

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM DEVELOPMENT SERVICES AND A PRECONSTRUCTION CONFERENCE IS HELD WITH DEVELOPMENT SERVICES INSPECTIONS.
- 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.
- 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.
- 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. *Revise DSD to PCD, Typical.*
- 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.
- 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.
- 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.
- 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), APPENDIX E CHECKLISTS AND PERMITS *ADOPTED: 1/9/2006 REVISED: 8/11/2011 REVISION 4* *Adopted: 12/23/2004 Revised: 12/13/2016 Revision 6*
- ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPs AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
- 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.
- 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.
- 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.
- EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- 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. BMPs MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 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.
- 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.
- 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. APPENDIX E CHECKLISTS AND PERMITS *ADOPTED: 1/9/2006 REVISED: 8/11/2011 REVISION 4*
- 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.
- 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.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
- INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 26, 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE WAS PREPARED BY FRONT RANGE GEOTECHNICAL. ADDITIONALLY, SOILS INFORMATION WAS DERIVED FROM THE NATURAL RESOURCES CONSERVATION SERVICE.
- 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. *Submit a copy of the soil report*

Revise Development Services to Planning and Community Development, Typical.

LOT 8 AKERS ACRES

EL PASO COUNTY, COLORADO

GRADING & DRAINAGE IMPROVEMENTS

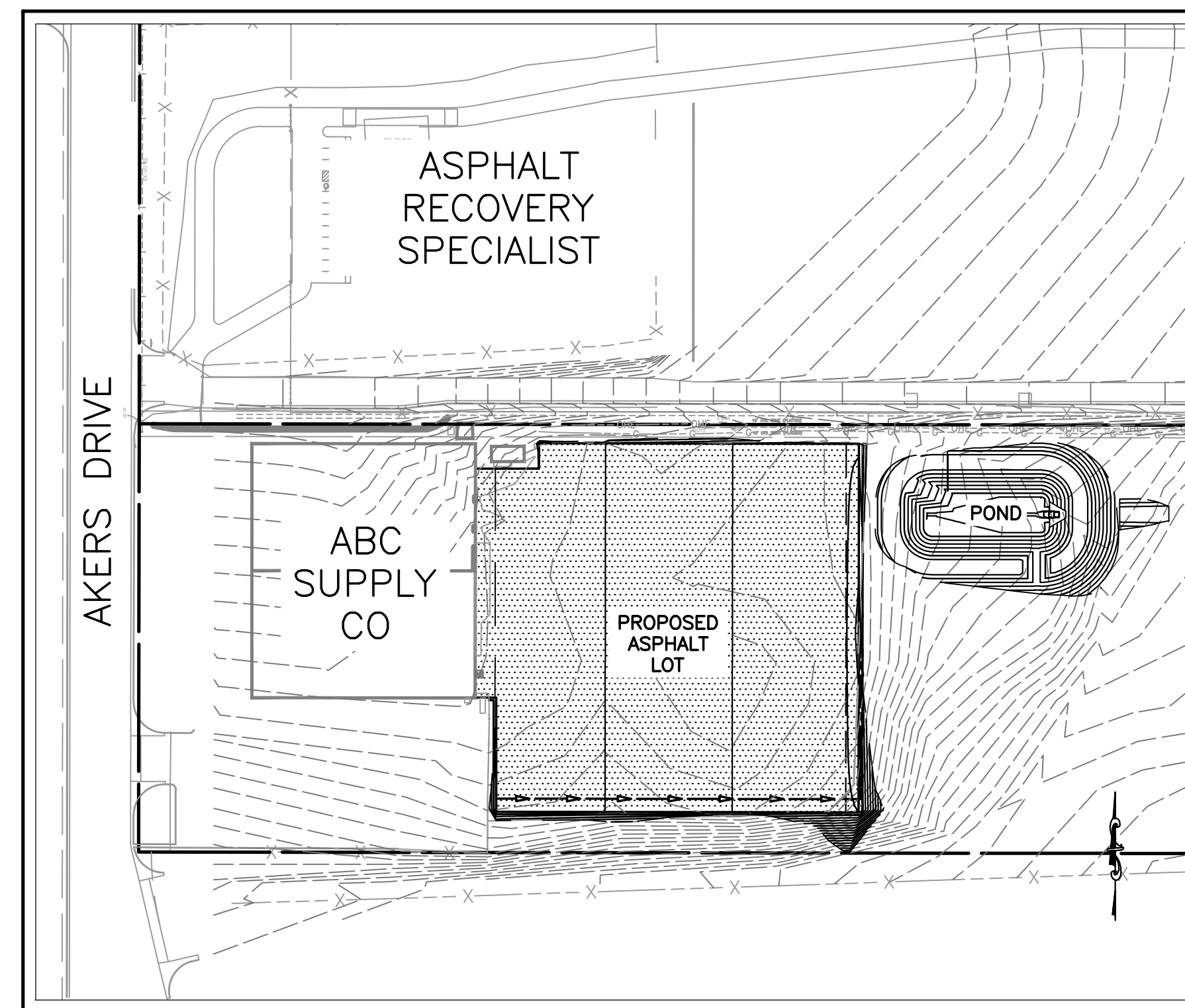
GRADING & EROSION CONTROL PLANS



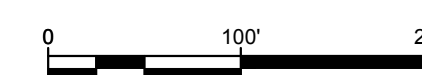
VICINITY MAP

NTS

Add additional 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."



LOCATION MAP



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

NAME _____ DATE _____

OWNER'S STATEMENT:
THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

NAME _____ DATE _____

EL PASO COUNTY:
COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

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

OWNER/APPLICANT
ABC SUPPLY - COLORADO SPRINGS, CO
2675 AKERS DR
COLORADO SPRINGS, CO 80922-1502
P: (719) 380-9911
F: (719) 380-9907

CONSULTANT/ENGINEER
OBERING, WURTH & ASSOCIATES
CONSULTING CIVIL ENGINEERS
PROFESSIONAL LAND SURVEYORS
1042 ELKTON DRIVE
COLORADO SPRINGS, COLORADO
PHONE (719) 531-6200 - FAX (719) 531-6266
OWACIVIL1@MINDSPRING.COM

SHEET INDEX

| | | |
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| 3 | C3 | POND DETAILS |
| 4 | C4 | POND DETAILS |
| 5 | C5 | POND DETAILS |
| 6 | C6 | STORMWATER MANAGEMENT PLAN |
| 7 | C7 | STORMWATER MANAGEMENT DETAILS |
| 8 | C8 | COORDINATE GEOMETRY |

Add PCD File No. PPR1848

PRE-EXCAVATION CHECKLIST

- GAS AND OTHER UTILITY LINES SHOWN ON CONSTRUCTION PLANS
- UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) - TO BE CALLED AT LEAST TWO (2) BUSINESS DAYS AHEAD -
- UTILITIES LOCATED & MARKED
- EMPLOYEES BRIEFED ON MARKING AND COLOR CODES*
- EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES
- WHEN EXCAVATION APPROACHES GAS LINES, EMPLOYEES MUST EXPOSE LINES BY CAREFUL PROBING AND HAND DIGGING

***STANDARD UTILITY MARKING COLOR CODE**

| | | |
|-------------|----------|---|
| NATURAL GAS | - YELLOW | IF YOU DAMAGE A GAS LINE, SMELL GAS OR HAVE A GAS |
| ELECTRIC | - RED | EMERGENCY, CALL THE GAS DEPARTMENT. |
| WATER | - BLUE | |
| WASTEWATER | - GREEN | |

CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG, FOR LOCATIONS MONDAY-FRIDAY FROM 7 A.M.-5 P.M.
CALL 1-800-922-1987. FOR EMERGENCY LOCATIONS DURING NON-BUSINESS HOURS CALL 520-0022. (NO CHARGE FOR THIS SERVICE)

ISSUED FOR REVIEW
FRIDAY, JULY 27, 2018

REVIEWED FOR CONSTRUCTION:

BY _____
DATE _____

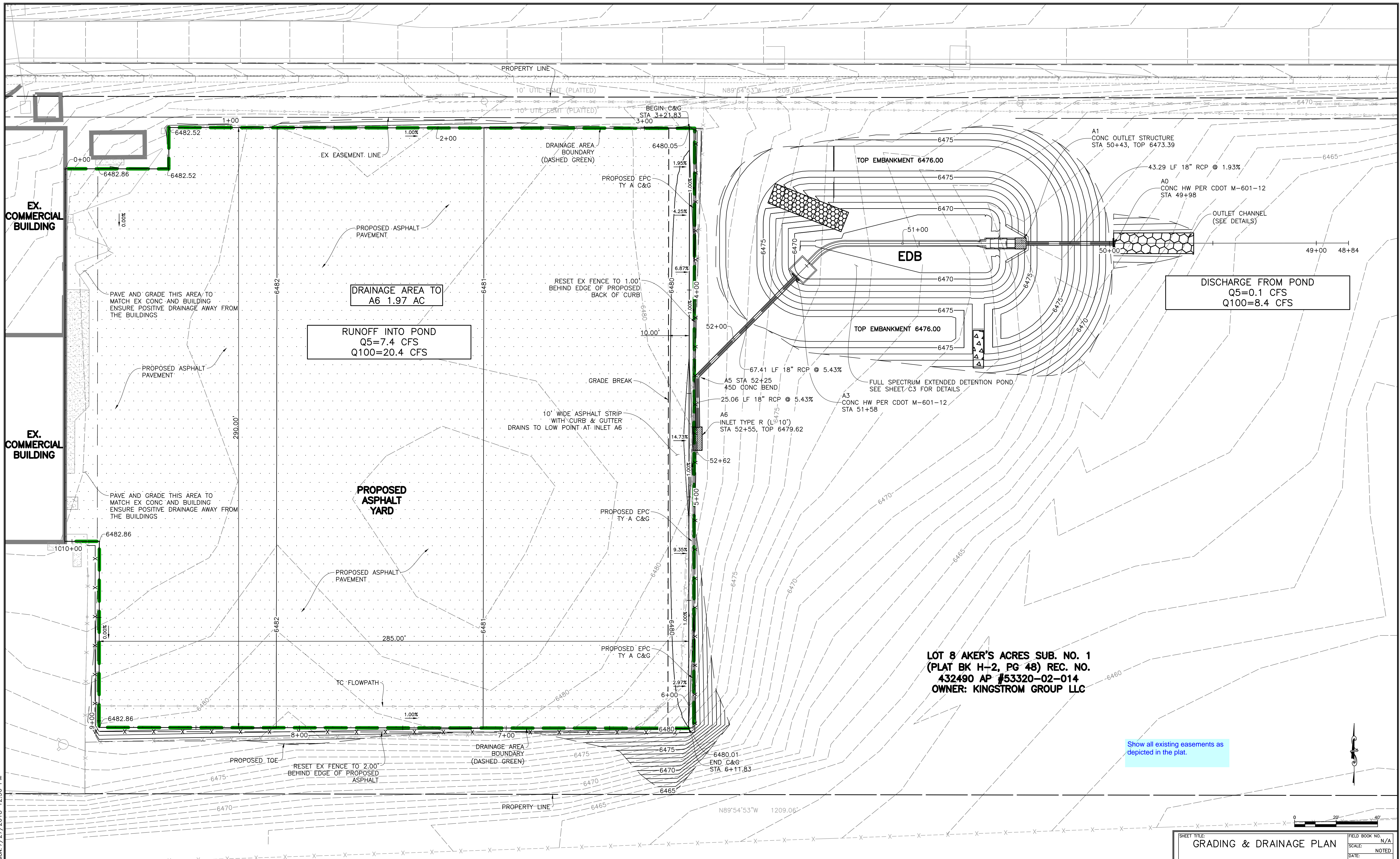
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| SHEET TITLE: GRADING & EROSION CONTROL COVER & NOTES | | FIELD BOOK NO.: N/A |
| PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS | | SCALE: NOTED |
| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | | DATE: NOTED |
| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6266 E-mail Address: owacivil@mindspring.com | | DESIGNED BY: CLD |
| | | CHECKED BY: RGO |
| | | DRAWN BY: CLD |
| | | PROJECT NO.: 18022 |
| | | SHEET NO.: C1 |
| | | OF 8 SHEETS |



LOT 8 AKER'S ACRES SUB. NO. 1
(PLAT BK H-2, PG 48) REC. NO.
432490 AP #53320-02-014
OWNER: KINGSTROM GROUP LLC

Show all existing easements as depicted in the plat.

ISSUED FOR REVIEW
FRIDAY, JULY 27, 2018

PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
 CLIENT: KINGSTROM GROUP LLC
 DESIGNER: OBERING, WURTH & ASSOCIATES
 PROJECT NO: 18020 UPDATED VERSION: 7/27/2018 12:36 PM

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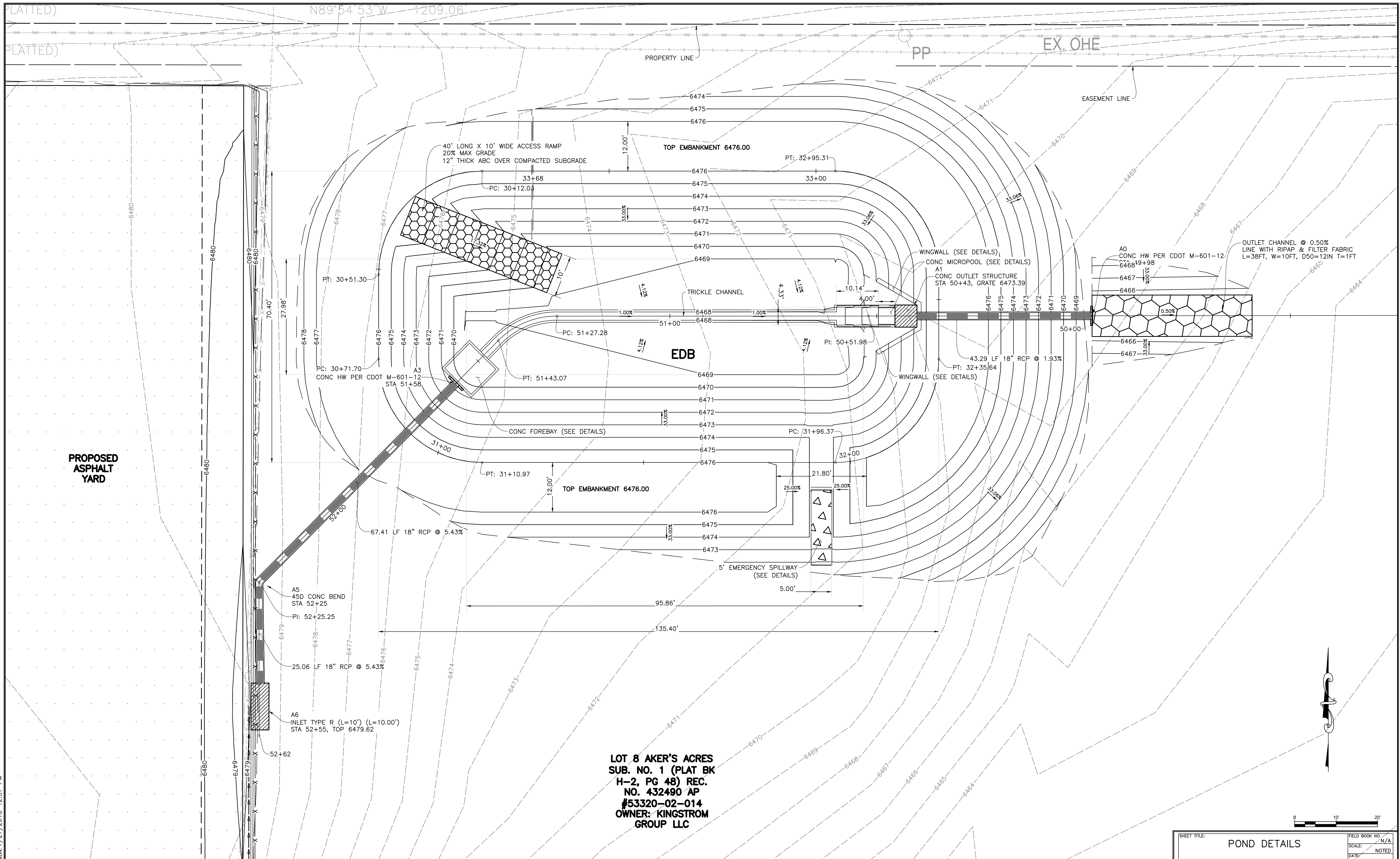
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| PROJECT: LOT 8 AKER'S ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS | DESIGNED BY: CLD | CHECKED BY: RGO |
| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | DRAWN BY: CLD | PROJECT NO.: 18022 |
| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com | SHEET NO.: C2 | OF 8 SHEETS |



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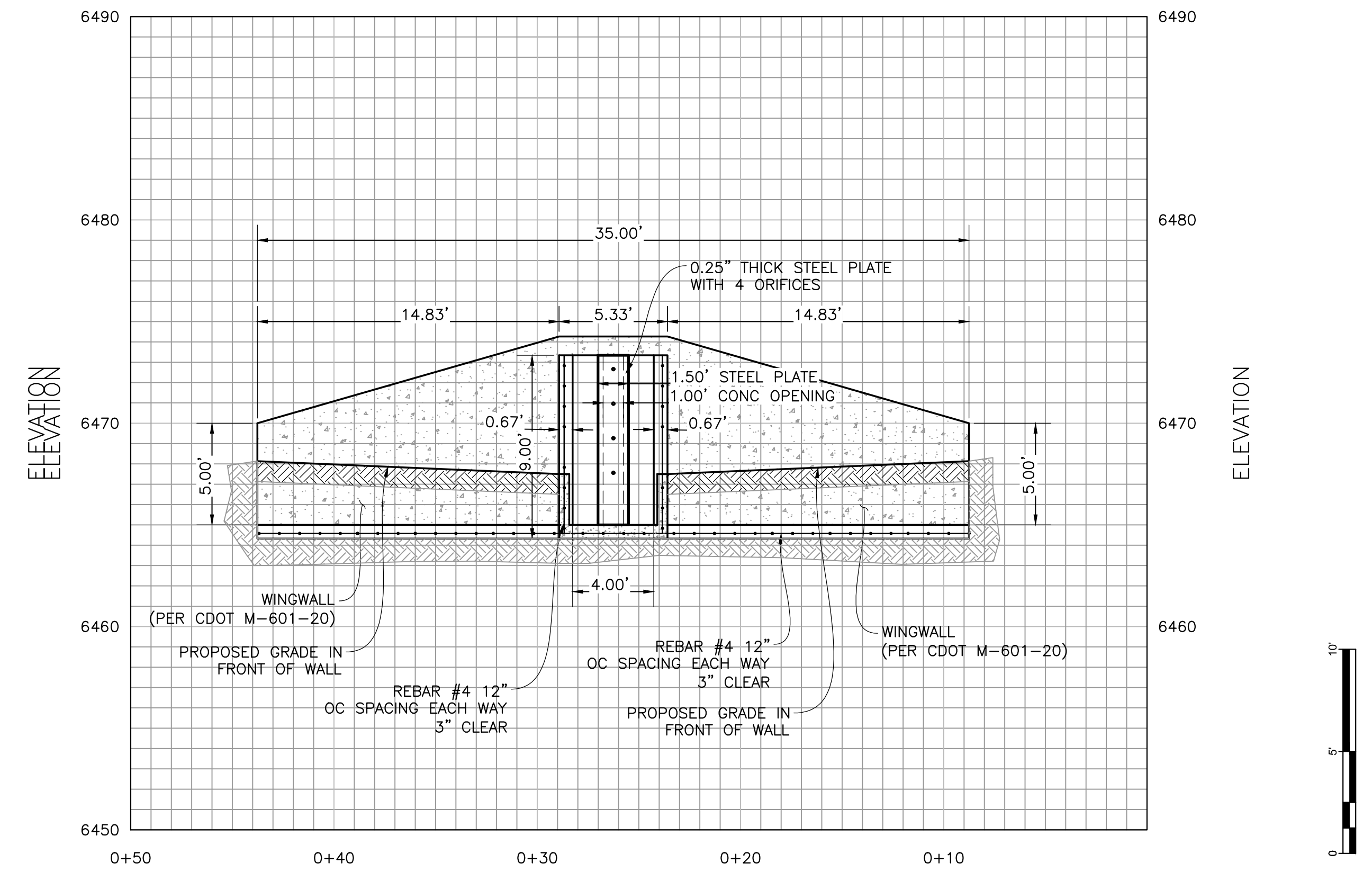
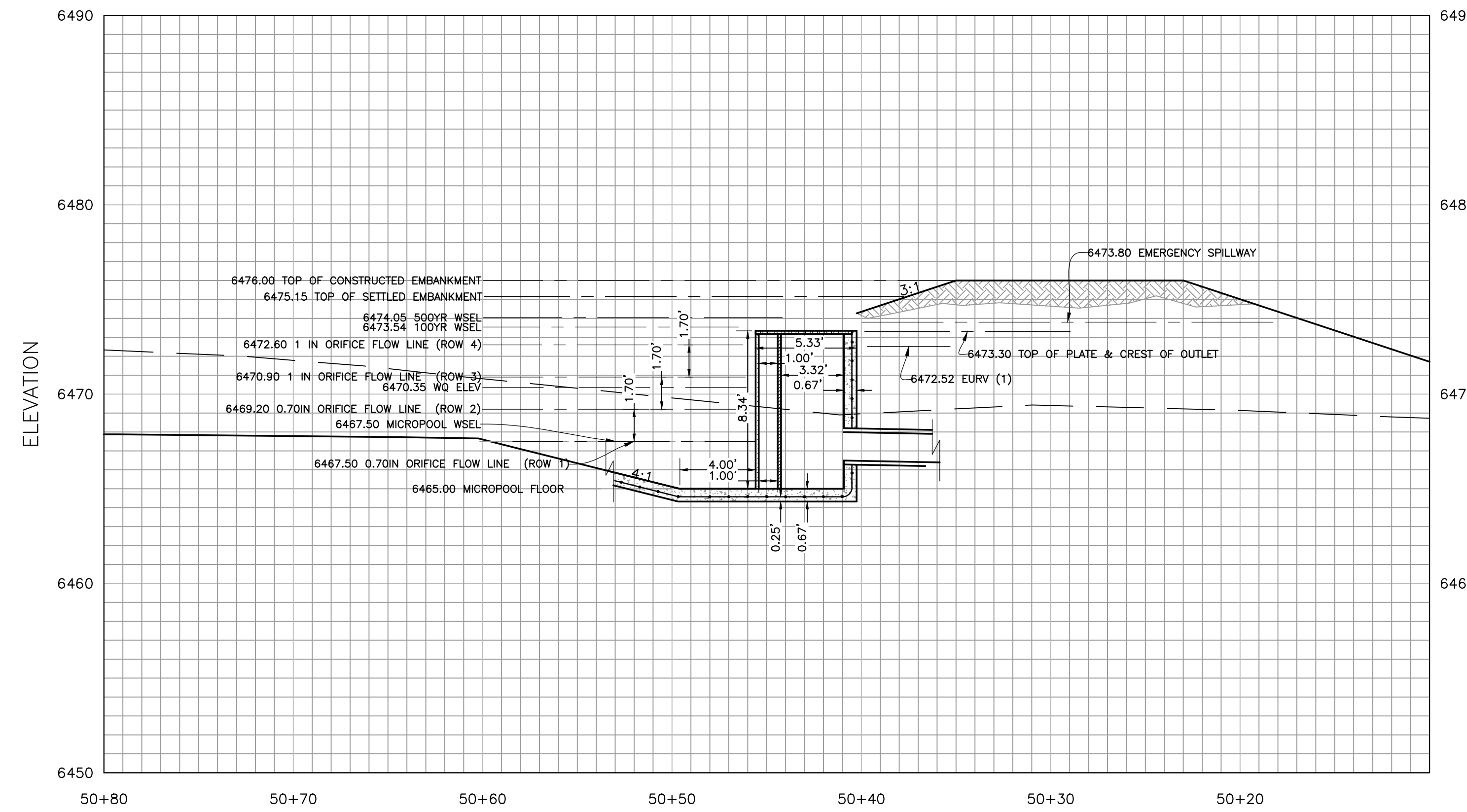
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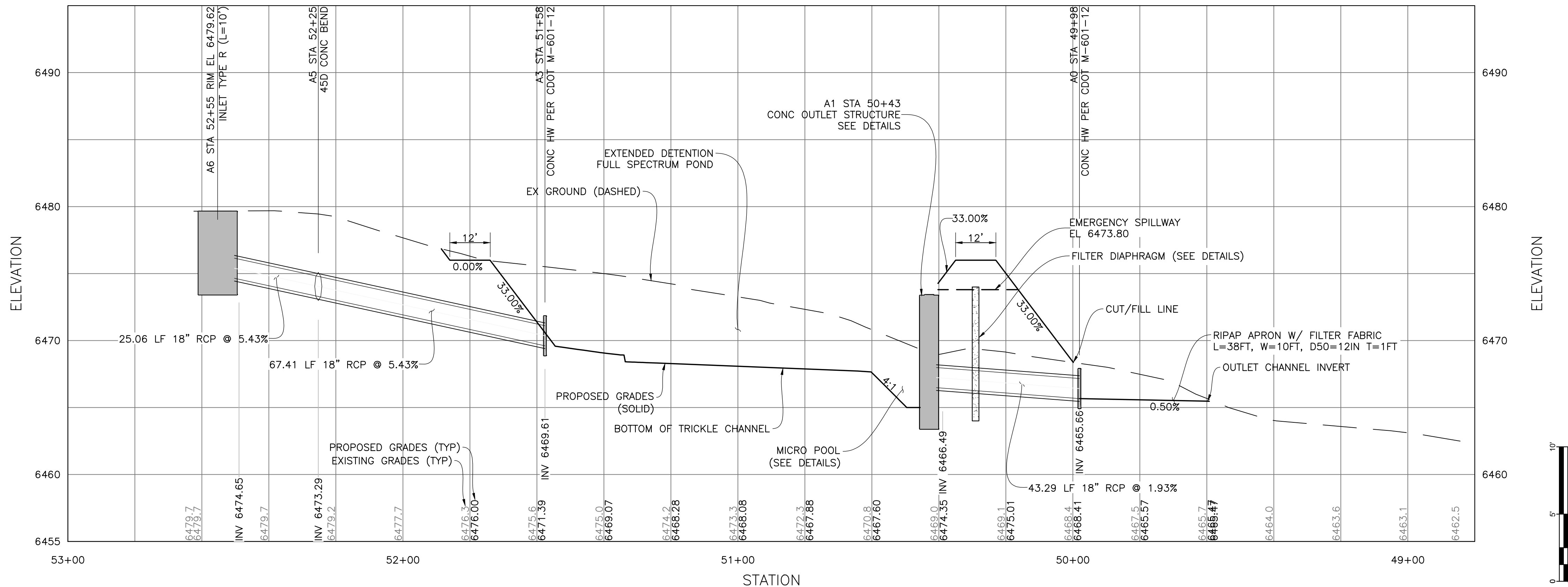
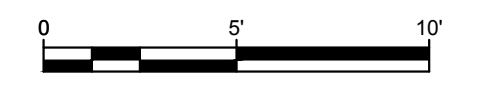


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| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | DRAWN BY: CLD | PROJECT NO.: 18022 |
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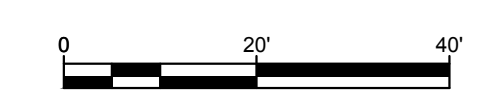
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DATE: 7/27/2018 12:37 PM
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OUTLET STRUCTURE ELEVATION
SEE UDFCD DETAILS NEXT SHEET



PROFILE STORM DRAIN THROUGH POND



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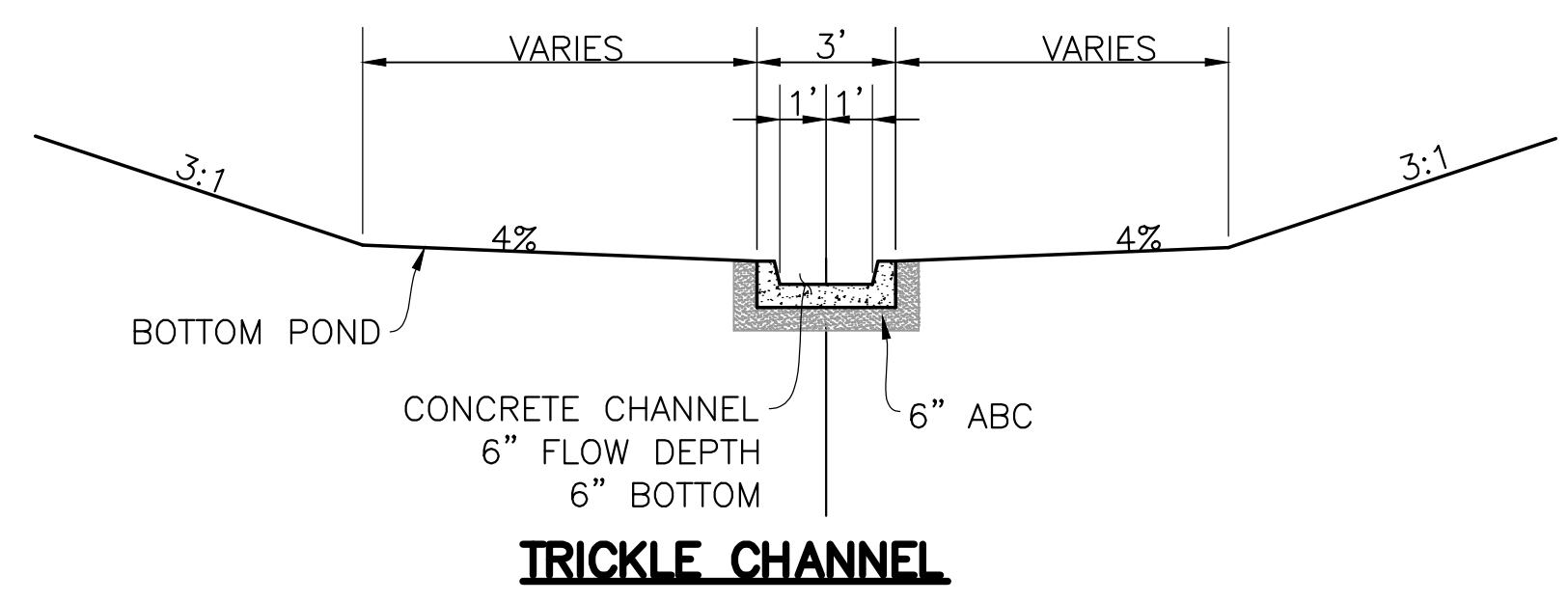
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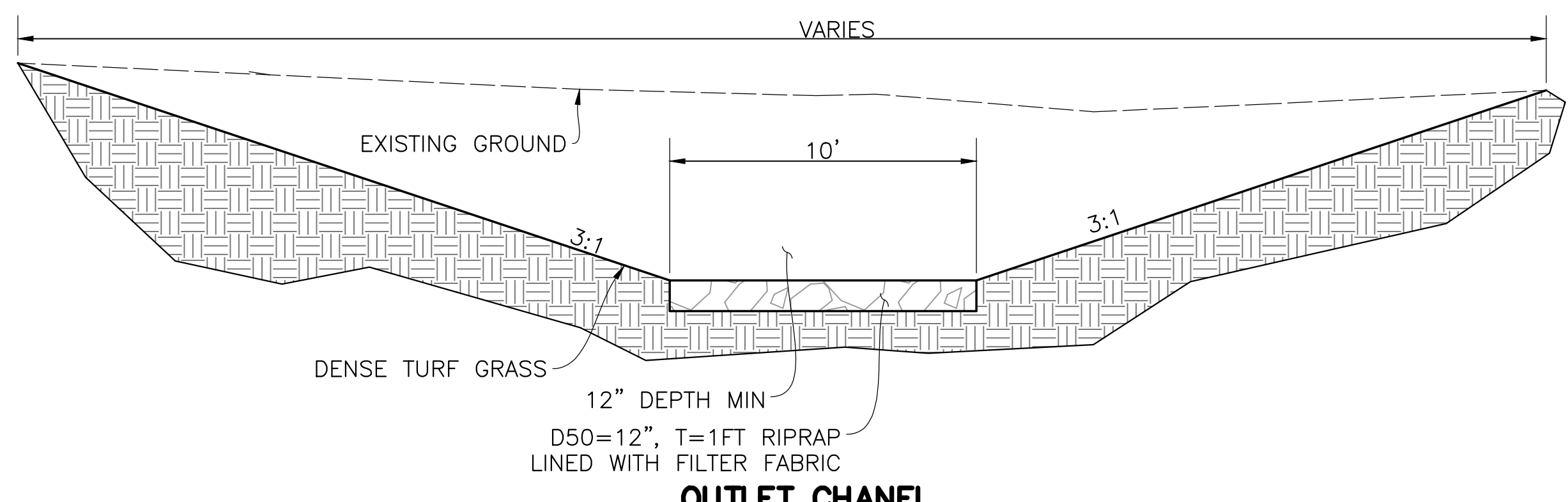


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| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6266 E-mail Address: owcivil@mindspring.com | | DRAWN BY: CLD |
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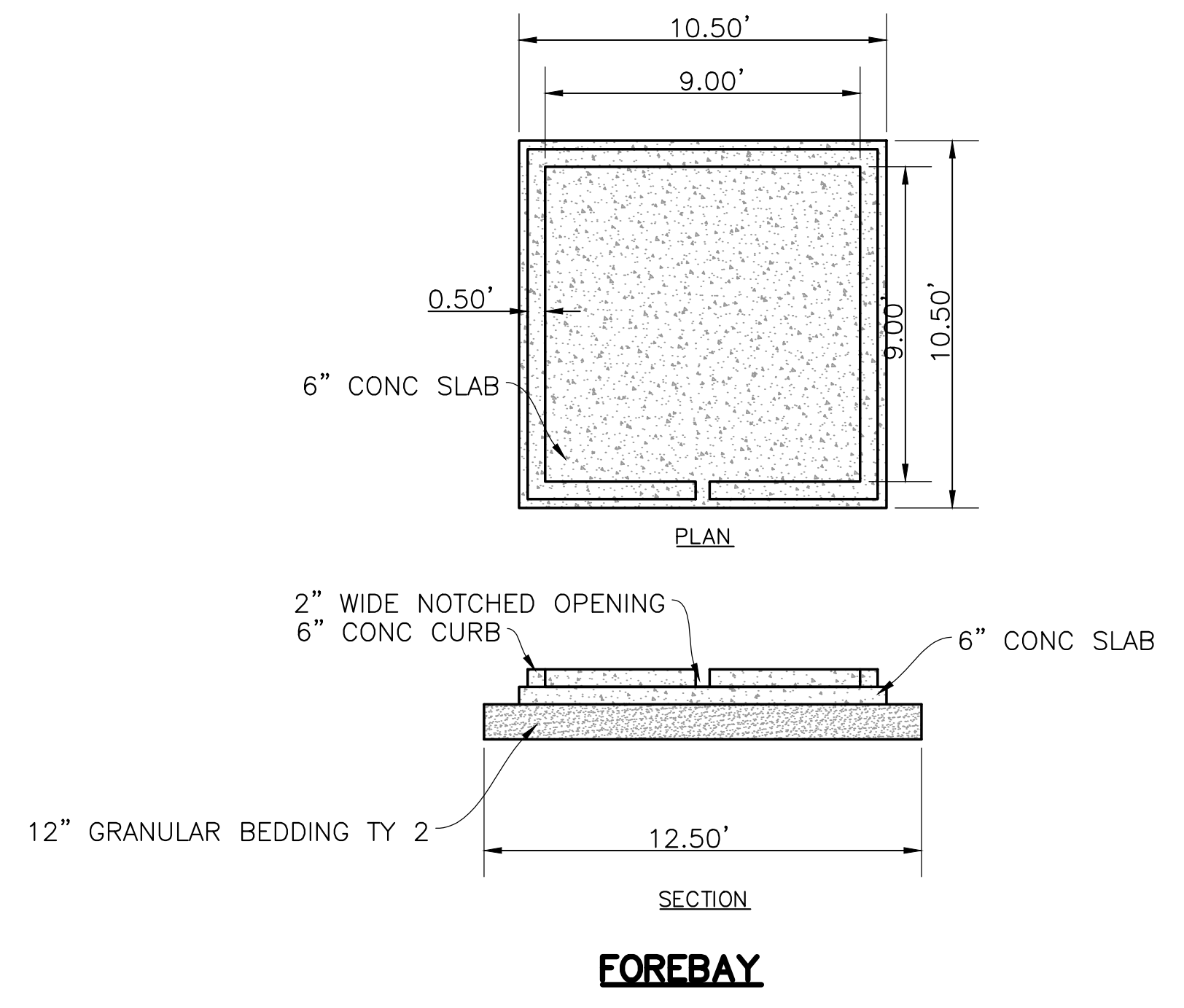
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TRICKLE CHANNEL



OUTLET CHANNEL



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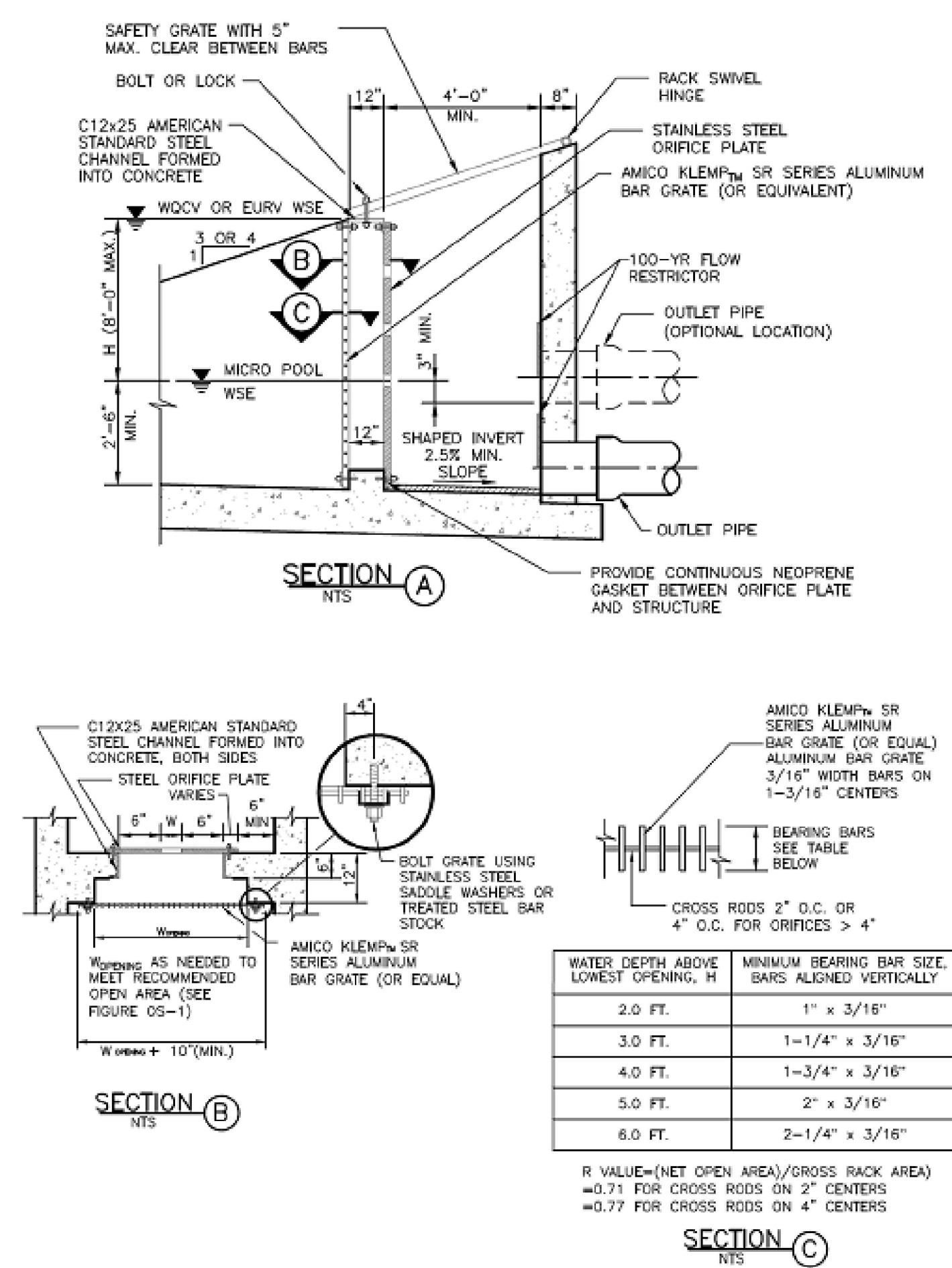


Figure OS-6. Typical outlet structure with bar grate trash rack

OS-10 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

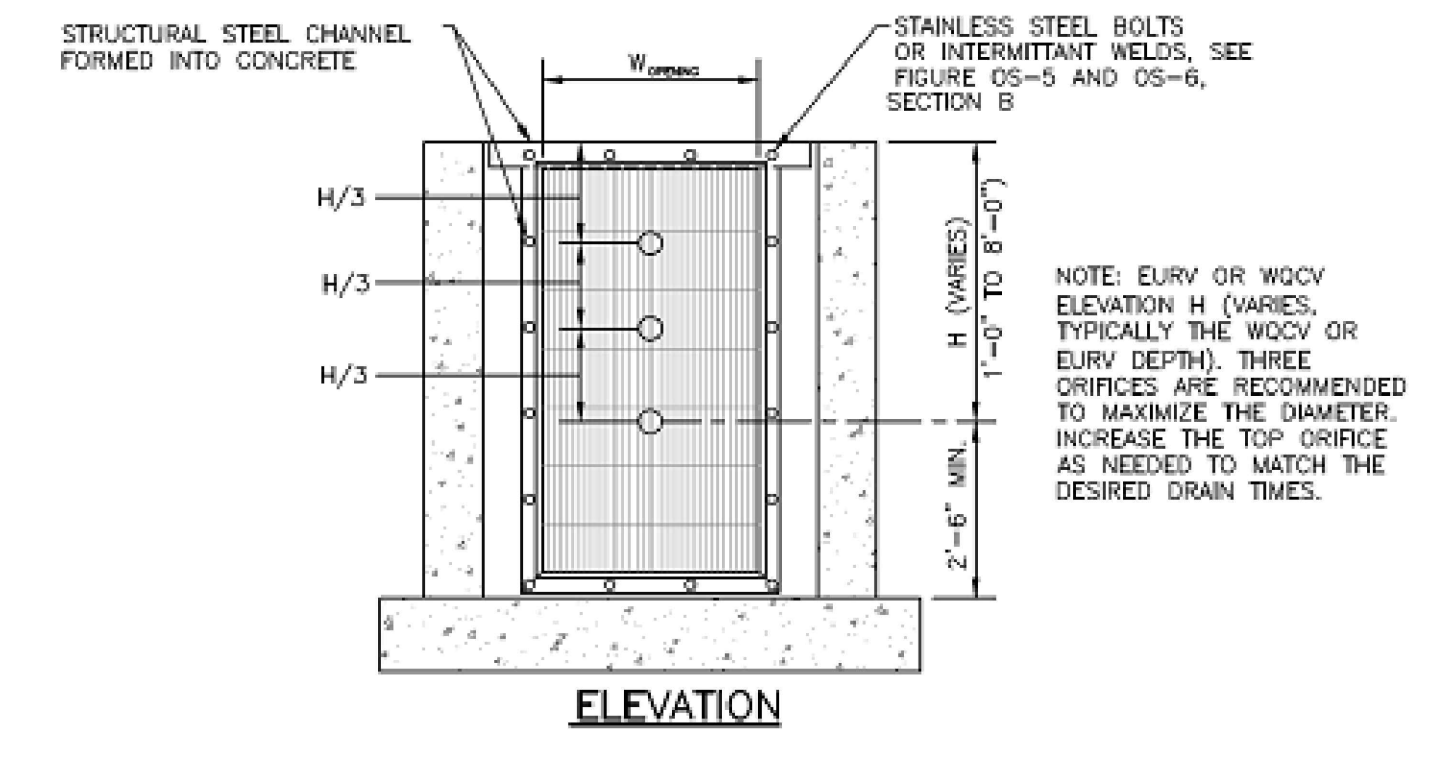
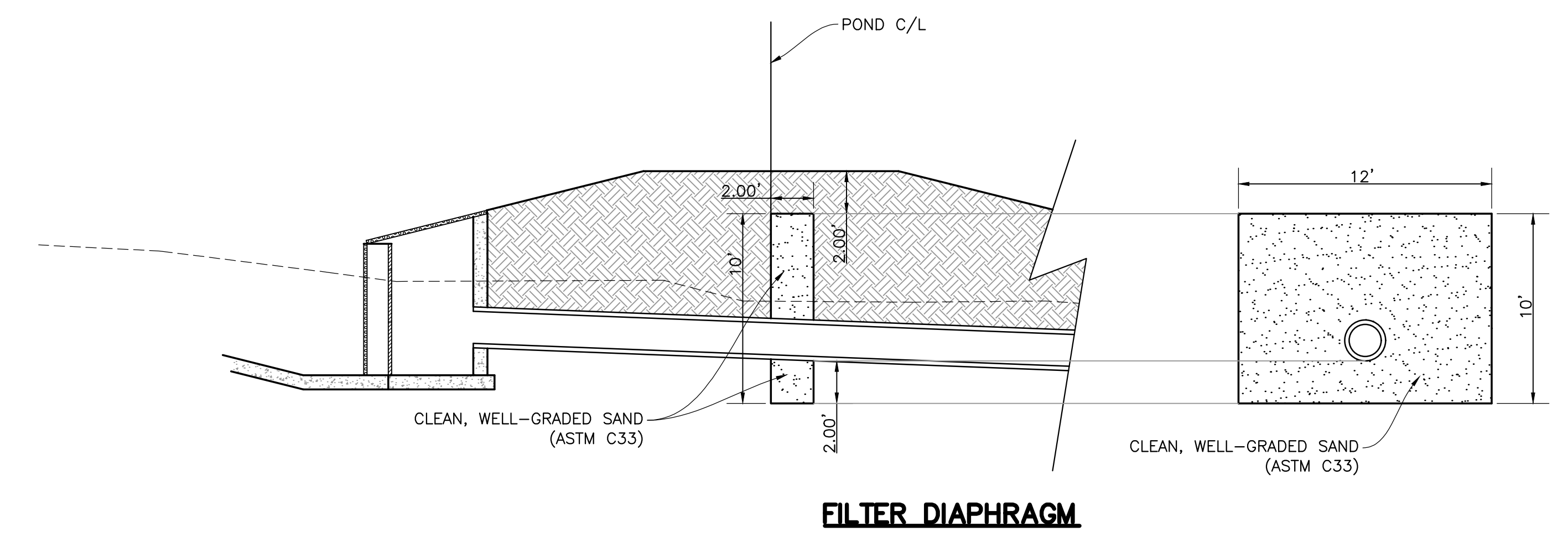


Figure OS-4. Orifice plate and trash rack detail and notes

OS-7 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015



FILTER DIAPHRAGM

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WEDNESDAY, JULY 25, 2018**

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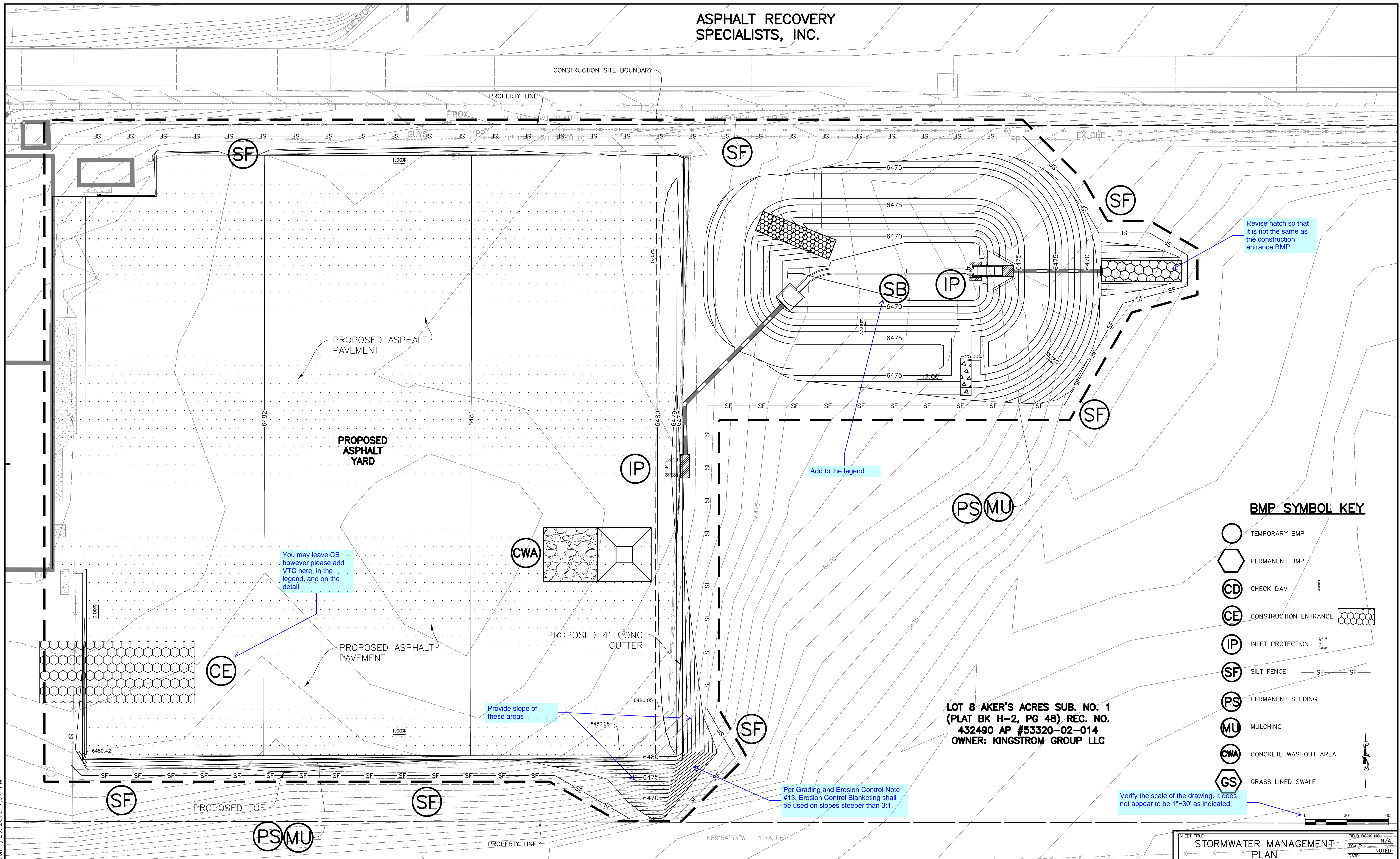
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| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com | | DRAWN BY: CLD |
| PROJECT NO.: 18022 | | SHEET NO.: C5 |
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DATE: 7/25/2018 7:55 PM
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ASPHALT RECOVERY
SPECIALISTS, INC.

CONSTRUCTION SITE BOUNDARY

PROPERTY LINE



Revise hatch so that it is not the same as the construction entrance BMP.

Add to the legend

You may leave CE however please add VTC here, in the legend, and on the detail

Provide slope of these areas

Per Grading and Erosion Control Note #13, Erosion Control Blanketing shall be used on slopes steeper than 3:1.

Verify the scale of the drawing. It does not appear to be 1"=30' as indicated.

BMP SYMBOL KEY

- TEMPORARY BMP
- PERMANENT BMP
- CHECK DAM
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- SILT FENCE
- PERMANENT SEEDING
- MULCHING
- CONCRETE WASHOUT AREA
- GRASS LINED SWALE

LOT 8 AKER'S ACRES SUB. NO. 1
(PLAT BK H-2, PG 48) REC. NO.
432490 AP #53320-02-014
OWNER: KINGSTROM GROUP LLC

ISSUED FOR REVIEW
WEDNESDAY, JULY 25, 2018

PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
DRAWN BY: CLD, WURTH & ASSOCIATES
PROJECT NO: 18020 UPDATED VERSION: 7/25/2018 7:57 PM

REVIEWED FOR CONSTRUCTION:

| BY | DATE |
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SCALE:
HORIZONTAL: NOTED
VERTICAL:

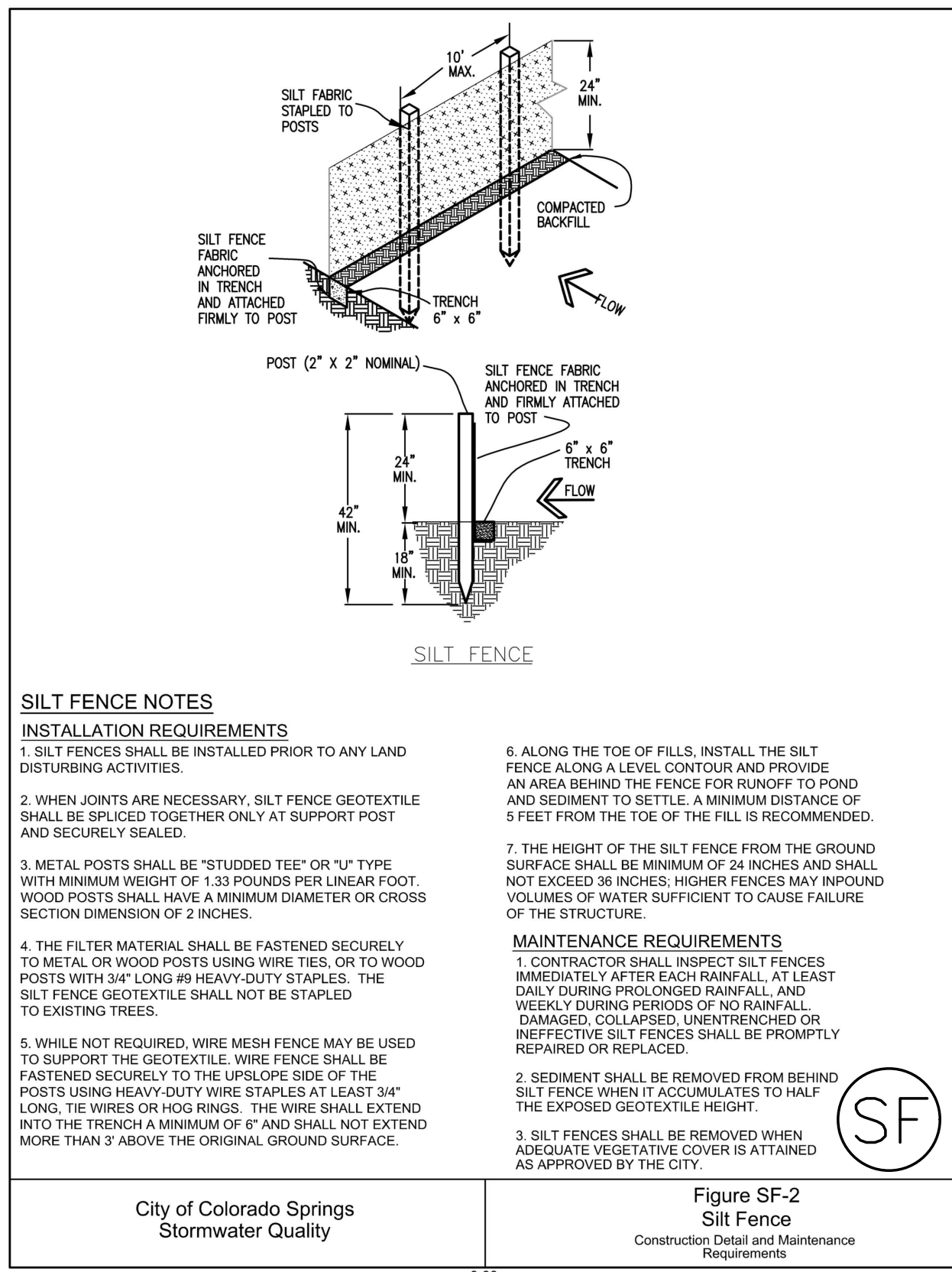
REVISIONS:

| NO. | DATE | DESCRIPTION | BY |
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| | | |
|---|----------------------|-------------------------|
| SHEET TITLE: STORMWATER MANAGEMENT PLAN | | FIELD BOOK NO.: N/A |
| PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS | | SCALE: N/A |
| DESIGNED BY: CLD | CHECKED BY: RGO | DATE: NOTED |
| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | PROJECT NO: 18022 | SHEET NO.: C6 |
| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com | | OF 8 SHEETS |



SILT FENCE NOTES

INSTALLATION REQUIREMENTS

- SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPUNLED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
- METAL POSTS SHALL BE "STUDDED TEE" OR "T" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4\"/>

MULCHING NOTES

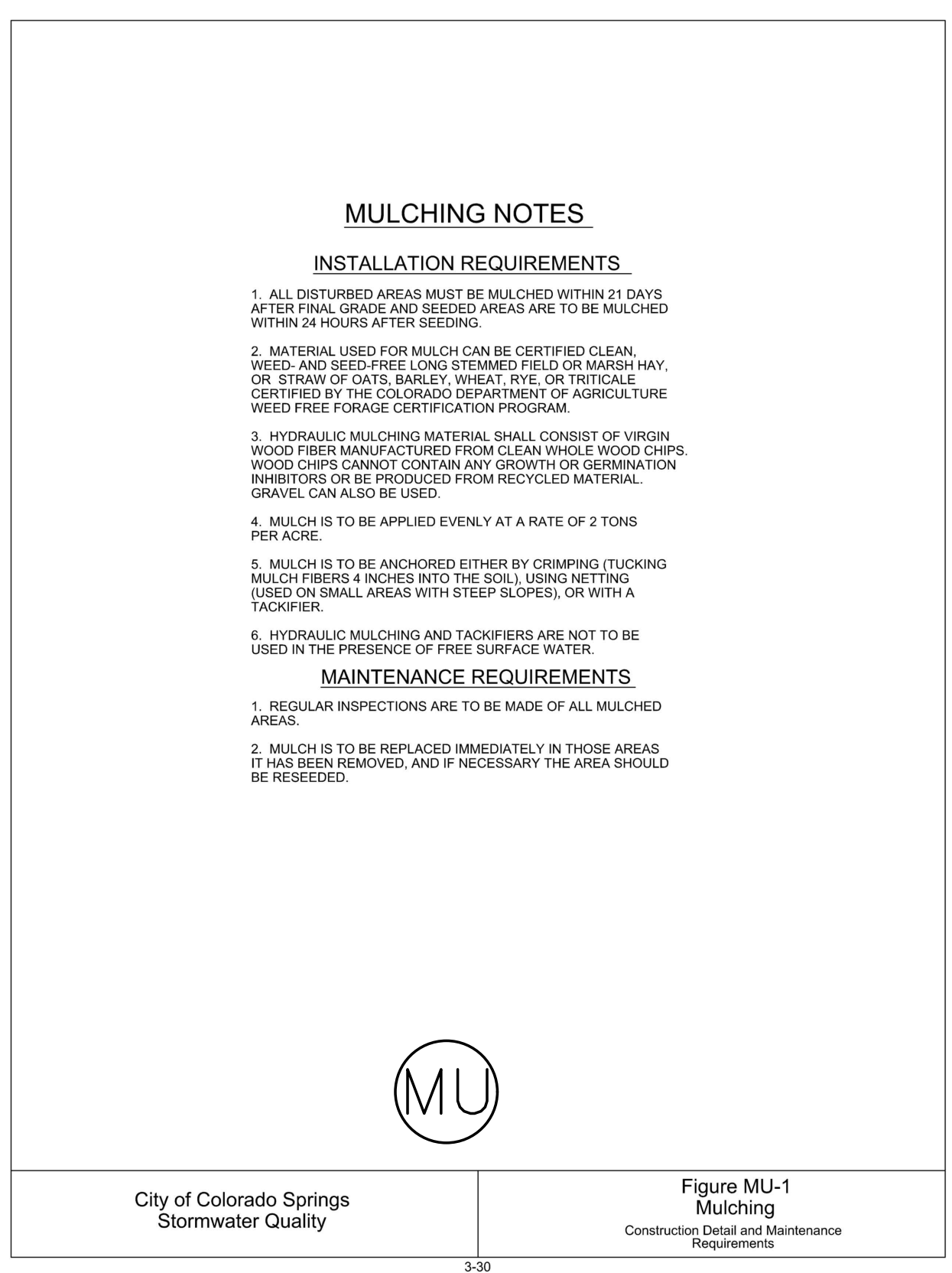
INSTALLATION REQUIREMENTS

- ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDING AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
- MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED AND SEED-FREE LONG STEMMED FIELDS OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
- 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.
- MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
- 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.
- HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
- MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDING.

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| City of Colorado Springs Stormwater Quality | Figure SF-2 Silt Fence Construction Detail and Maintenance Requirements |
|--|--|



MULCHING NOTES

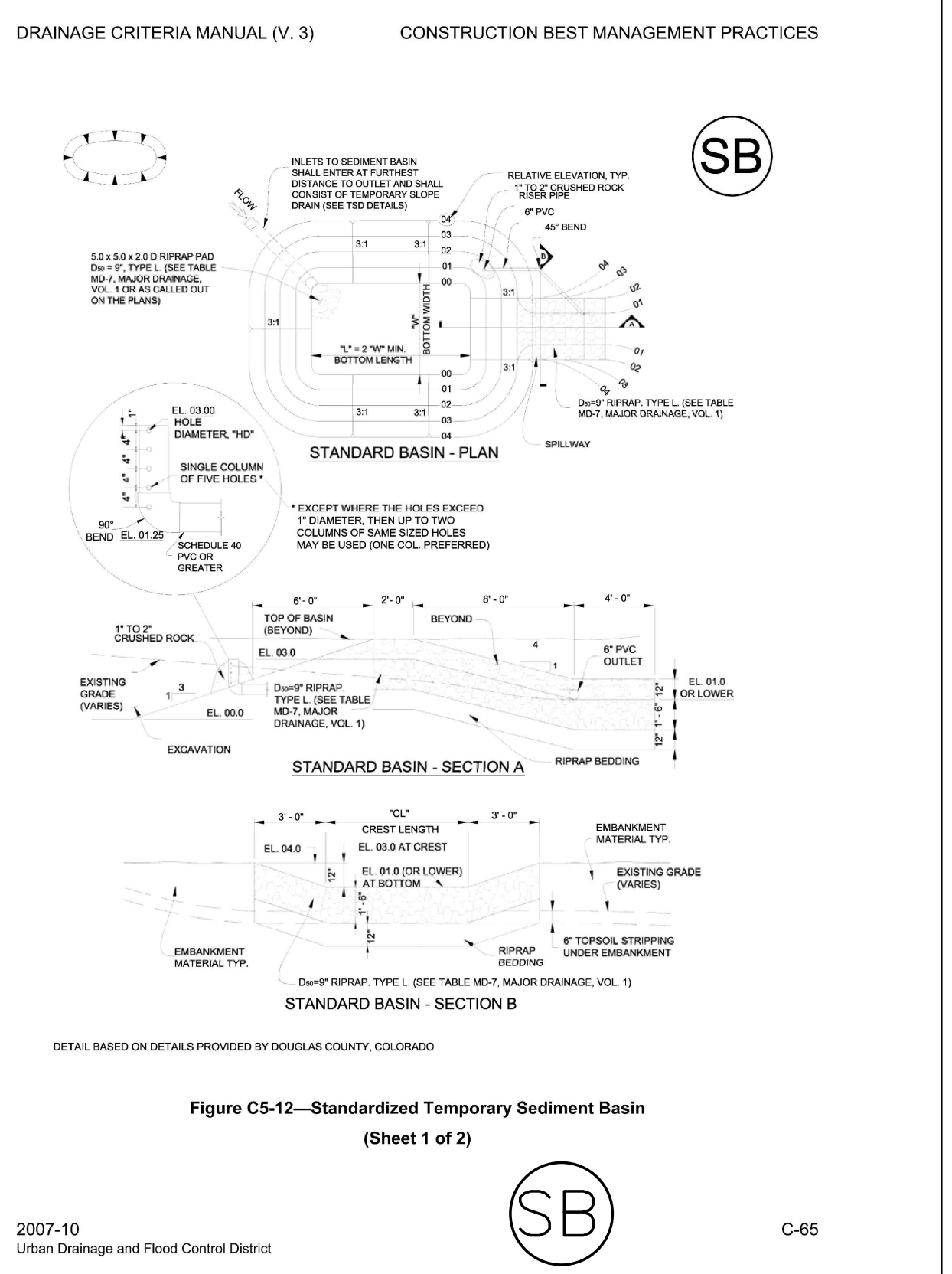
INSTALLATION REQUIREMENTS

- ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDING AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
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- 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.
- MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
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MAINTENANCE REQUIREMENTS

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

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| City of Colorado Springs Stormwater Quality | Figure MU-1 Mulching Construction Detail and Maintenance Requirements |
|--|--|



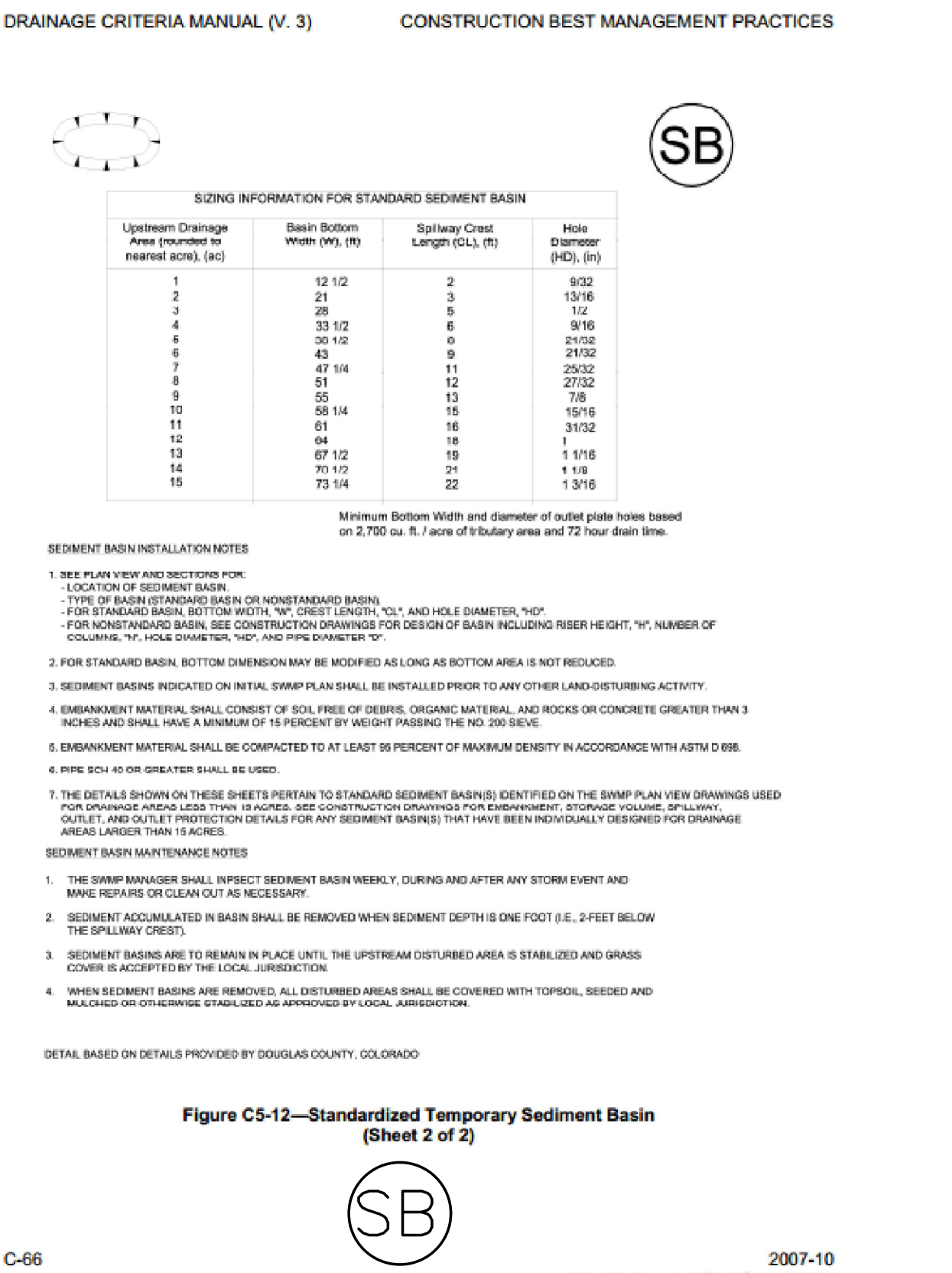
STANDARD BASIN - PLAN

STANDARD BASIN - SECTION A

STANDARD BASIN - SECTION B

Figure C5-12—Standardized Temporary Sediment Basin (Sheet 1 of 2)

| | | |
|--|--|------|
| 2007-10 Urban Drainage and Flood Control District | Figure C5-12—Standardized Temporary Sediment Basin (Sheet 1 of 2) | C-65 |
|--|--|------|



-sizing INFORMATION FOR STANDARD SEDIMENT BASIN

| Upland Drainage Area (acres) | Basin Bottom Width (ft) | Spillway Crest Length (ft) | Hole Diameter (inches) |
|------------------------------|-------------------------|----------------------------|------------------------|
| 1 | 12 1/2 | 2 | 8/32 |
| 2 | 21 | 3 | 13/16 |
| 3 | 28 | 4 | 1 1/2 |
| 4 | 33 1/2 | 6 | 1 9/16 |
| 6 | 42 1/2 | 6 | 2 1/8 |
| 8 | 47 | 9 | 2 1/2 |
| 9 | 51 | 12 | 2 7/8 |
| 10 | 55 1/4 | 12 | 3 1/8 |
| 11 | 59 1/2 | 15 | 3 5/8 |
| 12 | 64 | 18 | 4 1/8 |
| 13 | 67 1/2 | 18 | 4 3/8 |
| 14 | 71 1/2 | 21 | 4 7/8 |
| 15 | 73 1/4 | 22 | 5 1/8 |

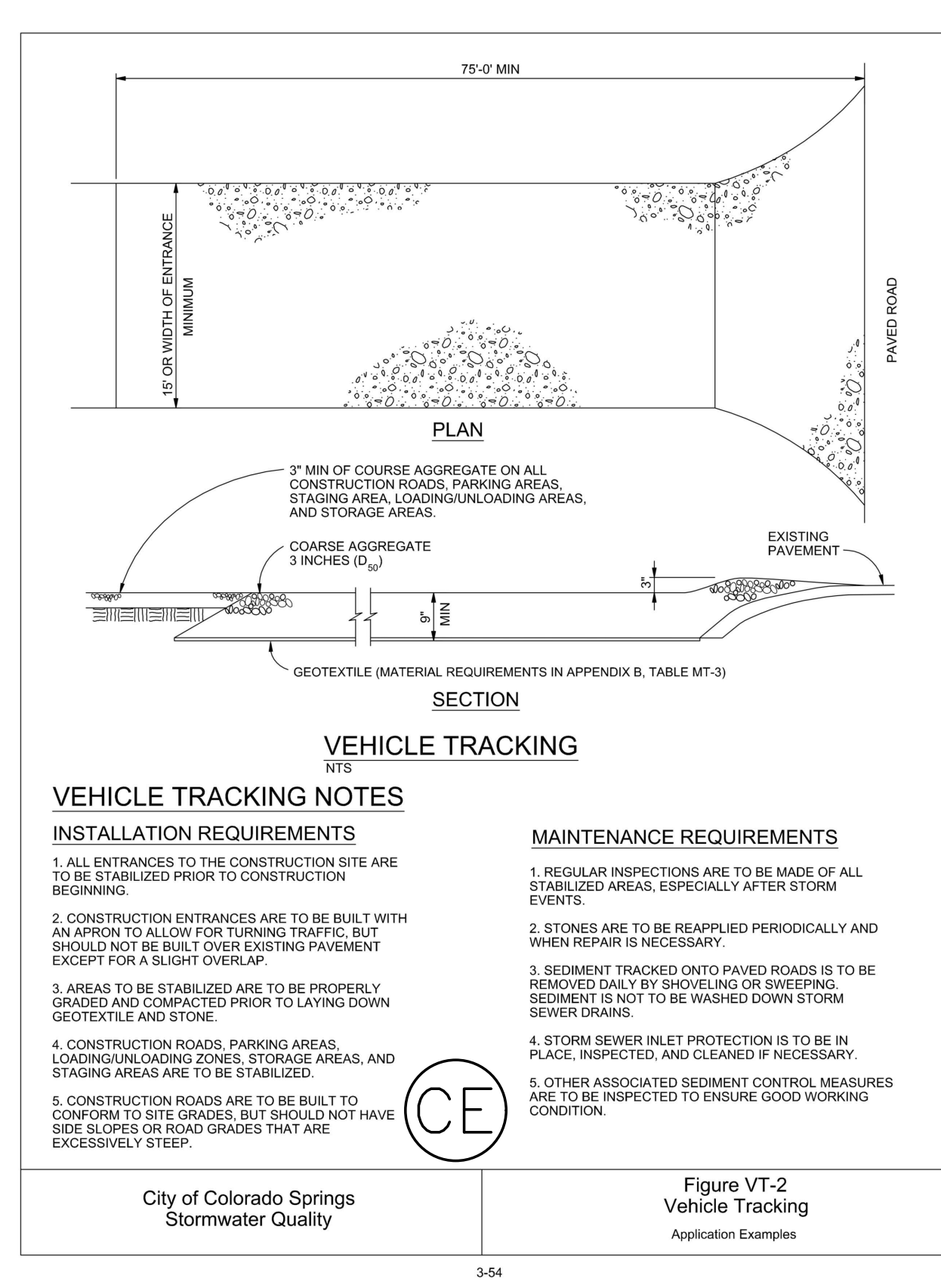
SEMENT BASIN INSTALLATION NOTES

- SEE PLAN VIEW AND SECTION FOR:
 - LOCATION OF SEDIMENT BASIN
 - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN)
 - FOR STANDARD BASIN, SEE TABLE FOR DESIGN OF BASIN INCLUDING RISE HEIGHT, "H", NUMBER OF COLUMNS, "N", HOLE DIAMETER, "D", AND HOLES PER COLUMN, "V"
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS INDICATED ON INITIAL SWMP PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY.
- 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 95 PERCENT BY WEIGHT PASSING THE NO. 20 SIEVE.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D 1556.
- PIPE SLOPE 4:1 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASINS IDENTIFIED ON THE SWMP PLAN VIEW DRAWINGS USED FOR PERMITS. AREAS LESS THAN 10 ACRES, SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASINS THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 10 ACRES.

SEMENT BASIN MAINTENANCE NOTES

- THE SWMP MANAGER SHALL INSPECT SEDIMENT BASINS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN-UP AS NECESSARY.
- SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED WHEN SEDIMENT DEPTH IS ONE FOOT (0.2 FEET BELOW THE SPILLWAY CREST).
- SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
- WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHING OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

| | | |
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| 2007-10 Urban Drainage and Flood Control District | Figure C5-12—Standardized Temporary Sediment Basin (Sheet 2 of 2) | C-66 |
|--|--|------|



VEHICLE TRACKING

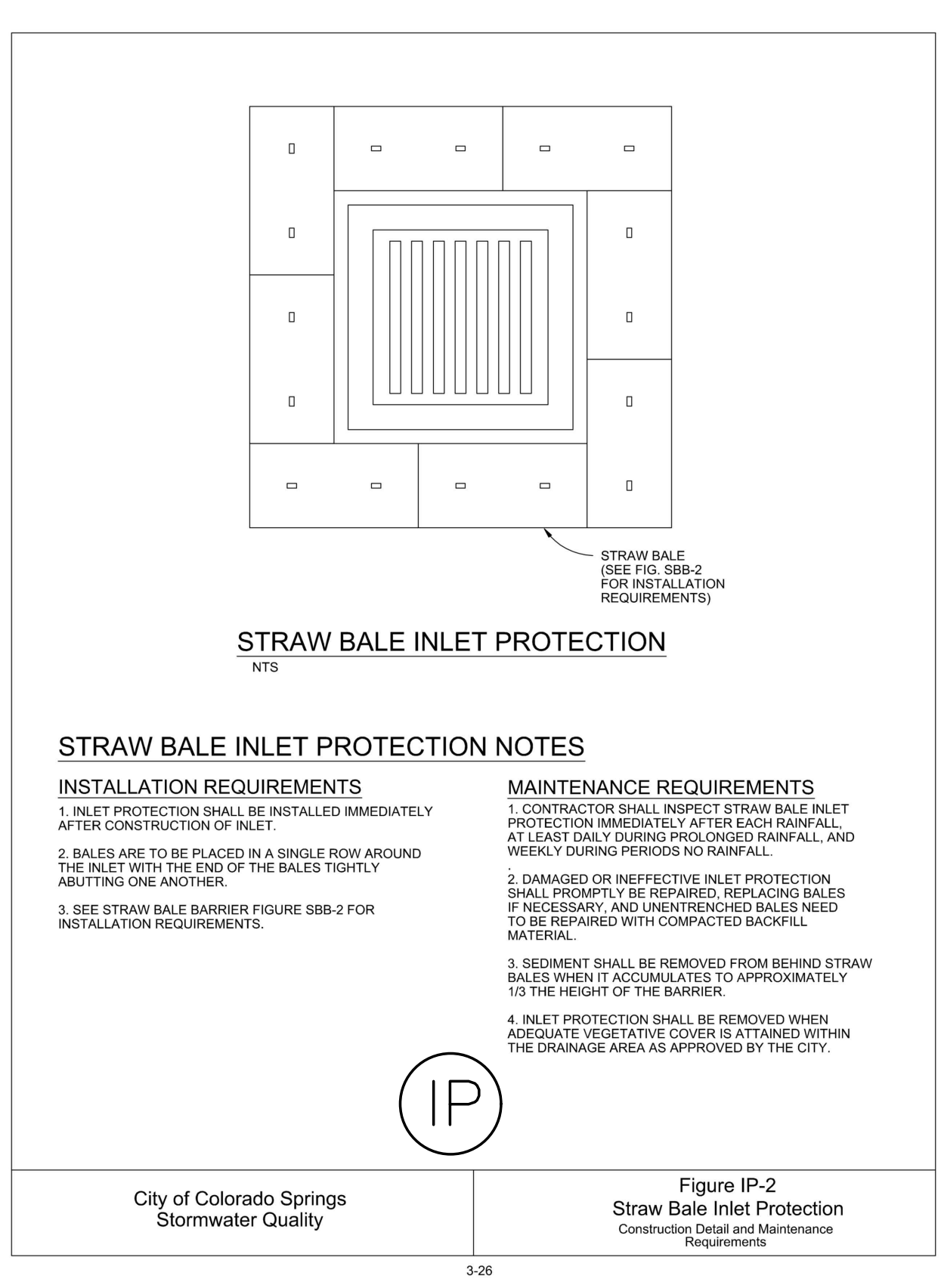
INSTALLATION REQUIREMENTS

- ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
- CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
- AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
- CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
- CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE STEEP SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
- STONES ARE TO BE REPLACED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
- STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
- OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

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| City of Colorado Springs Stormwater Quality | Figure VT-2 Vehicle Tracking Application Examples |
|--|---|



STRAW BALE INLET PROTECTION

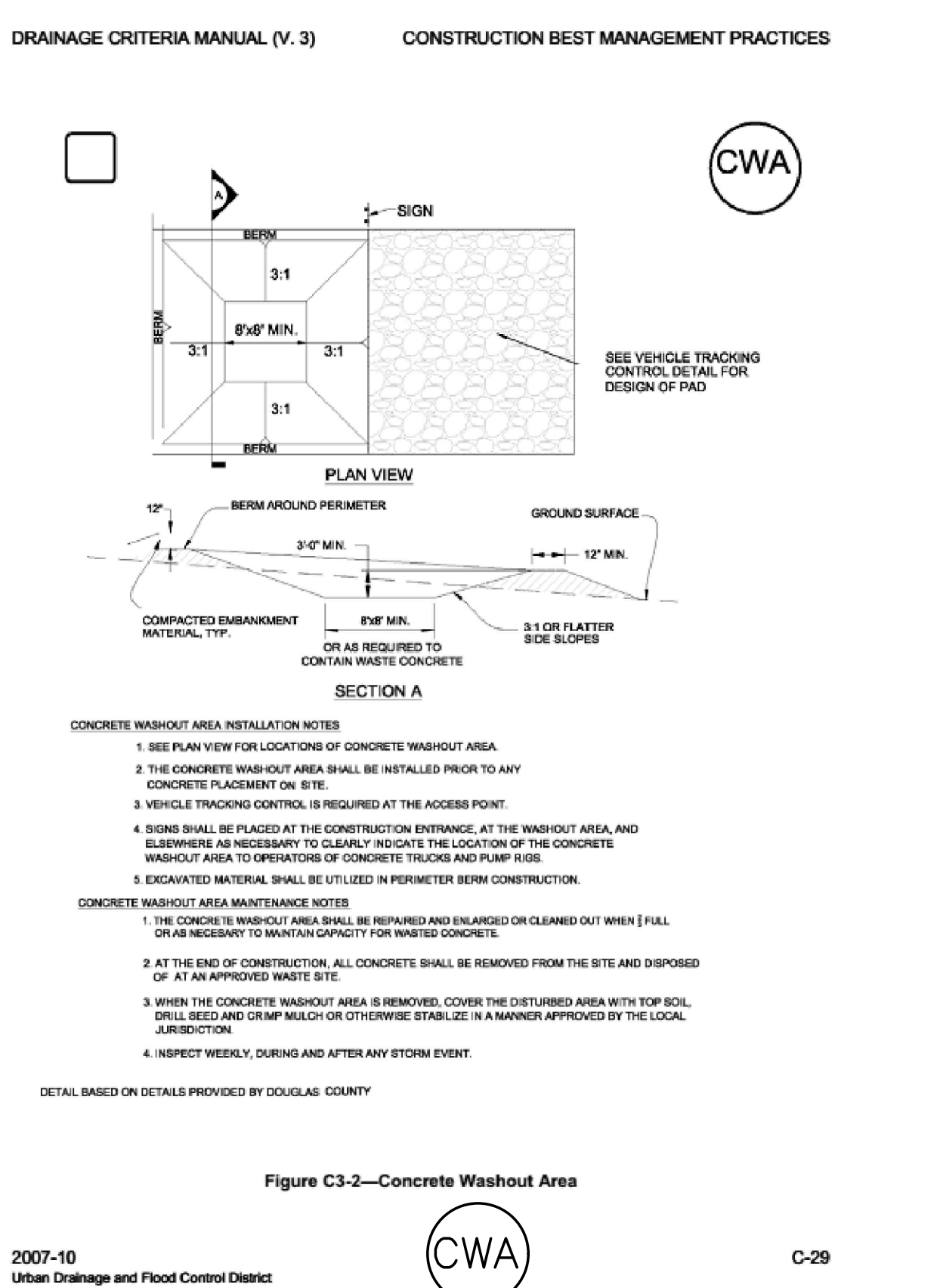
INSTALLATION REQUIREMENTS

- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
- BALES ARE TO BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE END OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
- SEE STRAW BALE BARRIER FIGURE SBB-2 FOR INSTALLATION REQUIREMENTS.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT STRAW BALE INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS NO RAINFALL.
- DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED, REPLACING BALES IF NECESSARY, AND UNRETRAINED BALES NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.
- SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALES WHEN IT ACCUMULATES TO APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.
- INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

| | |
|--|---|
| City of Colorado Springs Stormwater Quality | Figure IP-2 Straw Bale Inlet Protection Construction Detail and Maintenance Requirements |
|--|---|



CONCRETE WASHOUT AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA.
- THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
- VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATIONS OF CONCRETE TRUCKS AND PUMP TRUCKS.
- EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

- THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT WHEN FULL OR AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
- AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
- WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

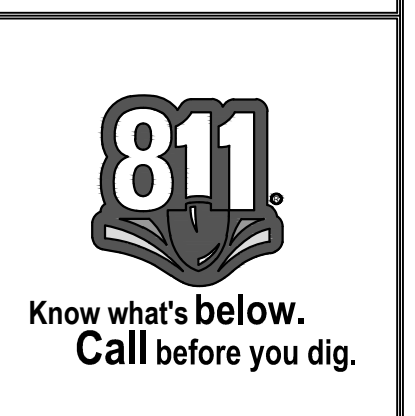
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| 2007-10 Urban Drainage and Flood Control District | Figure C3-2—Concrete Washout Area | C-29 |
|--|-----------------------------------|------|

PROJECT NAME: STAGE 2 DRAINAGE IMPROVEMENTS
CLIENT: CITY OF COLORADO SPRINGS, WURTH & ASSOCIATES
DRAWN BY: CWA/CLD
PROJECT NO. 16020
UPDATED VERSION: 7/25/2018 8:02 PM

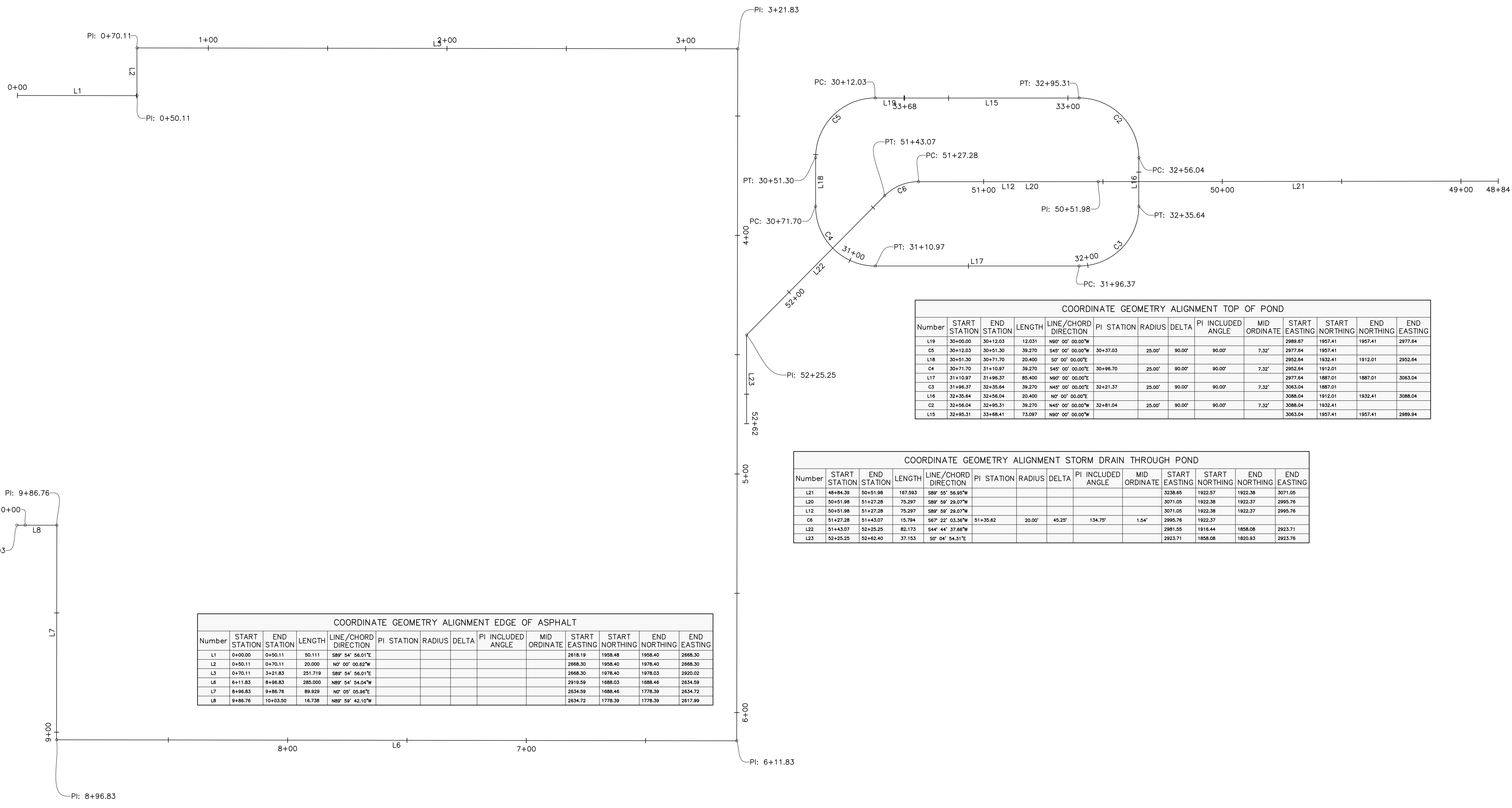
ISSUED FOR REVIEW
WEDNESDAY, JULY 25, 2018

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| SHEET TITLE: STORMWATER MANAGEMENT DETAILS | FIELD BOOK NO.: N/A |
| SCALE: NOTED | DATE: NOTED |
| PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS | DESIGNED BY: CLD |
| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | CHECKED BY: RGO |
| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-8200 - Fax (719) 531-6286 E-mail Address: owacivil@midrange.com | DRAWN BY: CLD |
| | PROJECT NO.: 18022 |
| | SHEET NO.: C7 |
| | OF 8 SHEETS |



| COORDINATE GEOMETRY ALIGNMENT EDGE OF ASPHALT | | | | | | | | | | | | | |
|---|---------------|-------------|---------|----------------------|------------|--------|-------|-------------------|--------------|---------------|----------------|--------------|-------------|
| Number | START STATION | END STATION | LENGTH | LINE/CHORD DIRECTION | PI STATION | RADIUS | DELTA | PI INCLUDED ANGLE | MID ORDINATE | START EASTING | START NORTHING | END NORTHING | END EASTING |
| L1 | 0+00.00 | 0+50.11 | 50.111 | S89° 54' 56.01"E | | | | | | 2618.19 | 1958.48 | 1958.40 | 2668.30 |
| L2 | 0+50.11 | 0+70.11 | 20.000 | N07° 00' 00.62"W | | | | | | 2668.30 | 1958.40 | 1978.40 | 2668.30 |
| L3 | 0+70.11 | 3+21.83 | 251.719 | S89° 54' 56.01"E | | | | | | 2668.30 | 1978.40 | 1978.03 | 2920.02 |
| L6 | 8+11.83 | 8+96.83 | 285.000 | N89° 54' 54.04"W | | | | | | 2919.59 | 1688.03 | 1688.46 | 2634.59 |
| L7 | 8+96.83 | 9+86.76 | 89.929 | N07° 05' 05.94"E | | | | | | 2634.59 | 1688.46 | 1778.39 | 2634.72 |
| L8 | 9+86.76 | 10+03.50 | 16.738 | N89° 59' 42.10"W | | | | | | 2634.72 | 1778.39 | 1778.39 | 2817.99 |

| COORDINATE GEOMETRY ALIGNMENT TOP OF POND | | | | | | | | | | | | | |
|---|---------------|-------------|--------|----------------------|------------|--------|--------|-------------------|--------------|---------------|----------------|--------------|-------------|
| Number | START STATION | END STATION | LENGTH | LINE/CHORD DIRECTION | PI STATION | RADIUS | DELTA | PI INCLUDED ANGLE | MID ORDINATE | START EASTING | START NORTHING | END NORTHING | END EASTING |
| L19 | 30+00.00 | 30+12.03 | 12.031 | N89° 00' 00.00"W | | | | | | 2989.67 | 1957.41 | 1957.41 | 2977.64 |
| C5 | 30+12.03 | 30+51.30 | 39.270 | S45° 00' 00.00"E | 30+37.03 | 25.00' | 90.00' | 90.00' | 7.32' | 2977.64 | 1957.41 | 1912.01 | 2952.64 |
| L18 | 30+51.30 | 30+71.70 | 20.400 | S0° 00' 00.00"E | | | | | | 2952.64 | 1932.41 | 1912.01 | 2952.64 |
| C4 | 30+71.70 | 31+10.97 | 39.270 | S45° 00' 00.00"E | 30+96.70 | 25.00' | 90.00' | 90.00' | 7.32' | 2952.64 | 1912.01 | 1887.01 | 3063.04 |
| L17 | 31+10.97 | 31+96.37 | 85.400 | N90° 00' 00.00"E | | | | | | 2977.64 | 1887.01 | 1887.01 | 3063.04 |
| C3 | 31+96.37 | 32+56.64 | 39.270 | N45° 00' 00.00"E | 32+21.37 | 25.00' | 90.00' | 90.00' | 7.32' | 3063.04 | 1887.01 | 1932.41 | 3088.04 |
| L16 | 32+56.64 | 32+56.04 | 20.400 | N0° 00' 00.00"E | | | | | | 3088.04 | 1912.01 | 1932.41 | 3088.04 |
| C2 | 32+56.04 | 32+95.31 | 39.270 | N45° 00' 00.00"E | 32+81.04 | 25.00' | 90.00' | 90.00' | 7.32' | 3088.04 | 1932.41 | 1957.41 | 2989.84 |
| L15 | 32+95.31 | 33+68.41 | 73.097 | N89° 00' 00.00"W | | | | | | 3063.04 | 1957.41 | 1957.41 | 2989.84 |

| COORDINATE GEOMETRY ALIGNMENT STORM DRAIN THROUGH POND | | | | | | | | | | | | | |
|--|---------------|-------------|---------|----------------------|------------|--------|--------|-------------------|--------------|---------------|----------------|--------------|-------------|
| Number | START STATION | END STATION | LENGTH | LINE/CHORD DIRECTION | PI STATION | RADIUS | DELTA | PI INCLUDED ANGLE | MID ORDINATE | START EASTING | START NORTHING | END NORTHING | END EASTING |
| L21 | 48+84.39 | 50+51.98 | 167.593 | S89° 55' 56.95"W | | | | | | 3238.65 | 1922.57 | 1922.38 | 3071.05 |
| L20 | 50+51.98 | 51+27.28 | 75.297 | S89° 59' 29.07"W | | | | | | 3071.05 | 1922.38 | 1922.37 | 2995.76 |
| L12 | 50+51.98 | 51+27.28 | 75.297 | S89° 59' 29.07"W | | | | | | 3071.05 | 1922.38 | 1922.37 | 2995.76 |
| C6 | 51+27.28 | 51+43.07 | 15.794 | S67° 22' 03.95"W | 51+35.62 | 20.00' | 45.25' | 134.75' | 1.54' | 2995.76 | 1922.37 | 1922.37 | 2995.76 |
| L22 | 51+43.07 | 52+25.25 | 82.173 | S44° 44' 37.66"W | | | | | | 2981.55 | 1916.44 | 1858.08 | 2823.71 |
| L23 | 52+25.25 | 52+62.40 | 37.153 | S0° 04' 54.31"E | | | | | | 2923.71 | 1858.08 | 1820.93 | 2823.76 |

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WEDNESDAY, JULY 25, 2018

PROJECT NAME: STAGE COORDINATE IMPROVEMENTS
DRAWN BY: CLD, CHECKED BY: RGO, WURTH & ASSOCIATES
DATE: 7/25/2018, 8:03 PM
PROJECT NO: 18020, UPDATED VERSION: 7/25/2018, 8:03 PM

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DATE _____

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| SCALE: AS SHOWN | | DATE: NOTED |
| PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS | | DESIGNED BY: CLD |
| PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors | | CHECKED BY: RGO |
| 1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-8200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com | | DRAWN BY: CLD |
| PROJECT NO: 18022 | | SHEET NO: C8 |
| OF 8 SHEETS | | |

