRAP.

48. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VEHICLE TRACKING CONTROL DURING THE ENTIRE TIME THAT IT IS IN USE IN THE PROJECT. THE VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE COMPLETION OF THIS PROJECT UNLESS OTHERWISE DIRECTED BY AUTHORIZED EL PASO COUNTY PERSONNEL.

49. ALL SEDIMENT FROM STORMWATER INFRASTRUCTURE (I.E. DETENTION PONDS, STORM SEWER PIPES, OUTLETS, INLETS, ROADSIDE DITCHES, ETC.) SHALL BE REMOVED PRIOR TO INITIAL ACCEPTANCE. THIS SEDIMENT SHALL NOT BE FLUSHED OFF-SITE, BUT SHALL BE CAPTURED ON-SITE AND DISPOSED OF AT AN APPROVED LOCATION.

50. CONTRACTOR SHALL MAINTAIN BMPS WITHIN THE ACTIVE CONSTRUCTION LIMITS. UNMITIGATED AREAS SUCH AS STAGING AREAS, STOCKPILING AREAS, OR ANY OTHER DISTURBED AREAS SHALL HAVE BMPS MAINTAINED UNTIL FINAL MITIGATION REQUIREMENTS ARE MET.

51. ALL BMPS USED SHALL BE SELECTED, INSTALLED, IMPLEMENTED, AND MAINTAINED ACCORDING TO APPROPRIATE ENGINEERING, HYDROLOGIC, AND POLLUTION CONTROL PRACTICES.

52. THE USE OF CHEMICALS SUCH AS SOIL STABILIZERS, DUST PALLIATIVES, HERBICIDES, GROWTH INHIBITORS, FERTILIZERS, DEICING SALTS, ETC., SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED APPLICATION RATES, FREQUENCY, AND INSTRUCTIONS. THESE CHEMICALS SHALL NOT BE USED, STORED, OR STOCKPILED WITHIN 50 HORIZONTAL FEET OF THE CREEK OR OTHER AQUATIC HABITATS.

53. ALL PROPOSED CONTOURS SHALL MATCH EXISTING CONTOUR ELEVATIONS.

54. THERE WERE NO SOIL HAZARDS IDENTIFIED WITHIN THE GEOTECHNICAL REPORT.

55. THERE ARE NO EXISTING OR PROPOSED STORM DRAINAGE FACILITIES WITHIN THE PROJECT BOUNDARIES.

56. THIS PROJECT DISTURBS LESS THAN ONE ACRE AS DEFINED WITH THE MS4 PERMIT. THERE ARE NO SEDIMENT PONDS REQUIRED.

57. THERE ARE NO PROPOSED RETAINING WALLS WITHIN THE PROJECT BOUNDARIES.

58. THE PROJECT BOUNDARIES ARE NOT LOCATED WITHIN THE FEMA 100-YEAR FLOODPLAIN.

URS

URS Group, Inc.
An AECOM Company

PROJECT

PFOS / PFOA DRINKING WATER MITIGATION SYSTEM

Security Water District (SWD)

CLIENT

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
D	05/22/19	REV 2 SWMP
C	03/27/19	ISSUED FOR SWMP
B	02/28/19	60% DESIGN
A	11/30/18	ISSUED FOR 30% DESIGN

PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORMWATER MANAGEMENT PLAN GENERAL NOTES SHEET 1

SHEET NUMBER

G-225

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DEWATERING INSTALLATION NOTES

1. THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT PRIOR TO ANY DEWATERING OPERATIONS. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISCHARGE PERMIT AND SHALL BE COORDINATED WITH THE CITY OR COUNTY INSPECTOR.
2. THE CONTRACTOR SHALL DEVELOP, PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY TO PERMIT EXCAVATION AND SUBSEQUENT CONSTRUCTION IN DRY CONDITIONS AND TO LOWER AND MAINTAIN THE GROUNDWATER LEVEL A MINIMUM OF 2-FEET BELOW THE LOWEST POINT OF EXCAVATION AND CONTINUOUSLY MAINTAIN EXCAVATIONS FREE OF WATER UNTIL BACKFILLED TO FINAL GRADE.
3. DEWATERING OPERATIONS SHALL USE ONE OR MORE DEWATERING SUMPS OR OTHER MEANS APPROVED BY CDPHE TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY BASIN FOR SETTLING PUMPED DISCHARGES PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER, SEDIMENT BASIN MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN.
4. A 4' SQUARE RIPRAP PAD SHALL BE PLACED AT DISCHARGE POINT.
5. THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACE TO PREVENT MOVEMENT OF RIPRAP PAD.
6. CONTRACTOR TO DEVELOP DEWATERING SYSTEM TO FACILITATE CONSTRUCTION IN WATERWAYS. CHECK DAM AND DEWATERING SYSTEM TO BE PLACED PRIOR TO ANY UPSTREAM CONSTRUCTION AND TO BE MAINTAINED FOR THE DURATION OF THE PROJECT.

DEWATERING MAINTENANCE NOTES

1. THE CONTRACTOR SHALL INSPECT DEWATERING SYSTEMS AND PERFORM ANY NECESSARY REPAIRS OR MAINTENANCE ON A HOURLY BASIS.
2. TEMPORARY SETTLING BASINS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR DEWATERING OPERATIONS. ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED AS APPROVED BY AUTHORIZED PERSONNEL.
3. CHECK DAMS AND DEWATERING SYSTEMS SHALL REMAIN IN PLACE UNTIL EROSION AND SEDIMENT LADEN RUN-OFF RISK HAS BEEN MITIGATED AS DETERMINED BY THE SWMP ADMINISTRATOR FOR CONSTRUCTION.

URS
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PROJECT

PFOS / PFOA DRINKING WATER MITIGATION SYSTEM

Security Water District (SWD)

CLIENT

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PROJECT NUMBER

Project Number: 60589841

SHEET TITLE

STORMWATER MANAGEMENT PLAN GENERAL NOTES SHEET 2

SHEET NUMBER

G-226

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