GRADING AND EROSION CONTROL PLANS

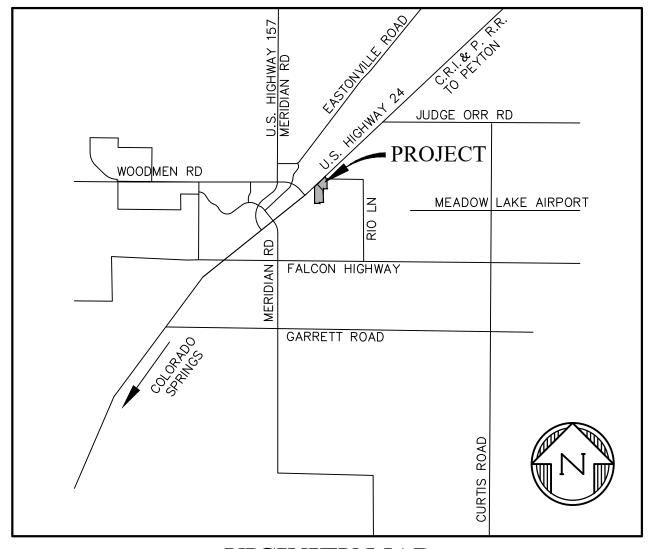
THE COMMONS AT FALCON FIELD - FILING NO. 1

SECTION 7, TOWNSHIP 13 SOUTH, RANGE 64 WEST OF THE 6TH P.M.

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- . STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS, ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
- 2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING
- 3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- 4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- . 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 DISTURBANCE.
- 6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- 7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- 8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- 9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- 10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- 11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- 12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND. THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.
- 13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT. OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- 14. DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- 15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- 17. 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.

PEYTON, EL PASO COUNTY, COLORADO



VICINITY MAP

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- 18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- 20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- 21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- 22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- 23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344). IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS. RULES. OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- 25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS
- 26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- 27. A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INCORPERATED. JANUARY 20, 2021 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- 29. 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:

Replace with note 17 from the GEC Checklist 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

SHEET INDEX

- GRADING AND EROSION CONTROL COVER SHEET

- INITIAL/INTERIM EROSION CONTROL PLAN

- FINAL EROSION CONTROL PLAN - POND INLET/OUTLET DETAILS - EROSION CONTROL DETAILS

BENCHMARK:

ELEVATIONS ARE BASED ON A 2" ALUMINUM CAP STAMPED "DREXEL BARRELL CONTROL POINT". LOCATED 59-FT OF SOUTH ANGLE POINT OF RIO LANE SOUTH RIGHT-OF-WAY. N: 1404005.87, E: 3256504.201, ELEVATION: 6849.06, NAVD88.

ENGINEER'S STATEMENT

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

D.	McCONNELL.	P.F.	

DATE

OWNER'S STATEMENT

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

OWNER/DEVELOPER	DATE

EL PASO COUNTY

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

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

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 DIRECTOR'S DISCRETION.

OSHUA PALMER, COUNTY ENGINEER	DATE
add P.E. and County Engineer/ECM administrator	



EPC File No. SF2435

PREPARED BY:

DREXEL, BARRELL & CO Engineers • Surveyors 101 SAHWATCH ST. #100

CLIENT:

(719)260-0887 COLORADO SPRINGS • LAFAYETTE

> **PROTERRA PROPERTIES**

864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800 CONTACT: STEVE ROSSOLL

DATE **ISSUE** INITIAL ISSUE 12/13/24 DESIGNED BY: DRAWN BY: GES TDM CHECKED BY:

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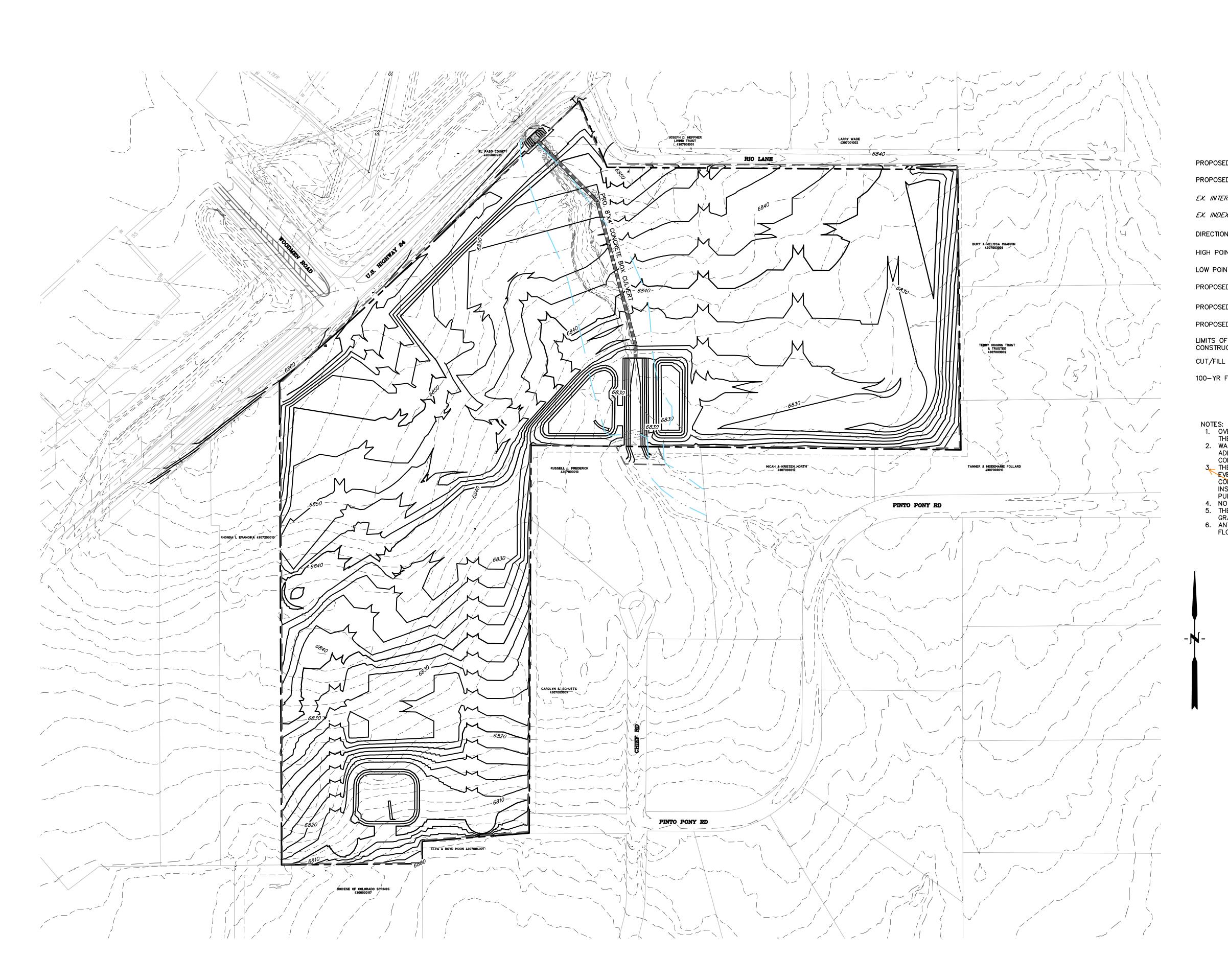
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GRADING AND **EROSION CONTROL** COVER SHEET

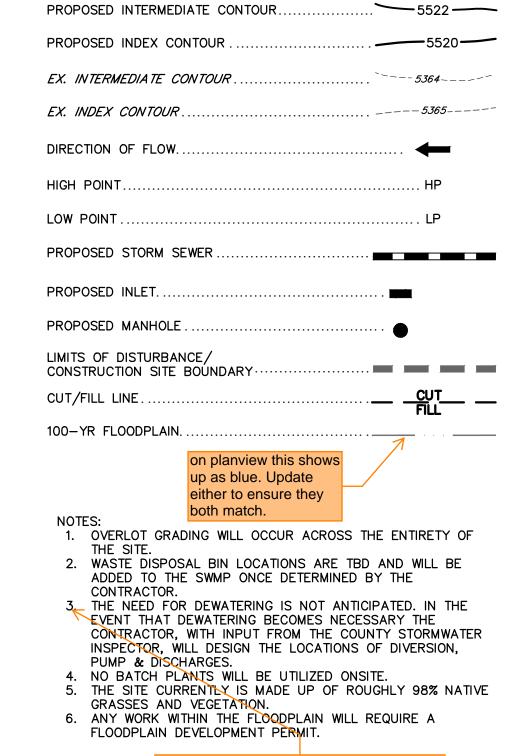
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SHEET: 1 OF 16



<u>LEGEND</u>

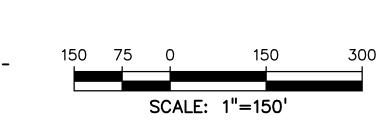


The Soils Report says multiple times that dewatering is likely to occur/be needed. The ponds themselves when dug will likely need dewatering. Revise this note and provide some dewatering details in anticipation.

Typical comment for this note throughout.

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

CALL 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



PREPARED BY:

DREXEL, BARRELL & CO. Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903 CONTACT: TIM D. McCONNELL, P.E (719)260-0887 COLORADO SPRINGS • LAFAYETTE

CLIENT:

PROTERRA PROPERTIES

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800 CONTACT: STEVE ROSSOLL

ISSUE DATE INITIAL ISSUE 12/13/24 DESIGNED BY: DRAWN BY:

FILE NAME: 21604-01EC1-4 PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

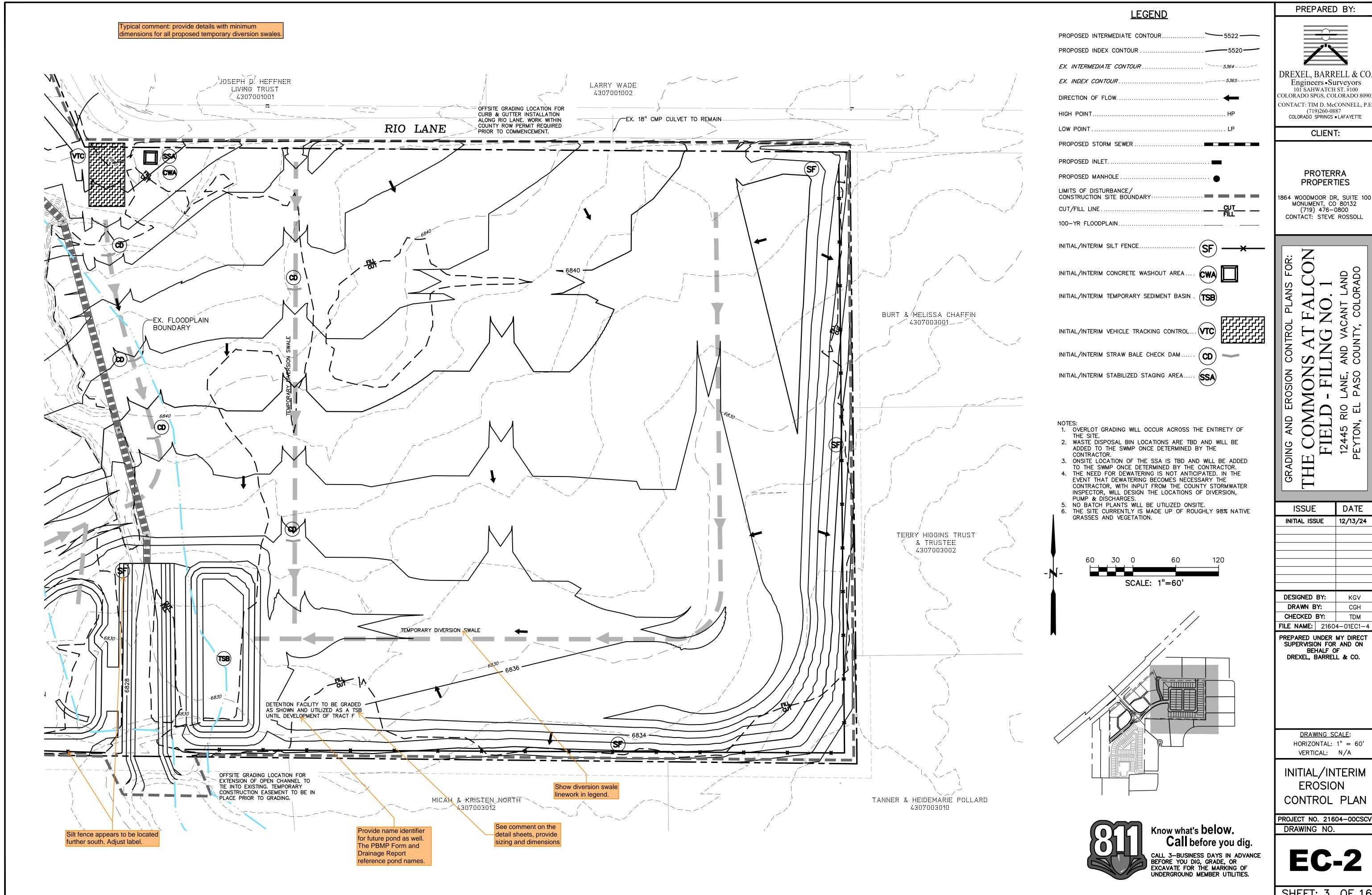
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DRAWING SCALE: HORIZONTAL: 1" = 150' VERTICAL: N/A

OVERALL EROSION CONTROL PLAN

PROJECT NO. 21604-00CSCV DRAWING NO.

SHEET: 2 OF 16



DREXEL, BARRELL & CO. Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903

PROTERRA

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800

CONTACT: STEVE ROSSOLL

DATE 12/13/24

KGV **FILE NAME:** 21604-01EC1-4

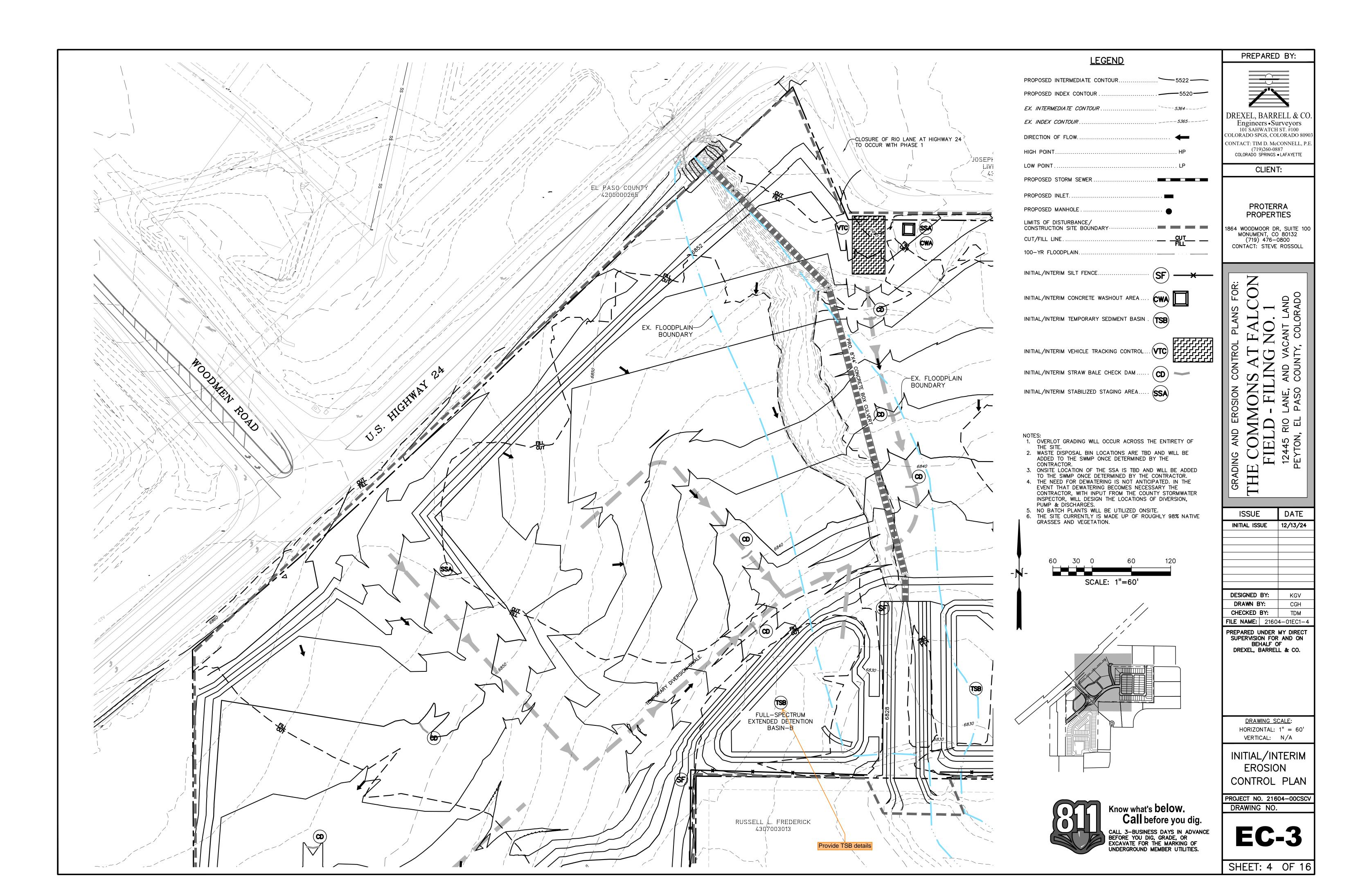
DREXEL, BARRELL & CO.

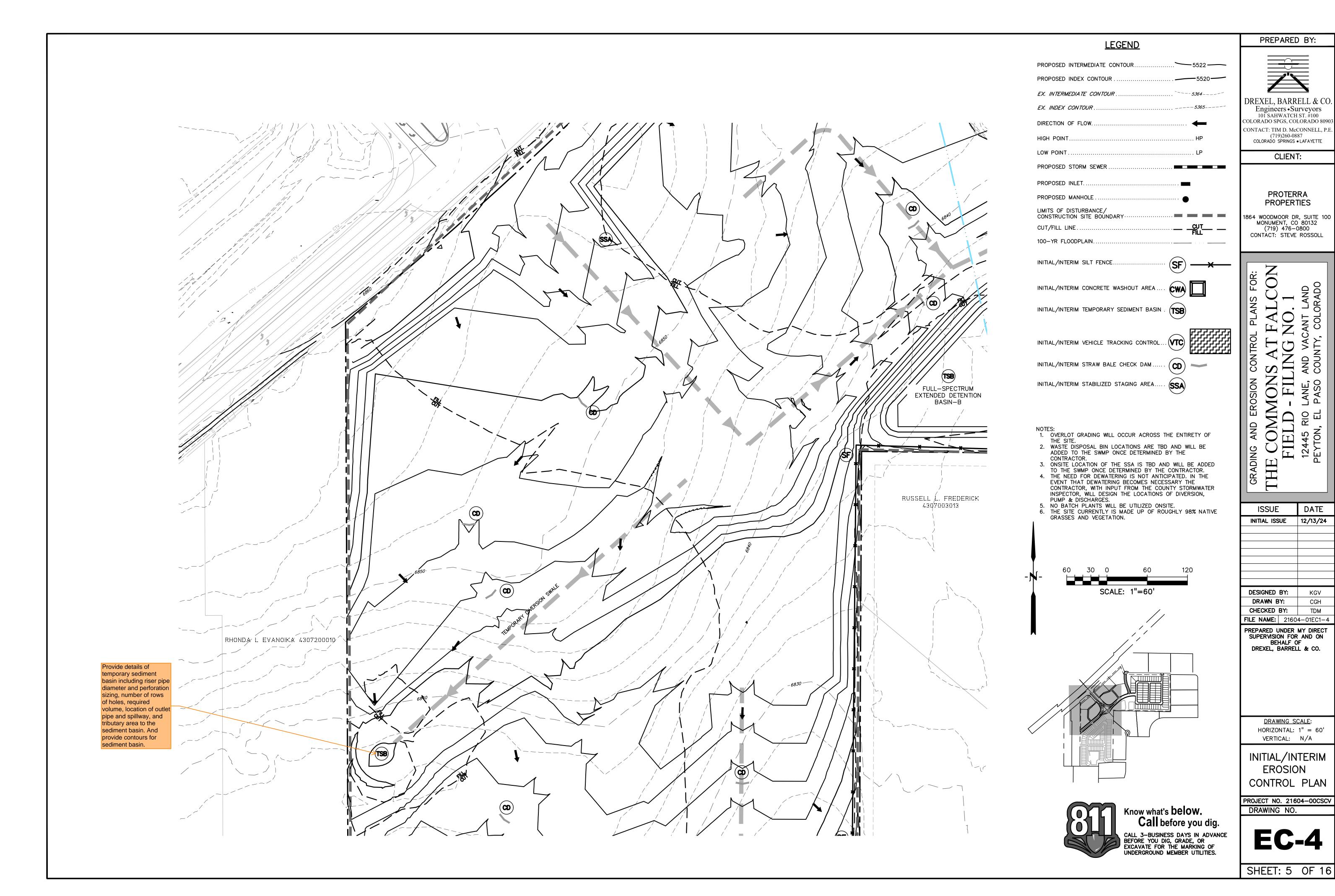
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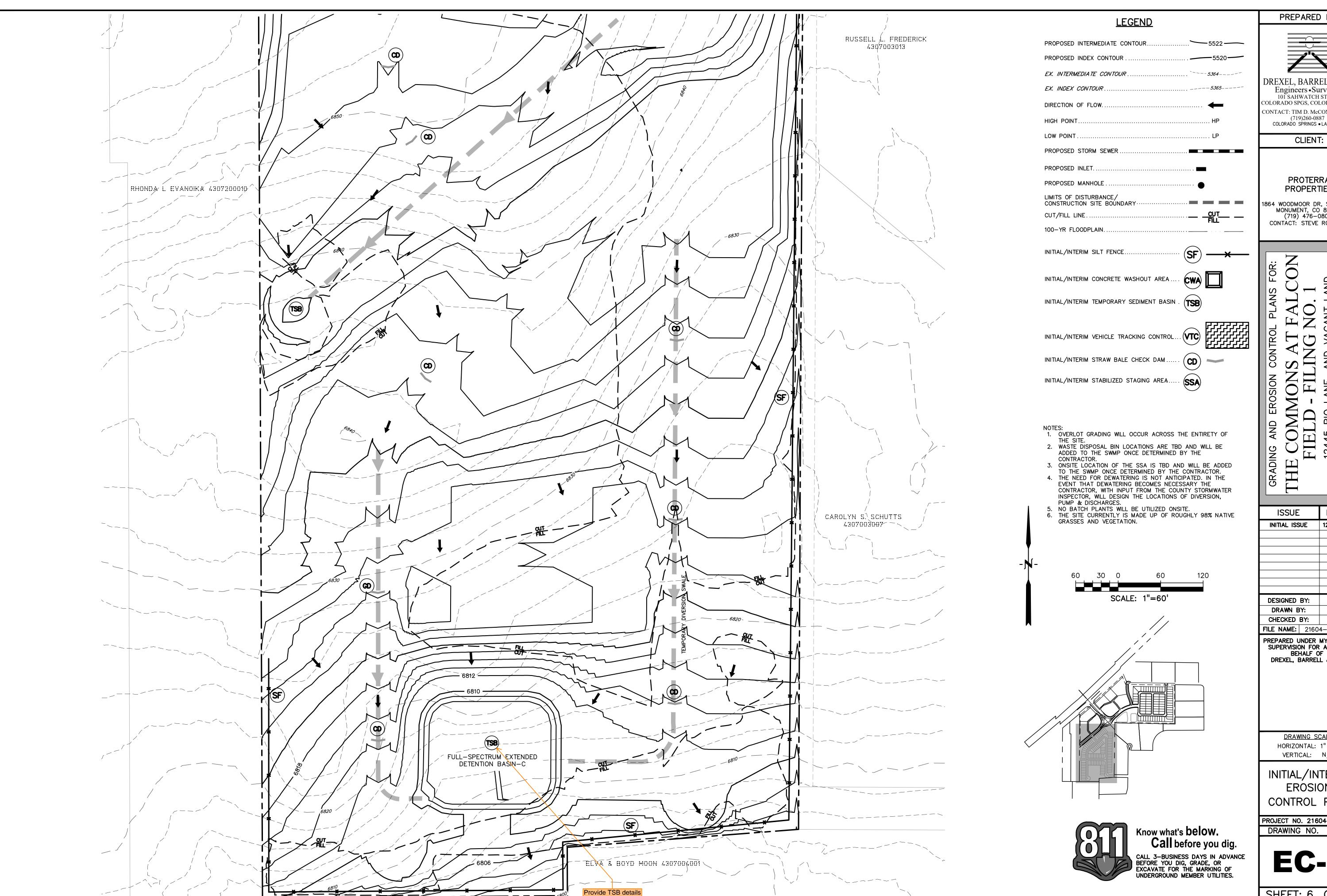
INITIAL/INTERIM **EROSION**

PROJECT NO. 21604-00CSCV

SHEET: 3 OF 16







DREXEL, BARRELL & CO. Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903

CONTACT: TIM D. McCONNELL, P.E. (719)260-0887
COLORADO SPRINGS • LAFAYETTE

PROTERRA PROPERTIES

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800 CONTACT: STEVE ROSSOLL

ISSUE DATE INITIAL ISSUE 12/13/24

DESIGNED BY: DRAWN BY: CHECKED BY: FILE NAME: 21604-01EC1-4

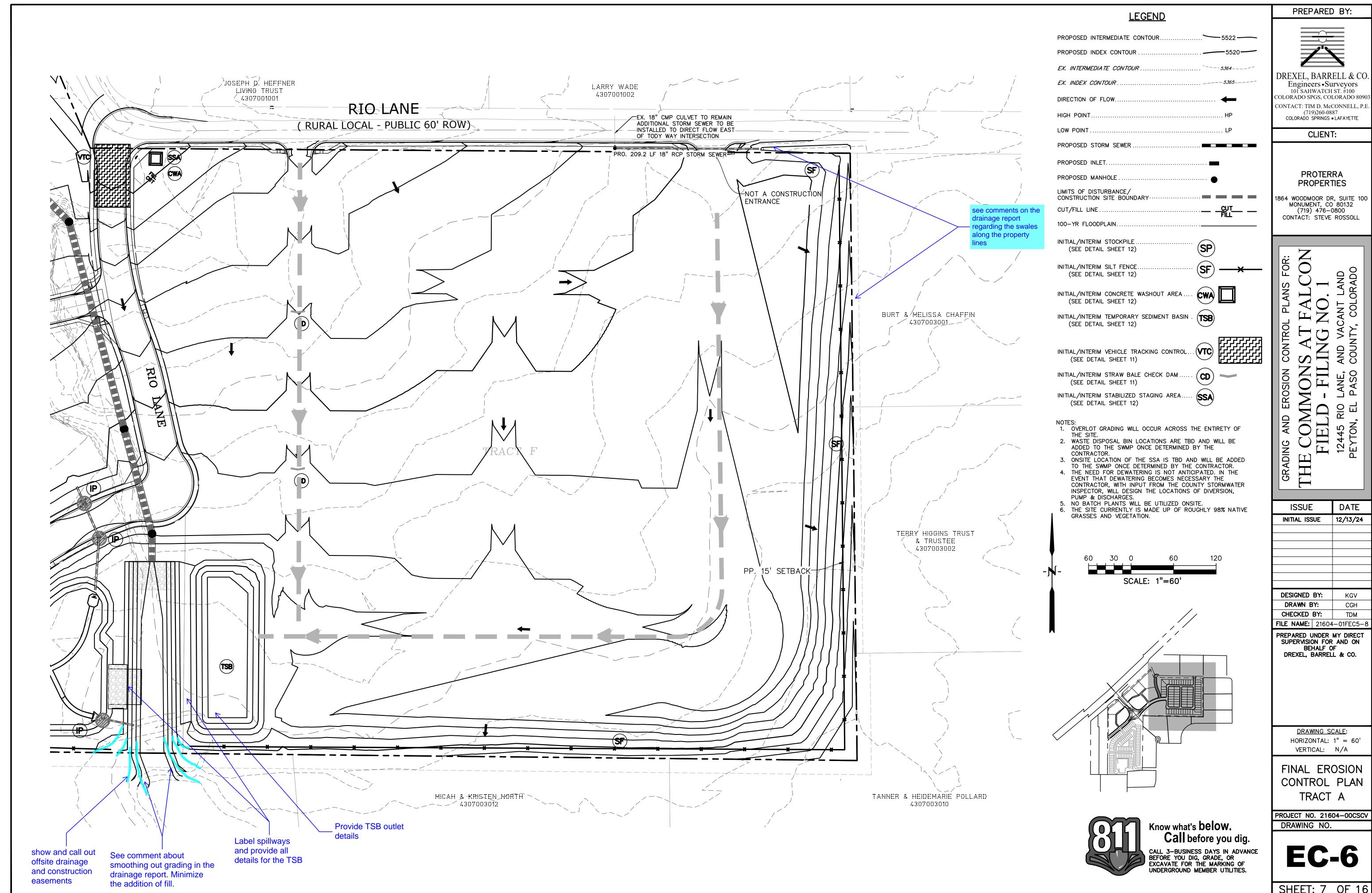
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DRAWING SCALE: HORIZONTAL: 1'' = 60'VERTICAL: N/A

INITIAL/INTERIM **EROSION** CONTROL PLAN

PROJECT NO. 21604-00CSCV DRAWING NO.

SHEET: 6 OF 16



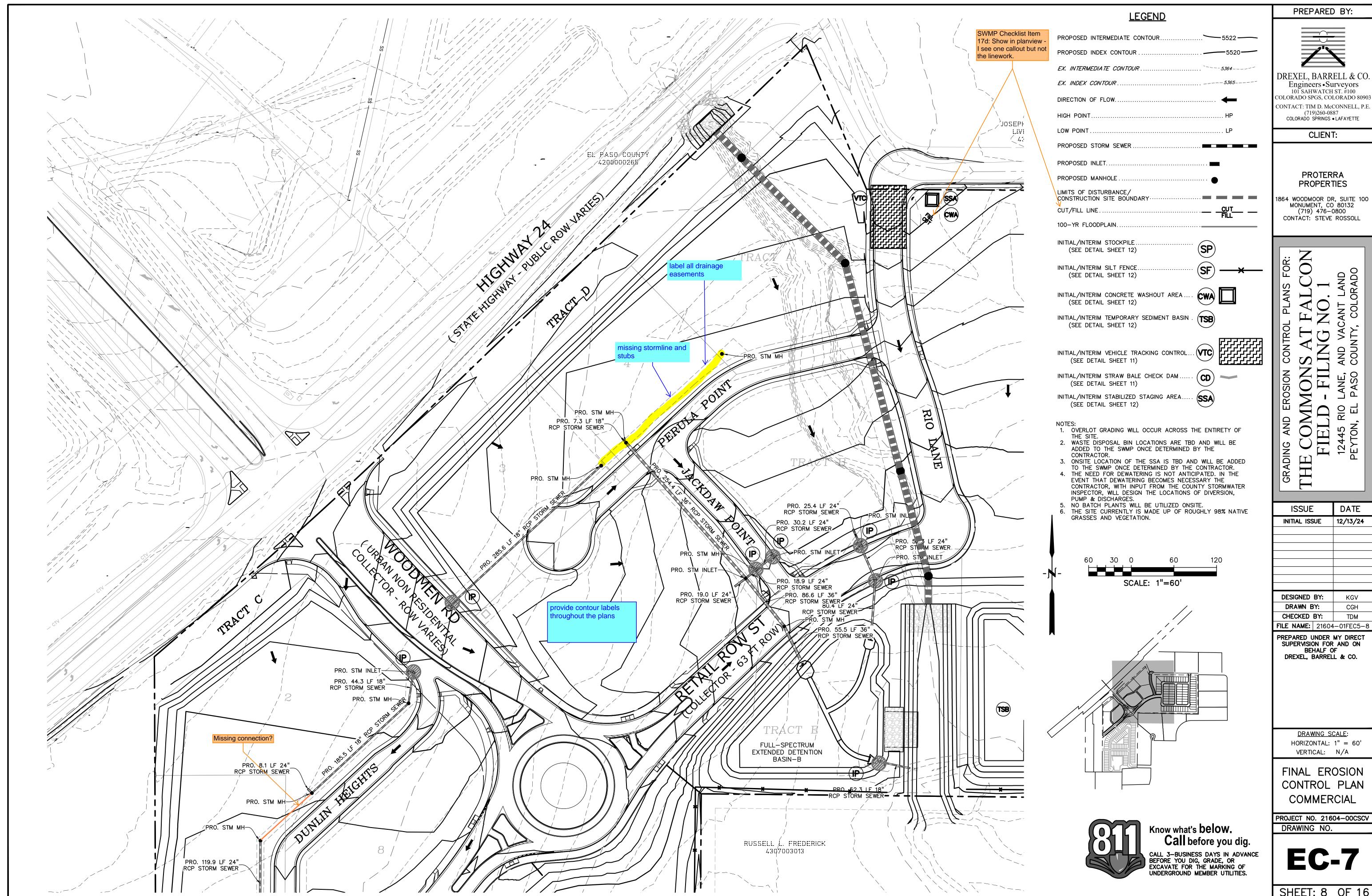
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101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903

ISSUE	DATE
INITIAL ISSUE	12/13/24
DESIGNED BY:	KGV
DRAWN BY:	CGH
CHECKED BY:	TDM
E NAME: 21604	1-01FEC5-8

DRAWING SCALE: HORIZONTAL: 1'' = 60'

FINAL EROSION CONTROL PLAN

SHEET: 7 OF 16



DREXEL, BARRELL & CO Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903

CONTACT: TIM D. McCONNELL, P.E (719)260-0887 COLORADO SPRINGS • LAFAYETTE

PROTERRA

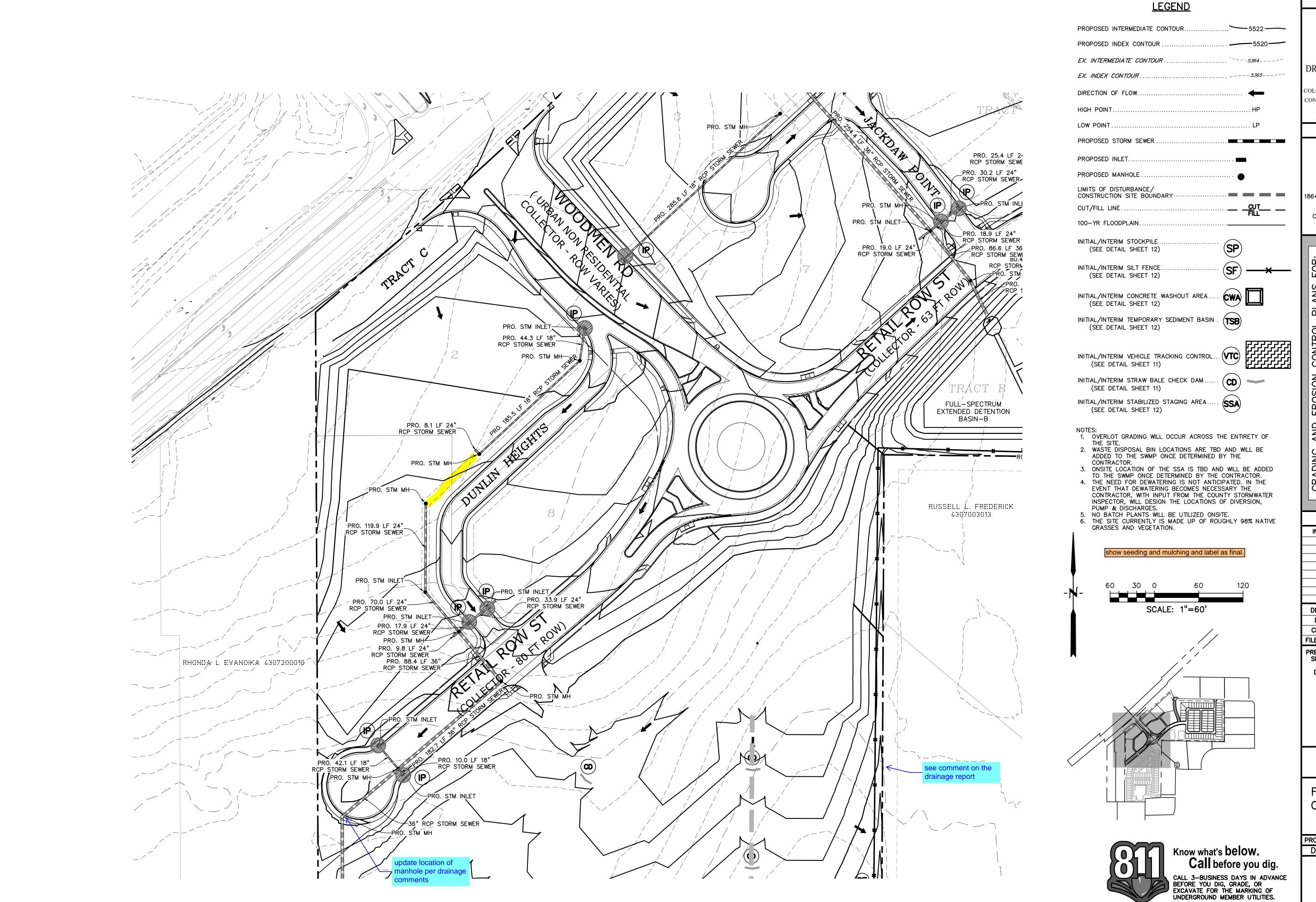
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DESIGNED BY:	KGV
DRAWN BY:	CGH
CHECKED BY:	TDM
E NAME: 2160	4-01FEC5-8
REPARED UNDER	MY DIRECT

DRAWING SCALE: HORIZONTAL: 1'' = 60'

FINAL EROSION CONTROL PLAN

PROJECT NO. 21604-00CSCV

SHEET: 8 OF 16



DREXEL, BARRELL & CO. Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903

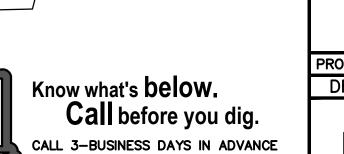
CONTACT: TIM D. McCONNELL, P.E. (719)260-0887 COLORADO SPRINGS • LAFAYETTE

CLIENT:

PROTERRA PROPERTIES

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800

CONTACT: STEVE ROSSOLL



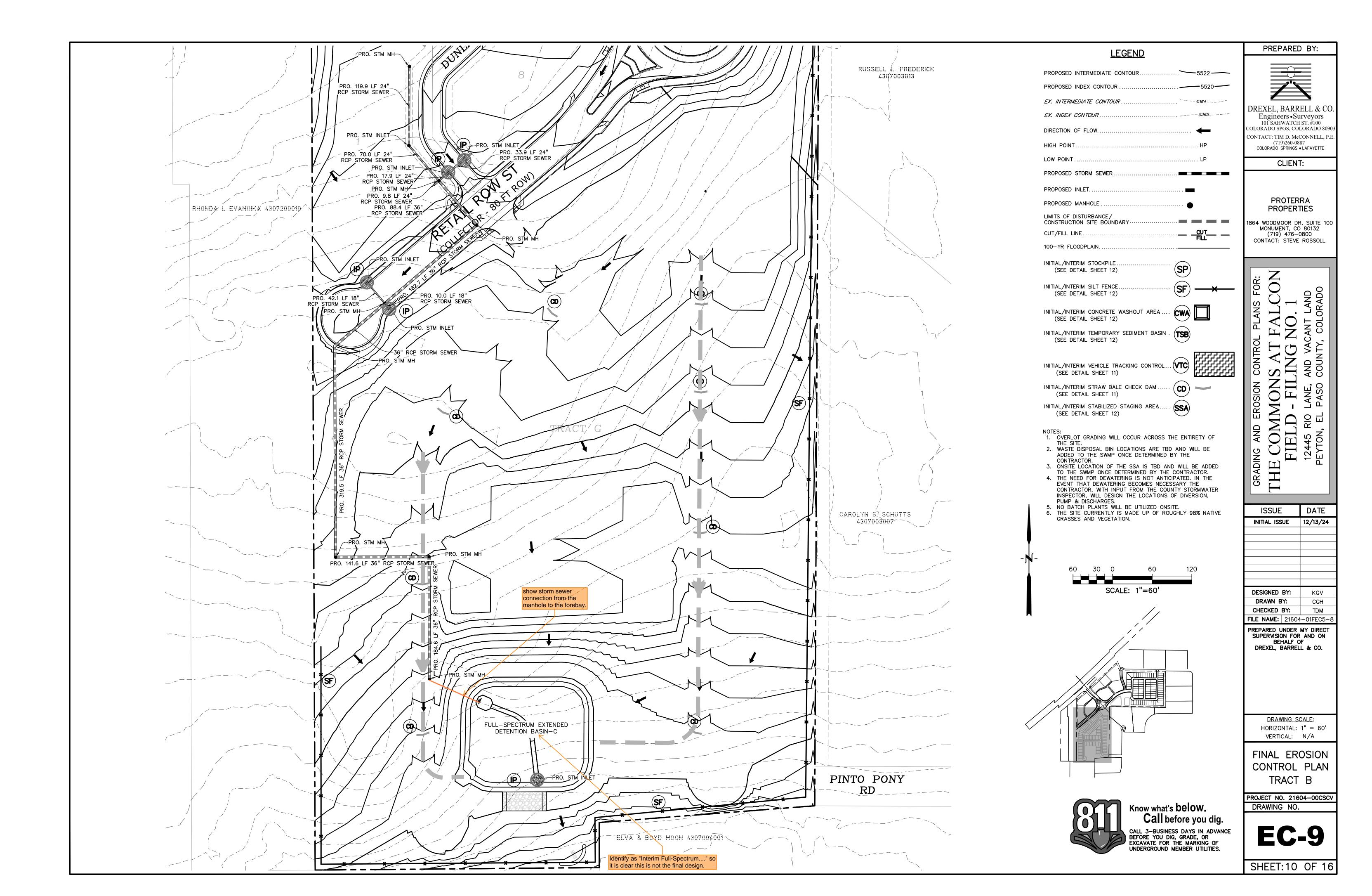
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> DRAWING SCALE: HORIZONTAL: 1'' = 60'VERTICAL: N/A

FINAL EROSION CONTROL PLAN COMMERCIAL

PROJECT NO. 21604-00CSCV DRAWING NO.

SHEET: 9 OF 16



Typical comment for all ponds: GEC Checklist Item q - incorporate conclusions from soils/geotechnical report.

The report identifies very high groundwater that will flow into the ponds. "Based on the current grading plans the proposed cuts in the ponds will extend into the current groundwater levels potentially limiting the capacity of the full-spectrum detention bonds."

This high groundwater will need to be mitigated for because groundwater is not allowed to flow into stormwater conveyance facilities and it will reduce the capacity and function of the ponds. See excerpts from MHFD's DCM Volume 2 and 3 for potential concerns with groundwater in an EDB and the recommended mitigation options (like a clay or geomembrane liner).

36" RCP STORM PIPE-

Site Selection

-INV=6830.00

EDBs are well suited for watersheds with at least five impervious acres up to approximately one square mile of watershed. Smaller watersheds can result in an orifice size prone to clogging. Larger watersheds and watersheds with baseflows can complicate the design and reduce the level of treatment provided. EDBs are also well suited where flood detention is incorporated into the same basin. The depth of groundwater should be investigated.

Groundwater depth should be 2 or more feet below the bottom of the basin in order to keep this area dry and maintainable.

-BAFFLE ENERGY DISSIPATERS SEE DETAILS THIS SHEET

INV=6829.75

-6"Wx12"H FOREBAY WALLS

-6" CONCRETE BOTTOM

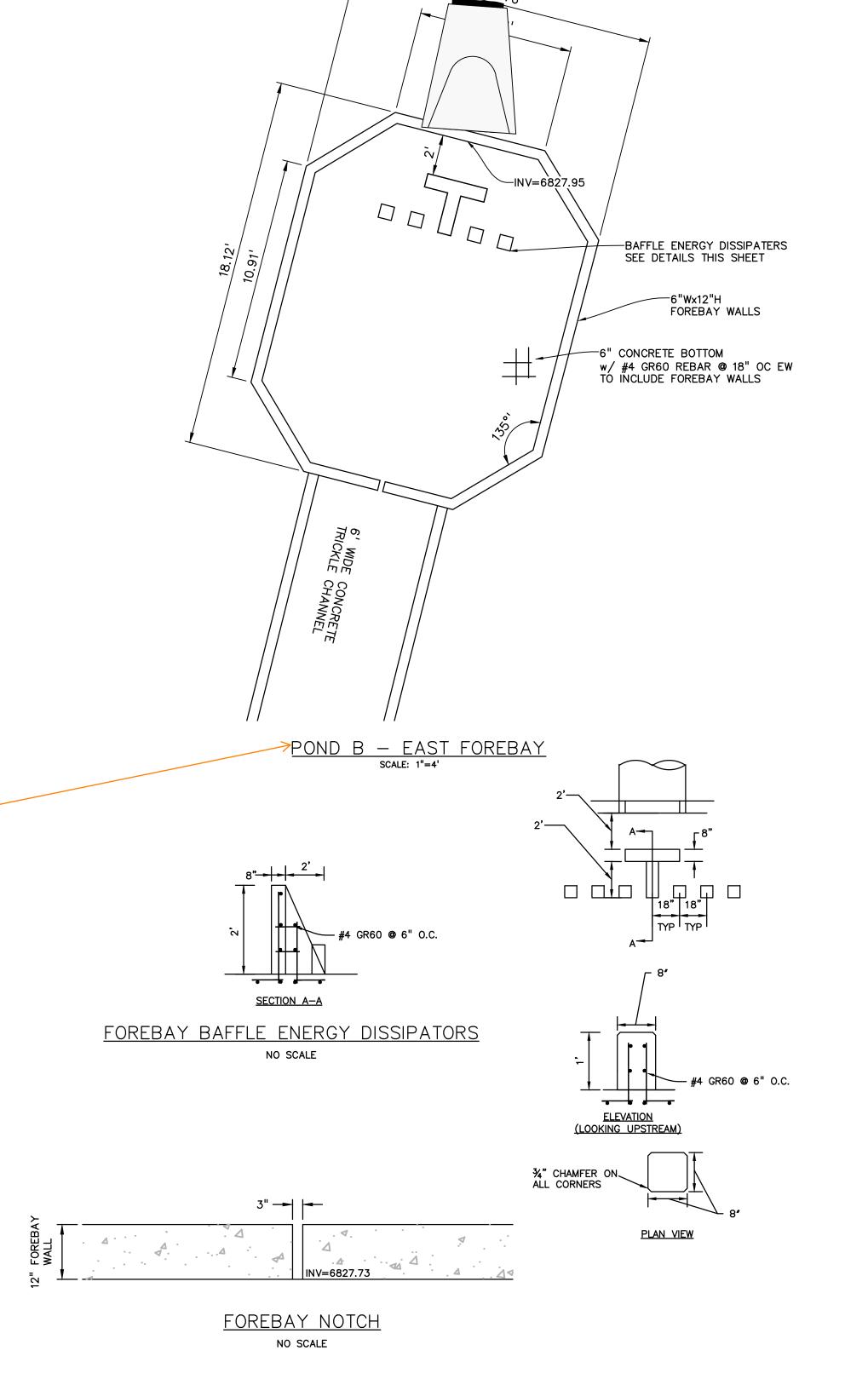
w/ #4 GR60 REBAR @ 18" OC EW TO INCLUDE FOREBAY WALLS

Forebays will be reviewed further once calcs are provided

Groundwater: Shallow groundwater on a site presents challenges for BMPs that rely on infiltration and for BMPs that are intended to be dry between storm events. Shallow groundwater may limit the ability to infiltrate runoff or result in unwanted groundwater storage in areas intended for storage of the WQCV (e.g., porous sub-base of a permeable pavement system or in the bottom of an otherwise dry facility such as an extended detention basin). Conversely, for some types of BMPs such as wetland channels or constructed wetland basins, groundwater can be beneficial by providing saturation of the root zone and/or a source of baseflow. Groundwater quality protection is an issue that should be considered for infiltration-based BMPs. Infiltration BMPs may not be appropriate for land uses that involve storage or use of materials that have the potential to contaminate groundwater underlying a site (i.e., "hot spot" runoff from fueling stations, materials storage areas, etc.). If groundwater or soil contamination exists on a site and it will not be remediated or removed as a part of construction, it may be necessary to avoid infiltration-based BMPs or use a durable liner to prevent infiltration into contaminated areas.

5.12 Linings

Sometimes an impermeable clay or synthetic liner is necessary. Stormwater detention and retention facilities have the potential to raise the groundwater level in the vicinity of the basin. Where there is concern for damage to adjacent structures due to rising ground water, consider lining the basin with an impermeable liner. An impermeable liner may also be warranted for a retention pond where the designer seeks to limit seepage from the permanent pool. Note that if left uncovered, synthetic lining on side slopes creates a serious impediment to egress and a potential drowning hazard. See the Retention Pond Fact Sheet in Volume 3 of the USDCM for guidance and benefits associated with the constructing a safety wetland bench.



EASTERN FOREBAY DETAILS



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(719)260-0887 COLORADO SPRINGS • LAFAYETTE

CLIENT:

CONTACT: TIM D. McCONNELL, P.I

PROTERRA PROPERTIES

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800 CONTACT: STEVE ROSSOLL

HE COMMONS AT FALCON
FIELD - FILING NO. 1

12445 RIO LANE, AND VACANT LAND
PEYTON, EL PASO COUNTY, COLORADO

ISSUE	DATE	
INITIAL ISSUE	12/13/24	
DESIGNED BY:	KGV	
DRAWN BY:	SBN	
CHECKED BY:	KGV	
FILE NAME: 2160	01PND1	
PREPARED UNDER MY DIRECT		

SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

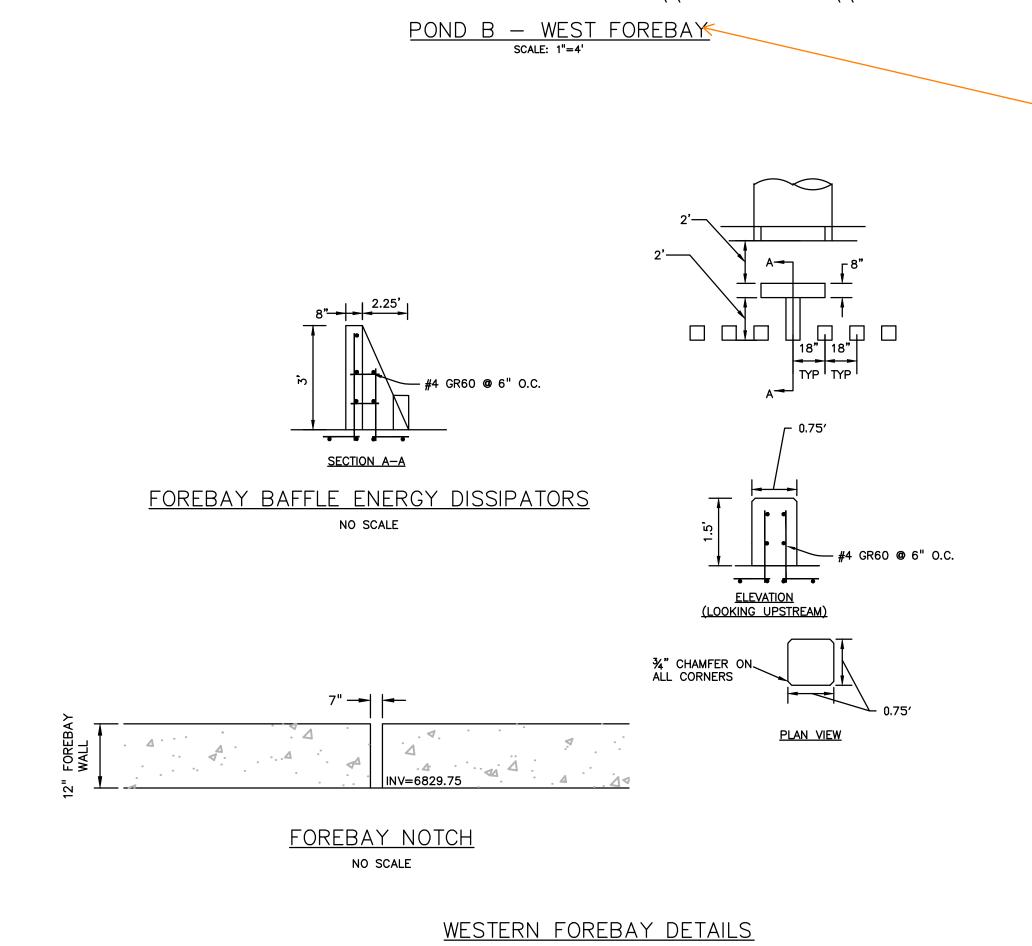
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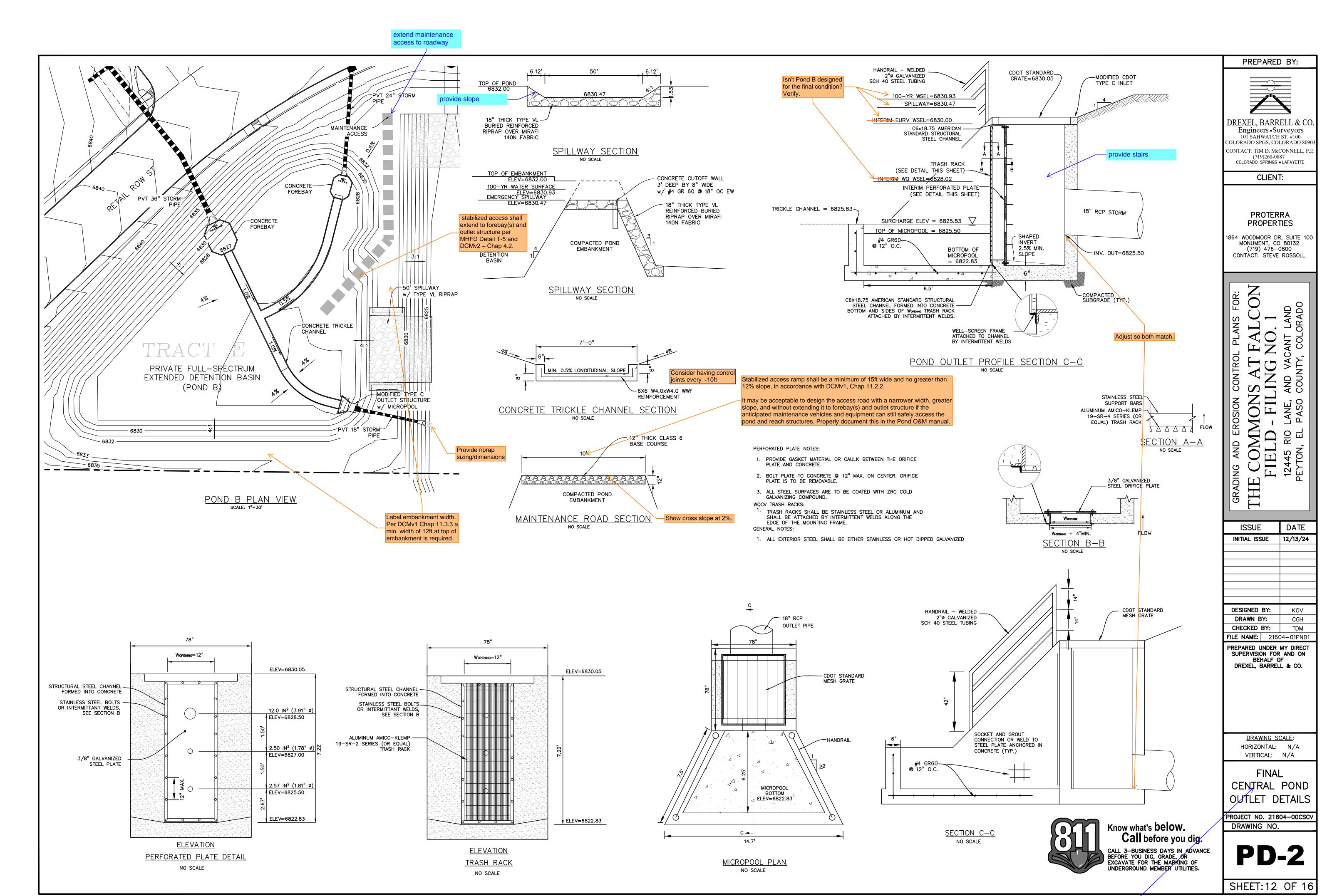
POND B FOREBAY DETAILS

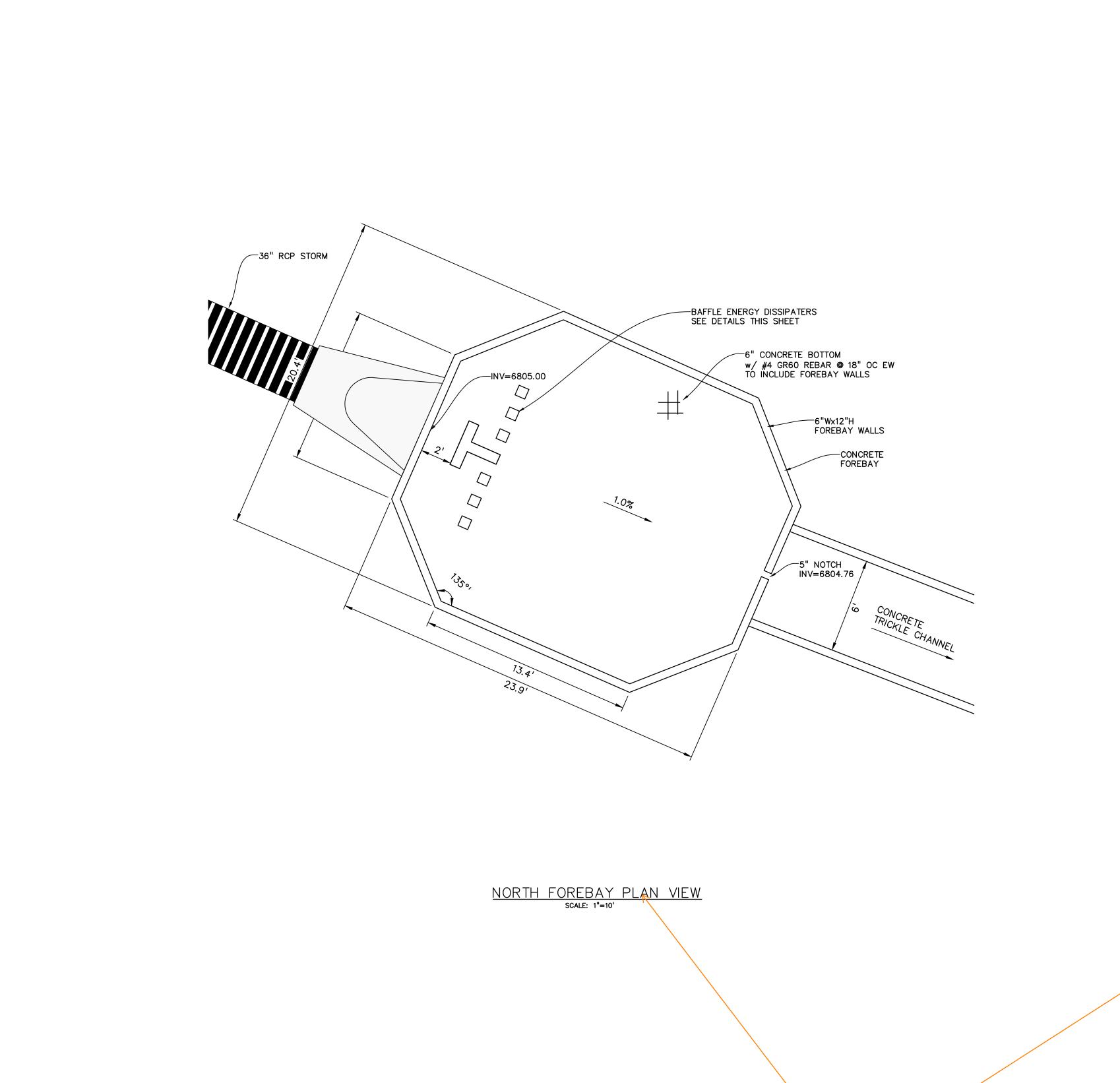
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PD-1

SHEET: 11 OF 16

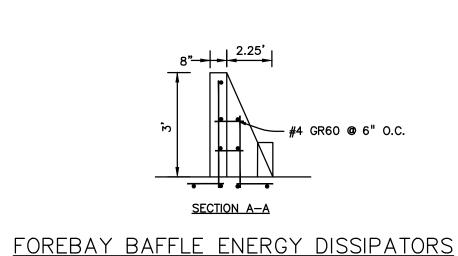




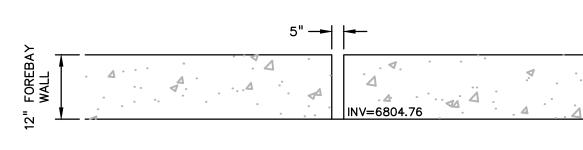


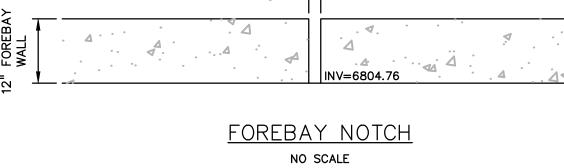
Forebays will be reviewed

further once calcs are provided.

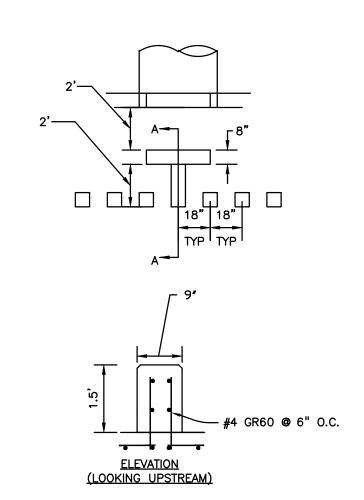


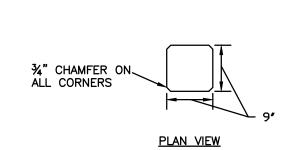
NO SCALE











NORTH FOREBAY DETAILS

Know what's **below. Call** before you dig. CALL 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES. PREPARED BY:



DREXEL, BARRELL & CO.
Engineers • Surveyors
101 SAHWATCH ST. #100
COLORADO SPGS, COLORADO 80903 CONTACT: TIM D. McCONNELL, P.E (719)260-0887 COLORADO SPRINGS • LAFAYETTE

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PROTERRA PROPERTIES

1864 WOODMOOR DR, SUITE 100 MONUMENT, CO 80132 (719) 476-0800 CONTACT: STEVE ROSSOLL

ISSUE	DATE
INITIAL ISSUE	12/13/24
DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	KGV
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FILE NAME: 21604-01PND1 PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

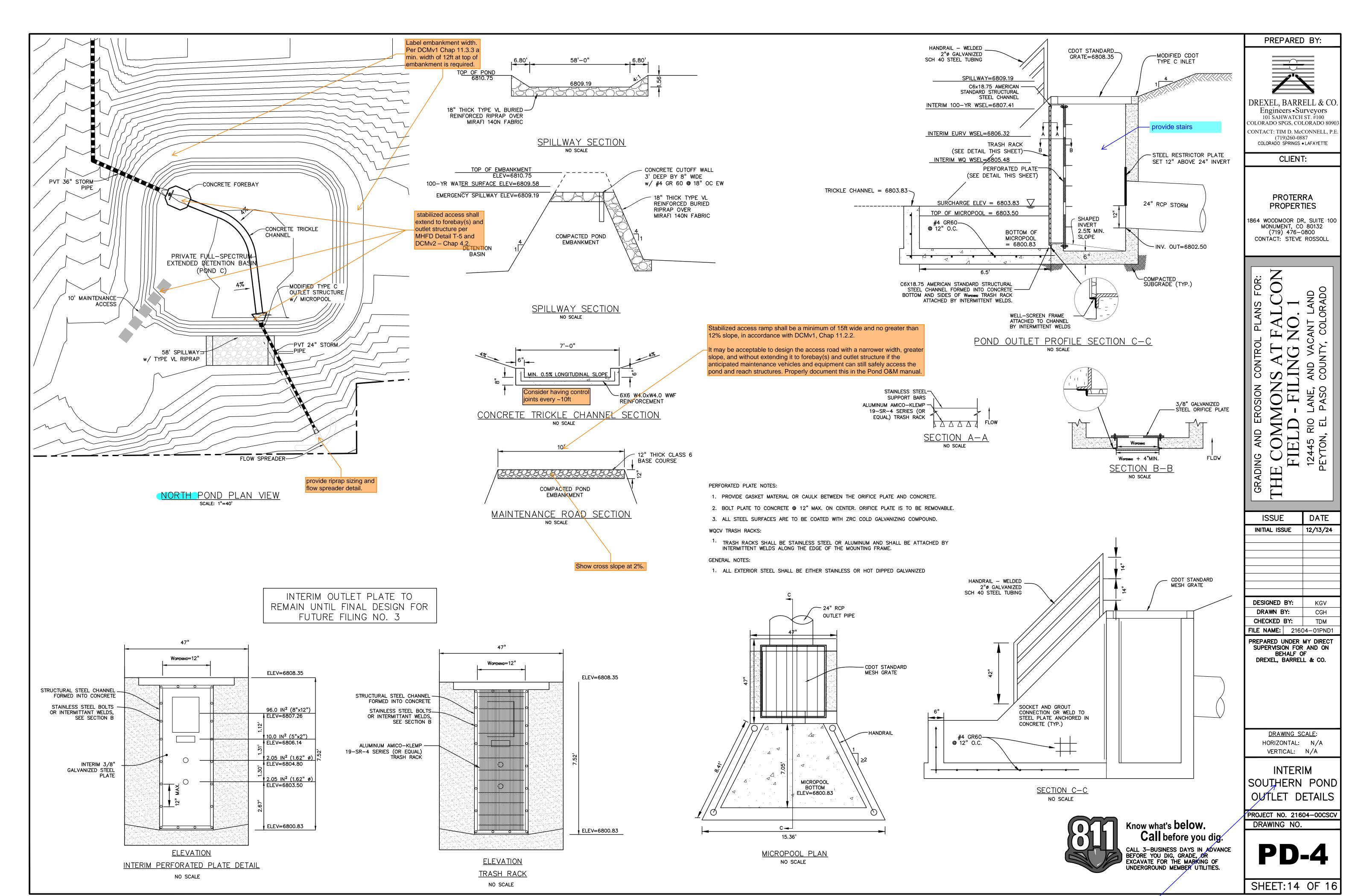
DRAWING SCALE: HORIZONTAL: 1"=10' VERTICAL: N/A

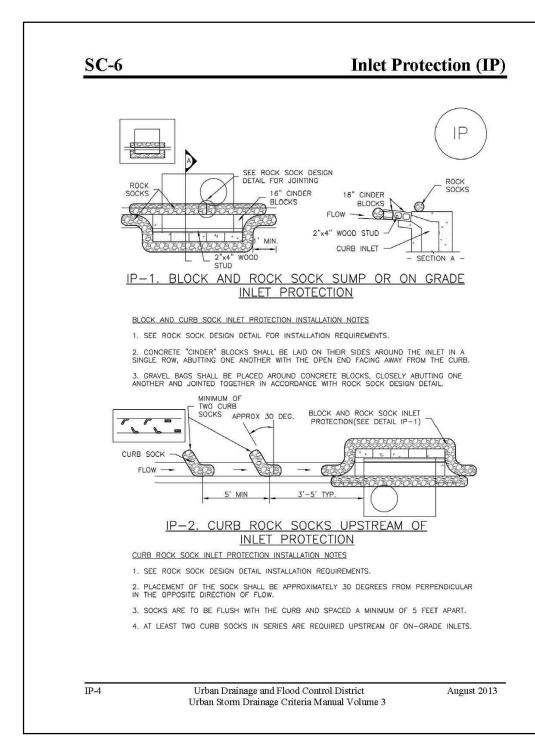
POND C FOREBAY DETAILS

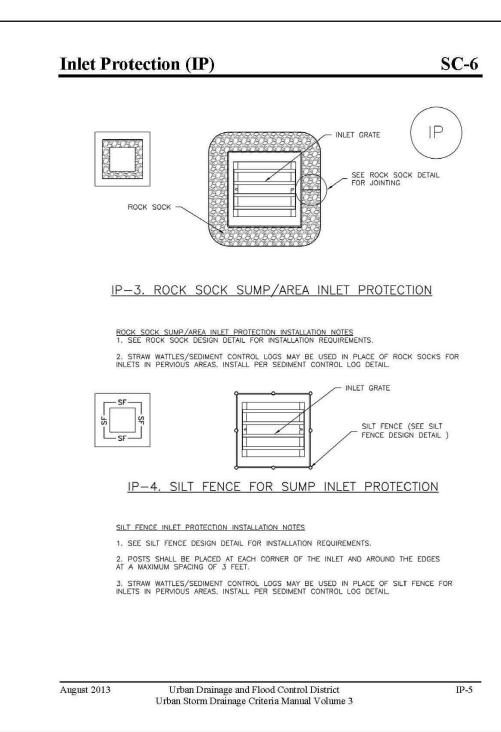
PROJECT NO. 21604-00CSCV DRAWING NO.

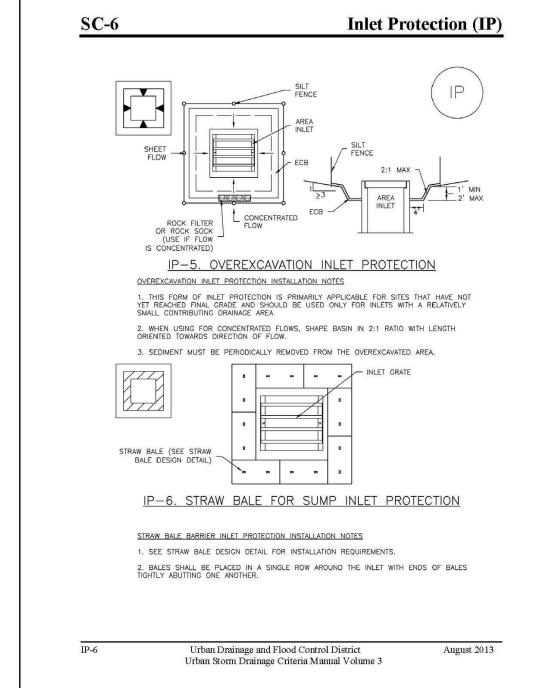
PD-3

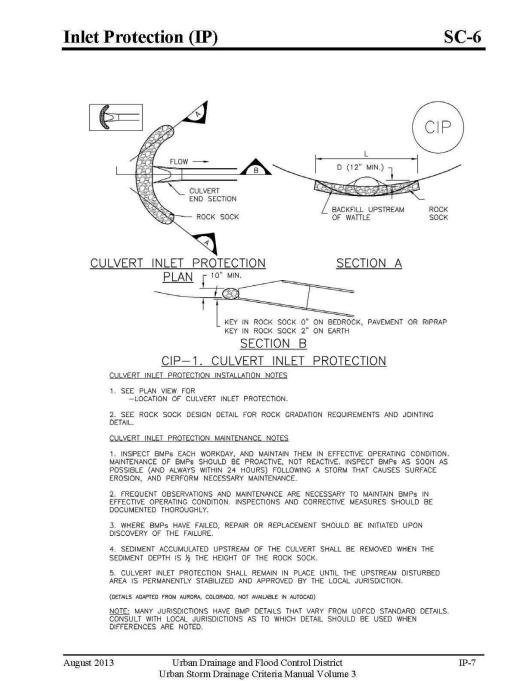
SHEET:13 OF 16

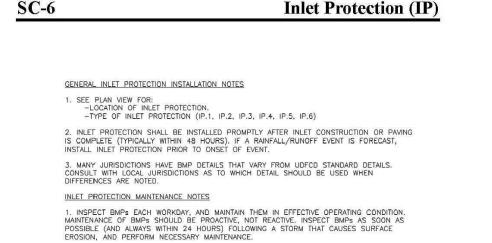












POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

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

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

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

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

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

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

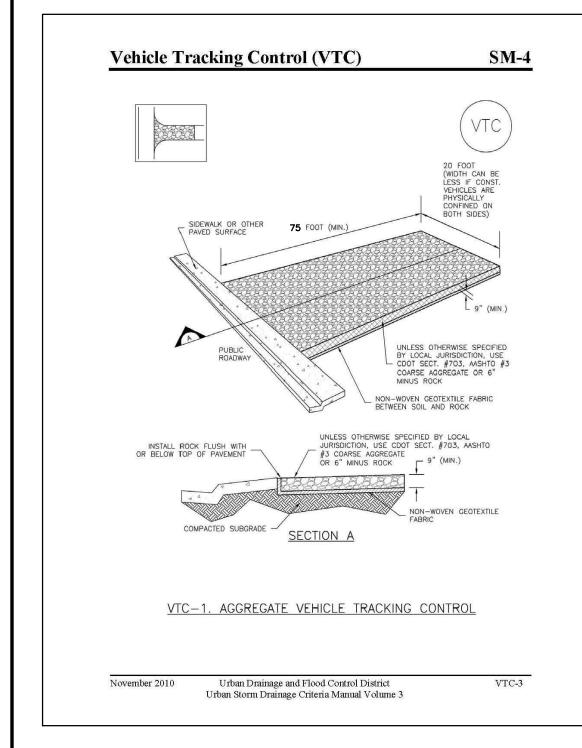
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

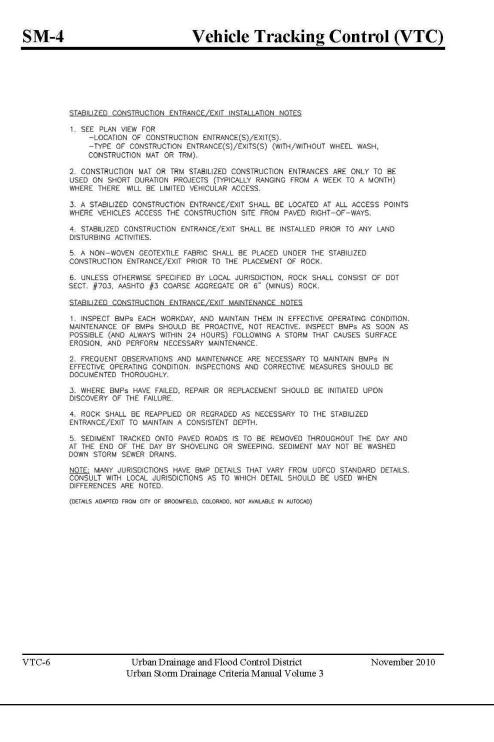
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UPFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE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

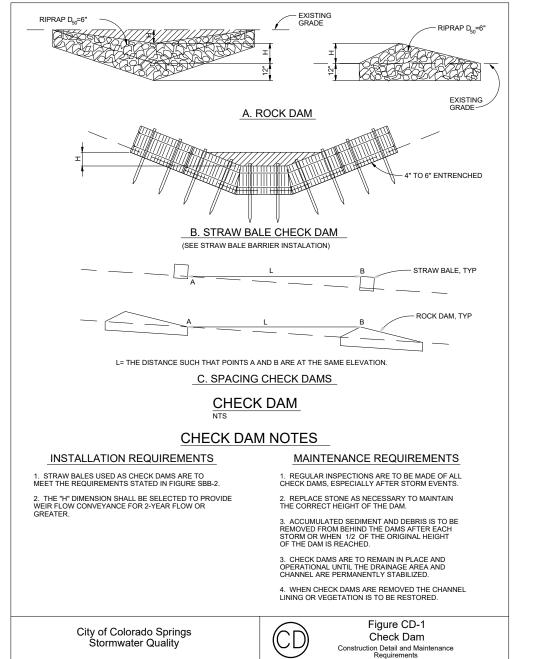
NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

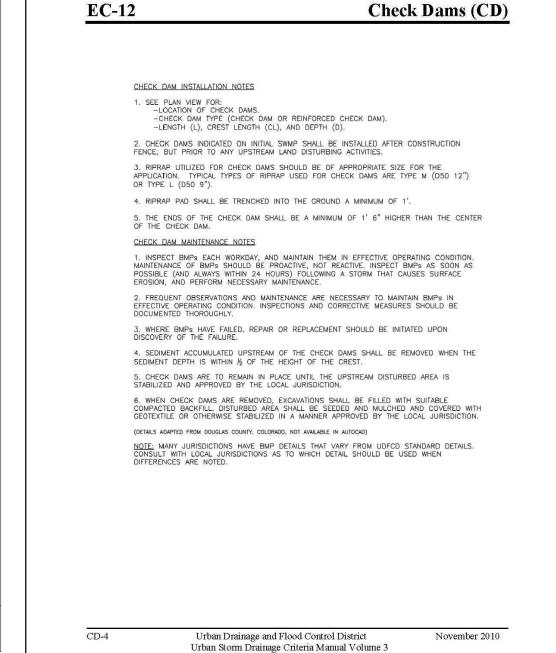
IP-8 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

13











PREPARED BY:

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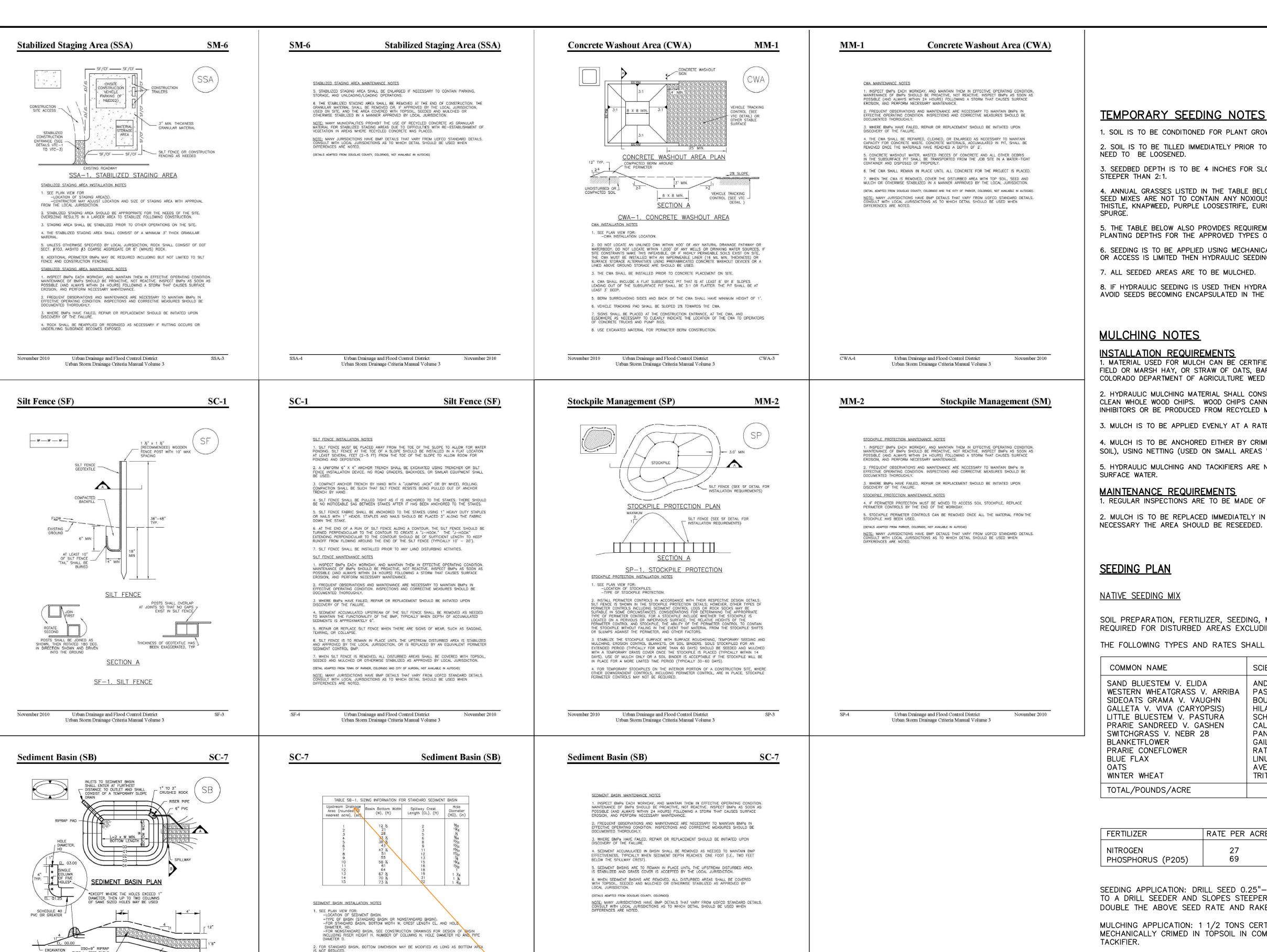
DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

EROSION CONTROL DETAILS

PROJECT NO. 21604-00CSCV DRAWING NO.



SHEET: 15 OF 16



Select what sizing is proposed for each TSB. If the

area to the sediment basin)

drainage areas are greater than what is shown in this table

provide sizing for all pond components (riser pipe diameter

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Urban Storm Drainage Criteria Manual Volume 3

and perforation sizing, number of rows of holes, required volume, location of outlet pipe and spillway, and tributary

RIPRAP BEDDING -

∠ D50=9" RIPRAP TYPE L

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

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

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

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

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6. PIPE SCH 40 OR GREATER SHALL BE USED.

1. SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER OR LIME. 2. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY

3. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1 AND 1 INCH FOR SLOPES

4. ANNUAL GRASSES LISTED IN THE TABLE BELOW 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

5. THE TABLE BELOW ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.

6. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.

7. ALL SEEDED AREAS ARE TO BE MULCHED.

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

MULCHING NOTES

INSTALLATION REQUIREMENTS

1. 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.

2. 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.

3. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.

4. 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 TACKIFIER.

5. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.

2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDED.

NATIVE SEEDING MIX

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING AND MULCH TACKIFIER WILL BE REQUIRED FOR DISTURBED AREAS EXCLUDING THE RIGHT-OF-WAYS.

THE FOLLOWING TYPES AND RATES SHALL BE USED:

COMMON NAME	SCIENTIFIC NAME	LBS PLS/ACRE
SAND BLUESTEM V. ELIDA WESTERN WHEATGRASS V. ARRIBA SIDEOATS GRAMA V. VAUGHN GALLETA V. VIVA (CARYOPSIS) LITTLE BLUESTEM V. PASTURA PRARIE SANDREED V. GASHEN SWITCHGRASS V. NEBR 28 BLANKETFLOWER PRARIE CONEFLOWER BLUE FLAX OATS WINTER WHEAT	ANDROPOGON HALLII PASCOPYRUM SMITHII BOUTELOUA CURTIPENDULA HILARIA JAMESII SCHIZACHYRIUM SCOPARIUM CALAMOVILFA LONGIFOLIA PANICUM VIRGATUM GAILLARDIA ARISTATA RATIBIDA COLUMINIFERA LINUM LEWISII AVENA SATIVA TRITICUM AESTIVUM	2.0 7.0 4.0 1.0 3.0 2.0 1.0 0.5 1.0 3.0 3.0
TOTAL/POUNDS/ACRE		28.5

FERTILIZER	RATE PER ACRE
NITROGEN PHOSPHORUS (P205)	27 69

SEEDING APPLICATION: DRILL SEED 0.25"-0.5" INTO TOPSOIL. AREA NOT ACCESSIBLE TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AT DOUBLE THE ABOVE SEED RATE AND RAKED AT 1/4 TO 1/2 INTO THE TOPSOIL.

MULCHING APPLICATION: 1 1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMED IN TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH



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> DRAWING SCALE: HORIZONTAL: N/A VERTICAL: N/A

EROSION CONTROL **DETAILS**

PROJECT NO. 21604-00CSCV DRAWING NO.

SHEET: 16 OF 16