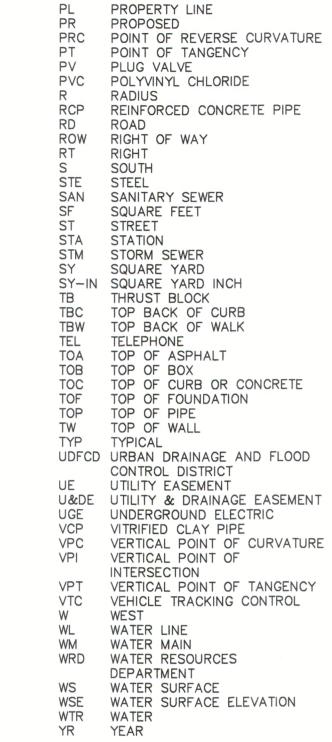
SOLACE APARTMENTS FILING NO. 1

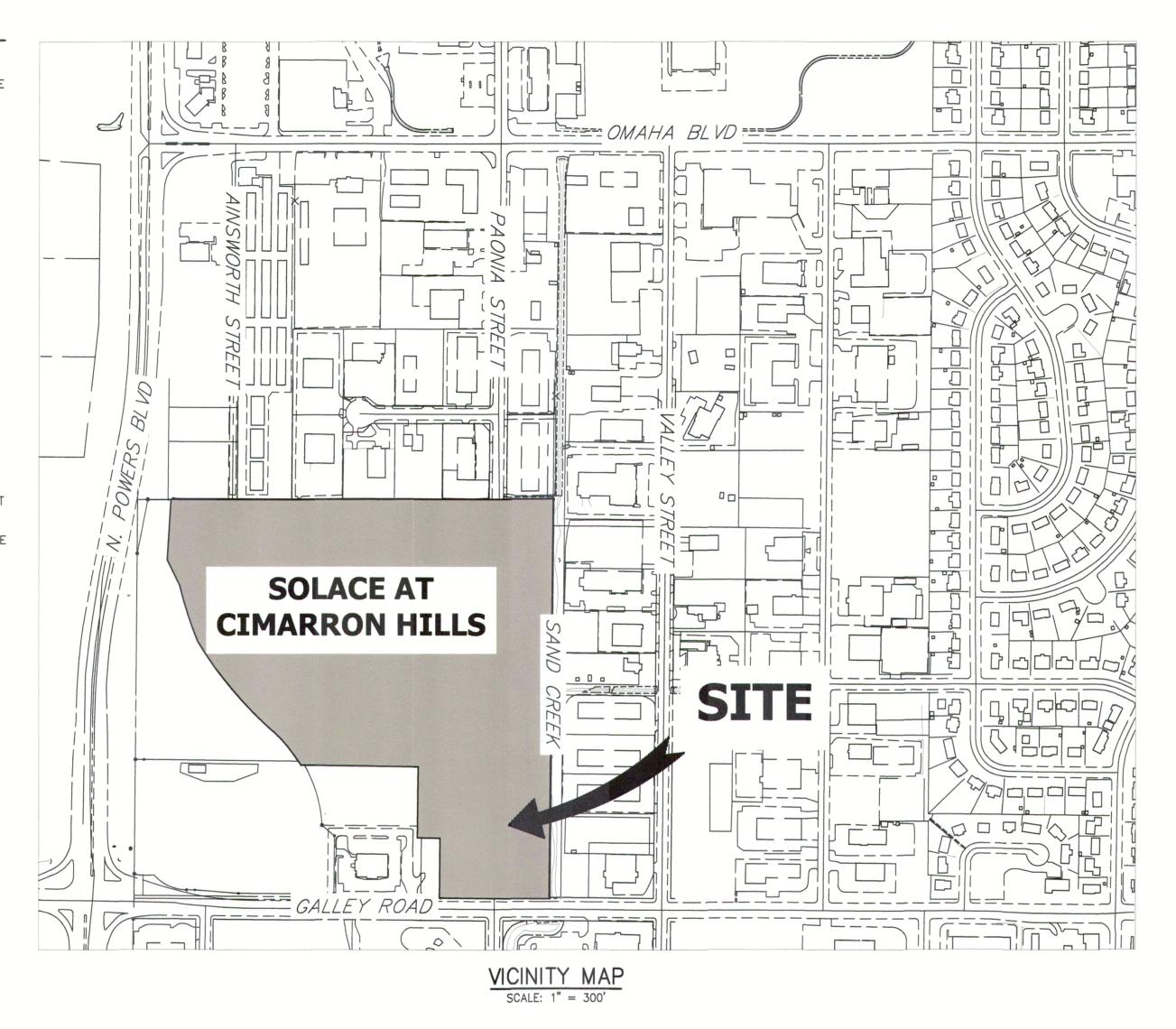
A PORTION OF SECTION 7, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE P.M. **EL PASO COUNTY, COLORADO**

GRADING AND EROSION CONTROL PLANS

ABBREVIATIONS

ABE	BREVIATIONS		
ACD HCE Y ACA ARS SEE Y BBRNOP V V D BCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	CONCRETE BOX CULVERT COLORADO DEPARTMENT OF TRANSPORTATION CUL-DE-SAC CUBIC FEET PER SECOND CENTER LINE	PRSS GROCHHHHHH LEXXRBELTXOPSTADD HE COOPP PPP	FINISHED GRADE FIRE HYDRANT FLOWLINE FILING FIBER OPTIC CABLE GRADE BREAK GAS EASEMENT GEOGRAPHIC INFORMATION SYSTEM GAS LINE GLOBAL POSITIONING SYSTEM GATE VALVE HANDICAP HIGH DEFLECTION COUPLING HIGH DENSITY POLYETHYLENE HYDRAULIC GRADE LINE HOME OWNERS ASSOCIATION HIGH POINT INLET IRRIGATION EASEMENT INTERSECTION INVERT IRRIGATION KICK (THRUST) BLOCK LANDSCAPE EASEMENT LINEAR FEET LANE LETTER OF MAP REVISION LOW POINT LUMP SUM LEFT MAXIMUM MASTER DEVELOPMENT DRAINAGE PLAN MANHOLE MINIMUM NORTH NON-REINFORCED CONCRETE PIPE OFFICIAL DEVELOPMENT PLAN OVERHEAD ELECTRIC OVERHEAD UTILITY POINT OF CURVATURE POINT OF CURVATURE POINT OF CURPOUND CURVATURE POINT OF CURB RETURN PRELIMINARY DEVELOPMENT PLAN PROFESSIONAL ENGINEER POINT OF INTERSECTION





OWNER

CS POWERS & GALLEY LLC 510 S NEIL ST CHAMPAIGN, IL 61820 P~734.216.2577

CIVIL ENGINEER

JR ENGINEERING 5475 TECH CENTER DR SUITE 235 COLORADO SPRINGS, CO 80919 CONTACT: MIKE BRAMLETT C~719.659.7679

PLANNER

N.E.S. INC. 619 N. CASCADE AVE SUITE 200 COLORADO SPRINGS, CO 80903 CONTACT: TAMARA BAXTER P~719.471.0073

ARCHITECT

LCM ARCHITECTS 819 S. WABASH AVE, FIFTH FLOOR CHICAGO, IL 60605 P~312.995.5305

GEOTECHNICAL ENGINEER

CTL THOMPSON, INC 5170 MARK DABLING BLVD COLORADO SPRINGS, CO 80918 P~719.528.8300



J·R ENGINEERING

SHEET INDEX

- COVER SHEET
- GENERAL NOTES INITIAL GRADING AND EROSION CONTROL PLANS INTERIM GRADING AND EROSION CONTROL PLANS
- FINAL GRADING AND EROSION CONTROL PLANS GRADING AND EROSION CONTROL DETAILS

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

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. 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.

COUNTY ENGINEER/ECM ADMINISTRATOR

OWNER/DEVELOPER STATEMENT

THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

11/12/2021 DANE OLMSTEAD

CS POWERS & GALLEY LLC 510 S NEIL ST CHAMPAIGN, IL 61820



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 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 PLANS.

FOR AND ON BEHALF OF JR ENGINEERING

E APARTMENTS ING NO. 1

SHEET 1 OF 12 OB NO. **25174.00**

WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL

UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE

THE LOCATIONS OF EXISTING ABOVE GROUND AND

ABOVE GROUND AND UNDERGROUND UTILITIES.

PCD FILE #: SF-20-032

MIKE A. BRAMLETT, P.E. COLORADO P.E. 32314

GRADING AND EROSION CONTROL STANDARD NOTES

- 1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANING AND COMMUNITY DEVELOPMENT INSPECTIONS.
- 2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- 3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- 4. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. 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.
- 12. 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).
- 13. 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.
- 14. 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.
- 15. 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.
- 16. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- 17. 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.
- 18. 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.
- 19. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF—SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF—SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 20. 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.
- 21. 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.
- 22. 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.
- 23. 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.
- 24. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 25. 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.
- 26. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- 27. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- 28. 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.
- 29. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY CTL THOMPSON INCORPORATION (DECEMBER 2019) AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- 30. 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

LAYER LINETYPE LEGEND EXISTING **PROPOSED** PHASE LINE MATCH LINE SECTION LINE BOUNDARY LINE PROPERTY LINE EASEMENT LINE _ _ _ _ _ _ _ _ _ _ _ _ _ __________ RIGHT OF WAY R.O.W. A LINE CENTERLINE CITY LIMITS WIRE FENCE CHAIN LINK FENCE WOOD FENCE MASONRY FENCE GUARDRAIL CONC. BARRIER CABLE TV ELECTRIC FIBER OPTIC GAS MAIN IRRIGATION MAIN OIL/PETRO. MAIN OVERHEAD UTILITY SANITARY SEWER STORM DRAIN TELEPHONE WATER MAIN RAW WATER LINE SWALE/WATERWAY FLOWLINE DIVERSION DITCH DIVERSION CHANNEL MAJOR DRAINAGE BASIN MINOR DRAINAGE BASIN TOP OF SLOPE TOE OF SLOPE EDGE OF WATER INDEX CONTOUR INTERMEDIATE CONTOUR DEPRESSION CONT. (INTER) TOP OF CUTS CUT AND FILL LINE **_________ ____ ___ ___ ___ ___ ___ ___ ___ ___ ___** ______ SF _____ SF _____ SF ____ SILT FENCE 100 YEAR FLOODPLAIN 500 YEAR FLOODPLAIN FLOODWAY BASE FLOOD ELEVATION ^^^^^

1.00%

GUY POLE

EDGE OF WETLANDS

STORMWATER FLOW ARROWS

STONE WALL

	EXISTING	PROPOSED		KEY	SYMBOL
STORM SEWER			CHECK DAM	CD	
MANHOLE STORM INLET	(b)	•	CONSTRUCTION ROAD STABILIZATION	CRS	
AREA INLET — SQUARE			CURB SOCK INLET PROTECTION	v (CS)	0
AREA INLET - ROUND	0				
FLARED END SECTION	D		CONCRETE WASHOUT AREA	(CWA)	
RIPRAP	200100 200100		DIVERSION DITCH AND DIKE, TEMPORARY	(DD)	
			DIVERSION CHANNEL, TEMPORARY	(DV)	
SANITARY SEWER LINE MARKER	Mkr San ^O		DEWATERING	(DW)	
SERVICE MARKER	MKT San		EDOCIONI CONTROL DI ANIVET		
CLEAN-OUT	0—	•	EROSION CONTROL BLANKET	(ECB)	
MANHOLE W/ DIRECTIONAL FLOW ARROW	S ⊲	•4	INLET FILTER	(IF)	
WATER LINE			INLET PROTECTION	(IP)	
LINE MARKER SERVICE MARKER	Mkr W° <u></u> ॓		MULCHING	MU	
FIRE HYDRANT FIRE CONNECTION	ď	«	OUTLET PROTECTION	(OP)	
MANHOLE BEND	w	•	PAVED FLUME	PF	
BLOW-OFF VALVE WELL	& _E	\$ _€	PERMENENT SEEDING	PS	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
METER	° _{WELL} ₩	●WELL ◆	REINFORCED CONCRETE DAM	RCD	
VALVE REDUCER	\bowtie	•	ROUGH CUT STREET CONTROL	RCS	000000
THRUST BLOCK		K	SEDIMENT BASIN	(SB)	
CROSS PLUG W/ THRUST BLOCK	١Ę	† •[SEDIMENT CONTROL LOG	(SCL)	
TEE REVERSE ANCHOR		‡ ι	SILT FENCE	(SF)	
ANODE		⊗	SURFACE ROUGHENING	(SR)	
AIR & VACUUM VALVE ASSEMBLY TRANSMISSION		• t	STABILIZED STAGING AREA		
BLOW-OFF ASSEMBLY		• + •		(SSA)	
GAS LINE			SEDIMENT TRAP	(ST)	
MARKER SERVICE MARKER	Mkr G ^O		STRAW BALE BARRIER	STB	***
METER VALVE	© ⊠	• ₩	TERRACING	TER	
PLUG TEE	С	τ ‡+	TEMPORARY SEEDING	TS	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
DRY UTILITIES		Ť	TEMPORARY STREAM CROSSING	G (TSC)	
CABLE TV MARKER	Mkr TV O		CULVERT/BRIDGE TEMPORARY STREAM CROSSIN		
CABLE TELEVISION PEDESTA ELECTRIC MARKER	AL ₪ <i>Mkr E</i> ^O		FORD TYPE	F	
ELECTRIC SERVICE MARKER	٨		TEMPORARY SLOPE DRAIN	TSD	
ELECTRICAL PEDESTAL	E			(VTA)	5.555 555
ELECTRICAL METER	Ē		VEHICLE TRACKING CONTROL	(VTC)	
ELECTRICAL MANHOLE FIBER-OPTIC MARKER	E		VEHICLE TRACKING CONTROL WITH WASH RACK	(WR)	
IRRIGATION PEDESTAL	Mkr FO ^O				<u> </u>
TELEPHONE MARKER	Mkr T ^O		CONSTRUCTION MARKER	(CM)	
TELEPHONE PEDESTAL	T		LIMITS OF CONSTRUCTION	(LOC)	
TELEPHONE MANHOLE	\bigcirc				
UTILITY POLE	- 0-	←			
GUY ANCHOR	©—				

STORM WATER MANAGEMENT

UTILITIES LEGEND



Know what's below.

Call before you dig

ENGINEER'S STATEMENT

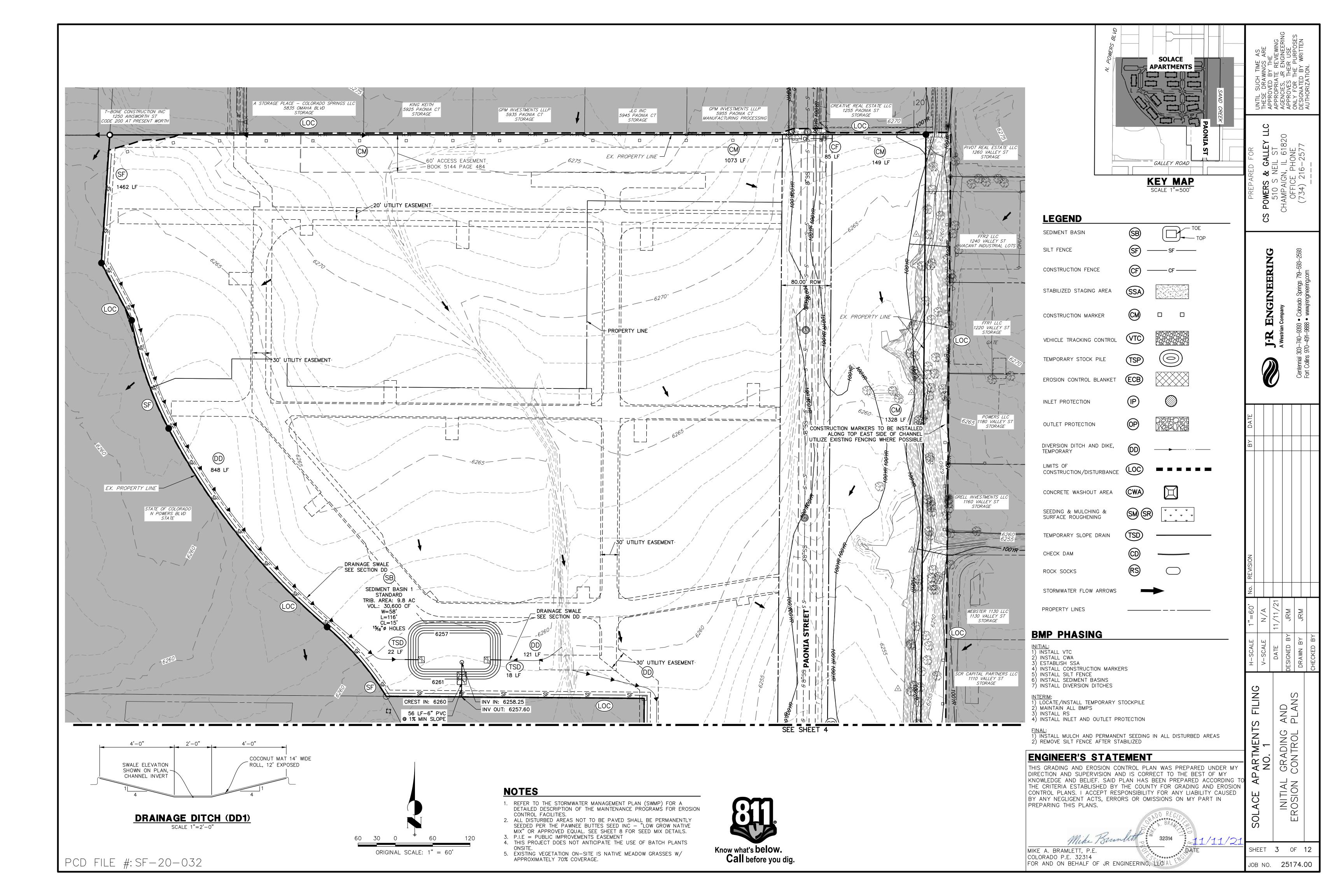
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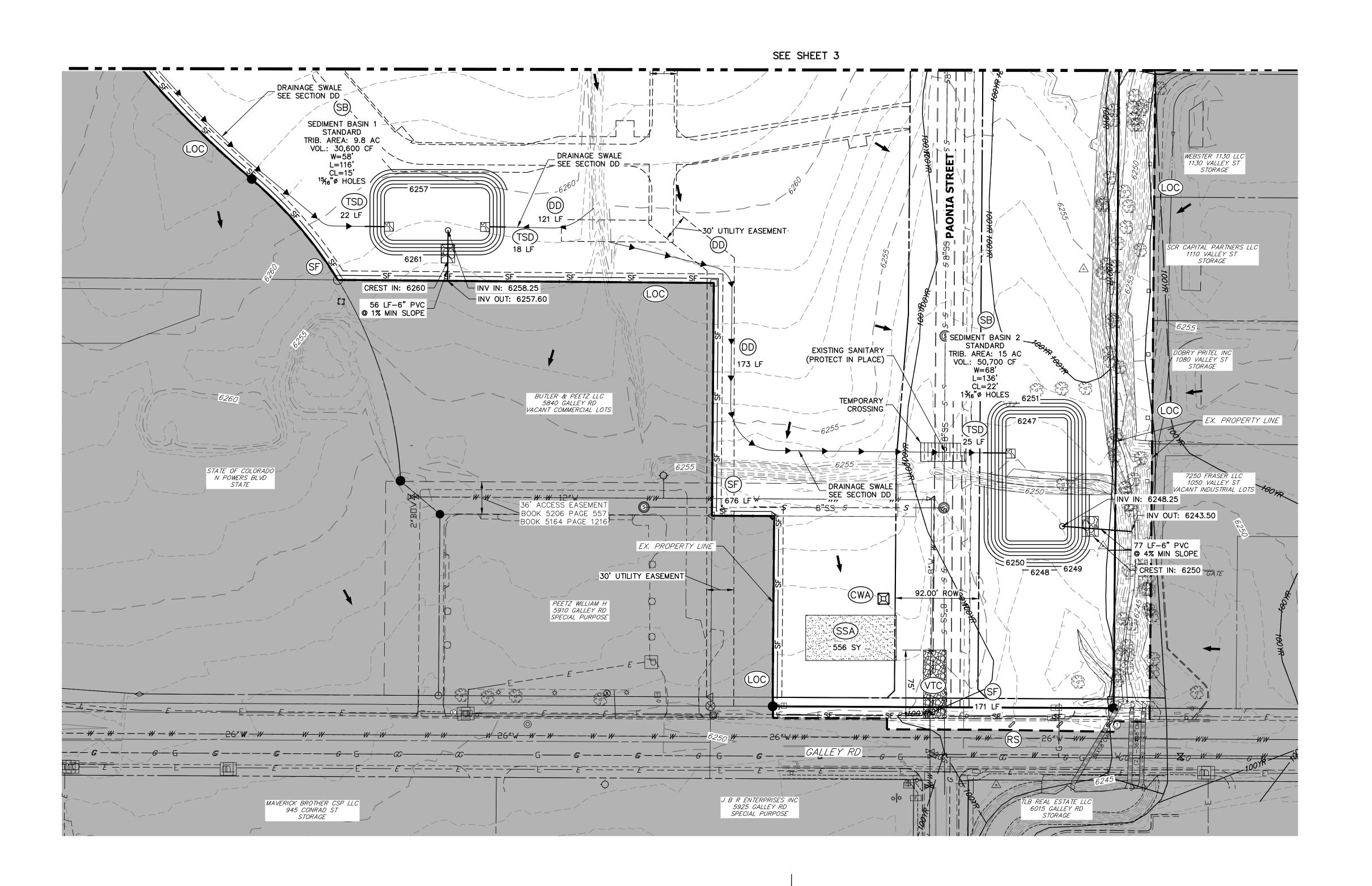
Mike A. BRAMLETT, P.E. COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING JOYAL SMITH

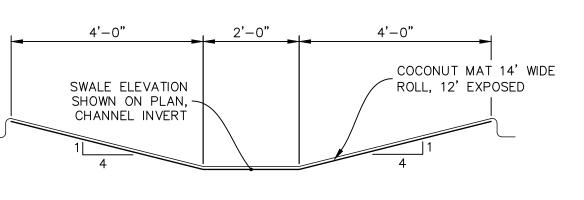
JOB NO. **25174.00**

 ∞

POWE 510 CHAMF OF (73,







SCALE 1"=2'-0"

DRAINAGE DITCH (DD1)

1. REFER TO THE STORMWATER MANAGEMENT PLAN (SWMP) FOR A DETAILED DESCRIPTION OF THE MAINTENANCE PROGRAMS FOR EROSION CONTROL FACILITIES.

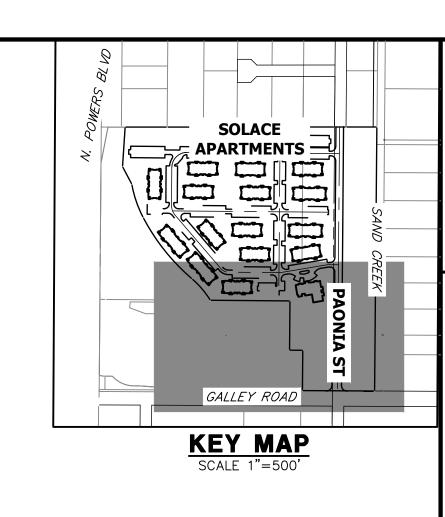
2. ALL DISTURBED AREAS NOT TO BE PAVED SHALL BE PERMANENTLY SEEDED PER THE PAWNEE BUTTES SEED INC — "LOW GROW NATIVE MIX" OR APPROVED EQUAL. SEE SHEET 8 FOR SEED MIX DETAILS. 3. P.I.E = PUBLIC IMPROVEMENTS EASEMENT
4. THIS PROJECT DOES NOT ANTICIPATE THE USE OF BATCH PLANTS

ORIGINAL SCALE: 1" = 60"

NOTES

5. EXISTING VEGETATION ON-SITE IS NATIVE MEADOW GRASSES W/APPROXIMATELY 70% COVERAGE.





SPOWERS & 510 S NE CHAMPAIGN, OFFICE F (734) 216

LEGEND

SEDIMENT BASIN SILT FENCE CONSTRUCTION FENCE STABILIZED STAGING AREA CONSTRUCTION MARKER VEHICLE TRACKING CONTROL TEMPORARY STOCK PILE EROSION CONTROL BLANKET INLET PROTECTION OUTLET PROTECTION DIVERSION DITCH AND DIKE, TEMPORARY LIMITS OF CONSTRUCTION/DISTURBANCE LOC CONCRETE WASHOUT AREA SEEDING & MULCHING & SURFACE ROUGHENING TEMPORARY SLOPE DRAIN CHECK DAM ROCK SOCKS STORMWATER FLOW ARROWS

BMP PHASING

PROPERTY LINES

INITIAL: 1) INSTALL VTC 2) INSTALL CWA 3) ESTABLISH SSA

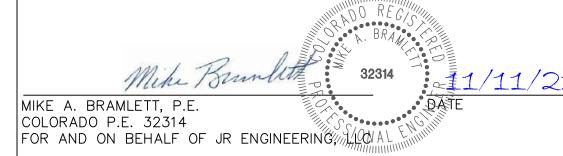
4) INSTALL CONSTRUCTION MARKERS
5) INSTALL SILT FENCE) INSTALL SEDIMENT BASINS 7) INSTALL DIVERSION DITCHES

INTERIM:
1) LOCATE/INSTALL TEMPORARY STOCKPILE 2) MAINTAÍN ALL BMPS 3) INSTALL RS

4) INSTALL INLET AND OUTLET PROTECTION 1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
2) REMOVE SILT FENCE AFTER STABILIZED

ENGINEER'S STATEMENT

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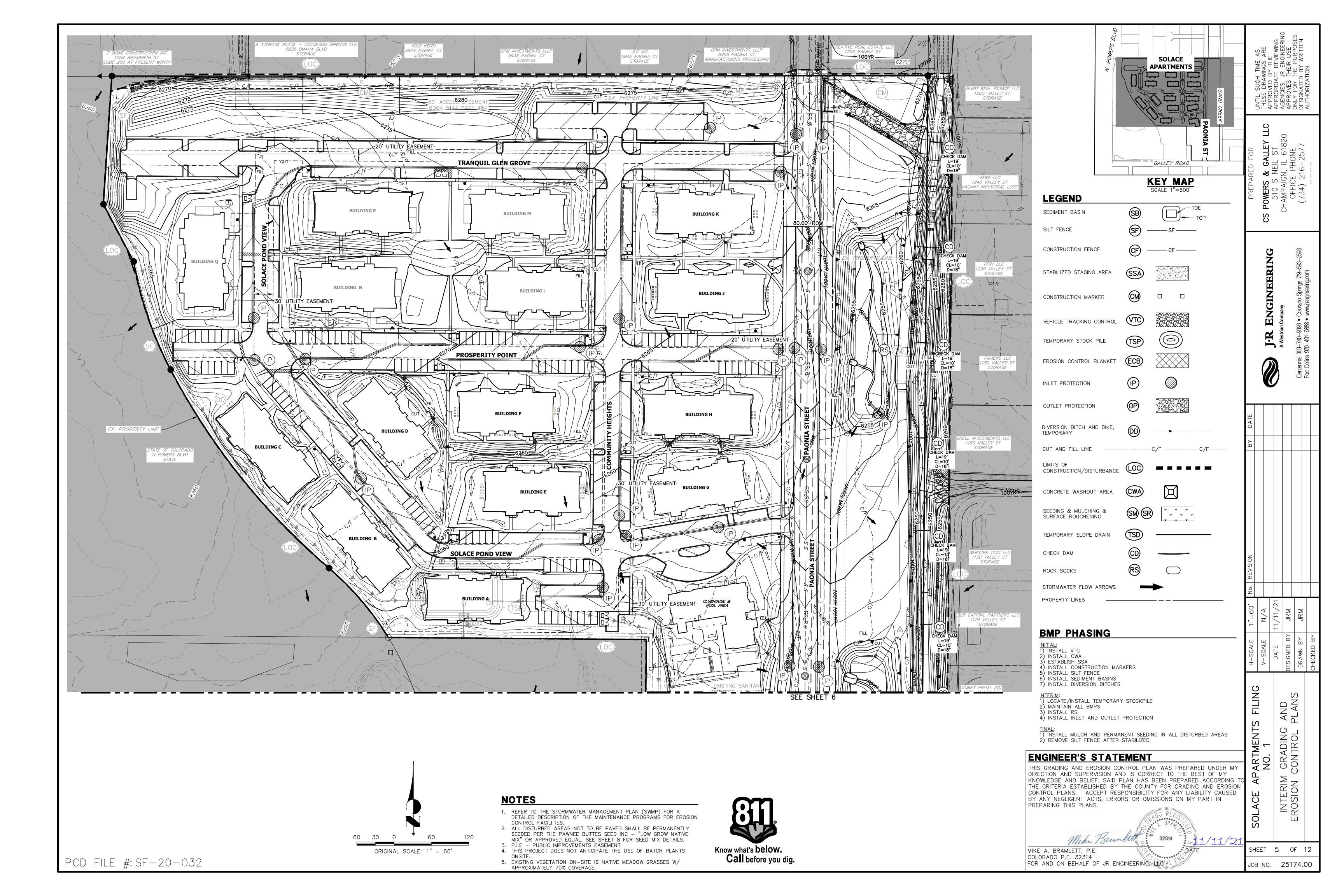


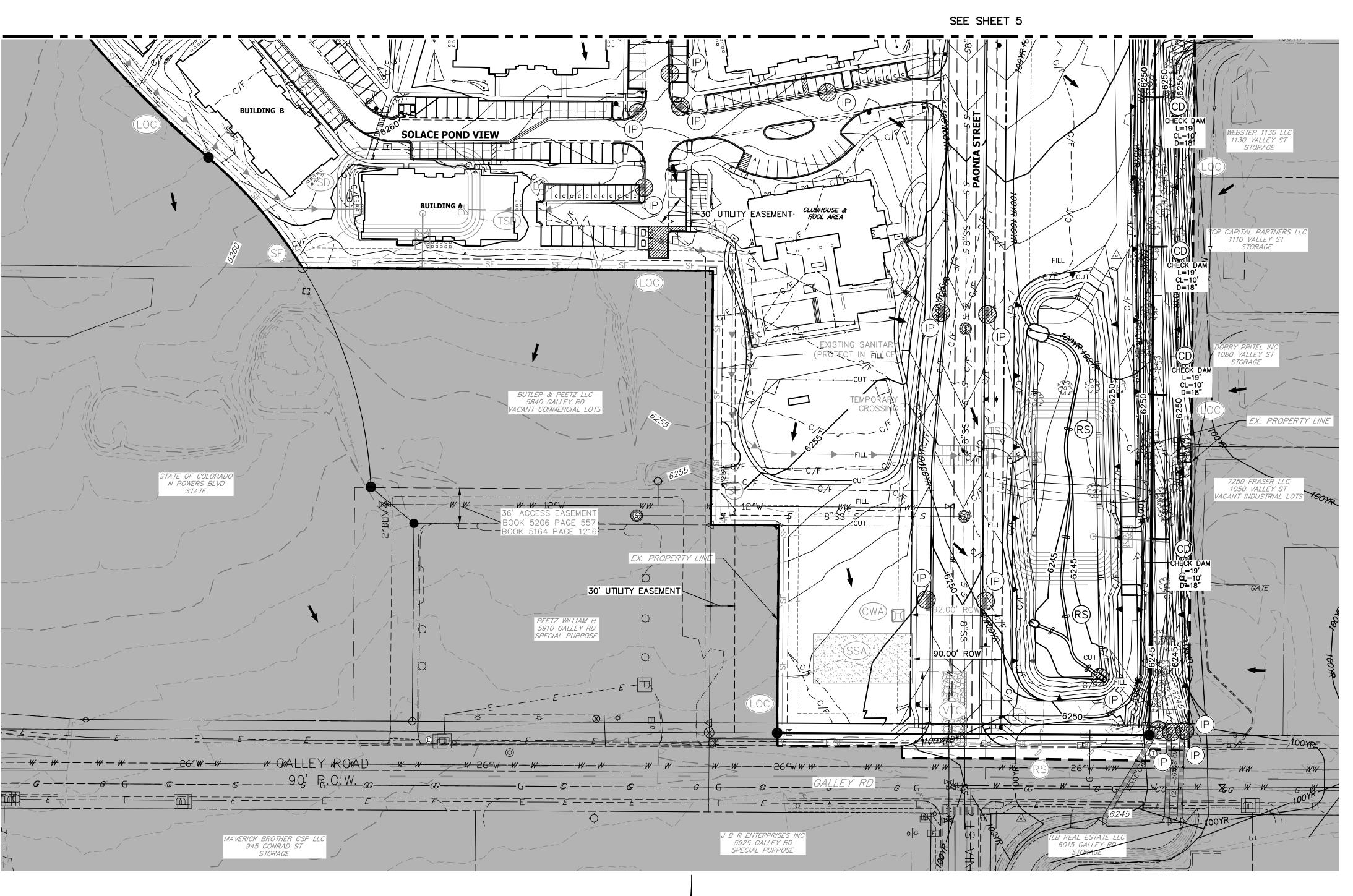
SHEET 4 OF 12 JOB NO. **25174.00**

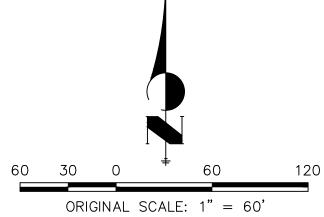
AND PLANS

GRADING CONTROL

INITIAL EROSION







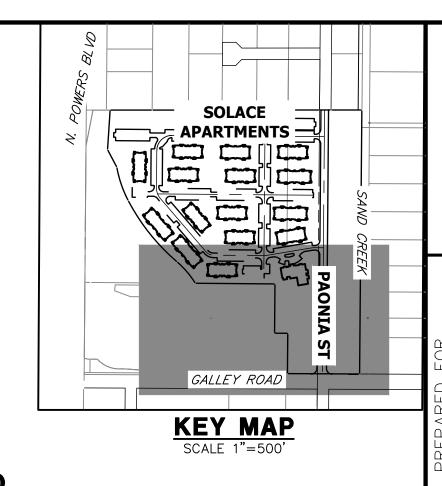
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- 2. ALL DISTURBED AREAS NOT TO BE PAVED SHALL BE PERMANENTLY SEEDED PER THE PAWNEE BUTTES SEED INC "LOW GROW NATIVE MIX" OR APPROVED EQUAL. SEE SHEET 8 FOR SEED MIX DETAILS.

 3. P.I.E = PUBLIC IMPROVEMENTS EASEMENT

 4. THIS PROJECT DOES NOT ANTICIPATE THE USE OF BATCH PLANTS
- 5. EXISTING VEGETATION ON-SITE IS NATIVE MEADOW GRASSES W/ APPROXIMATELY 70% COVERAGE.





LEGEND

CONSTRUCTION FENCE

SEDIMENT BASIN SILT FENCE

STABILIZED STAGING AREA

CONSTRUCTION MARKER

VEHICLE TRACKING CONTROL TEMPORARY STOCK PILE

INLET PROTECTION

EROSION CONTROL BLANKET

OUTLET PROTECTION DIVERSION DITCH AND DIKE,

TEMPORARY

LIMITS OF CONSTRUCTION/DISTURBANCE (CWA) CONCRETE WASHOUT AREA

SEEDING & MULCHING & SURFACE ROUGHENING

TEMPORARY SLOPE DRAIN

CHECK DAM ROCK SOCKS

STORMWATER FLOW ARROWS

<u>INITIAL:</u> 1) INSTALL VTC 2) INSTALL CWA 3) ESTABLISH SSA 4) INSTALL CONSTRUCTION MARKERS
5) INSTALL SILT FENCE
6) INSTALL SEDIMENT BASINS

7) INSTALL DIVERSION DITCHES

BMP^{ROPHASING}

INTERIM:

1) LOCATE/INSTALL TEMPORARY STOCKPILE

2) MAINTAIN ALL BMPS 3) INSTALL RS
4) INSTALL INLET AND OUTLET PROTECTION

FINAL:
1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
2) REMOVE SILT FENCE AFTER STABILIZED

ENGINEER'S STATEMENT

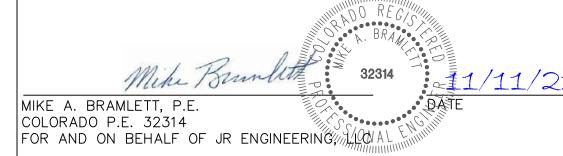
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED AND PLANS

GRADING CONTROL

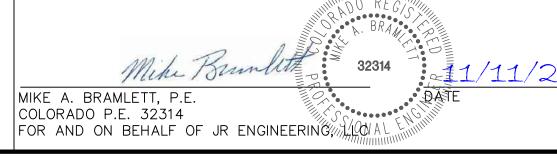
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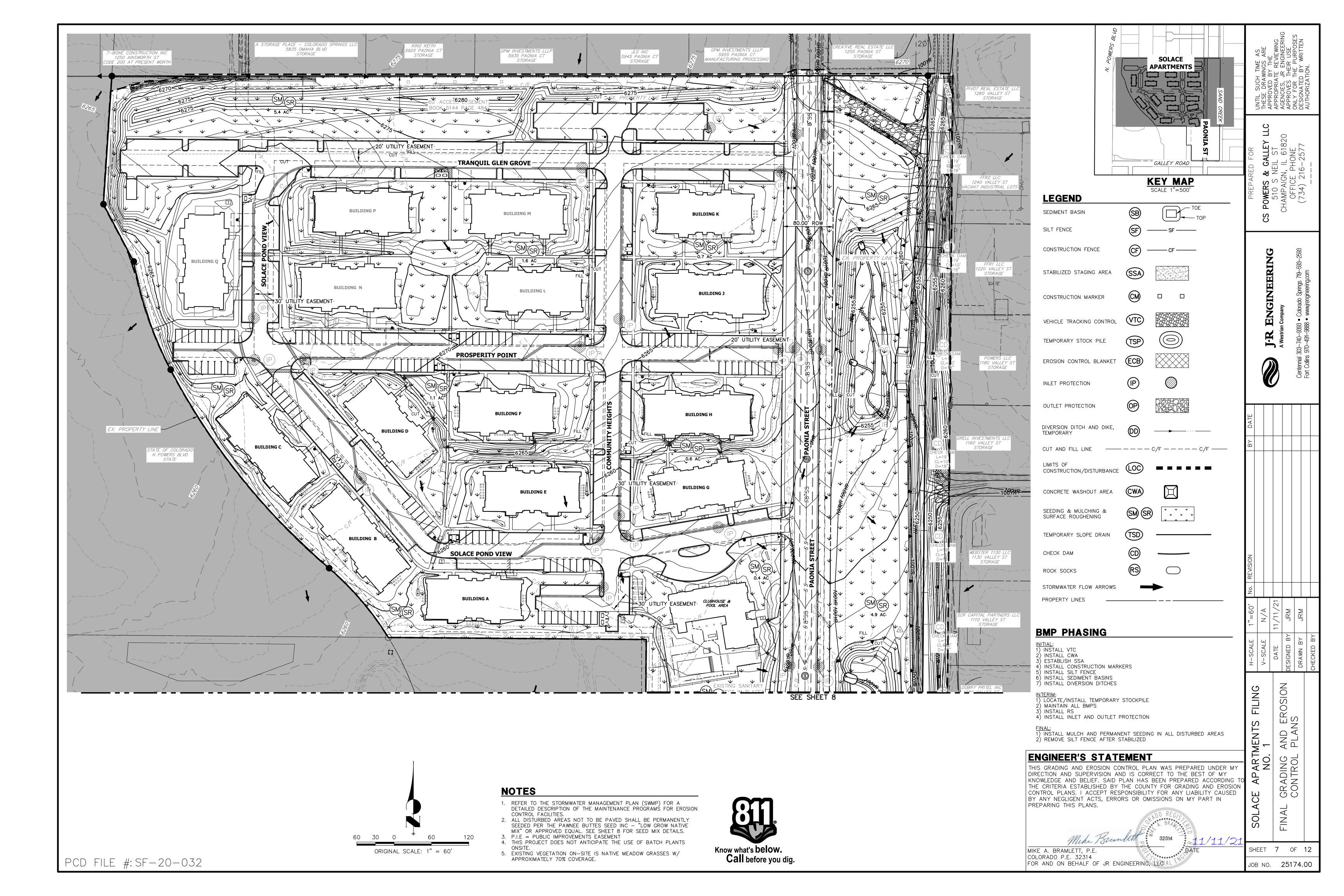
SHEET 6 OF 12

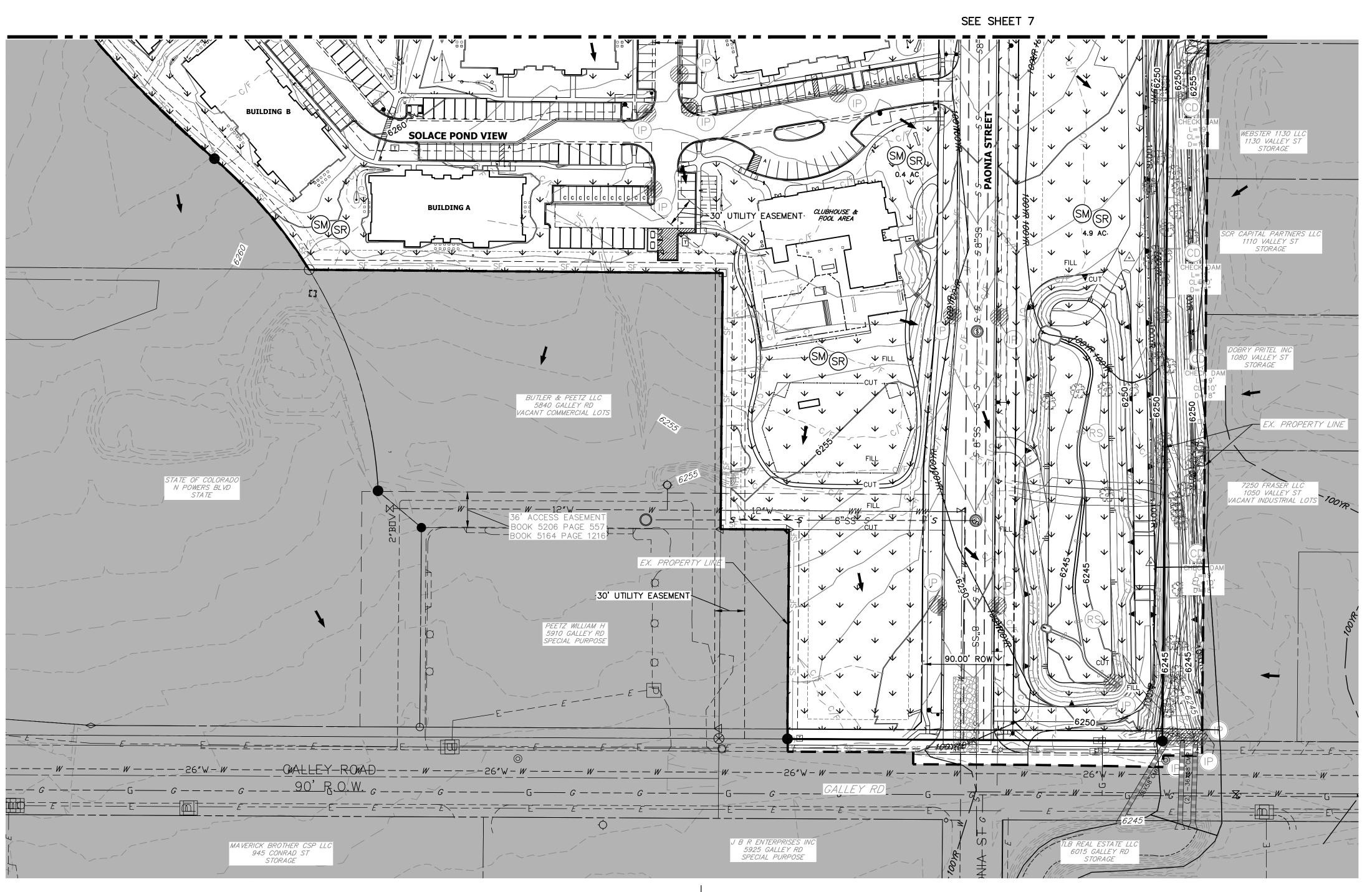
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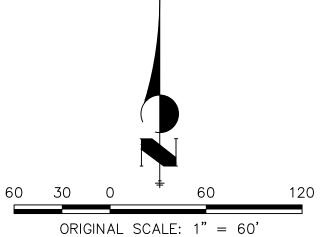


DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.







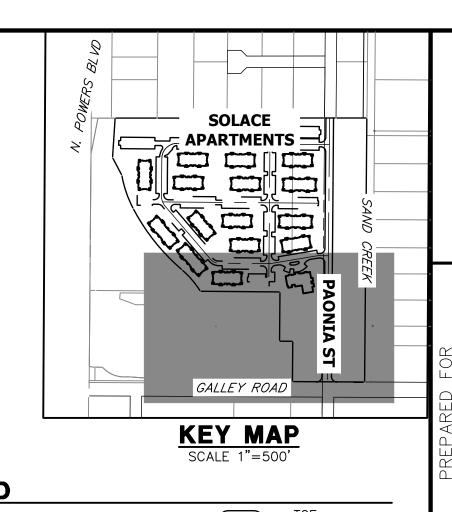


NOTES

1. REFER TO THE STORMWATER MANAGEMENT PLAN (SWMP) FOR A DETAILED DESCRIPTION OF THE MAINTENANCE PROGRAMS FOR EROSION CONTROL FACILITIES.

- 2. ALL DISTURBED AREAS NOT TO BE PAVED SHALL BE PERMANENTLY SEEDED PER THE PAWNEE BUTTES SEED INC — "LOW GROW NATIVE MIX" OR APPROVED EQUAL. SEE SHEET 8 FOR SEED MIX DETAILS. 3. P.I.E = PUBLIC IMPROVEMENTS EASEMENT
- 4. THIS PROJECT DOES NOT ANTICIPATE THE USE OF BATCH PLANTS
- 5. EXISTING VEGETATION ON-SITE IS NATIVE MEADOW GRASSES W/ APPROXIMATELY 70% COVERAGE.





LEGEND

SEDIMENT BASIN SILT FENCE CONSTRUCTION FENCE STABILIZED STAGING AREA

CONSTRUCTION MARKER

VEHICLE TRACKING CONTROL

TEMPORARY STOCK PILE

EROSION CONTROL BLANKET

INLET PROTECTION

OUTLET PROTECTION

DIVERSION DITCH AND DIKE, TEMPORARY

LIMITS OF CONSTRUCTION/DISTURBANCE LOC

(CWA) CONCRETE WASHOUT AREA

SEEDING & MULCHING & SURFACE ROUGHENING

TEMPORARY SLOPE DRAIN

CHECK DAM

ROCK SOCKS STORMWATER FLOW ARROWS

PROPERTY LINES

BMP PHASING

INITIAL: 1) INSTALL VTC 2) INSTALL CWA 3) ESTABLISH SSA
4) INSTALL CONSTRUCTION MARKERS
5) INSTALL SILT FENCE
6) INSTALL SEDIMENT BASINS 7) INSTALL DIVERSION DITCHES

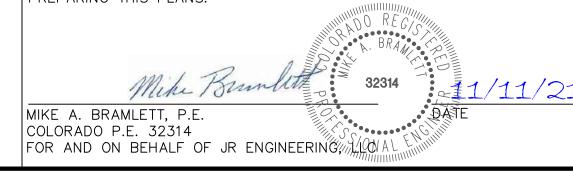
INTERIM:

1) LOCATE/INSTALL TEMPORARY STOCKPILE 2) MAINTAÍN ALL BMPS S) INSTALL RS 4) INSTALL INLET AND OUTLET PROTECTION

FINAL:
1) INSTALL MULCH AND PERMANENT SEEDING IN ALL DISTURBED AREAS
2) REMOVE SILT FENCE AFTER STABILIZED

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 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 PLANS.

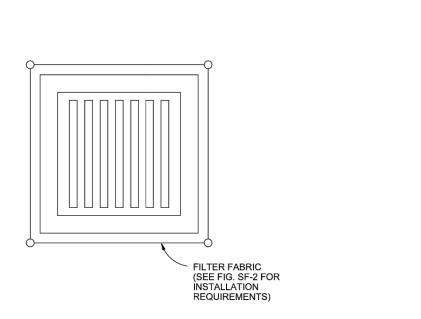


SHEET 8 OF 12 JOB NO. **25174.00**

OSI

AND EF PLANS

GRADING CONTROL



FILTER FABRIC INLET PROTECTION

FILTER FABRIC INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS 1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET. 2. SEE SILT FENCE FIGURE SF-2 FOR

3. POSTS ARE TO BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL. 2. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE INLET PROTECTION SHALL BE PROMPTLY REPAIRED OR REPLACED. 3. SEDIMENT SHALL BE REMOVED FROM BEHIND FILTER FABRIC WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.

MAINTENANCE REQUIREMENTS

4. FILTER FABRIC PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED IN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality

Filter Fabric Inlet Protection Construction Detail and Maintenance Requirements

3-25

MULCHING NOTES INSTALLATION REQUIREMENTS 1. ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED 2. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM. 3. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED. 4. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS 5. MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A 6. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER. MAINTENANCE REQUIREMENTS 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD

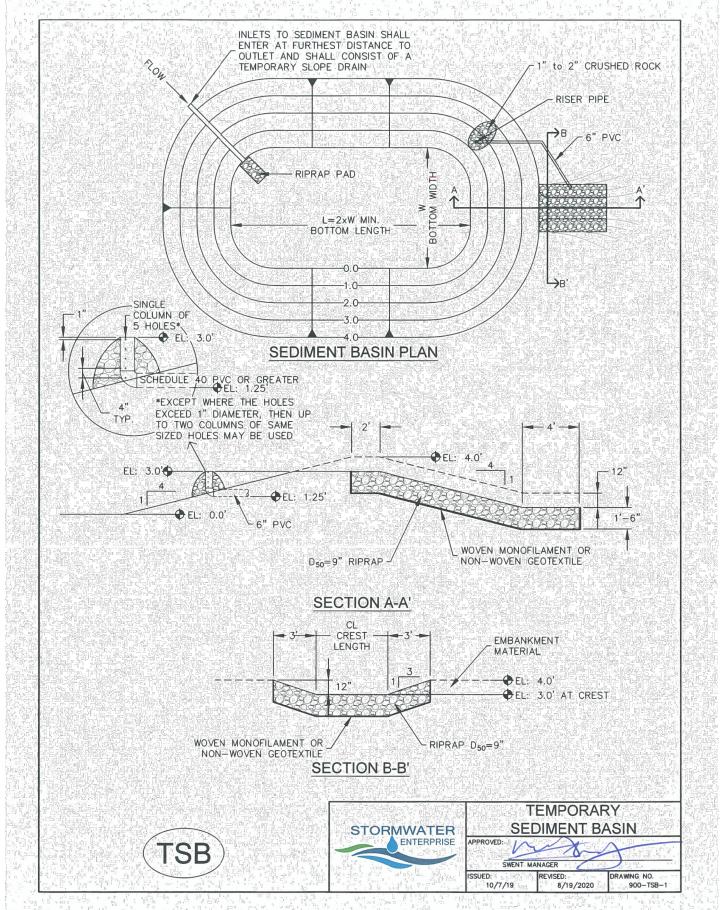
City of Colorado Springs

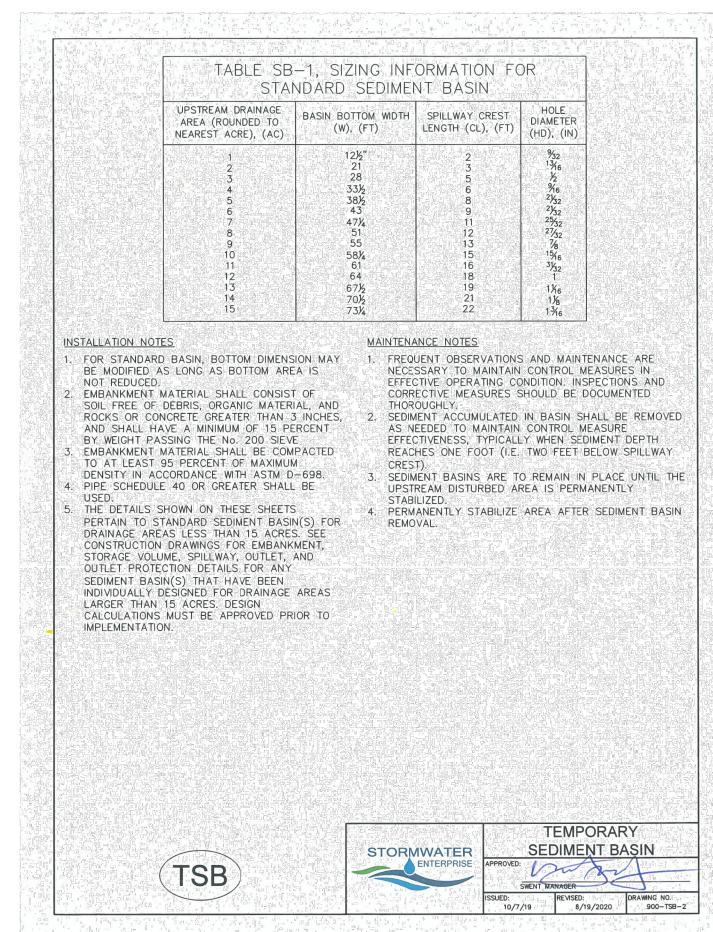
Stormwater Quality

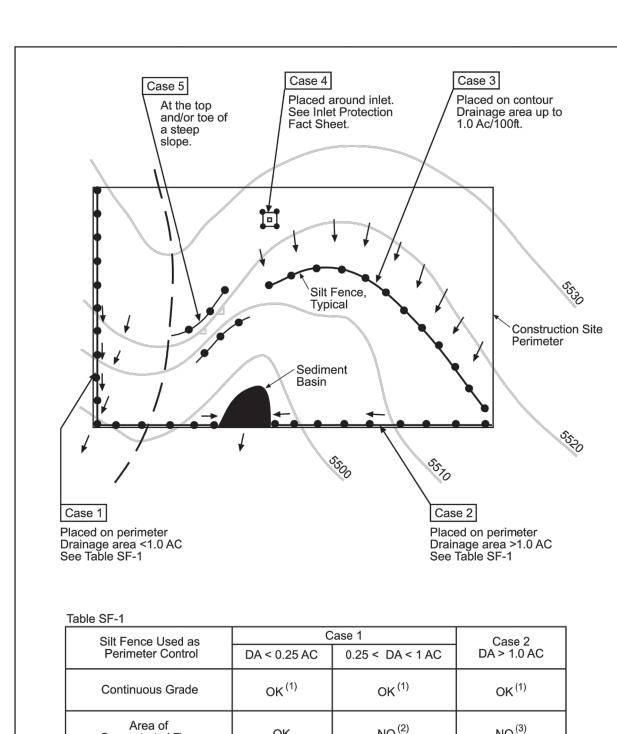
Figure MU-1

Mulching

Construction Detail and Maintenance Requirements







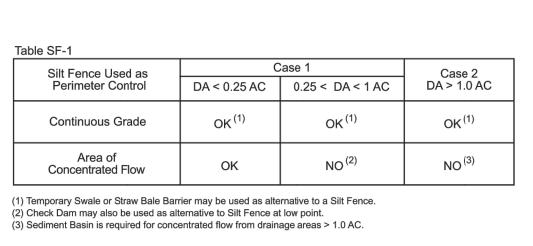
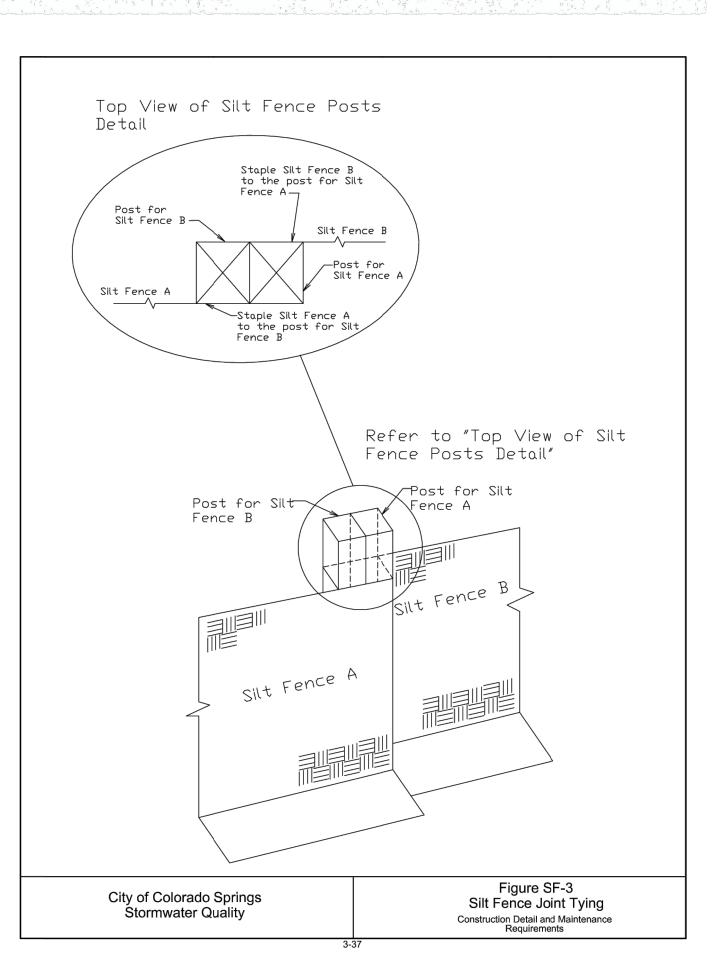


Figure SF-1 City of Colorado Springs Silt Fence Storm Water Quality Application Examples DEN/M/153722.CS.CB/FigSF-1/9-99

FABRIC — ANCHORED IN TRENCH AND ATTACHED POST (2" X 2" NOMINAL) SILT FENCE FABRIC ANCHORED IN TRENCH AND FIRMLY ATTACHED SILT FENCE **SILT FENCE NOTES** INSTALLATION REQUIREMENTS 6. ALONG THE TOE OF FILLS, INSTALL THE SILT 1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND FENCE ALONG A LEVEL CONTOUR AND PROVIDE DISTURBING ACTIVITIES. AN AREA BEHIND THE FENCE FOR RUNOFF TO POND 2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST $5\ \mbox{FEET}$ FROM THE TOE OF THE FILL IS RECOMMENDED. AND SECURELY SEALED. 7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND 3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE SECTION DIMENSION OF 2 INCHES. OF THE STRUCTURE. MAINTENANCE REQUIREMENTS 4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD 1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR TO EXISTING TREES. INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED. 5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE, WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE 2. SEDIMENT SHALL BE REMOVED FROM BEHIND POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" T FENCE WHEN IT ACCUMULATES TO HALF LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND THE EXPOSED GEOTEXTILE HEIGHT. INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND 3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY. MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE. Figure SF-2 City of Colorado Springs Silt Fence Stormwater Quality Construction Detail and Maintenance Requirements



SURFACE ROUGHENING NOTES

APPLICATION TECHNIQUES

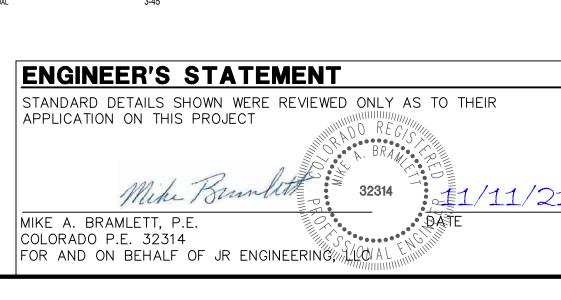
- 1. STAIR STEP GRADING USED ON SLOPES WITH GRADIENTS BETWEEN 3:1 AND 2:1 AND FOR SOIL CONTAINING A LARGE AMOUNT OF SMALL ROCKS. STAIRS ARE TO BE WIDE ENOUGH TO WORK WITH STANDARD EARTH MOVING EQUIPMENT.
- 2. GROOVE CUTTING USED ON SLOPES WITH GRADIENTS BETWEEN 3:1 AND 2:1. GROOVES ARE TO BE AT LEAST 3 INCHES DEEP AND NO MORE THAN 15 INCHES APART.
- 3. TRACKING USED ON SOILS WITH HIGHER SAND CONTENT DUE TO COMPACTION BY HEAVY MACHINERY.

MAINTENANCE REQUIREMENTS

- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL SURFACE ROUGHENED AREAS.
- 2. SURFACE ROUGHENING IS TO BE REPEATED AS OFTEN AS
- 3. VEHICLES OR EQUIPMENT IS NOT TO BE DRIVEN OVER AREAS THAT HAVE BEEN ROUGHENED.
- 4. AS SURFACE ROUGHENING IS ONLY A TEMPORARY CONTROL, ADDITIONAL TREATMENTS MAY BE NECESSARY TO MAINTAIN THE SOIL SURFACE IN A ROUGHENED CONDITION.

STORMWATER QUALITY BMP MANUAL

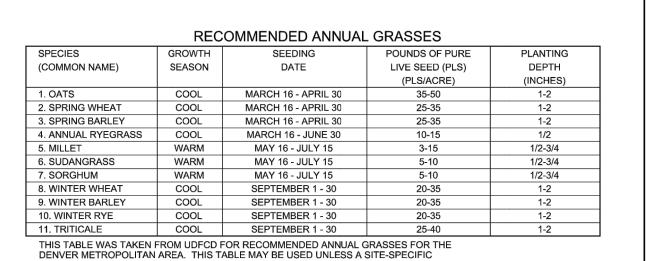




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RADING AND EROS CONTROL DETAILS SHEET 9 OF 12 JOB NO. **25174.00**



SEED MIX IS REQUESTED AND APPROVED.

TEMPORARY SEEDING NOTES

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL SEEDED AREAS TO ENSURE GROWTH.

2. AREAS WHERE GROWTH IS NOT OCCURRING QUICKLY OR THE MULCH HAS BEEN REMOVED SHALL BE RE-SEEDED AS SOON AS POSSIBLE

3. SEEDED AREAS ARE NOT TO BE DRIVEN OVER

WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

AND RE-MULCHED IF NEEDED.

TABLE TS-1

INSTALLATION REQUIREMENTS 1. DISTURBED AREAS ARE TO BE SEEDED WITHIN 21 DAYS AFTER CONSTRUCTION ACTIVITY OR

2. IF NECESSARY, SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER, OR LIME. 3. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO

APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED. 4. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1, AND 1 INCH FOR SLOPES STEEPER THAN 2:1.

5. ANNUAL GRASSES LISTED IN TABLE TS-1 ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.

6. TABLE TS-1 ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL

7. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY 8. ALL SEEDED AREAS ARE TO BE MULCHED (SEE

9. IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

FACTSHEET ON MULCHING).

Figure TS-1 City of Colorado Springs **Temporary Seeding** Stormwater Quality Construction Detail and Maintenance Requirements 3-47

______ Public Road

Case 1

YES

CASE 2

Parking, Staging and Loading/Unloading Area

CASE 1

Case 2

NO

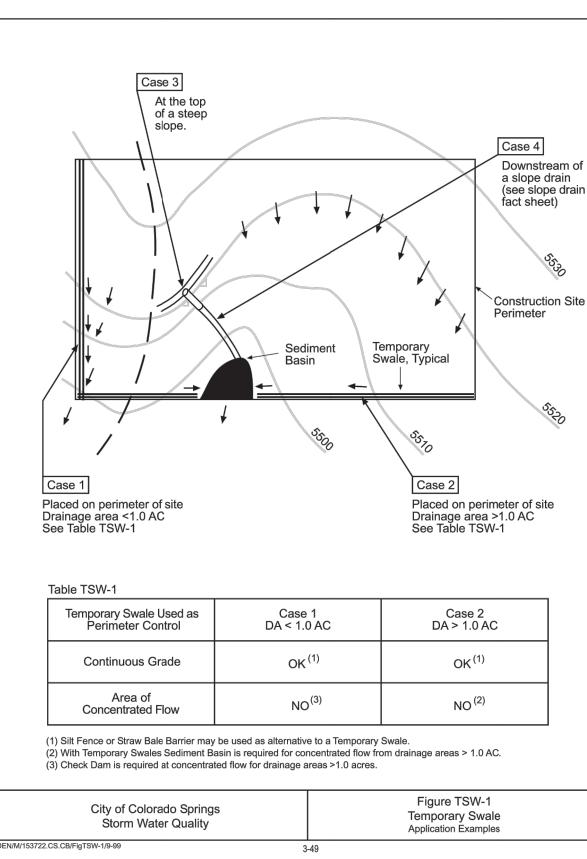
Figure VT-1

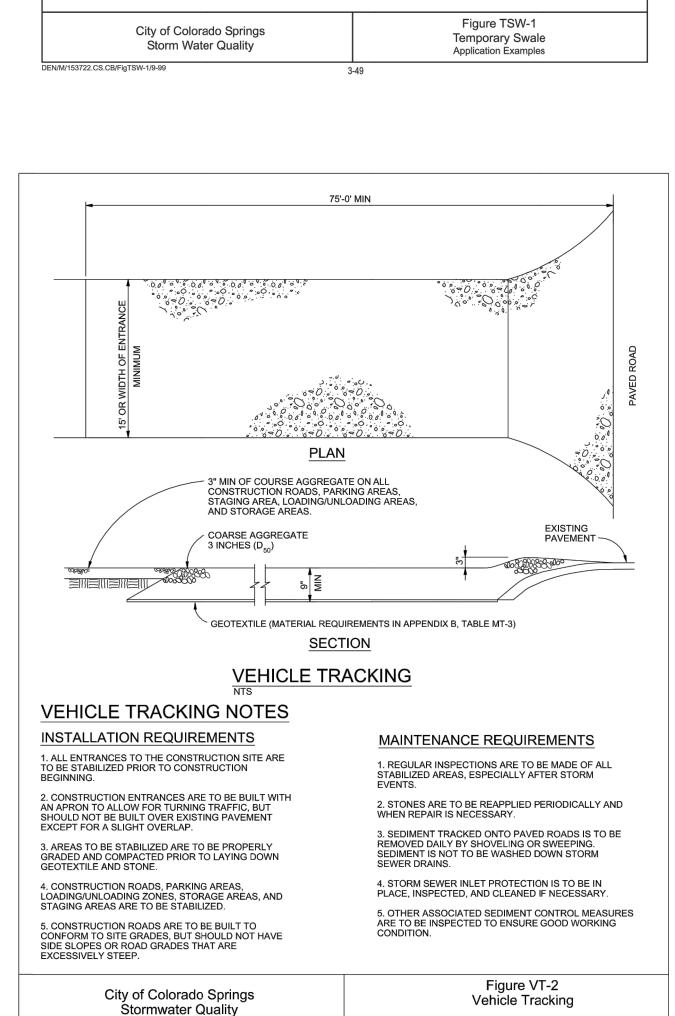
Vehicle Tracking

Application Examples

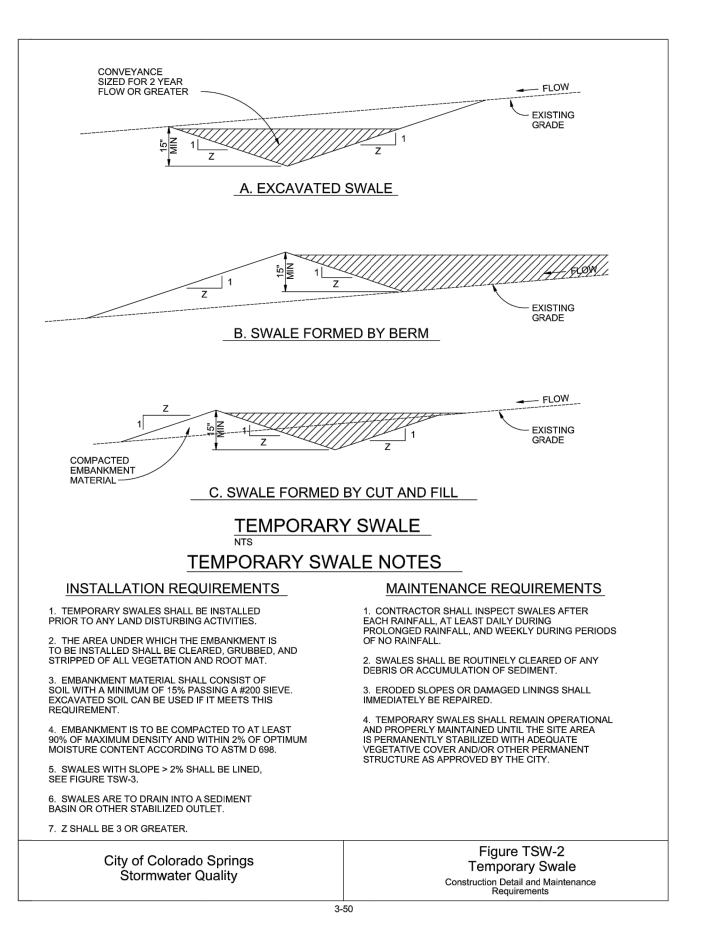
Construction

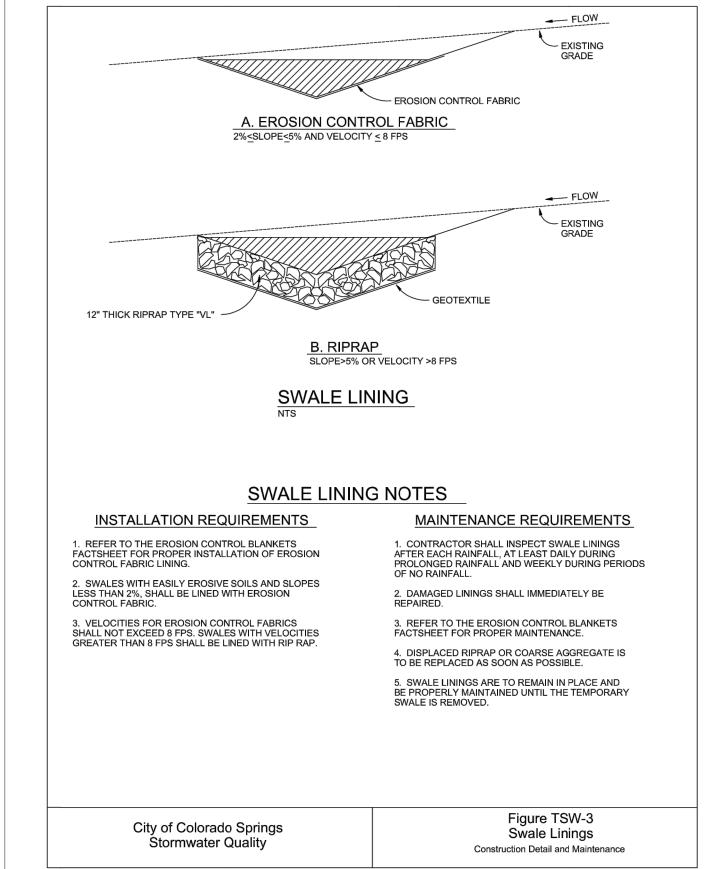
Entrance

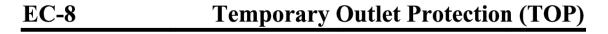


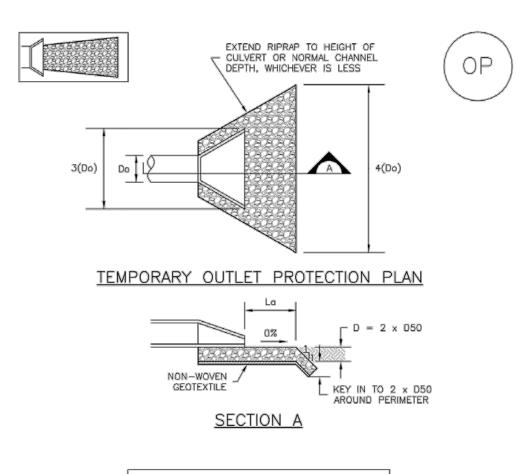


Application Examples









			:		
	TABLE OP	-1. TEMPORA SIZING	RY OUTLET PI TABLE	ROTECTION	
	PIPE DIAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, La (FT)	RIPRAP D50 DIAMETER MIN (INCHES)	
	8	2,5 5	5 10	4 6	
	12	5 10	10 13	4 6	
	18	10 20 30 40	10 16 23 26	6 9 12 16	
	24	30 40 50 60	16 26 26 30	9 9 12 16	
OP-	1. TEMP	ORARY	OUTLET	PROTEC	TION

November 2010

TOP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 **Temporary Outlet Protection (TOP)**

EC-8

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

SEE PLAN VIEW FOR
 -LOCATION OF OUTLET PROTECTION.
 -DIMENSIONS OF OUTLET PROTECTION.

2. DETAIL IS INTENDED FOR PIPES WITH SLOPE \leq 10%, ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES. 3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

TEMPORARY OUTLET PROTECTION 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

3-51

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.

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.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

(DETAILS ADAPTED FROM AURORA, COLORADO AND PREVIOUS VERSION OF VOLUME 3, NOT AVAILABLE IN AUTOCAD)

November 2010

Know what's below. Call before you dig.

TOP-3 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 **ENGINEER'S STATEMENT** STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT 32314 MIKE A. BRAMLETT, P.E. COLORADO P.E. 32314 FOR AND ON BEHALF OF JR ENGINEERING

SAPTMENTS FILING	H-SCALE	A/N	No. REVISION	ВУ	DATE	
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Table VT-1

Gravel Thickness

Filter Fabric

City of Colorado Springs

Storm Water Quality

CWA-1. CONCRETE WASHOUT AREA

8 X 8 MIN.

CONTROL (SEE VTC -

CWA-3

SC-6

CWA INSTALLATION NOTES -CWA INSTALLATION LOCATION.

UNDISTURBED OR

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. 4, CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'. 6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA. 7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND

ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Stabilized Staging Area (SSA)

CWA-4

CONSTRUCTION

SITE ACCESS

CONSTRUCTION

ENTRANCE (SEE DETAILS VTC-1 TO VTC-3)

November 2010

SSA

3" MIN. THICKNESS

GRANULAR MATERIAL

SILT FENCE OR CONSTRUCTION FENCING AS NEEDED

SM-6

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES 5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE

GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION. NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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 DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

CWA MAINTENANCE NOTES

MM-1

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.

Concrete Washout Area (CWA)

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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'. 5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS

IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY. 6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, 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.

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

____ SF/CF ____ SF/CF ___

ONSITE CONSTRUCTION

VEHICLE

AREA

SSA-1. STABILIZED STAGING AREA

-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT

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

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

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 IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

— SF/CF —— SF/CF —

EXISTING ROADWAY

STABILIZED STAGING AREA INSTALLATION NOTES

-LOCATION OF STAGING AREA(S).

FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

EROSION, AND PERFORM NECESSARY MAINTENANCE.

PARKING (IF NEEDED) STOCKPILE PROTECTION PLAN

Stockpile Management (SP)

SECTION A SP-1. STOCKPILE PROTECTION

STOCKPILE

 SEE PLAN VIEW FOR: -LOCATION OF STOCKPILES -TYPE OF STOCKPILE PROTECTION.

STOCKPILE PROTECTION INSTALLATION NOTES

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE

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SM-6

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SP-3

MM-2

SILT FENCE (SEE SF DETAIL FOR

INSTALLATION REQUIREMENTS)

SILT FENCE (SEE SF DETAIL FOR

INSTALLATION REQUIREMENTS)

MM-2

STOCKPILE PROTECTION MAINTENANCE NOTES

STOCKPILE PROTECTION MAINTENANCE NOTES

PERIMETER CONTROLS BY THE END OF THE WORKDAY.

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

DOCUMENTED THOROUGHLY.

DISCOVERY OF THE FAILURE.

STOCKPILE HAS BEEN USED.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

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

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE

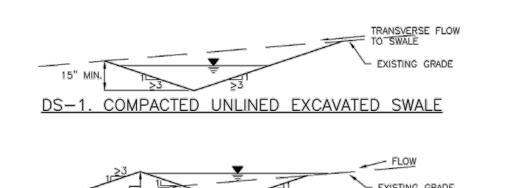
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

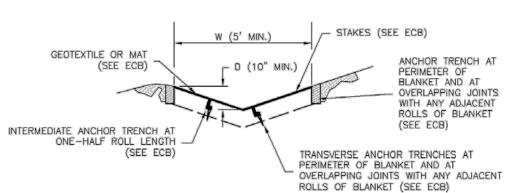
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Stockpile Management (SM)

Earth Dikes and Drainage Swales (ED/DS)

ED-1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM





DS-3. ECB LINED SWALE (CUT AND FILL OR BERM)

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ENGINEER'S STATEMENT APPLICATION ON THIS PROJECT MIKE A. BRAMLETT, P.E COLORADO P.E. 32314

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ED/DS-3 Urban Drainage and Flood Control District STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR 32314 FOR AND ON BEHALF OF JR ENGINEERING

Inlet Protection (IP)

D (12" MIN.) -CULVERT END SECTION BACKFILL UPSTREAM - ROCK SOCK SECTION A CULVERT INLET PROTECTION

KEY IN ROCK SOCK O" ON BEDROCK, PAVEMENT OR RIPRAP KEY IN ROCK SOCK 2" ON EARTH SECTION B CIP-1. CULVERT INLET PROTECTION CULVERT INLET PROTECTION INSTALLATION NOTES

 SEE PLAN VIEW FOR
 -LOCATION OF CULVERT INLET PROTECTION. 2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

PLAN I 10" MIN.

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 1/2 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.

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SSA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

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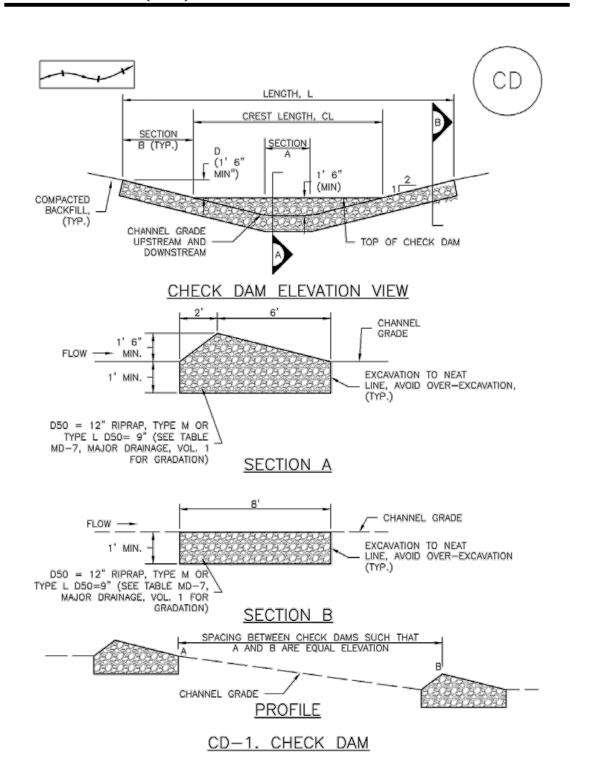
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CHECK DAM INSTALLATION NOTES

SEE PLAN VIEW FOR:
 -LOCATION OF CHECK DAMS.
 -CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 -LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).

2. CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.

3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12")

4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.

5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM 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 CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.

5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

<u>NOTE:</u> 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.

CD-4

CD-3

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ENGINEER'S STATEMENT STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT MIKE A. BRAMLETT, P.E. COLORADO P.E. 32314 FOR AND ON BEHALF OF JR ENGINEERING, J.C. A.L.

S POWERS & GALLEY L 510 S NEIL ST CHAMPAIGN, IL 61820 OFFICE PHONE (734) 216-2577

APARTMENTS FILING NO. 1

GRADING AND EROSION CONTROL DETAILS

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