CONSTRUCTION DOCUMENTS - GRADING

CBP, F2-LOT #21 - CRACKERJACK MUD JACKING, INC

7315 McCLAIN POINT, COLORADO SPRINGS, CO

EL PASO COUNTY

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

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

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

DATE

Add after the 2nd paragraph:

In accordance with ECM Section 1.12, these construction documents will be valid for construction for a period of 2 years from the date signed by the El Paso County Engineer. If construction has not started within those 2 years, the plans will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Directors discretion.

OWNERS'S STATEMENT

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

NAME

DATE

Replace with the following:
[Name, Title]
[Business Name]
[Address]

Note: Provide the actual information.

ENGINEER'S STATEMENT

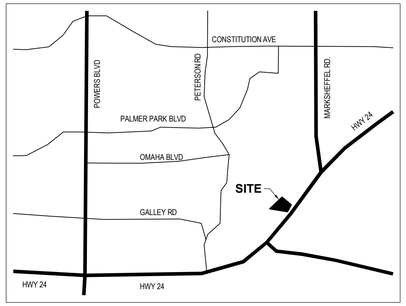
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA STABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

TODD CARTWRIGHT, COLORADO P.E. NO. 33365

DATE

Replace with "Grading and Erosion Control Plan"

Include Contact Informations such as:
Owner, Design Engineer, El Paso County Planning and Community Development, Utility companies, Contractor.



VICINITY MAP
NTS

CIVIL SHEET INDEX

SHEET NO.	DESCRIPTION
C0.0	GRADING COVER SHEET
C2.1	GRADING PLAN
C2.2	EROSION CONTROL PLAN
C2.3	EROSION CONTROL DETAILS
C2.4	EROSION CONTROL DETAILS
C2.5	RAIN GARDEN DETAILS

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Add: PCD Project No. PPR-17-031

COVER SHEET

Galloway
Planning. Architecture. Engineering.
1755 Telstar Drive, Suite 107
Colorado Springs, Co 80920
719.900.7220 O
www.gallowayUS.com

HAMMERS CONSTRUCTION
QUALITY COMMERCIAL CONSTRUCTION SINCE 1983

NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
CRACKERJACK MUD JACKING INC.
CBP, F2 - LOT #21

7315 McCLAIN POINT
COLORADO SPRINGS, CO

#	Date	Issue / Description	Init.
00	06/XX/17	AGENCY SUBMITTAL	TAC

Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

GRADING COVER SHEET

C0.0

GENERAL NOTES

1. CONTRACTOR TO VERIFY ALL UTILITY CONNECTIONS WITH POTHOLE (LOCATION, SIZE, AND ELEVATION) PRIOR TO CONSTRUCTION.

CHEROKEE METROPOLITAN DISTRICT

WATER AND SANITARY SEWER SYSTEM CONSTRUCTION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH CHEROKEE METROPOLITAN DISTRICT STANDARDS AND SPECIFICATIONS AND THE CITY OF COLORADO SPRINGS CONSTRUCTION STANDARDS UNLESS NOTED OTHERWISE. IN THE EVENT OF CONFLICTING STANDARDS CHEROKEE METROPOLITAN DISTRICT STANDARDS AND SPECIFICATIONS SHALL GOVERN.
2. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE AGENCY HAVING JURISDICTION OVER THE ROADWAY WHICH MAY INCLUDE, BUT IS NOT LIMITED TO, THE EL PASO COUNTY PUBLIC SERVICES DIVISION, CITY OF COLORADO SPRINGS, AND/OR THE COLORADO DEPARTMENT OF TRANSPORTATION.
3. ALL STREET SURFACE RESTORATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE AGENCY HAVING JURISDICTION OVER THE ROADWAY.
4. SHOP DRAWING SUBMITTALS SHALL BE MADE FOR ALL MATERIALS TO BE INCORPORATED INTO THIS PROJECT.
5. THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH APPLICABLE STANDARDS AND REGULATIONS AS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
6. THE CONTRACTOR IS TO UNDERTAKE HIS WORK IN ACCORDANCE WITH OSHA'S CONFINED SPACE ENTRY REQUIREMENTS.
7. THE SUBGRADE UNDERNEATH ALL STRUCTURES SHALL BE ADEQUATELY STABILIZED.
8. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL STRUCTURES. FINAL GRADING IS SUBJECT TO REVIEW AND APPROVAL.
9. ALL WATER SYSTEM MAINS PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) CLASS 200 (DR-14) PER AWWA C-900 AND ASTM D241 SPECIFICATIONS, EXCEPT WHERE NOTED. SPECIFICALLY, SECTIONS OF WATER PIPE THAT CROSS UNDER MAJOR DRAINAGE WAYS (SAND CREEK) OR MAJOR THOROUGHFARES SHALL BE DUCTILE IRON PIPE.
10. ALL FITTINGS SHALL BE CONSTRUCTED OF GRAY-IRON MATERIAL AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL BE WRAPPED WITH A 9-MIL THICKNESS POLYETHYLENE MATERIAL PER AWWA STANDARD C105. ALL FITTINGS SHALL HAVE ANODES CAD WELDED.
11. ALL WATER PIPES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE (5) FEET BELOW FINISHED GRADE.
12. ALL BENDS, TEE, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD END MAINS SHALL BE INSTALLED WITH CONCRETE THRUST BLOCKS.
13. VALVE BOXES SHALL BE TYLER SLIP; TYPE "C" CAST IRON VALVE BOX ASSEMBLY SERIES 6860 WITH NO. 160 OVAL BASE OR APPROVED EQUAL.
14. ALL WATER SYSTEM COMPONENTS SHALL BE FLUSHED AND CHLORINATED PER AWWA C-601, "DISINFECTING WATER MAINS" PRIOR TO ACCEPTANCE. THE CONTRACTOR SHALL PRODUCE A 25 MG/L SOLUTION BY ADHERING CHLORINE TABLETS TO THE PIPE SECTION WITH PERMATEX CLEAR TRU INSIDE THE SYSTEM. CHLORINATION SHALL OCCUR PRIOR TO HYDROSTATIC TESTING. THE CONTRACTOR SHALL OBTAIN A BACTERIOLOGICAL SAMPLE AFTER THE SYSTEM HAS BEEN FLUSHED. A CLEAN BACTERIOLOGICAL SAMPLE MUST BE OBTAINED PRIOR TO THE SYSTEM BEING PLACED INTO SERVICE.
15. HYDROSTATIC TESTING: ALL WATER SYSTEM MAINS SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI OR 1½ TIMES THE STATIC OPERATING PRESSURE, WHICH EVER IS GREATER. MAXIMUM ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING: *10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
16. ALL VALVES SHALL CONFORM TO OPEN LEFT CONVENTION PER CHEROKEE METROPOLITAN DISTRICT STANDARDS.
17. WHEN IT IS NECESSARY TO RAISE OR LOWER WATER MAINS AT OTHER UTILITY CROSSINGS THE CONTRACTOR SHALL INSURE A MINIMUM CLEARANCE OF 18" WHERE POSSIBLE BETWEEN THE OUTSIDE DIAMETERS OF PIPES.
18. WHILE CONSTRUCTING THE WATER AND WASTE WATER SYSTEM THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT LEAST ONE "APPROVED FOR CONSTRUCTION" SET OF UPDATED PLANS AT ALL TIMES. APPROVED FIELD MODIFICATIONS TO PLAN SETS SHALL BE CLEARLY IDENTIFIED IN RED INK ON THE PLANS BY THE CONTRACTOR PER FIELD CONSTRUCTION. THESE AS-BUILT CHANGES SHALL BE DATED AND SUBMITTED TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL PREPARE A COMPLETE SET OF "AS CONSTRUCTED" DRAWINGS AND DELIVER THE SETS TO THE CHEROKEE METROPOLITAN DISTRICT PRIOR TO FINAL ACCEPTANCE OF THE WATER SYSTEM.
19. PRIOR TO TAPPING ANY EXISTING WATER MAIN THE CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR SAID TAP IN ACCORDANCE WITH THE CHEROKEE METROPOLITAN DISTRICT STANDARDS.
20. ALL NONMETALLIC PIPES SHALL HAVE A TRACER WIRE ATTACHED TO ITS TOP DURING CONSTRUCTION. THE TRACER WIRE SHALL BE #12 AWG INSULATED COPPER WIRE NO 12 COPPER CONNECTORS AND SHALL BE PERMANENTLY AFFIXED TO THE TOP OF THE PIPE USING TAPE AT 4' INTERVALS. THE TRACER WIRE SHALL ALSO BE PERMANENTLY CONNECTED TO ALL FIRE HYDRANT TEE, METALLIC PIPE BENDS, MAIN VALVE AND OTHER METALLIC FITTINGS AND APPURTENANCES. ALL POINTS OF CONNECTION SHALL BE PROTECTED FROM CORROSION BY AN EPOXY OR SILICON COATING. GROUND TRACER WIRES TO SURFACE AT ALL VALVE BOXES.
21. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES DURING THE WORK. PRIOR TO ANY EXCAVATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT (800) 922-1987 AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
22. SANITARY SEWER PIPE SHALL CONFORM TO ASTM D3034 SDR35 PVC.
23. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING INVERTS PRIOR TO INSTALLATION OF NEW SANITARY SEWER SYSTEM.
24. THE PIPELINE INSTALLATION SHALL GENERALLY BE UNDERTAKEN FROM THE DOWNHILL PORTION OF THE PROJECT PROCEEDING UPHILL.
25. ALL SANITARY SEWER MANHOLES, LIDS, BASES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH (IAW) COLORADO SPRINGS DETAILS STANDARD MANHOLE DETAIL 1. EXCEPT AS NOTED ON THESE PLANS. WHERE REQUIRED ON THESE PLANS, WATER TIGHT MANHOLES, LIDS AND CONNECTIONS SHALL BE PROVIDED IAW COLORADO SPRINGS STANDARDS.
26. SANITARY SEWER SERVICE LINES SHALL BE LOCATED PER THE DETAIL ON THE UTILITY SERVICE PLAN, OR AT THE DIRECTION OF THE INSPECTOR.
27. FLAT TOP LIDS ON PRECAST CONCRETE MANHOLES ARE REQUIRED FOR ALL MANHOLES 5.0 FEET AND LESS IN DEPTH. ECCENTRIC CONES ARE TO BE INSTALLED ON ALL MANHOLES WITH DEPTHS GREATER THAN 5.0 FEET.
28. THE SANITARY SEWER PIPELINE SHALL BE INSTALLED IN STRAIGHT ALIGNMENTS BETWEEN MANHOLES UNLESS OTHERWISE APPROVED BY THE CHEROKEE METROPOLITAN DISTRICT.
29. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING WASTEWATER PIPELINES OR MANHOLES AS A RESULT OF THEIR CONSTRUCTION ACTIVITY.
30. ALL PIPELINES SHALL BE "AS BUILT" SURVEYED AND "AS BUILT" DRAWINGS SUBMITTED TO THE CHEROKEE METROPOLITAN DISTRICT FOR REVIEW AND ACCEPTANCE.
31. MANHOLE ENTRY PERMIT: THE CHEROKEE METROPOLITAN DISTRICT WILL AUTHORIZE THE CONTRACTOR TO ENTER DISTRICT-OWNED MANHOLES, HOWEVER, THE DISTRICT WILL NOT ISSUE AN "ENTRY PERMIT" TO THE CONTRACTOR FOR ANY CONFINED SPACE. PRIOR TO ANY ENTRY, THE CONTRACTOR SHALL PROVIDE HIS OWN PERSONNEL CAPABLE AND QUALIFIED TO ISSUE AN ENTRY PERMIT AND SHALL BE EQUIPPED FOR ENTRY INTO CONFINED SPACES. THE CHEROKEE METROPOLITAN DISTRICT WILL ASSUME NO RESPONSIBILITY FOR THE CONTRACTOR'S ENTRY INTO DISTRICT-OWNED MANHOLES.
32. OVER LOT GRADING AND STREET SUB GRADE MUST BE WITHIN ± ONE (1) FOOT PRIOR TO ANY UTILITY INSTALLATION.
33. TRACER WIRE IS TO BE INSTALLED WITH ALL SANITARY SEWER MAIN LINES AND SERVICES (FROM THE MAN LINE TO THE BUILDING STRUCTURE). AS OUTLINED IN COMMENT #13
34. MINIMUM DEPTH OF SANITARY SEWER IS 6 FEET OF COVER. IF THIS MINIMUM CANNOT BE ACHIEVED DO TO SHALLOW SEWER STUB THEN THE FOLLOWING APPLIES; OTHER WISE THE SEWER SERVICE MUST HAVE 6 FEET OF COVER:
    - DEPTH GREATER THAN 6 FEET; MATERIAL TYPE SDR 35
    - DEPTH BETWEEN 4 FEET AND 6 FEET; MATERIAL TYPE SCH 40 OR CAST IRON PIPE (CIP)
    - DEPTH LESS THAN 4 FEET; MATERIAL TYPE SCH 40 OR CIP WITH CONCRETE CAP.
35. WATER SERVICE MUST BE OVER THE SEWER AT ALL TIMES. SEWER SERVICE PIPE LOCATED WITHIN ONE FOOT OF THE WATER SERVICE LINE MUST BE CONSTRUCTED WITH SCH 40 PIPE OR CIP.
36. ALL EXTERIOR SEWER CLEAN OUTS (CO) MUST HAVE A CAST IRON, TRAFFIC RATED COVER, OR EQUIVALENT WITH CONCRETE COLLAR.
37. SPECIFIC SIZE APPLICATION OF THE SAND/OIL AND OR GREASE TRAP TO BE DETERMINED BY CHEROKEE METRO DISTRICT, WITH THE MINIMUM SIZE TO BE 1500 GALLON.
38. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE DISTRICT, TWO (2) COPIES OF "AS-CONSTRUCTED" PLANS AND TWO (2) SETS OF ELECTRONIC DATA FILES OF THE PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR RECORD.
    a. THE TWO (2) COPIES SHALL BE COMPLETE WITH ALL "AS-CONSTRUCTED" INFORMATION TOGETHER WITH A CERTIFICATION BY THE PARTY RESPONSIBLE FOR CONSTRUCTION THAT ALL DATA THEREON IS ACCURATE AND REPRESENTS ACTUAL CONSTRUCTED CONDITIONS.
    b. THE TWO PLAN SETS SHALL BE SUBMITTED ON SHEETS THAT ARE 24" X 36" IN SIZE.
    c. THE PLAN SET SHALL BE ON A DURABLE MEDIA THAT CAN BE RUN THROUGH PHOTOCOPYING EQUIPMENT.
    d. THE TWO ELECTRONIC DATA FORMATS SHALL BE SUBMITTED. THE FIRST ELECTRONIC DATA FILE SET SHALL BE IN AUTOCAD 2006 OR NEWER FORMAT WITH NO EXTERNAL REFERENCE DRAWINGS. ALL EXTERNAL REFERENCES MUST BE BOUND INTO THE DRAWING SET. THE SECOND SET OF ELECTRONIC DATA FILES SHALL BE IN ADOBE ACROBAT .PDF FORMAT.
    e. "AS-CONSTRUCTED" PLANS SHALL BE SUBMITTED WITHIN TWO WEEKS OF COMPLETION OF THE WATER AND/OR SANITARY SEWER UTILITIES.
    f. NO AUTHORIZATION TO CONNECT TO THE SYSTEM OR DISCHARGE TO THE SYSTEM WILL BE ALLOWED UNTIL THE "AS-CONSTRUCTED" DOCUMENTS HAVE BEEN RECEIVED AND ACCEPTED BY THE DISTRICT.
    g. ALL PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS SHALL BE PREPARED BY OR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF COLORADO. ALL PLANS AND SPECIFICATIONS SHALL BEAR THE SEAL AND SIGNATURE OF SAID LICENSED PROFESSIONAL ENGINEER.
39. THE CONTRACTORS WARRANTY SHALL EXTEND FOR A TWO-YEAR PERIOD FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.

CAUTION - NOTICE TO CONTRACTOR

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

CIMARRON HILLS FIRE DEPARTMENT

ACCORDING TO THE MODELED CALCULATIONS REVIEWED BY THE GOVERNING WATER DISTRICT AND/OR COLORADO REGISTERED CIVIL ENGINEER/DESIGNER; THE THEORECTICAL AVAILABLE FIRE FLOW AT NODE "A" IS XXXX GALLONS PER MINUTE UNDER MAXIMUM DAILY DEMAND CONDITIONS AT 20 PSI RESIDUAL. THE ACTUAL FIRE FLOW MAY VARY DUE TO VARIOUS PARAMETERS. UPON DETAILED REVIEW OF THE AVAILABLE WATER SUPPLY, FIRE HYDRANT LOCATIONS AND HOSE LAY DISTANCES, THESE PLANS ARE HEREBY CONSIDERED APPROVED.

FIRE DEPARTMENT SIGNATURE: _____ DATE: _____

PRIVATE WATER MAIN EXTENSIONS

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THE INSTALLATION OF THESE PROPOSED WATER FACILITIES WILL BE MADE IN ACCORDANCE WITH THE DISTRICTS SPECIFICATIONS AND SHALL PROVIDE A MINIMUM OF FIVE FEET (5' 0") AND A MAXIMUM OF SIX (6' 0") OF COVER OVER THE WATER MAIN(S). THE UNDERSIGNED UNDERSTANDS THAT ALL WATER MAINS, FIRE HYDRANTS, AND APPURTENANCES AS INDICATED ON THIS INSTALLATION PLAN SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER.

SIGNED: _____ DATE: _____

DBA: HAMMERS CONSTRUCTION

ADDRESS: 1411 WOOSELY HEIGHTS, COLORADO SPRINGS, CO 80915

DESIGN PROFESSIONAL STATEMENT

THESE WATER/WASTEWATER PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH COLORADO SPRINGS UTILITIES CRITERIA.

_____
TODD CARTWRIGHT, COLORADO P.E. NO. 33365

_____
DATE

WATER INSTALLATION CORROSION CONTROL REQUIREMENTS

REQUIRED, DESCRIBES AS FOLLOWS: PROVIDE CATHODIC PROTECTION & WRAP ALL METAL JOINTS, VALVES, PIPES AND HYDRANTS.

WATER WASTEWATER PLAN APPROVAL

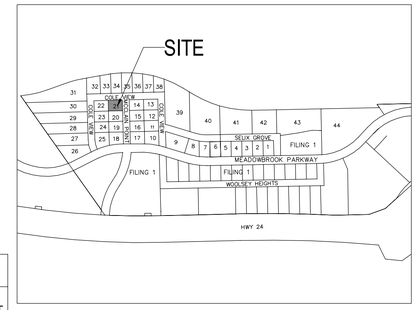
_____ DATE: _____
(CHEROKEE METROPOLITAN DISTRICT)

UTILITY LEGEND

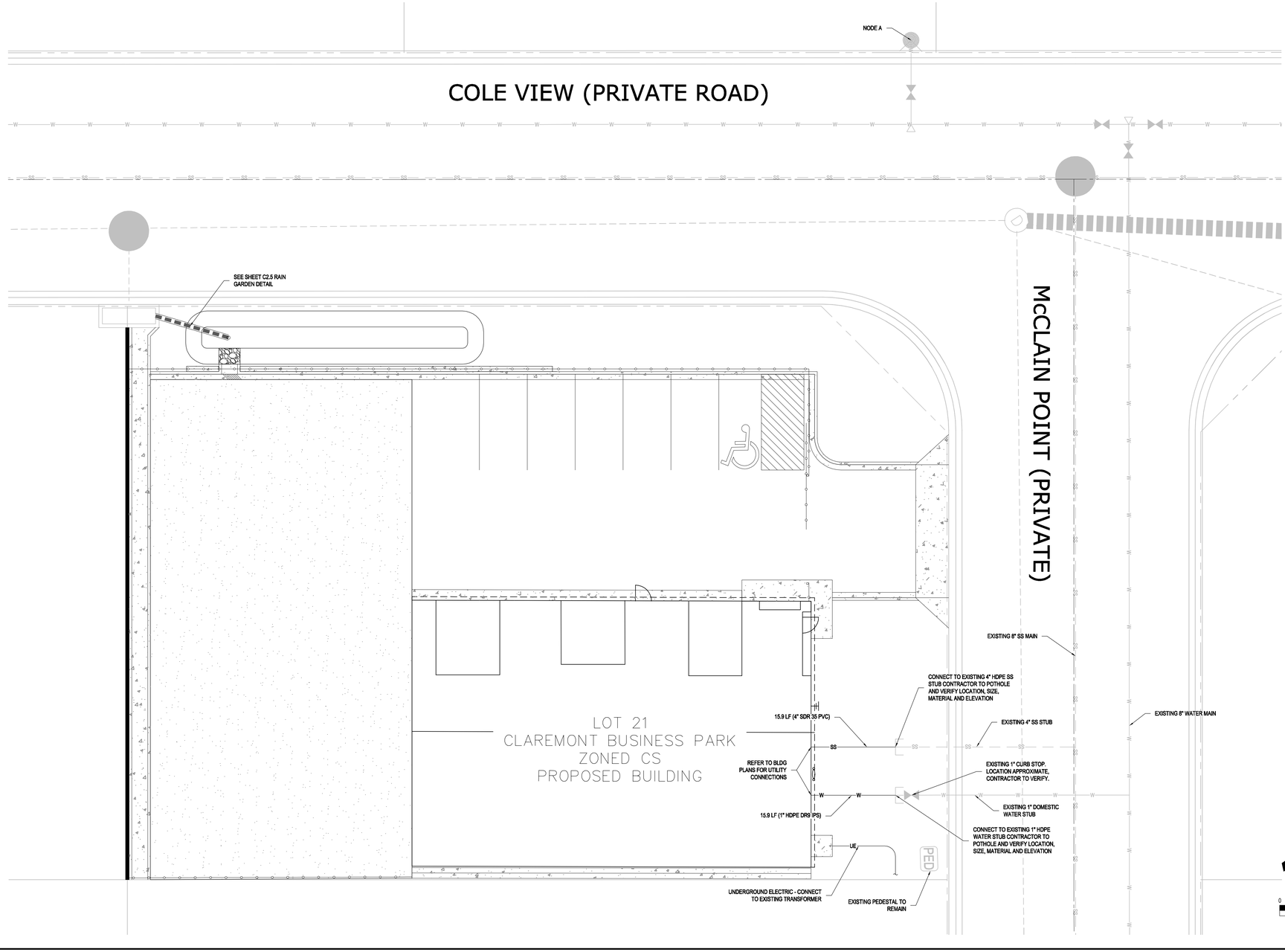
- W — EXISTING WATER LINE
- W — PROPOSED WATER LINE
- SS — EXISTING SANITARY SEWER
- SS — PROPOSED SANITARY SEWER
- PROPOSED CULVERT
- G — EXISTING GAS LINE
- UE — EXISTING UNDERGROUND ELECTRICAL
- OHT — EXISTING OVERHEAD TELEPHONE

BUILDING DATA TABLE

BLDG.	BLDG. TYPE	SQ.FT.	FIRE WALL	SPRINKLER	FIRE FLOW REQ.	MIN. # HYDRANTS	AVERAGE SPACING	MAX HOSE LAY LENGHT
CRACKERJACK	2B	3,834	NO	NO	1,500	1	500'	250'



SITE MAP
NTS



N

0 5 10
SCALE: 1"=10'

Galloway
Planning. Architecture. Engineering.
1755 Telstar Drive, Suite 107
Colorado Springs, Co 80920
719.900.7220 O
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00	06/XX/17	AGENCY SUBMITTAL	TAC

Project No:	HCI003.1
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UTILITY SERVICE PLAN

C1.1

H:\Hammers Construction Inc\CO. El Paso County - HCI\0000003.01 - Crackerjack\CADD\3-CD\DWG\HCI03_C1.1-USP.dwg - Ryan Graham - 6/28/2017

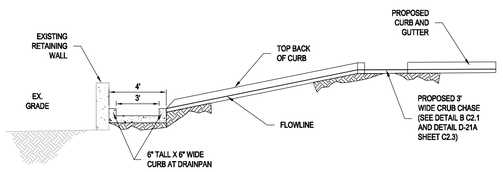
GRADING LEGEND

6334	EXISTING CONTOUR
6340	PROPOSED MAJOR CONTOUR
41	PROPOSED MINOR CONTOUR
	PROPOSED STORM SEWER
	FLOW ARROW
X.X%	SLOPE
BW	BOTTOM OF WALL
FFE	FINISHED FLOOR
FG	FINISH GRADE
GB	GRADE BREAK
TW	TOP OF WALL
55.00	FINISHED GRADE ELEVATION

STANDARD GRADING NOTES (EL PASO COUNTY):

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 DSD INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THESWMP 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 TERRACON 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

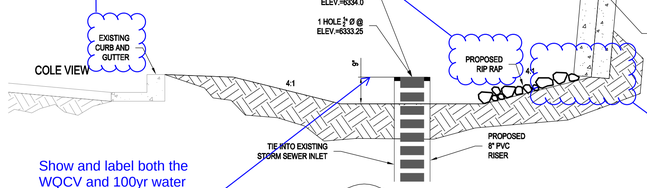


A C2.1 DRAINPAN AT EXISTING RETAINING WALL
SCALE: 1"=5'

Callout the lowest top of curb elevation fronting the rain garden.

Identify the riprap LxWxD and D50 Size.

Show and label both the WQCV and 100yr water elevation.



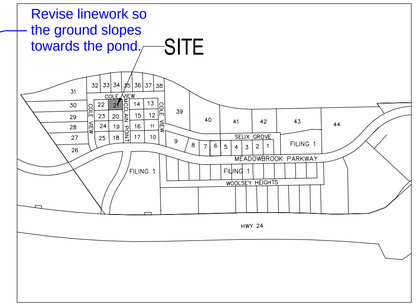
B C2.1 RAIN GARDEN RISER PIPE AND RETAINING WALL
SCALE: 1"=2'

Revise linework so the ground slopes towards the pond.

Show the actual retaining wall cross section which includes the footers.

Since the retaining wall is greater than 4 feet in height building permit is required.

Therefore, add a callout stating a building permit is required for the retaining wall.

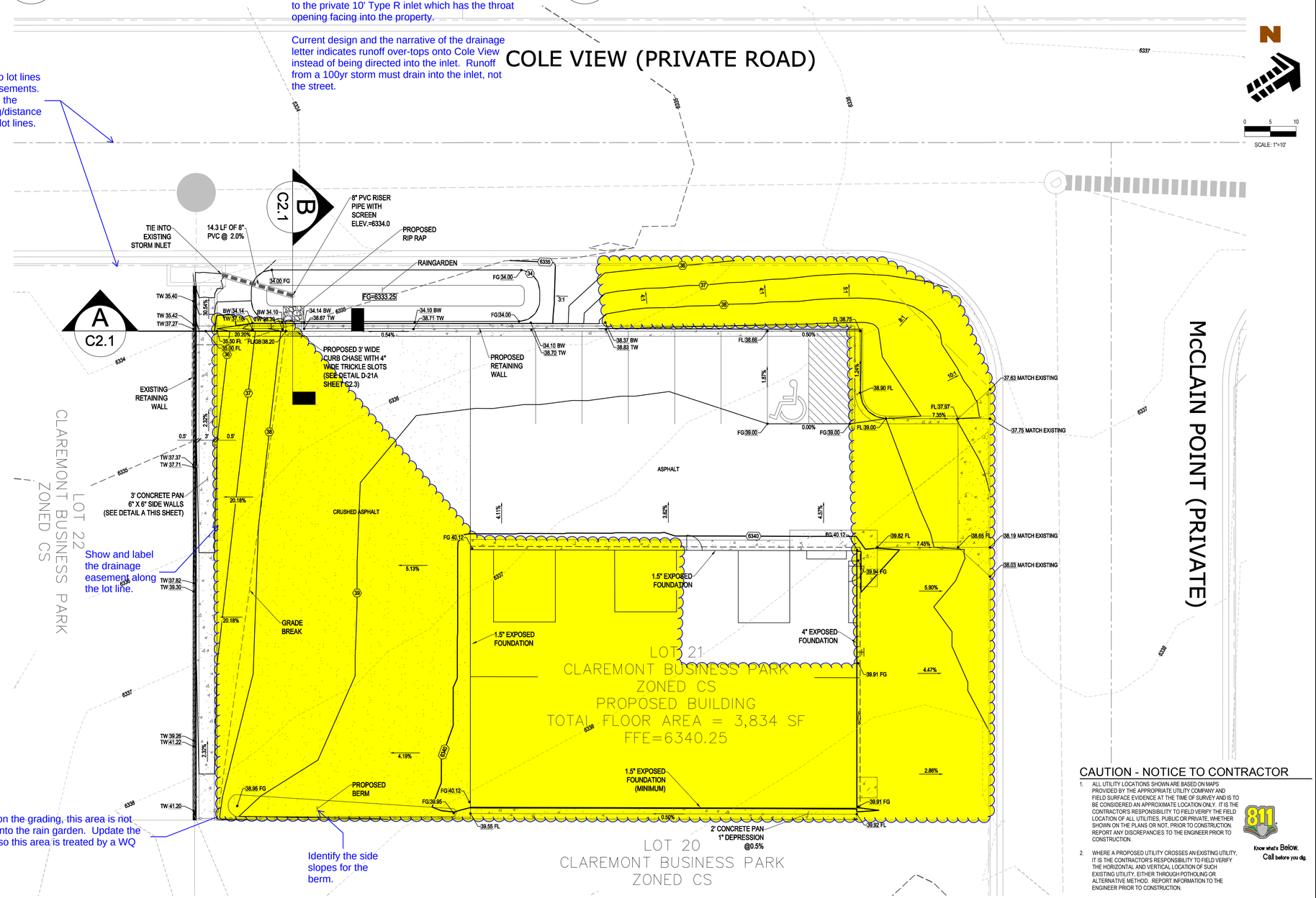


SITE MAP
NTS

Per the CBP Fil 2 FDR, Q5 & Q100 will be directed to the private 10' Type R inlet which has the throat opening facing into the property.

Current design and the narrative of the drainage letter indicates runoff over-tops onto Cole View instead of being directed into the inlet. Runoff from a 100yr storm must drain into the inlet, not the street.

Label to lot lines and easements. Include the bearing/distance for the lot lines.



Based on the grading, this area is not routed into the rain garden. Update the design so this area is treated by a WQ BMP.

Identify the side slopes for the berm.

CAUTION - NOTICE TO CONTRACTOR

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2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

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NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
CRACKERJACK MUD JACKING INC.
CBP, F2 - LOT #21

7315 McCLAIN POINT
COLORADO SPRINGS, CO

#	Date	Issue / Description	Init.
00	06/XX/17	AGENCY SUBMITTAL	TAC

Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

GRADING PLAN

C2.1

EROSION CONTROL LEGEND

- 6353 — EXISTING CONTOUR
- 6355 — PROPOSED MAJOR CONTOUR
- 63 — PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- FLOW ARROW
- CWA — CONCRETE WASHOUT
- IP — INLET PROTECTION PER USDCM
- RS — ROCK SOCK
- SF — SILT FENCE
- SP — SITE POSTING (CONTACTS AND PERMITS)
- VTC — CONSTRUCTION VEHICLE ENTRY

CAUTION - NOTICE TO CONTRACTOR

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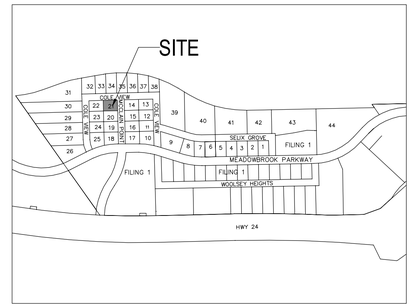
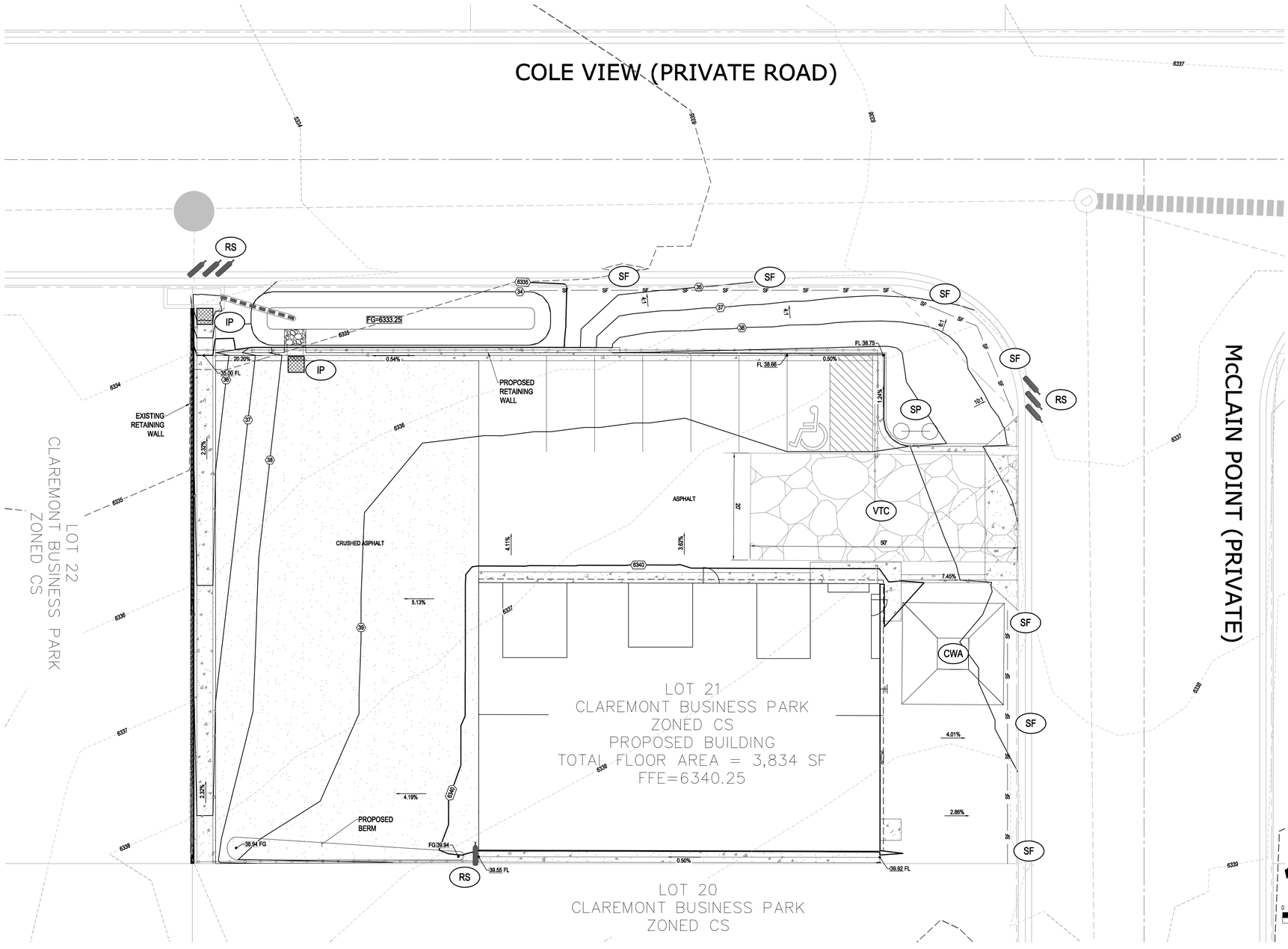
811 Know what's Below. Call before you dig



SITE MAP
NTS



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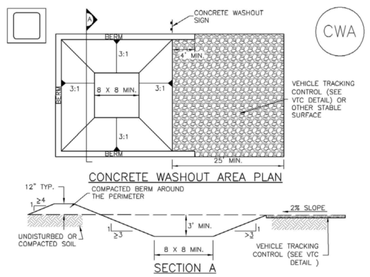
Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

EROSION CONTROL PLAN

C2.2

CWA

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -CWA INSTALLATION LOCATION.
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 LEAST 3' DEEP.
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.

CWA

MM-1 Concrete Washout Area (CWA)

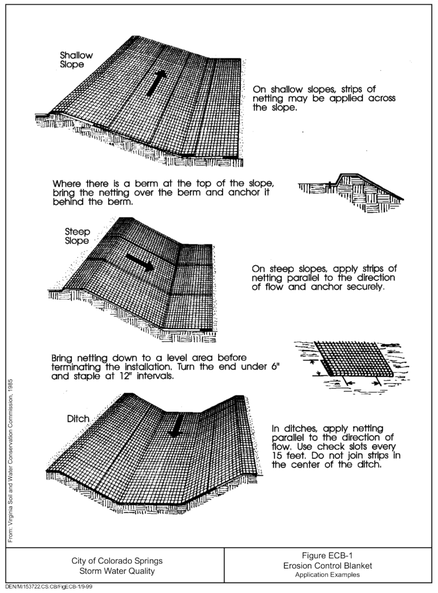
CWA MAINTENANCE NOTES

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. 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.

ECB



City of Colorado Springs Storm Water Quality | Figure ECB-1 Erosion Control Blanket Application Examples

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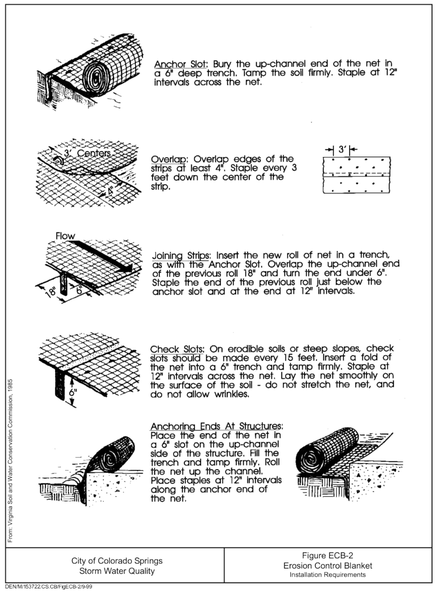
ECB



City of Colorado Springs Storm Water Quality | Figure ECB-2 Erosion Control Blanket Installation Requirements

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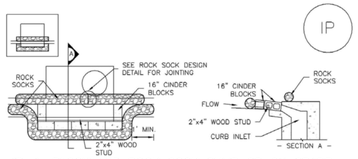
IP

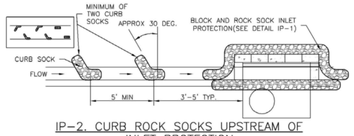
SC-6 Inlet Protection (IP)



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.



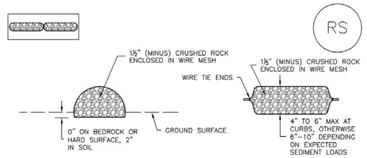
IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

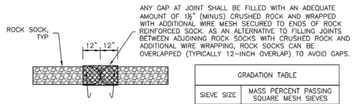
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

RS

SC-5 Rock Sock (RS)



ROCK SOCK SECTION ROCK SOCK PLAN



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 ½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (½" 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

RS

Rock Sock (RS) SC-5

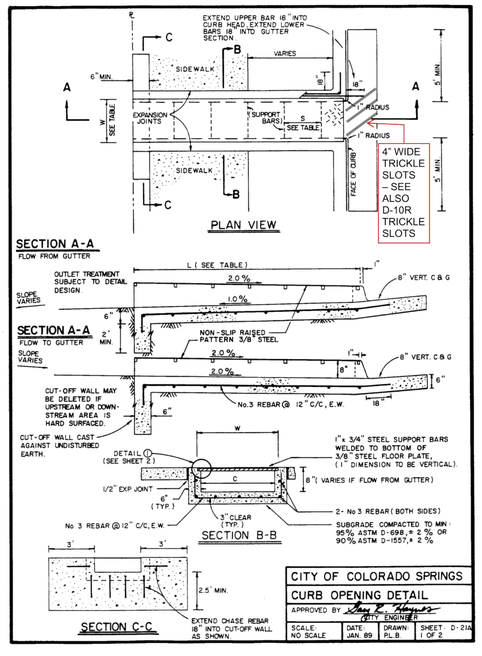
ROCK SOCK MAINTENANCE NOTES

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 NOORSES 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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CONSTRUCTION DOCUMENTS FOR
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00	06/XX/17	AGENCY SUBMITTAL	TAC

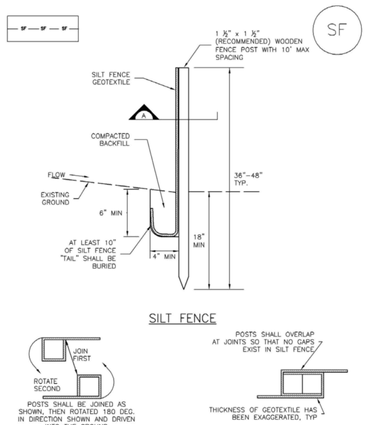
Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

EROSION CONTROL DETAILS

C2.3

H:\Hammers Construction Inc\CO, El Paso County - HCI0000003.01 - Crackerjack\CADD\3-CD\DWG\HCI03_C2.3-EC Details.dwg - Ryan Graham - 6/28/2017

Silt Fence (SF) SC-1



SF–1. SILT FENCE

SC-1 Silt Fence (SF) SF

SILT FENCE INSTALLATION NOTES

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

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

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

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

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

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

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

SILT FENCE MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

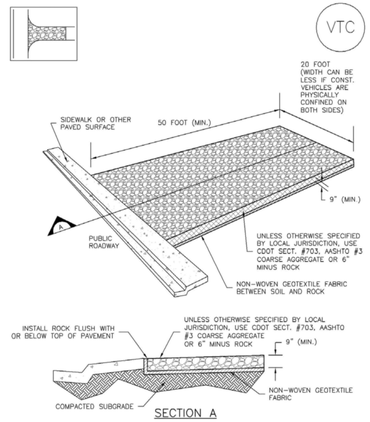
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS 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, 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.

Vehicle Tracking Control (VTC) SM-4



VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4 Vehicle Tracking Control (VTC) 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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719.900.7220 O
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HAMMERS CONSTRUCTION
QUALITY COMMERCIAL CONSTRUCTION SINCE 1983

NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
CRACKERJACK MUD JACKING INC.
CBP, F2 - LOT #21

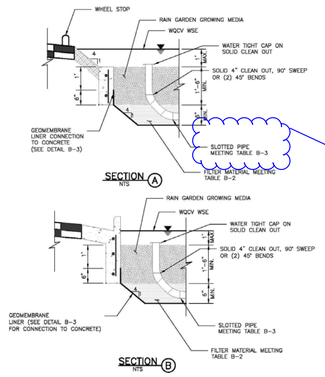
7315 McCLAIN POINT
COLORADO SPRINGS, CO

#	Date	Issue / Description	Init.
00	06/XX/17	AGENCY SUBMITTAL	TAC

Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

EROSION CONTROL DETAILS

C2.4



Either include Table B-3 or callout the specific slot dimensions.

NO-INFILTRATION SECTIONS

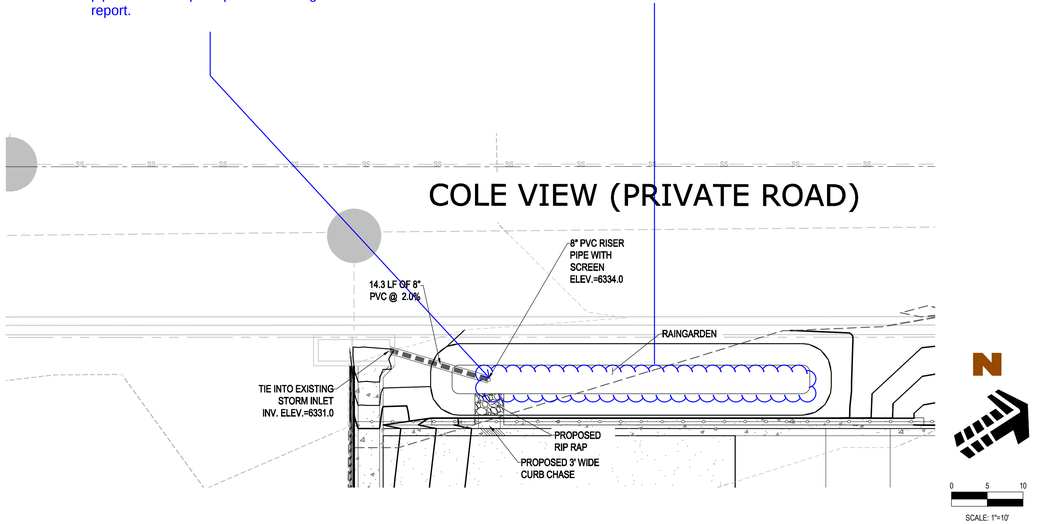
T-3 Bioretention

Table B-1. Class 1 Compost

Characteristic	Criteria
Minimum Stability Indicator (Respirometry)	Stable to Very Stable
Maturity Indicator Expressed as Ammonia N / Nitrate N Ratio	< 4
Maturity Indicator Expressed as Carbon to Nitrogen Ratio	< 12
Maturity Indicator Expressed as Percentage of Germination/Vigor	80+ / 80+
pH – Acceptable Range	6.0 – 8.4
Soluble Salts – Acceptable Range (1:5 by weight)	0 – 5 mmhos/cm
Testing and Test Report Submittal Requirement	Seal of Testing Assurance (STA)/Test Methods for the Examination of Composting and Compost (TMECC)
Chemical Contaminants	Equal or better than US EPA Class A Standard, 40 CFR 503.13, Tables 1 & 3 levels
Pathogens	Meet or exceed US EPA Class A standard, 40 CFR 503.32(a) levels

Include a cross section detail for the slotted pipe connection to the riser pipe and orifice plate per the drainage report.

Show the Slotted Pipe and label the length and diameter.



CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's Below. Call before you dig.

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HAMMERS CONSTRUCTION
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NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
CRACKERJACK MUD JACKING INC.
CBP, F2 - LOT #21

7315 McCLAIN POINT
COLORADO SPRINGS, CO

#	Date	Issue / Description	Init.
00	06/XX/17	AGENCY SUBMITTAL	TAC

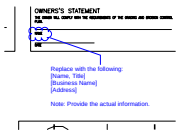
Project No:	HCI003.1
Drawn By:	RCG
Checked By:	TAC
Date:	JUNE 2017

RAIN GARDEN DETAIL

C2.5

Markup Summary

1 (5)



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Author: dsdlaforce
Date: 7/31/2017 2:33:23 PM
Color:

Replace with the following:
[Name, Title]
[Business Name]
[Address]

Note: Provide the actual information.

Subject: Cloud+
Page Label: 1
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Author: dsdlaforce
Date: 7/31/2017 2:33:21 PM
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Replace with "Grading and Erosion Control Plan"

Subject: Text Box
Page Label: 1
Lock: Locked
Status:
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Author: dsdlaforce
Date: 7/31/2017 2:33:24 PM
Color:

Include Contact Informations such as:
Owner, Design Engineer, El Paso County Planning and Community Development, Utility companies, Contractor.

Subject: Callout
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Author: dsdlaforce
Date: 7/31/2017 2:33:22 PM
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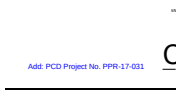
Add after the 2nd paragraph:

In accordance with ECM Section 1.12, these construction documents will be valid for construction for a period of 2 years from the date signed by the El Paso County Engineer. If construction has not started within those 2 years, the plans will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Directors discretion.



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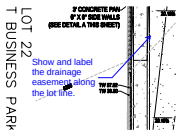
Add: PCD Project No. PPR-17-031

3 (10)



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Date: 7/31/2017 2:33:56 PM
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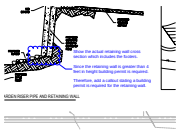
Show and label the drainage easement along the lot line.



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Author: dsdlaforce
Date: 7/31/2017 2:33:32 PM
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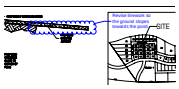
Show the actual retaining wall cross section which includes the footers.

Since the retaining wall is greater than 4 feet in height building permit is required.

Therefore, add a callout stating a building permit is required for the retaining wall.



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Date: 7/31/2017 2:33:34 PM
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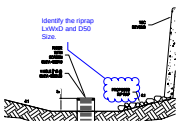
Revise linework so the ground slopes towards the pond.



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Date: 7/31/2017 2:33:46 PM
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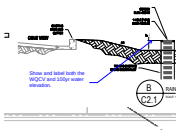
Identify the riprap LxWxD and D50 Size.



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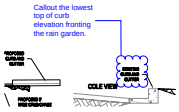
Show and label both the WQCV and 100yr water elevation.



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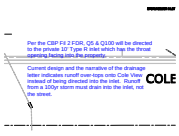
Callout the lowest top of curb elevation fronting the rain garden.



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Author: dsdlaforce
Date: 7/31/2017 2:33:36 PM
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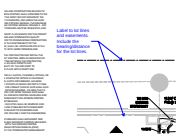
Per the CBP Fil 2 FDR, Q5 & Q100 will be directed to the private 10' Type R inlet which has the throat opening facing into the property.

Current design and the narrative of the drainage letter indicates runoff over-tops onto Cole View instead of being directed into the inlet. Runoff from a 100yr storm must drain into the inlet, not the street.



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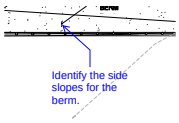
Label to lot lines and easements.
Include the bearing/distance for the lot lines.



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Date: 7/31/2017 2:33:48 PM
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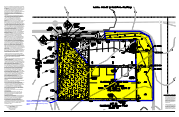
Identify the side slopes for the berm.



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Based on the grading, this area is not routed into the rain garden. Update the design so this area is treated by a WQ BMP.

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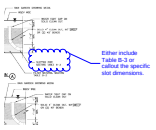
7 (3)



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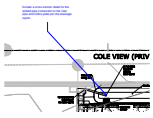
Either include Table B-3 or callout the specific slot dimensions.



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Date: 7/31/2017 2:33:58 PM
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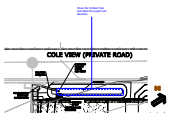
Include a cross section detail for the slotted pipe connection to the riser pipe and orifice plate per the drainage report.



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Date: 7/31/2017 2:33:56 PM
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Show the Slotted Pipe and label the length and diameter.