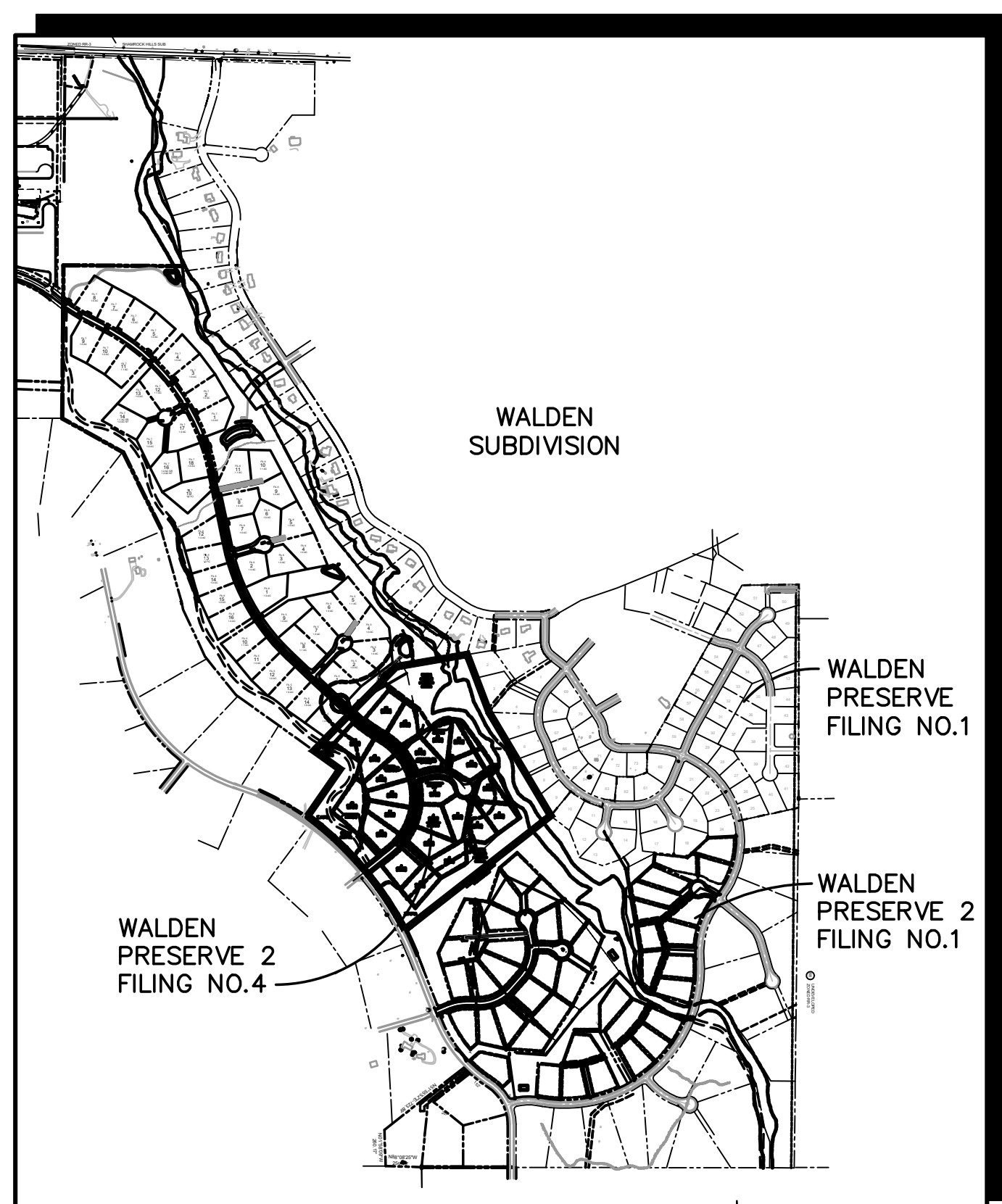




VICINITY MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

BENCHMARK:
BENCHMARK 4 BB RESET 1984 NAVD 88 DATUM ELEV = 7570.80 FOUND BRASS CAP IN CONCRETE INT HWY 83 & HODGEN RD.

BASIS OF BEARINGS:
THE BEARINGS FOR THIS SURVEY ARE BASED UPON THE SOUTH LINE OF LOT 7, FOREST HIGHLANDS SUBDIVISION AS RECORDED AT BOOK G-2, PAGE 6 IN THE RECORDS OF THE CLERK AND RECORDERS OFFICE, COUNTY OF EL PASO, STATE OF COLORADO, BEING ALSO A PORTION OF THE NORTH RIGHT-OF-WAY LINE OF DAWSON ROAD, BEING MONUMENTED AT THE SOUTHWEST CORNER OF SAID LOT 7 BY A FOUND REBAR & CAP MARKED "LS 9477" AND AT THE SOUTHEAST CORNER OF SAID LOT 7 BY A FOUND REBAR AND CAP MARKED "LS 9477". SAID LINE BEARS S89°05'35"E, A DISTANCE OF 601.38 FEET MEASURED (601.33 FEET PLATTED).

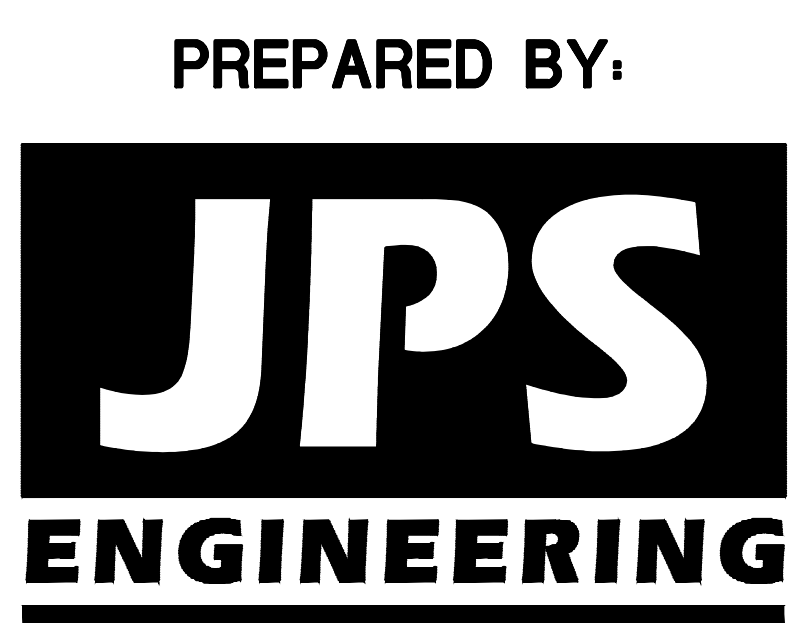
WALDEN PRESERVE 2

Filing No. 4

Grading & Erosion Control Plans

El Paso County, Colorado

PREPARED FOR:
Custom Castles, Inc.
17145 Colonial Park Drive
Monument, CO 80132



PREPARED BY:
19 East Willamette Avenue
Colorado Springs, Colorado 80903
MAY, 2019

AGENCIES/CONTACTS

DEVELOPER:	CUSTOM CASTLES, INC. 17145 COLONIAL PARK DRIVE MONUMENT, CO 80132 MR. BILL DUNSTON (719)339-2410	WATER/WASTEWATER:	WALDEN CORPORATION PO BOX 1870 MONUMENT, CO 80132 MR. MATT DUNSTON (719)339-2410
CIVIL ENGINEER:	JPS ENGINEERING, INC. 19 E. WILLAMETTE AVENUE COLORADO SPRINGS, CO 80903 MR. JOHN P. SCHWAB, P.E. (719)477-9429	GAS DEPARTMENT:	BLACK HILLS ENERGY MR. SEBASTIAN SCHWENDER (719)399-3176
LOCAL ROADS & DRAINAGE:	EL PASO COUNTY PCD 2880 INTERNATIONAL CIRCLE COLORADO SPRINGS, CO 80910 MR. GILBERT LAFORCE, P.E. (719)520-7945	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC ASSOCIATION 11140 E. WOODMEN ROAD COLORADO SPRINGS, CO 80908 MR. DAVE WALDNER (719)495-2283
STATE HIGHWAY:	COLORADO DEPARTMENT OF TRANSPORTATION REGION 2 5615 WILLS BLVD. PUEBLO, CO 81008 MS. VALERIE SWORD (719)546-5407	TELEPHONE COMPANY:	CENTURY LINK COMMUNICATIONS (LOCATORS) (800)922-1987 A.T. & T. (LOCATORS) (719)635-3674

SHEET INDEX

G1	TITLE SHEET
G2	GENERAL NOTES & LEGEND
C1	OVERALL SITE PLAN
C1.1	SITE GRADING & EROSION CONTROL PLAN
C1.2	LOT GRADING NOTES & DETAILS
C2.1	ENLARGED SITE GRADING PLAN - SOUTH
C2.2	ENLARGED SITE GRADING PLAN - NORTH
C3	EROSION CONTROL NOTES & DETAILS
C4	RAIN GARDEN C2 PLAN & DETAILS
TY1	TYPICAL SECTIONS & DETAILS

ENGINEER:

DESIGN ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR LIABILITY CAUSED BY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

JOHN P. SCHWAB, P.E. #29891 _____ DATE _____

OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

CUSTOM CASTLES, INC.
17145 COLONIAL PARK DRIVE
MONUMENT, COLORADO 80132

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 MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

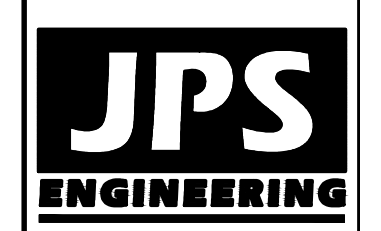
IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THEY WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

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

PCD FILE NO. SF-18-034

WALDEN PRESERVE 2 - FILING NO. 4

TITLE SHEET



19 E. Willamette Ave.
Colorado Springs, CO
80903
PH: 719-477-9429
FAX: 719-471-0766
www.jpsegr.com



CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
BUSINESS HOURS: MON-FRI 8AM-5PM
BEFORE YOU DIG, CALL TO LOCATE AND MARK UTILITIES FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No.	REVISION	DATE	BY
1	FINAL PLAT SUBMITTAL	9/05/18	JPS
2	COUNTY COMMENTS	2/26/19	JPS
3	COUNTY COMMENTS	5/15/19	JPS

HORIZ. SCALE:	HS	DRAWN:	BJJ
VERT. SCALE:	VS	DESIGNED:	JPS
SURVEYED:	PINNACLE	CHECKED:	JPS
CREATED:	1/05/18	LAST MODIFIED:	5/15/19
PROJECT NO:	040201	MODIFIED BY:	BJJ

SHEET: **G1**

Z:\040201\walden\dwg\civil\WALDEN PRESERVE 2\FILG-4.G1 - GEC.dwg May 16, 2019 - 9:20am

COUNTY GENERAL NOTES:

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - CDOT M & S STANDARDS
- 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 DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP WITH CLASS B BEDDING UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DSD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO DEPARTMENT OF PUBLIC WORKS (DPW) AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO DEPARTMENT OF PUBLIC WORKS (DPW), INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

PROJECT GENERAL NOTES:

- EXISTING CONTOUR DATA CONSISTS OF AERIAL TOPOGRAPHIC SURVEY DATA PROVIDED BY OWNER. JPS ENGINEERING TAKES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING TOPOGRAPHIC MAPPING.
- STATIONING IS AT CENTERLINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE AT EDGE OF ASPHALT (EOA) UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE FROM EDGE OF ASPHALT TO EDGE OF ASPHALT UNLESS OTHERWISE NOTED.
- PROPOSED CONTOURS SHOWN ARE TO FINISHED GRADE.
- LENGTHS SHOWN FOR STORM SEWER PIPES ARE TO CENTER OF MANHOLE.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, DEBRIS, WASTE AND OTHER UNSUITABLE FILL MATERIAL FOUND WITHIN THE LIMITS OF EXCAVATION.
- MATCH INTO EXISTING GRADES AT 3:1 MAX CUT AND FILL SLOPES.
- REVEGETATION OF ALL DISTURBED AREAS SHALL BE DONE WITH SPECIFIED SEED MIX WITHIN 60 DAYS AFTER FINE GRADING IS COMPLETE.
- EROSION CONTROL SHALL CONSIST OF SILT FENCE AND BMP'S AS SHOWN ON THE DRAWING, AND TOPSOIL WITH GRASS SEED, WHICH WILL BE WATERED UNTIL VEGETATION HAS BEEN REESTABLISHED.
- THE EROSION CONTROL MEASURES OUTLINED ON THIS PLAN ARE THE RESPONSIBILITY OF THE DEVELOPER TO MONITOR AND REPLACE, REGRADE, AND REBUILD AS NECESSARY UNTIL VEGETATION IS RE-ESTABLISHED.
- EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT ADJACENT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES WITHIN THE PROJECT SITE.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DETERMINED BY SITE CONDITIONS.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE MATERIAL SHALL BE COMPACTED PER EL PASO COUNTY AND CDOT STANDARDS AND SPECIFICATIONS.
- ALL FINISHED GRADES SHALL HAVE A MINIMUM 1.0% SLOPE TO PROVIDE POSITIVE DRAINAGE.
- IN CASE OF CONFLICT BETWEEN PROPOSED SLOPES AND PROPOSED SPOT ELEVATIONS, SPOT ELEVATIONS SHALL GOVERN.
- CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO BEGINNING WORK.

GENERAL DRAINAGE NOTES:

- INDIVIDUAL BUILDERS SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND ACCOUNT FOR POTENTIAL CROSS-LOT DRAINAGE IMPACTS WITHIN EACH LOT.
- BUILDERS AND PROPERTY OWNERS SHALL IMPLEMENT & MAINTAIN EROSION CONTROL BEST MANAGEMENT PRACTICES FOR PROTECTION OF DOWNSTREAM PROPERTIES AND FACILITIES INCLUDING PROTECTION OF EXISTING GRASS BUFFER STRIPS ALONG THE DOWNSTREAM PROPERTY BOUNDARIES.
- GRADING AND DRAINAGE WITHIN LOTS IS THE RESPONSIBILITY OF THE INDIVIDUAL BUILDERS AND PROPERTY OWNERS.

COUNTY SIGNING AND STRIPING NOTES:

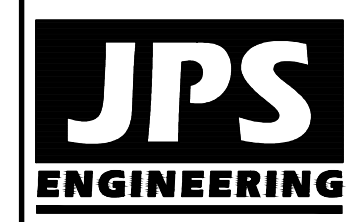
- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD).
- ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS".
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8" LONG PER CDOT S-627-1.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD) (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

DESIGN DATA	REFERENCE STANDARD
ROAD CLASSIFICATION:	RURAL LOCAL
DESIGN SPEED:	30 MPH ECM TABLE 2-5
POSTED SPEED:	30 MPH ECM TABLE 2-5
ROADWAY WIDTH:	28' EOA-EOA ECM FIGURE 2-8
MIN. HORIZONTAL RADIUS:	300' ECM TABLE 2-5
MIN. GRADE:	1.0% ECM TABLE 2-5
MAX. GRADE:	8.0% ECM TABLE 2-5
MAX. CUL-DE-SAC GRADE:	2.0% ECM TABLE 2-31
MIN. K-VALUE (CREST):	19 ECM TABLE 2-12
MIN. K-VALUE (SAG):	37 ECM TABLE 2-14

LEGEND:

-----	NEW/EXISTING
-----	SECTION LINE - NEW/EXISTING
-----	EASEMENT LINE - NEW/EXISTING
-----	CONTOUR - NEW/EXISTING
-----	PROPERTY LINE - NEW/EXISTING
-----	FENCE - NEW/EXISTING
-----	OVERHEAD ELECTRIC LINE W/ POWER POLE NEW/EXISTING
-----	UNDERGROUND ELECTRIC LINE NEW/EXISTING
-----	UNDERGROUND ELECTRIC - NEW/EXISTING
-----	TELEPHONE - NEW/EXISTING
-----	GAS - NEW/EXISTING
-----	WATER - NEW/EXISTING
-----	ECB - DITCH LINING
▲	SECTION NUMBER
1 P1	SHEET ON WHICH SECTION IS SHOWN

WALDEN PRESERVE 2 - FILING NO. 4



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Colorado Springs, CO 80903
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www.jpsengr.com



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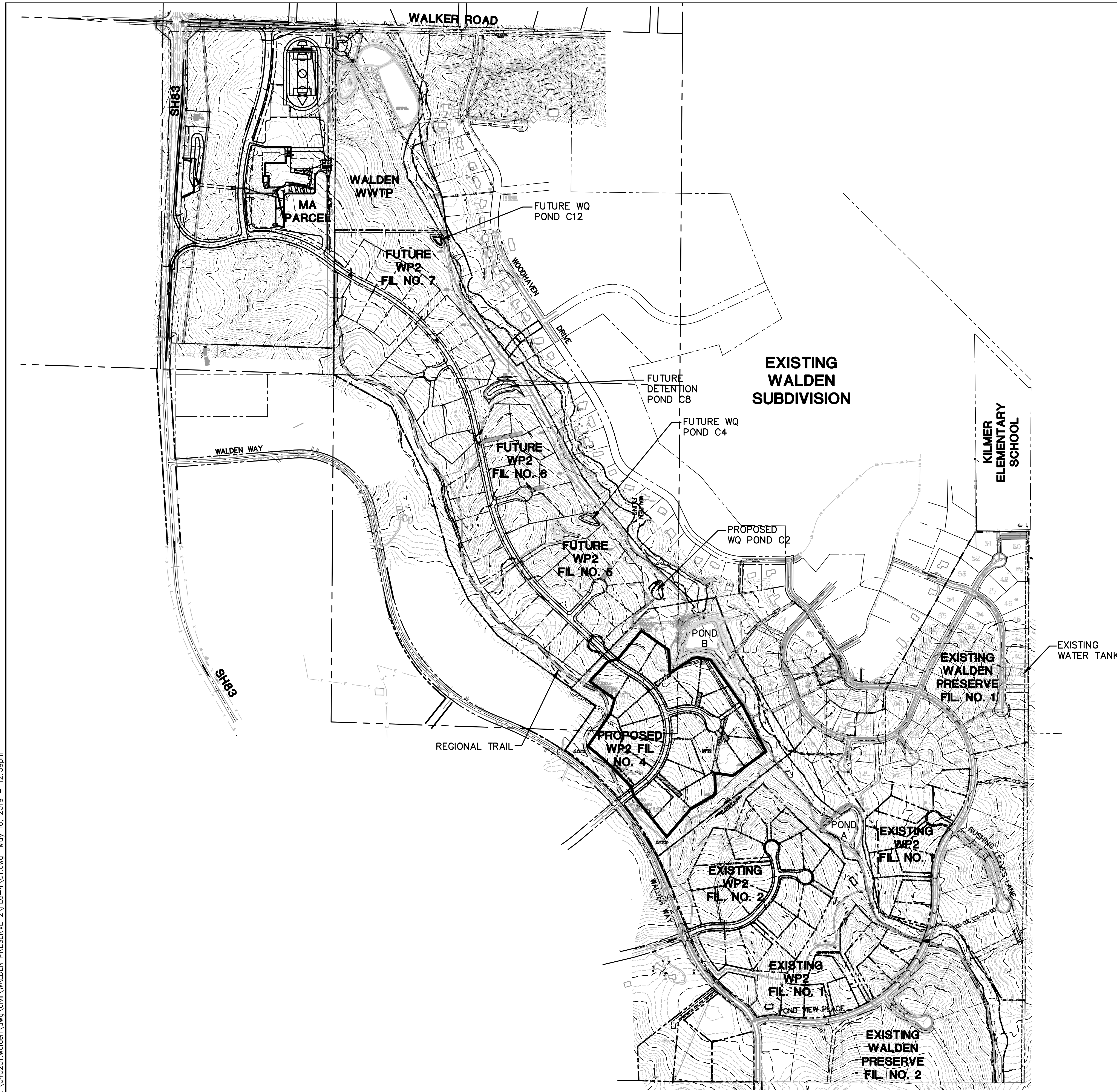
NO.	REVISION	DATE
1	FINAL PLAT SUBMITTAL	9/05/18
2	CITY COMMENTS	2/15/19
3	CITY COMMENTS	5/15/19

GENERAL NOTES & LEGEND

HORIZ. SCALE:	HS	DRAWN:	B.J.
VERT. SCALE:	VS	DESIGNED:	JPS
SURVEYED:	RAMPART	CHECKED:	JPS
CREATED:	9/05/18	LAST MODIFIED:	5/15/19
PROJECT NO:	040201	MODIFIED BY:	JPS

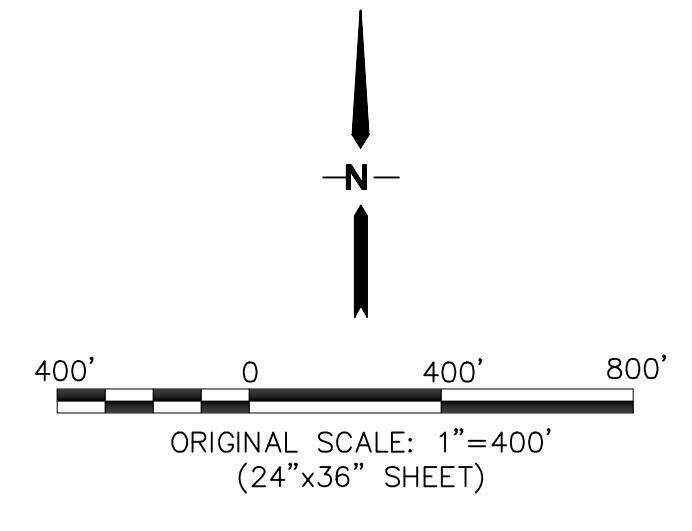
SHEET: **G2**

Z:\040201\walden\dwg\civil\WALDEN PRESERVE 2\FILG-4\C1.dwg May 16, 2019 - 12:39pm

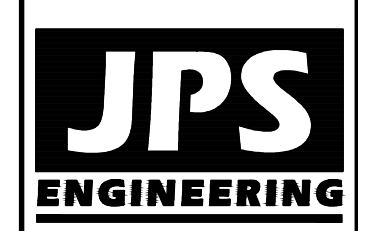


DRIVEWAY CULVERT TABLE	
FIL 4 LOT NO.	SIZE (D)
1	18"
2	18"
3	18"
4	18"
5	18"
6	18"
7	18"
8	42"
9	42"
10	42"
11	18"
12	18"
13	18"
14	18"
15	18"
16	18"
17	18"
18	18"
19	18"
20	18"
21	18"
22	18"
23	18"

NOTE: AT LOCATIONS WHERE ROADSIDE DITCHES ARE MINIMAL, DRIVEWAY CULVERTS MAY BE DELETED IN SOME CASES UPON FIELD REVIEW WITH COUNTY APPROVAL



WALDEN PRESERVE 2 - FILING NO. 4



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No.	REVISION	DATE	BY
1	DP SUBMITTAL	9/05/18	JPS
2	COUNTY COMMENTS	2/25/19	JPS
3	COUNTY COMMENTS	5/15/19	JPS

OVERALL SITE PLAN

HORIZ. SCALE: 1"=400'	DRAWN: BJJ
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED:	CHECKED: JPS
CREATED: 10/05/17	LAST MODIFIED: 5/15/19
PROJECT NO: 040201	MODIFIED BY: BJJ

SHEET: **C1**

PROPOSED WQCV RAIN GARDEN C2
 BOT EL=7440.0
 MAX WSL=7441.0
 TOP EL=7442.0
 WQCV REQ'D=6,555 CF
 DSN VOL=8,162 CF

FUTURE FILING NO. 6

identify as temp sediment pond during construction and provide details.

12' W GRAVEL ACCESS ROAD; MATCH INTO EXISTING TRAIL / MAINTENANCE ACCESS

Revised - 5/15/19
 06/10/2019 8:18:30 AM

EXISTING GRAVEL TRAIL

EXISTING OUTLET STRUCTURE & SPILLWAY

EXISTING FIL. NO. 1 CHANNEL

CHANNEL C2

8' WIDE CONCRETE CROSSSPAN AT TRAIL CROSSING

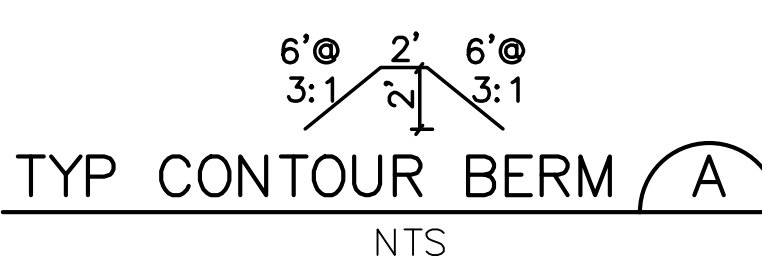
APPROXIMATE LIMITS OF DISTURBED AREA = 27.5± AC.

LEGEND:

- FLOWLINE
- × 99.00 PROPOSED SPOT ELEVATION (FLOWLINE)
- × 95.10 EXISTING SPOT ELEVATION
- RR RIPRAP (10'L x 6'W x 2'D; d₅₀=12" RR UNLESS OTHERWISE NOTED)
- IP INLET PROTECTION (GRAVEL FILTER)
- SF SILT FENCE
- VTC VEHICLE TRACKING PAD (6" LAYER OF 1-1/2" ROCK)
- TM TEMPORARY SEED AND MULCH ON DISTURBED SLOPES
- STB STRAW BALE BARRIER @ 300' SPACING IN ALL ROADSIDE DITCHES (TYP.) OR SEDIMENT CONTROL LOGS
- SCL SEDIMENT CONTROL LOGS
- SB SEDIMENT BASIN
- ECB EROSION CONTROL BLANKET (TENSAR ERONET SC150 OR APPROVED EQUAL)
- A, B, C RECOMMENDED LOT GRADING TYPES PER SHEET C1.2

ESTIMATED EARTHWORK QUANTITY:
 UNCLASSIFIED EXCAVATION (TOTAL CUT) = 14,069 CY
 * EMBANKMENT FILL = 2,759 CY
 NET (CUT) = 11,310 CY
 * (ASSUMES 15% COMPACTION FACTOR)

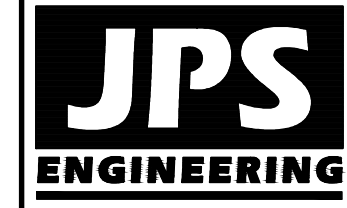
NOTE: THIS ESTIMATE IS PROVIDED FOR INFORMATION ONLY, REPRESENTING THE CALCULATED BULK EARTHWORK VOLUME TO FINISHED GRADE, EXCLUDING ANY ADJUSTMENT FOR PAVEMENT DEPTHS, ETC. CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF EARTHWORK QUANTITIES AS BASIS FOR BID PRICING AND NOTIFY ENGINEER OF ANY DISCREPANCIES.



KEYED NOTES:

- ① CONTRACTOR MAY WASTE EXCESS CUT MATERIAL OR BORROW SUITABLE FILL MATERIAL FROM THIS AREA. MATCH INTO EXISTING GRADES WITH 3:1 MAX CUT AND FILL SLOPES AND MAINTAIN POSITIVE DRAINAGE IN ALL AREAS.

◆ BENCHMARK:
 BENCHMARK 4 BB RESET 1984 NAVD
 88 DATUM ELEV.=7570.80 FOUND
 BRASS CAP IN CONCRETE INT HWY 83 & HODGEN RD.
 NOTE:
 REFER TO LOT GRADING NOTES & DETAILS ON SHEET C1.2



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 1-800-922-1987
 CALL BEFORE YOU DIG. IN AN EXCAVATE BEFORE YOU DIG. GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

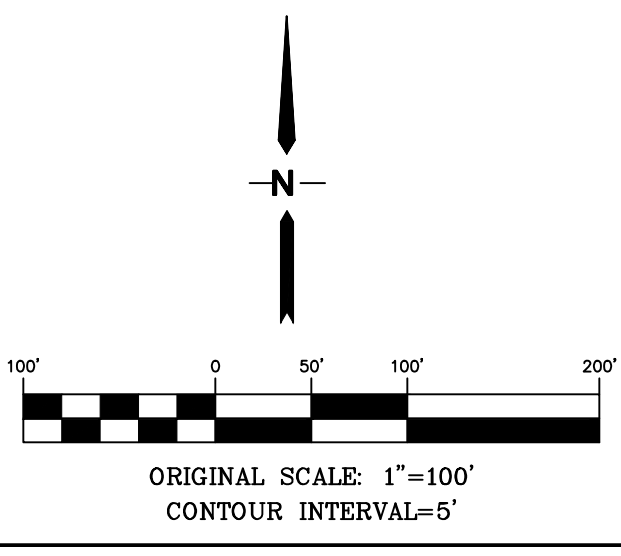
WALDEN PRESERVE 2 - FILING NO. 4

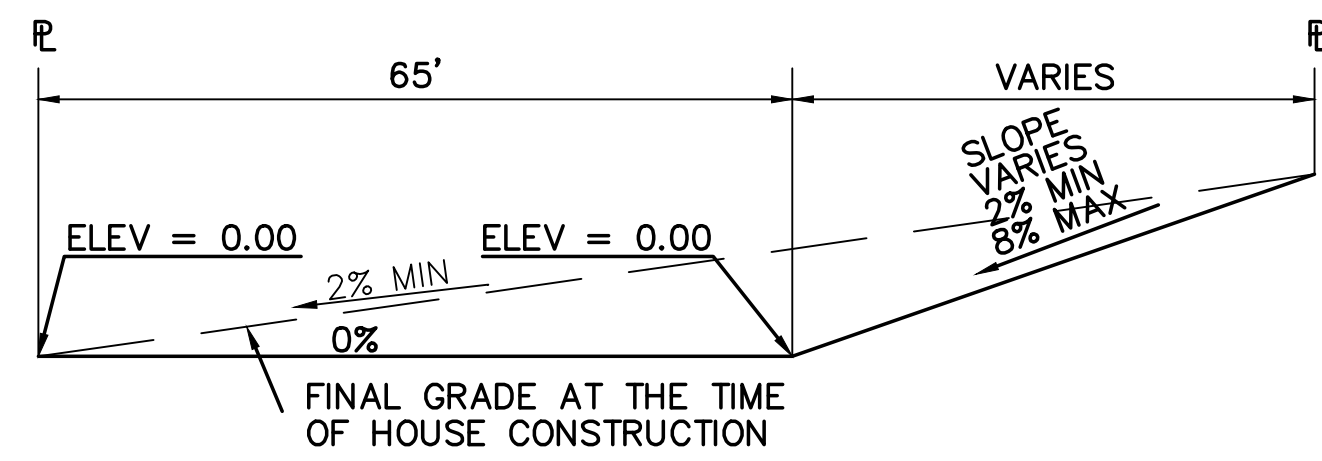
SITE GRADING & EROSION CONTROL PLAN

HORZ. SCALE: 1"=100'	DRAWN: RMD
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: RAMPART	CHECKED: JPS
CREATED: 7/03/14	LAST MODIFIED: 5/15/19
PROJECT NO: 040201	MODIFIED BY: BJJ

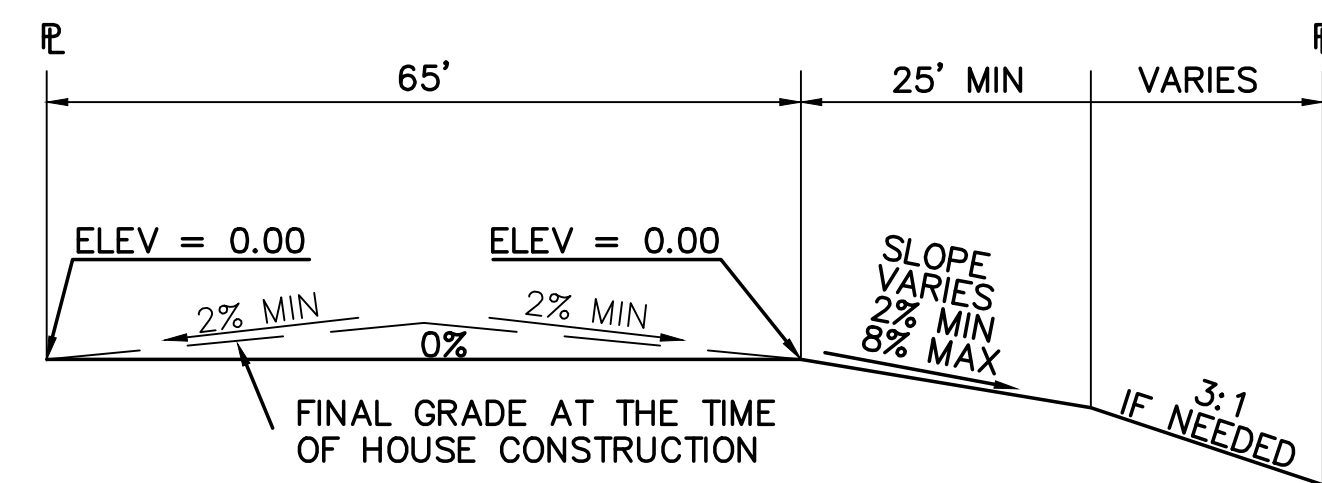
SHEET: **C1.1**

Z:\040201\walden.dwg\civil\WALDEN PRESERVE 2\FILG-4\C1.1.dwg May 16, 2019 - 10:23am

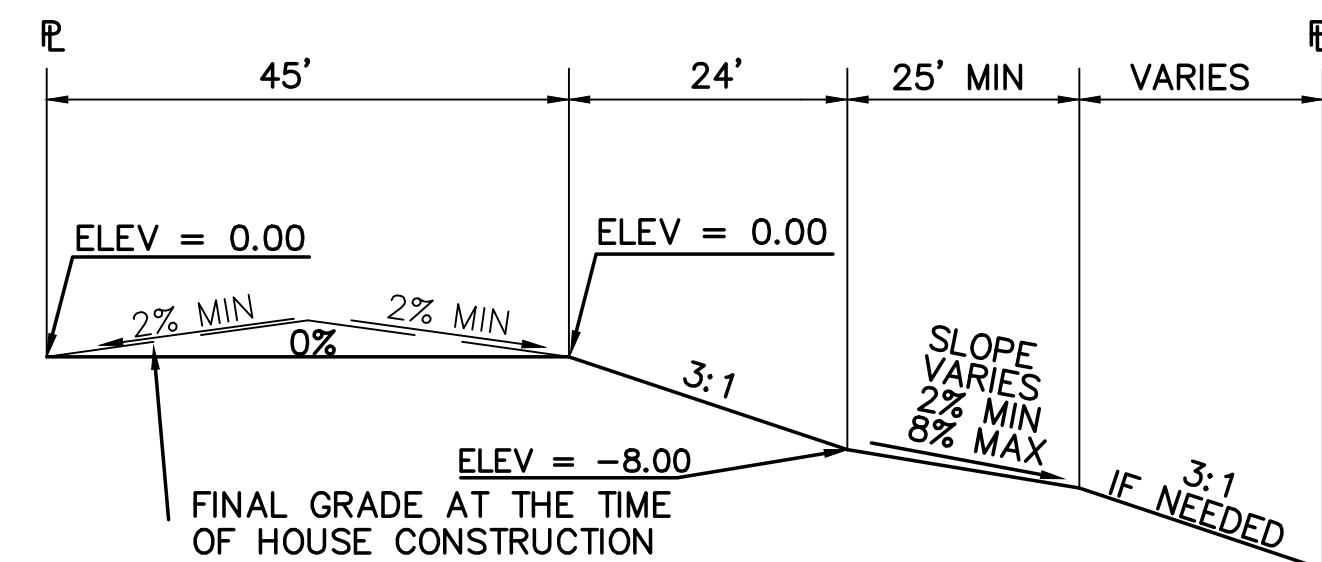




TYPICAL "A" LOT
SCALE: 1"=20'



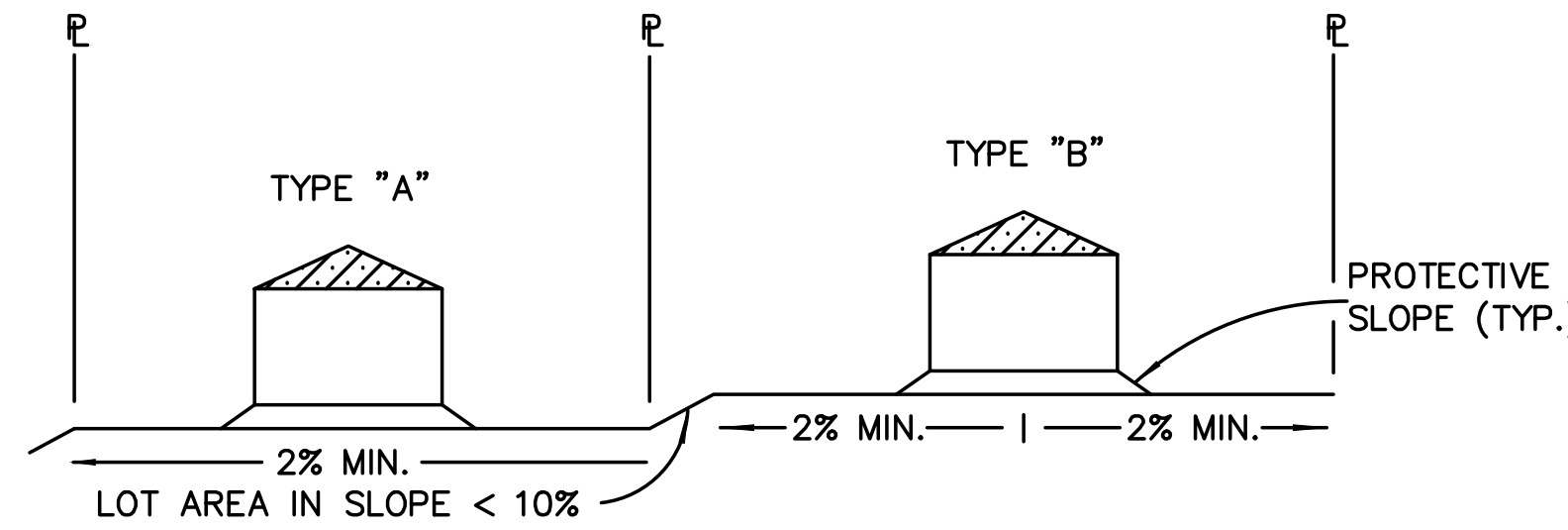
TYPICAL "B" LOT
SCALE: 1"=20'



TYPICAL "WALK-OUT" LOT - "C" LOT
SCALE: 1"=20'

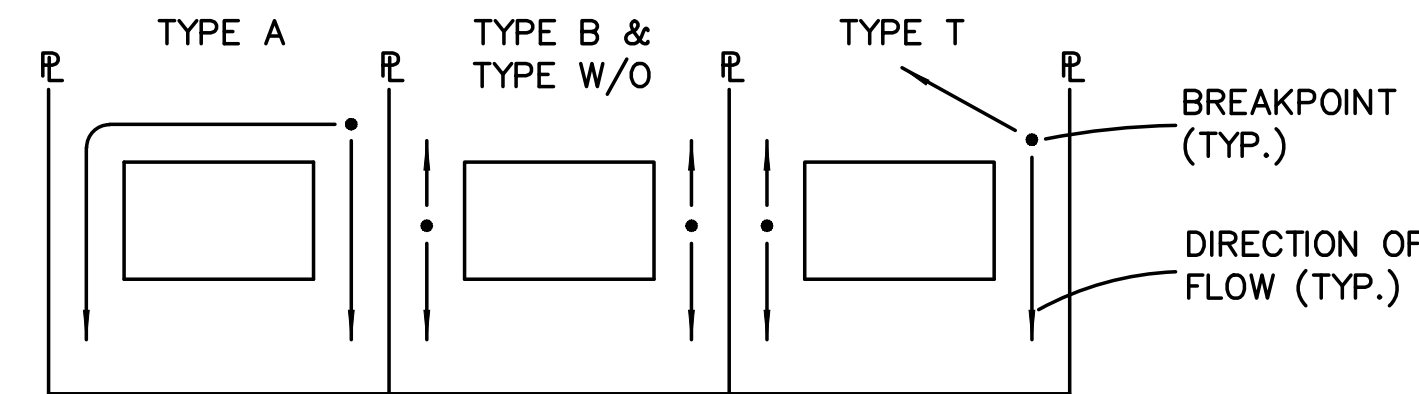
OVERLOT GRADING NOTE:

WHILE SIGNIFICANT OVERLOT GRADING IS NOT PLANNED AS PART OF THIS SUBDIVISION DEVELOPMENT, SELECTED LOTS MAY BE GRADED PER THE RECOMMENDED LOT TYPES AS NOTED ON SH. C1.1 TO ASSIST IN BALANCING EARTHWORK ON SITE.

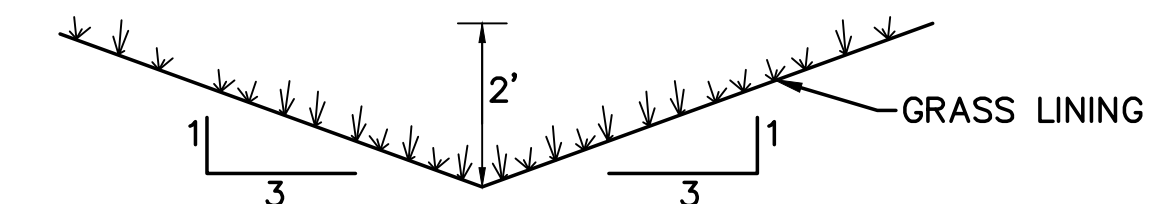


TYPICAL LOT SECTION DETAIL
N.T.S.

NOTE:
FINAL GRADING TO COMPLY WITH H.U.D. STANDARDS CONTAINED IN SECTION 310 AND 602 OF THE MINIMUM PROPERTY STANDARDS (MPS) 4900.1, HANDBOOK 4140.3 CHG (DATA SHEET 79g), IF APPLICABLE, AND ALL LEGAL STANDARDS.

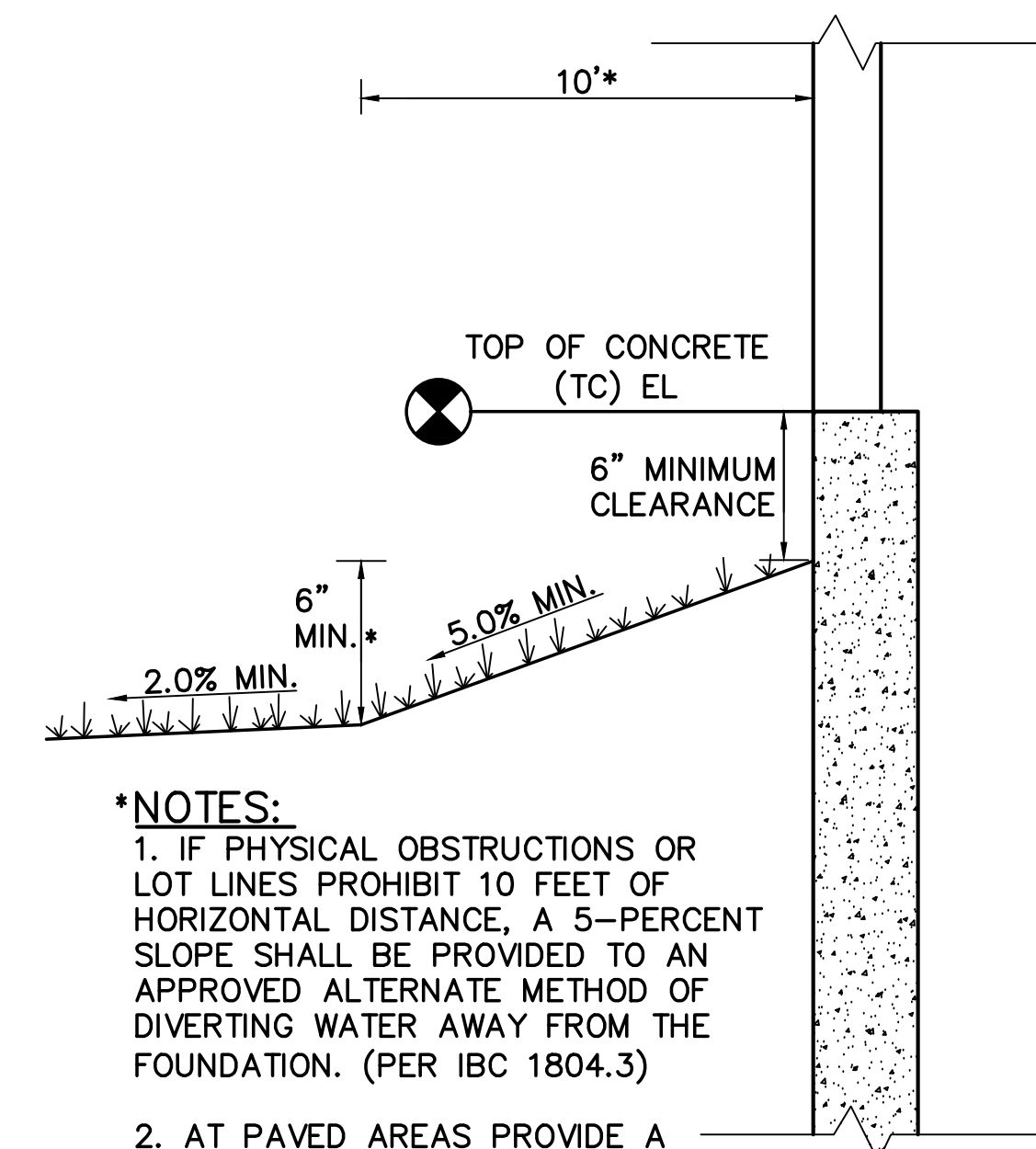


LOT DRAINAGE TYPES
N.T.S.



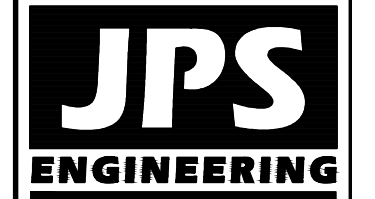
TYPICAL SIDE/REAR LOT SWALE (A)
N.T.S.

NOTE: BUILDERS AND OWNERS SHALL MAINTAIN PROPER PROTECTIVE SLOPES & SIDE/REAR LOT SWALES DURING AND AFTER HOME CONSTRUCTION.



***NOTES:**
1. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET OF HORIZONTAL DISTANCE, A 5-PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATE METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION. (PER IBC 1804.3)
2. AT PAVED AREAS PROVIDE A MINIMUM 2.0% SLOPE AWAY FROM THE BUILDING FOR THE FIRST 10 FEET OF HORIZONTAL DISTANCE.

TYPICAL BUILDING DRAINAGE DETAIL (B)
N.T.S.



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No.	REVISION	DATE	BY
1	FINAL PLAT SUBMITTAL	9/05/18	JPS
2	COUNTY COMMENTS	2/15/19	JPS

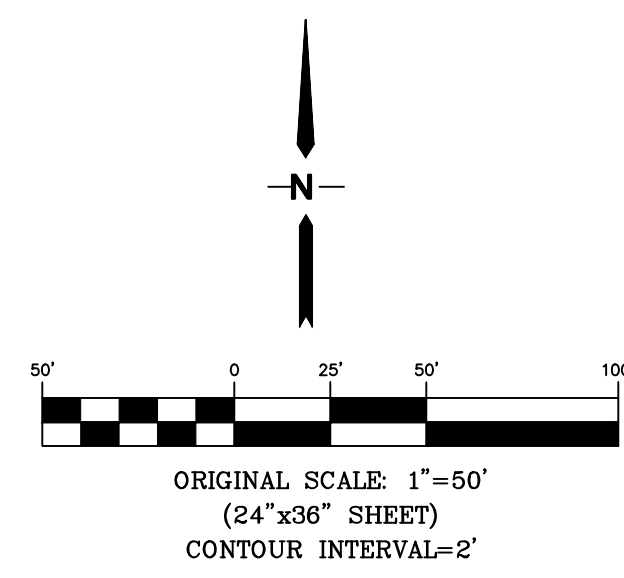
WALDEN PRESERVE 2 - FILING NO. 4

LOT GRADING NOTES & DETAILS

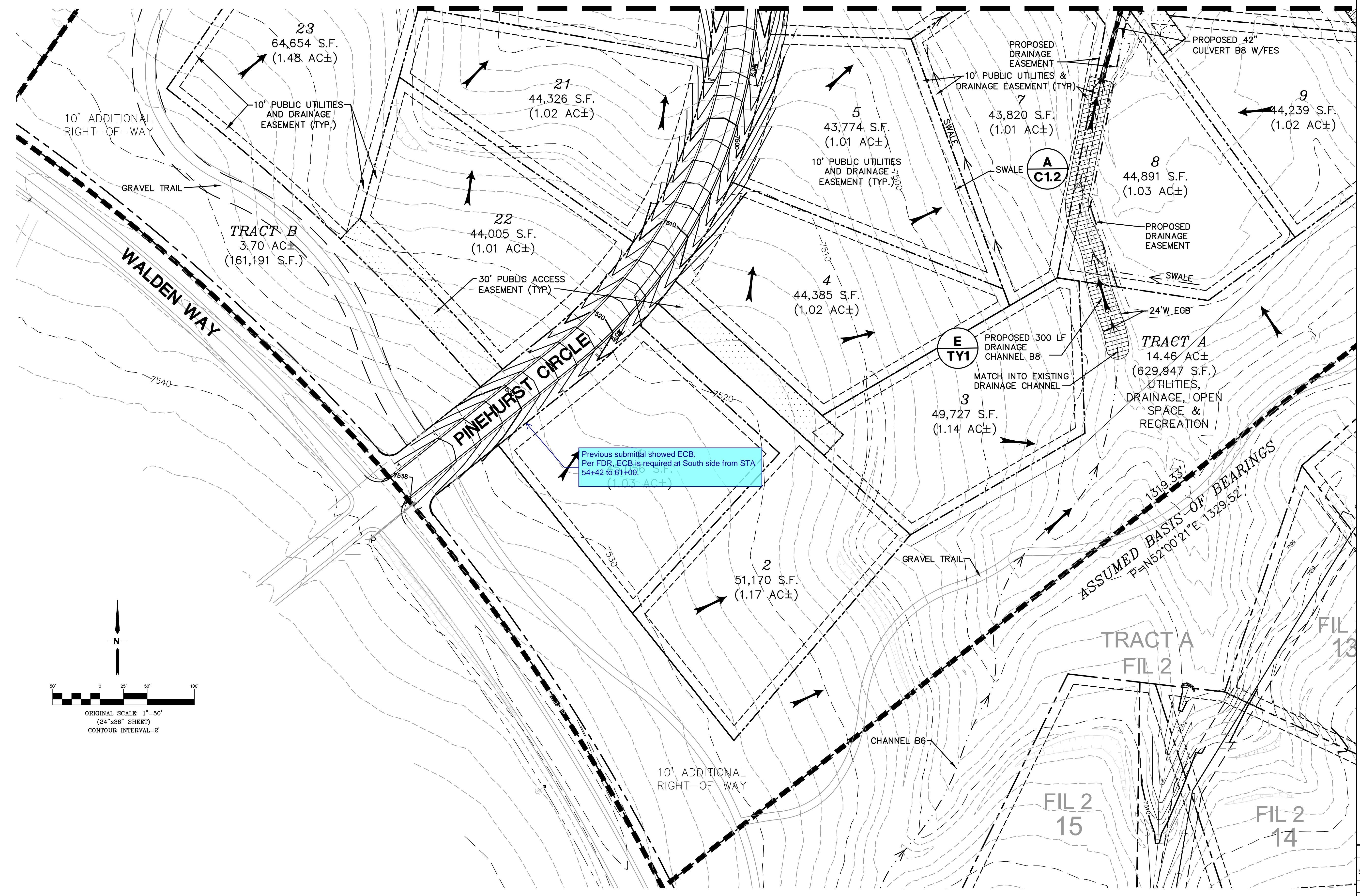
HORIZ. SCALE:	N/A	DRAWN:	BJJ
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	RAMPART	CHECKED:	JPS
CREATED:	10/21/14	LAST MODIFIED:	2/15/19
PROJECT NO.:	040201	MODIFIED BY:	BJJ

SHEET: **C1.2**

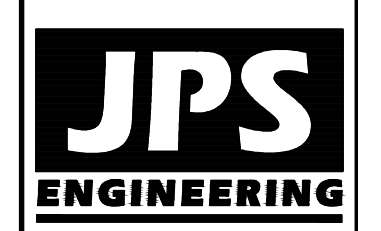
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MATCH LINE SH. C2.2



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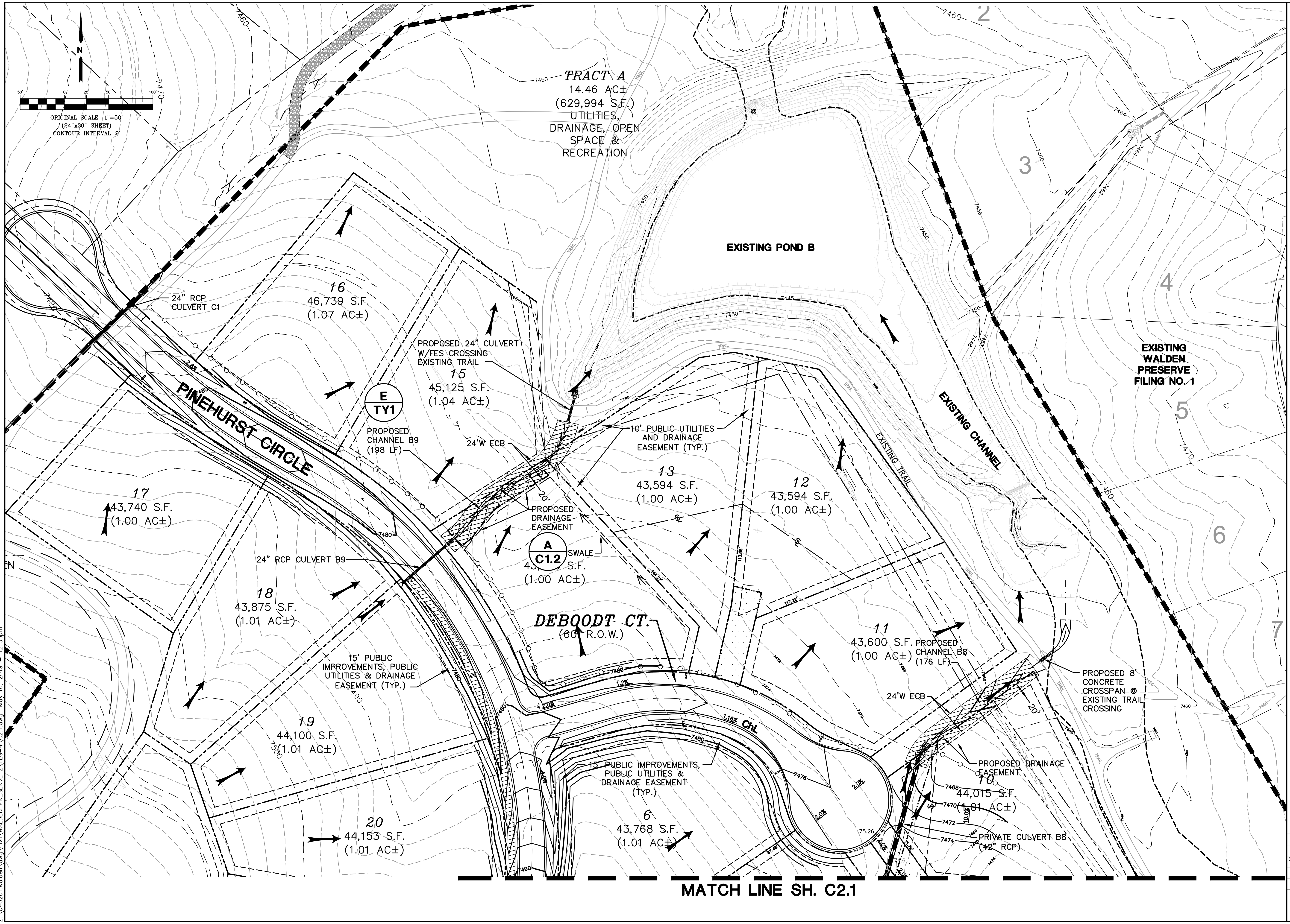
CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL OR VISIT US IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKINGS OF UNDERGROUND
MEMBER UTILITIES

REVISION	DATE	BY
FINAL PLAT SUBMITTAL	9/05/18	JPS
COUNTY COMMENTS	2/25/19	JPS
COUNTY COMMENTS	5/15/19	JPS

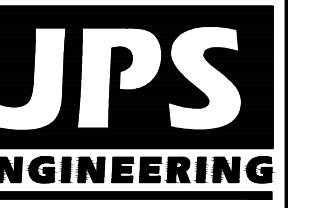
**ENLARGED SITE
GRADING PLAN - SOUTH**

HORIZ. SCALE: 1"=50'	DRAWN: RMD
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: RAMPART	CHECKED: JPS
CREATED: 8/14/14	LAST MODIFIED: 5/15/19
PROJECT NO: 040201	MODIFIED BY: BJJ

SHEET: C2.1



WALDEN PRESERVE 2 - FILING NO. 4



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 FOR THE MARKING OF UNDERGROUND
 MEMBER UTILITIES

REVISION	DATE	BY
FINAL PLAT SUBMITTAL	9/05/18	JPS
COUNTY COMMENTS	2/25/19	JPS
COUNTY COMMENTS	5/15/19	JPS

**ENLARGED SITE
 GRADING PLAN - NORTH**

HORZ. SCALE: 1"=50'	DRAWN: RMD
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: N/A	CHECKED: JPS
CREATED: RAMPART	LAST MODIFIED: JPS
PROJECT NO: 040201	MODIFIED BY: BJJ

SHEET: C2.2

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Standard Notes for El Paso County Grading and Erosion Control Plans

Revised 7/07/10

- Construction may not commence until a Construction Permit is obtained from Development Services and a Preconstruction Conference is held with Development Services Inspectors.
- 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 (SMWP) 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.
- 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).
- 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. BMP's 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 offsite 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.
- 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 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.
- All construction traffic must enter/exit the site at approved construction access points.
- Prior to actual construction the permittee 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 preliminary soils report for this site prepared by Himmelreich & Assoc., dated 1/24/05 shall be considered a part of these plans.
- 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:

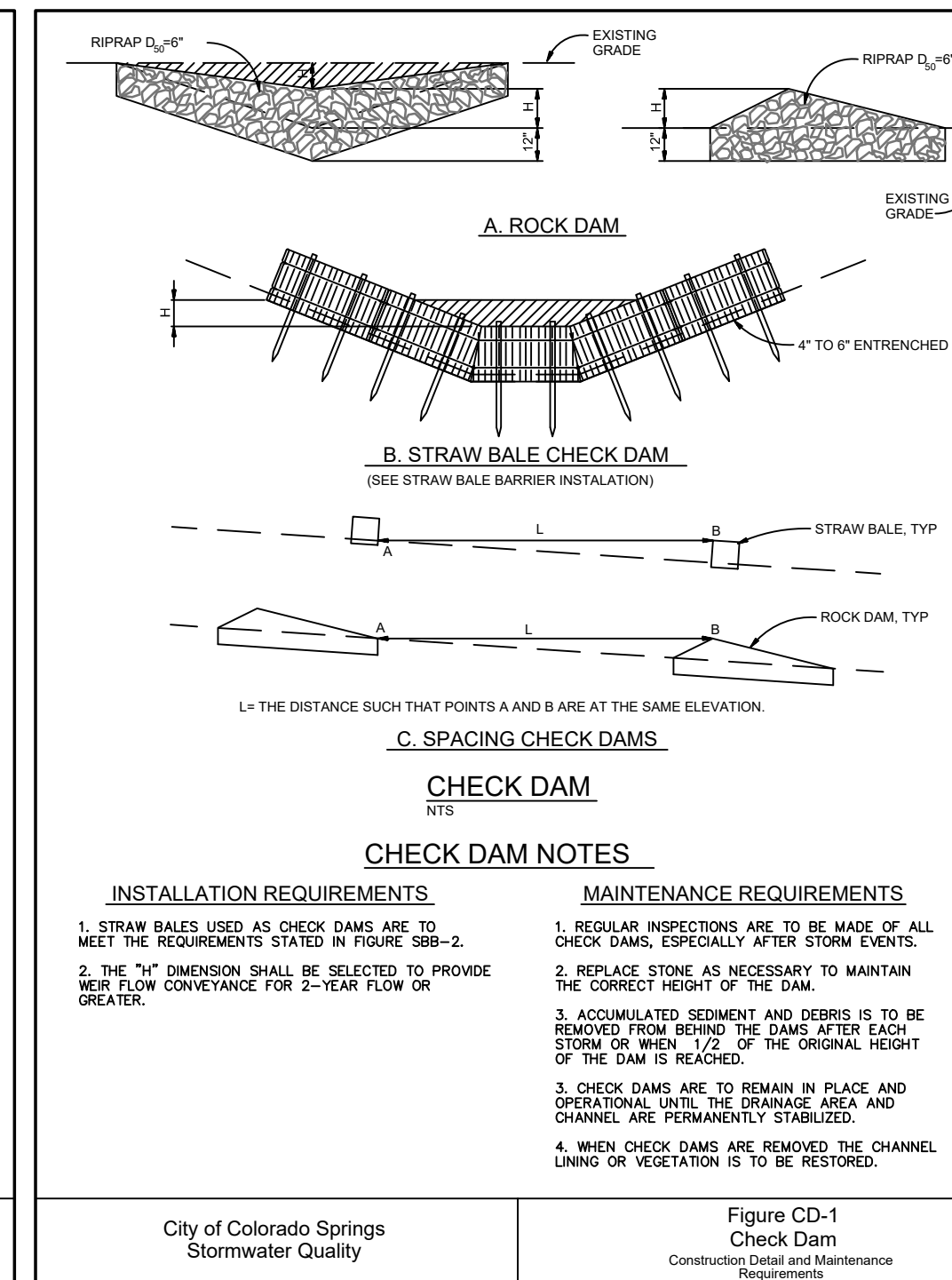
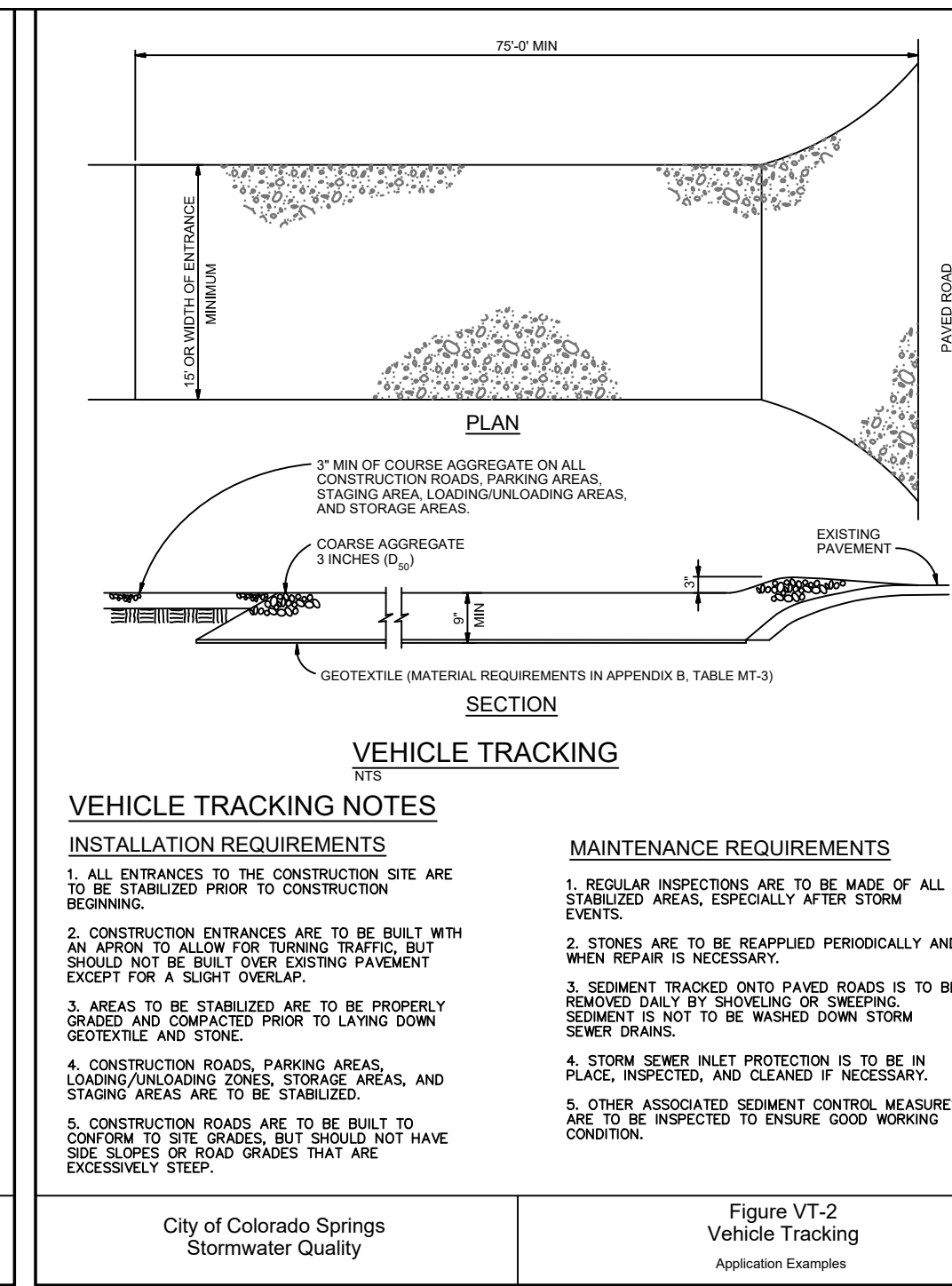
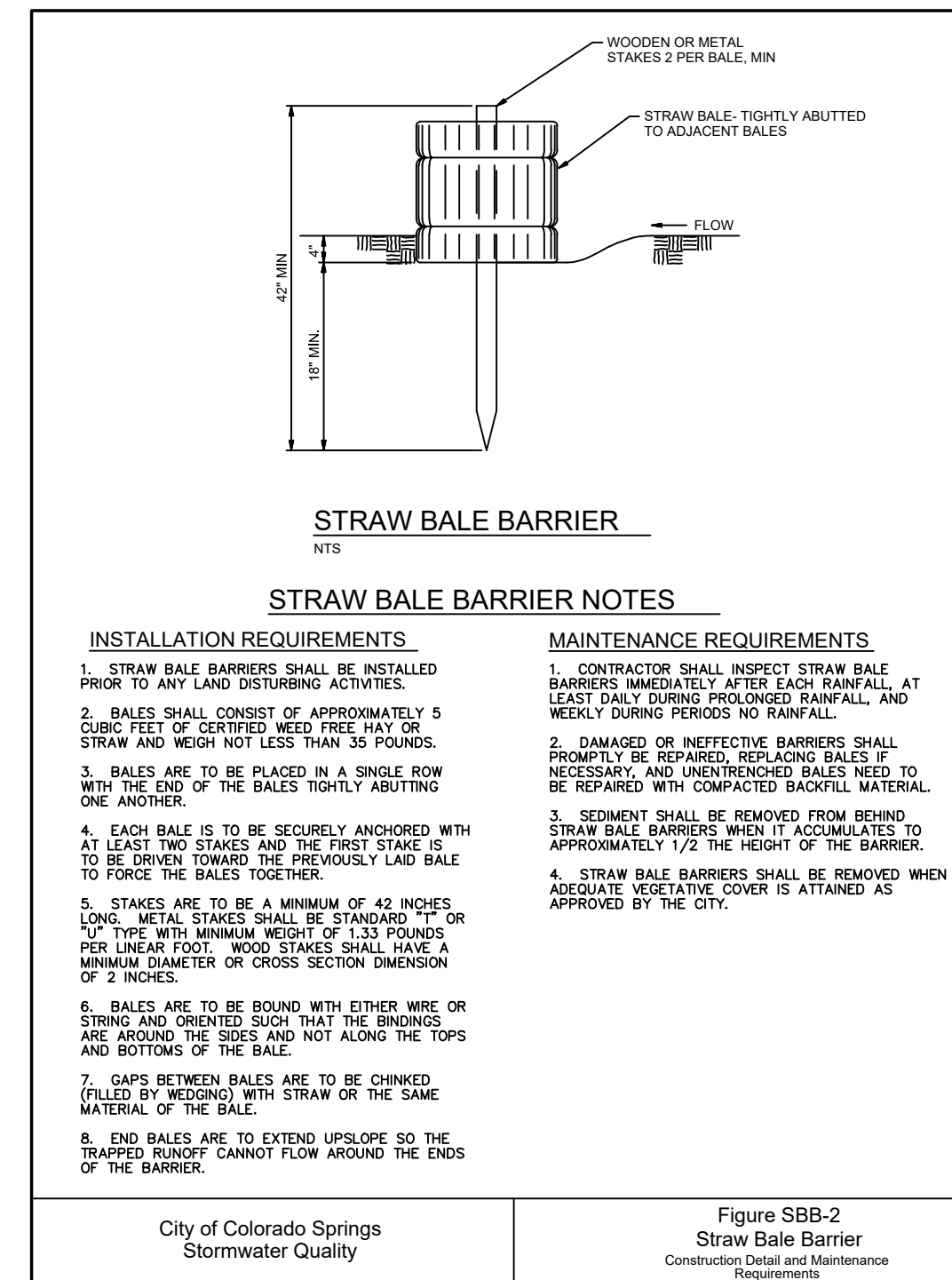
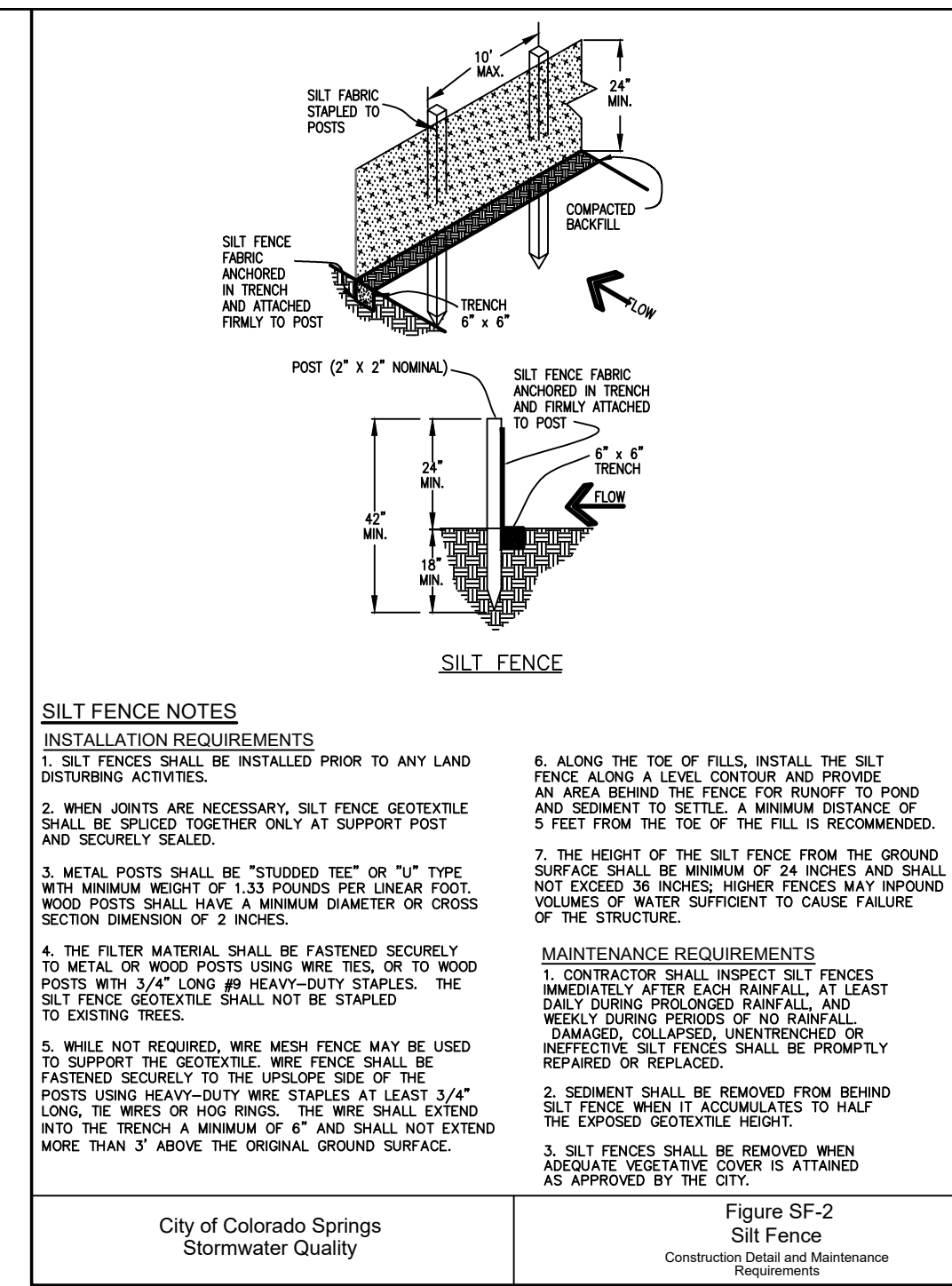
Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD - Permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: Permits Unit

SEEDING MIX:

GRASS	VARIETY	AMOUNT IN PLS LBS. PER ACRE
CRESTED WHEAT GRASS	EPHRAIM OR HYCREST	4.0 LBS.
PERENIAL RYE	LINN	2.0 LBS.
WESTERN WHEATGRASS	SARTON	3.0 LBS.
SMOOTH BROME GRASS	LINCOLN OR MANCHAR	5.0 LBS.
SIDEOATS GRAMA	EPHRAIM	2.5 LBS.
TOTAL:		16.5 LBS.

SEEDING & FERTILIZER APPLICATION: DRILL SEED OR HYDRO-SEED PER CDOT SPEC. SECTION 212.

MULCHING APPLICATION: CONFORM TO CDOT SPEC-SECTION 213.



ESTIMATED TIME SCHEDULE:

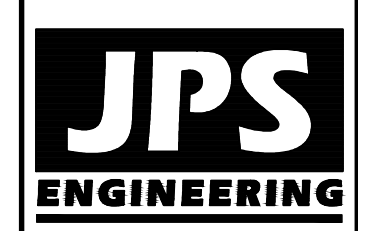
INSTALL BMP'S	JULY, 2019
GRADING START	JULY, 2019
GRADING COMPLETION	AUGUST, 2019
SEEDING & MULCHING	AUGUST, 2019
STABILIZATION	AUGUST, 2020

SEDIMENT CONTROL MAINTENANCE PROGRAM:

PERIODIC SITE INSPECTIONS	BI-WEEKLY
RE-VEGETATION OF EXPOSED SOILS	WITHIN 21 DAYS OF GRADING
SEDIMENT REMOVAL FROM BMP'S	MONTHLY
REMOVAL OF BMP'S	AFTER STABILIZATION ACHIEVED

- AND AFTER ANY PRECIPITATION OR SNOW MELT EVENT THAT CAUSES SURFACE EROSION.
- ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED WHEN THE SEDIMENT LEVEL REACHES ONE HALF THE HEIGHT OF THE BMP OR AT ANY TIME THAT SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTION OF THE BMP.

WALDEN PRESERVE 2 - FILING NO. 4



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NO.	REVISION	DATE	BY
1	FINAL PLAT SUBMITTAL	9/05/18	JPS
2	COUNTY COMMENTS	2/15/19	JPS
3	COUNTY COMMENTS	5/15/19	JPS

EROSION CONTROL NOTES & DETAILS

HORZ. SCALE:	NTS	DRAWN:	BJJ
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	PINNACLE	CHECKED:	JPS
CREATED:	6/30/14	LAST MODIFIED:	5/15/19
PROJECT NO:	040201	MODIFIED BY:	BJJ

C3

Review 2: Pond outlet structure will be reviewed on the re-submittal. Changes to the construction details is likely based on comments to the drainage report.
 Review 3: Pond was redesigned to Porous Landscape. See new comments.

Per the drainage report, the spillway is also used for conveying the 100yr flow to the creek. Analyze the section from the spillway to the creek for hydraulic adequacy. Additional erosion protection may be required.
 Unresolved. Provide hydraulic analysis for the existing swale and discuss results in the narrative. Address whether erosion is required at the existing trail crossing.

Label channel slope. This does not match the FDR design for 5% slope. Update calculation and revise the erosion protection if needed.

1. Include UD-Detention worksheet calculation which includes spillway calculation and drain time calculation to verify compliance with Senate Bill 15-212.
2. Identify the riprap type.
3. Provide spillway riprap sizing calculation in the FDR.
4. Provide a construction/cross section detail of the spillway

List required and designed filter area.

Identify the grate used.

Add note specifying the compaction of the filter material to avoid over compaction of the filter area.

Remove the 85%/15% mix. This has been removed by UDFCD

Add in the UDFCD Bioretention Growing Media specification and Seed Mix specification for the PLD

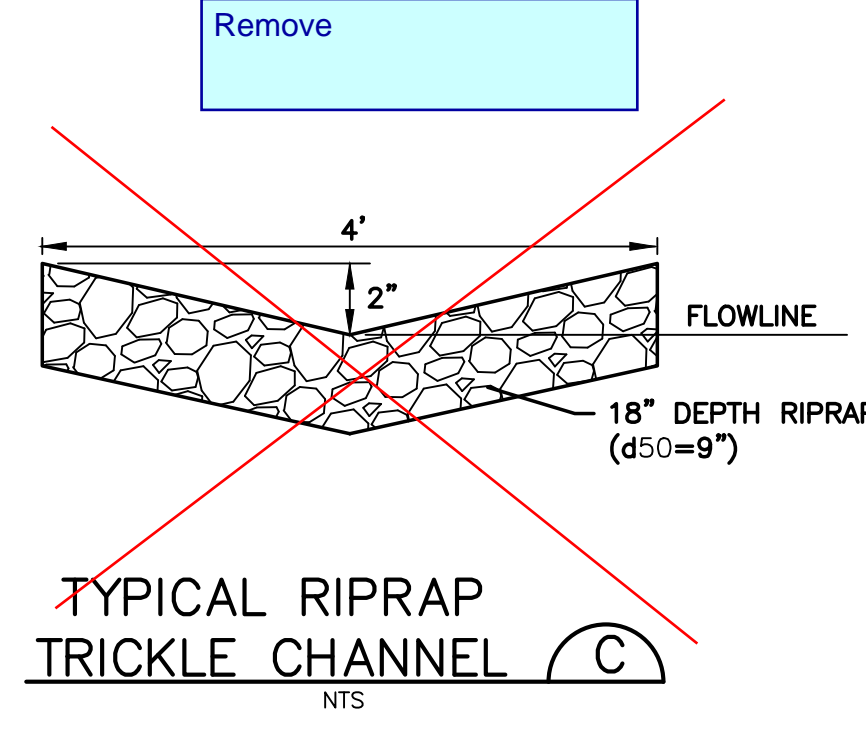
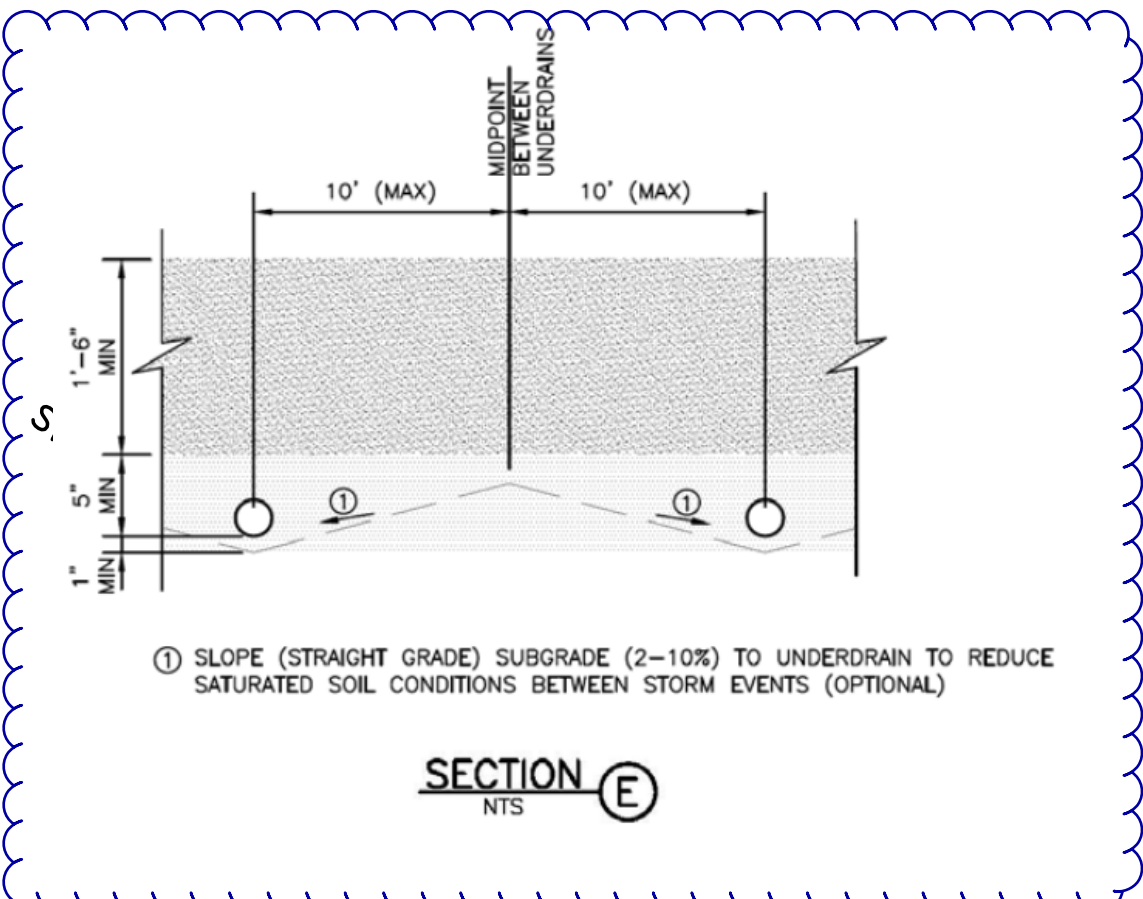
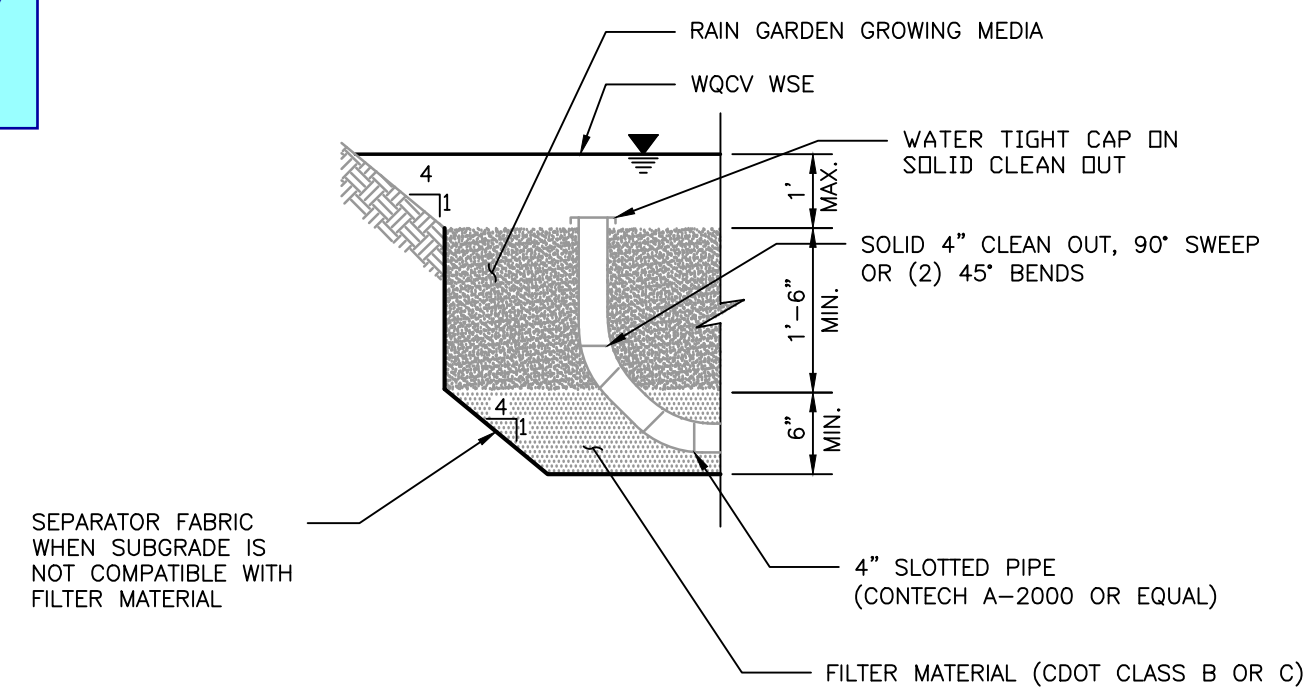
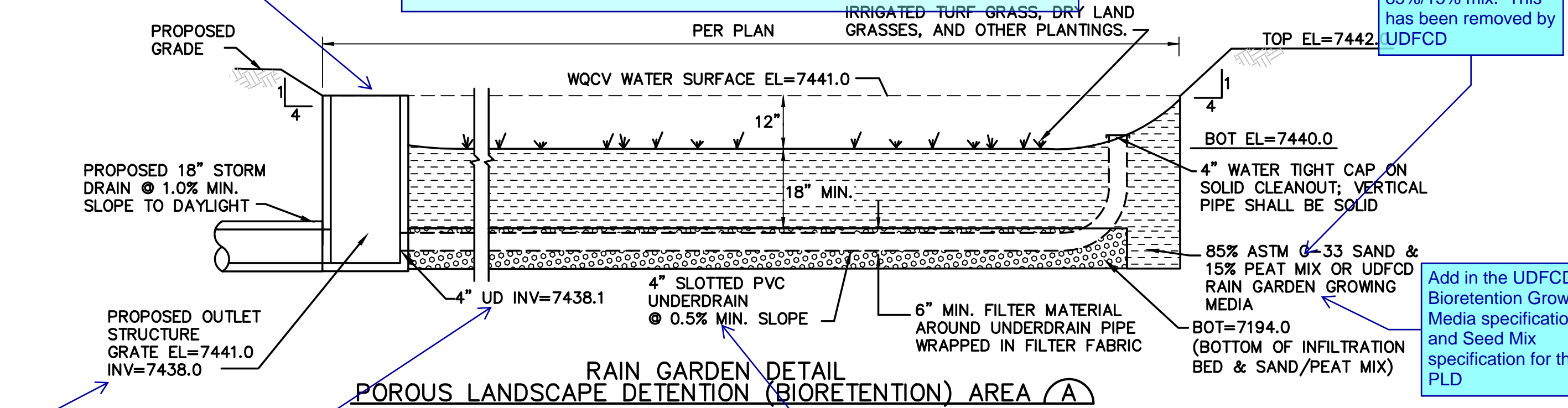
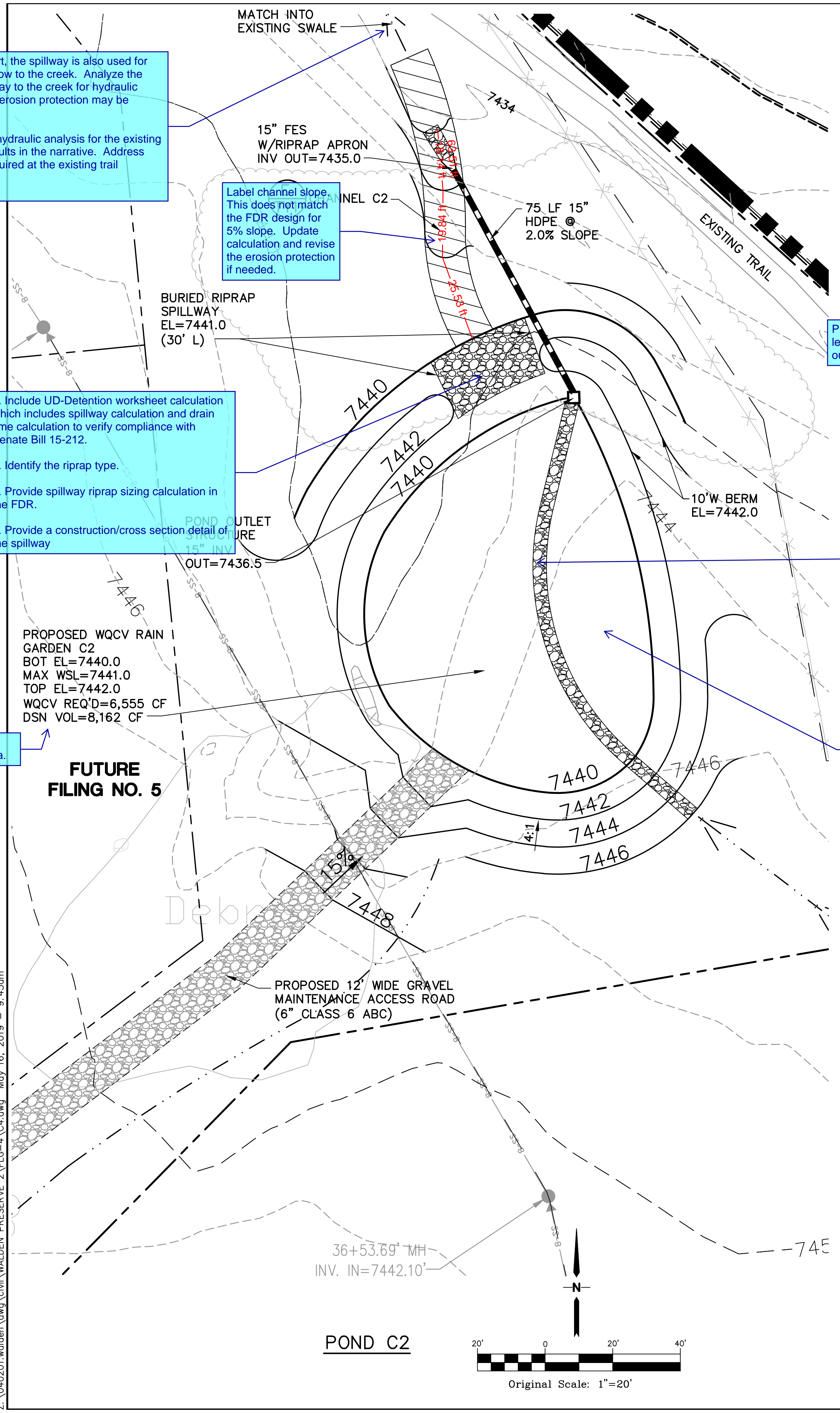
Provide construction level detail of the outlet structure

Install the restrictor (1-7/8" diameter) per the UD-BMP calculation.

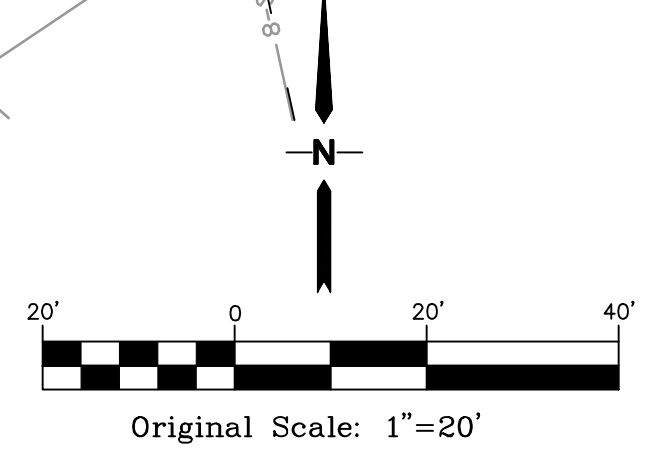
Provide additional specification (slot width, min open area, ASTM standards or identify a specific product meeting the specifications in UDFCD Table B-1

Remove Trickle Channel. Not applicable for PLD's

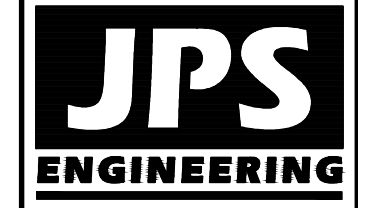
The filter area is fairly large; therefore show the underdrain layout and add the following detail (modify as necessary to meet your design)



POND C2



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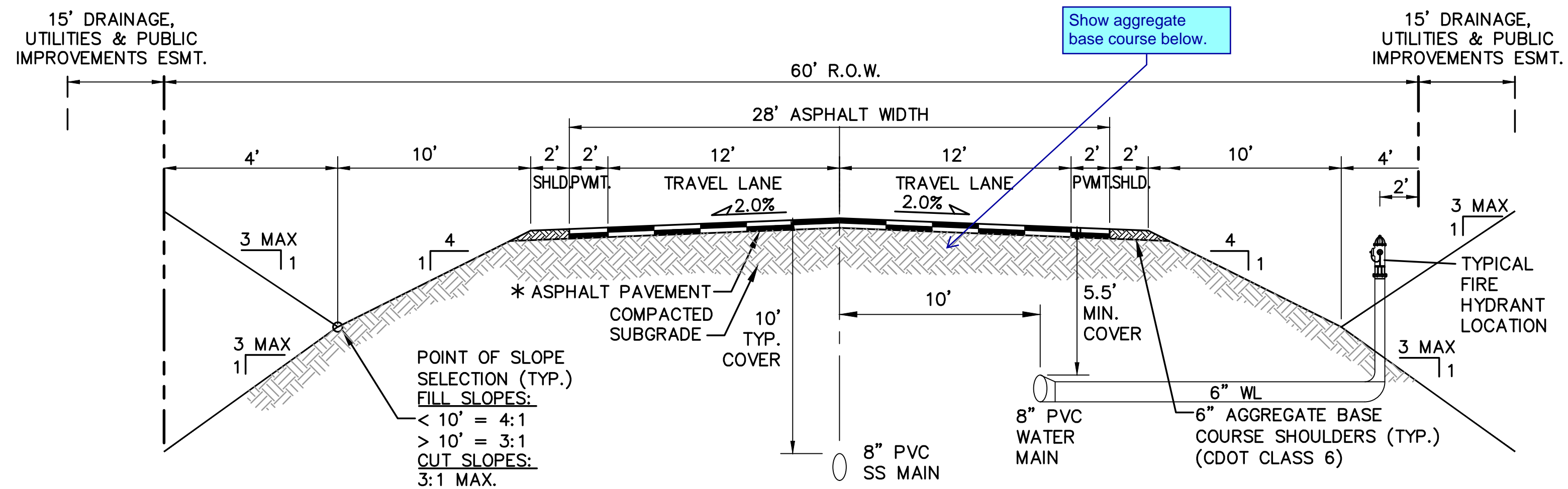
No.	REVISION	DATE
1	FINAL PLAT SUBMITTAL	9/05/18
2	COUNTY COMMENTS	2/15/19
3	COUNTY COMMENTS	5/15/19

RAIN GARDEN C2
 PLAN & DETAILS

HORZ. SCALE:	N/A	DRAWN:	MSP
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	PINNACLE	CHECKED:	JPS
CREATED:	9/05/18	LAST MODIFIED:	5/15/19
PROJECT NO:	040201	MODIFIED BY:	BJJ

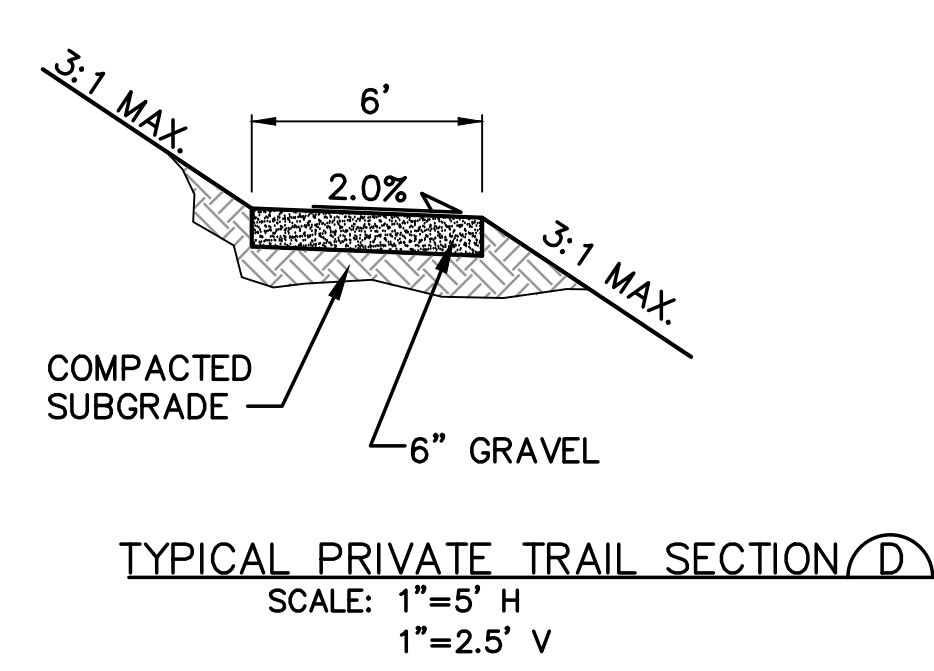
SHEET: C4

Z:\040201\walden_dwg\civil\WALDEN PRESERVE 2\FILG-4\C4.dwg May 16, 2019 - 9:43am

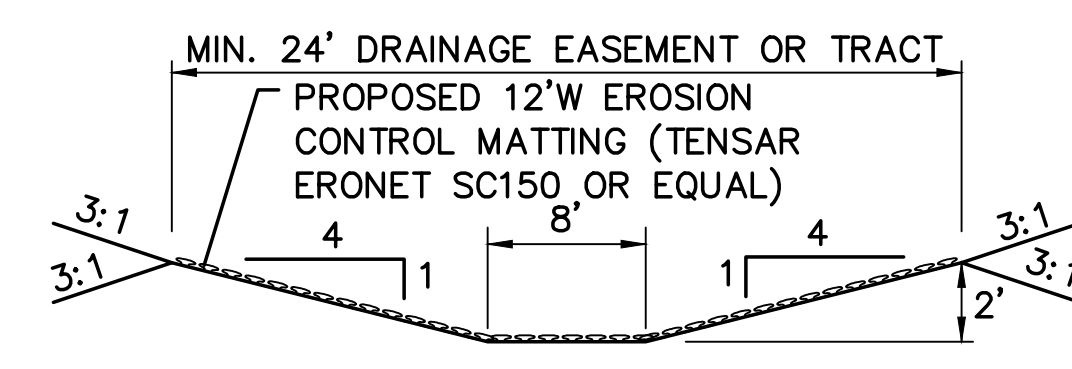


RURAL LOCAL-PAVED ROAD (PUBLIC)
 (PINEHURST CIRCLE &, DEBOODT CT)
TYPICAL SECTION (A)
 SCALE: 1"=5'

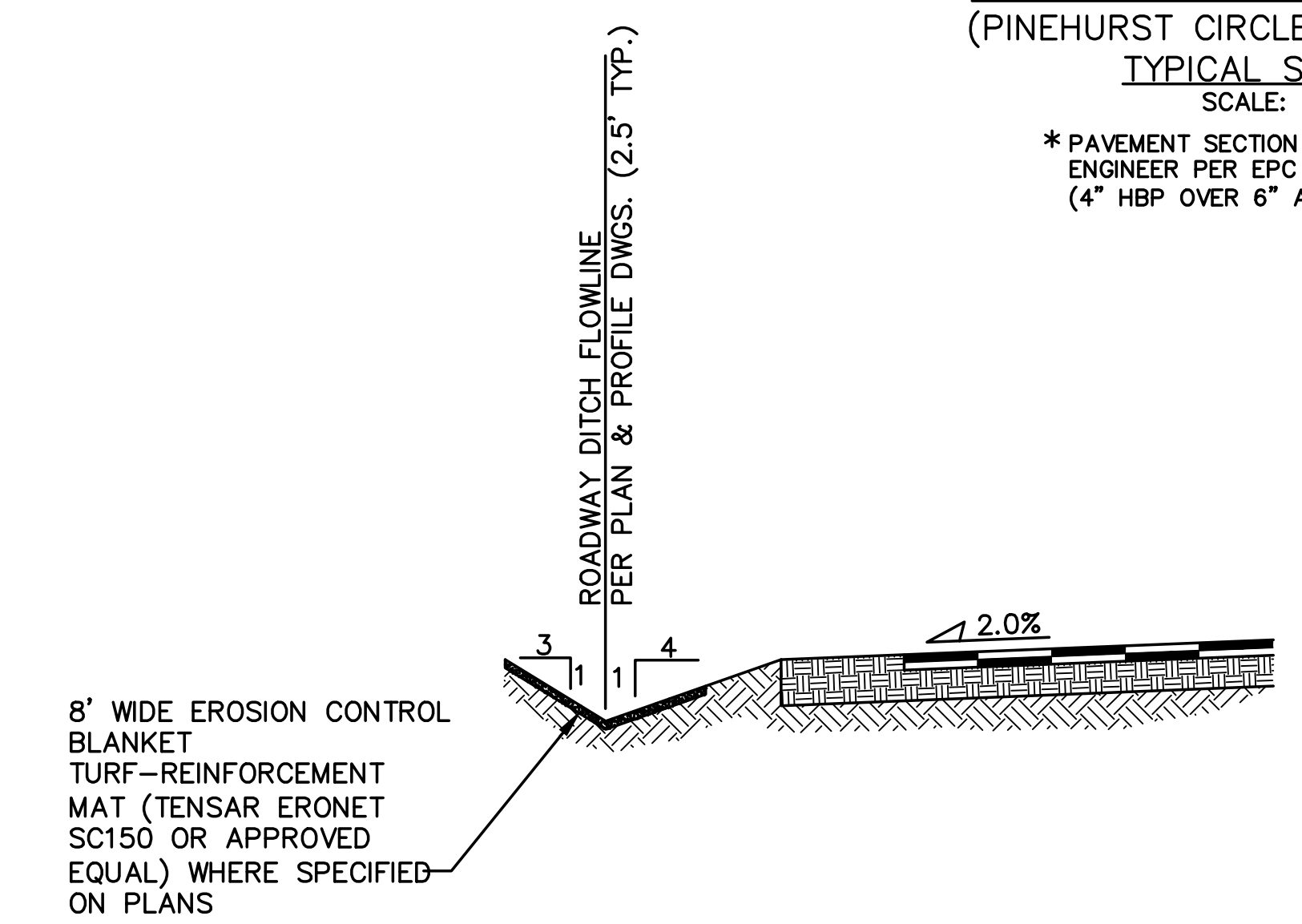
* PAVEMENT SECTION TO BE DESIGNED BY GEOTECHNICAL ENGINEER PER EPC SPECIFICATIONS. (4" HBP OVER 6" ABC FOR BIDDING PURPOSES)



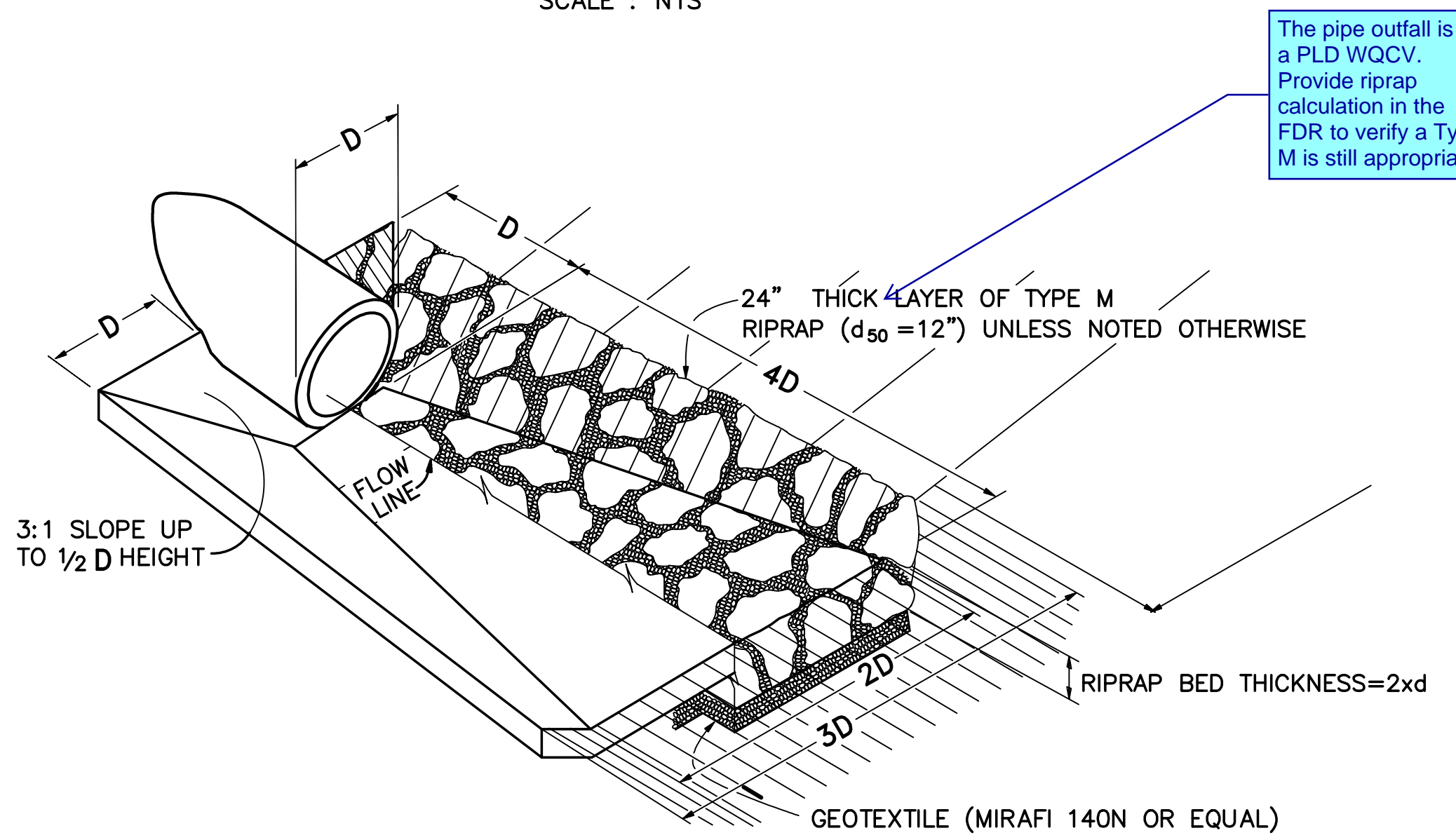
TYPICAL PRIVATE TRAIL SECTION (D)
 SCALE: 1"=5' H
 1"=2.5' V



CHANNEL SECTION (E)
 N.T.S.



TYPICAL DITCH SECTION WITH EROSION CONTROL BLANKET LINING (B)
 SCALE: N.T.S.



TYPICAL RIPRAP APRON/CULVERT OUTLET PAVING (C)
 NOT TO SCALE

The pipe outfall is for a PLD WQCV. Provide riprap calculation in the FDR to verify a Type M is still appropriate.

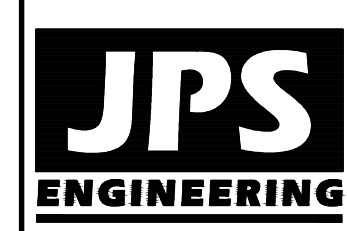
Table MD-7—Classification and Gradation of Ordinary Riprap

Riprap Designation	% Smaller Than Given Size by Weight	Intermediate Rock Dimensions (inches)	d ₅₀ (inches)*
Type VL	70-100	12	6**
	50-70	9	
	35-50	6	
	2-10	2	
Type L	70-100	15	9**
	50-70	12	
	35-50	9	
	2-10	3	
Type M	70-100	21	12**
	50-70	18	
	35-50	12	
	2-10	4	
Type H	70-100	30	18
	50-70	24	
	35-50	18	
	2-10	6	
Type VH	70-100	42	24
	50-70	33	
	35-50	24	
	2-10	9	

* d₅₀ = mean particle size (intermediate dimension) by weight.
 ** Mix VL, L and M riprap with 35% topsoil (by volume) and bury it with 4 to 6 inches of topsoil, all vibration compacted, and revegetate.

- Basic requirements for riprap stone are as follows:
- Rock shall be hard, durable, angular in shape, and free from cracks, overburden, shale, and organic matter.
 - Neither breadth nor thickness of a single stone should be less than one-third its length, and rounded stone should be avoided.
 - The rock should sustain a loss of not more than 40% after 500 revolutions in an abrasion test (Los Angeles machine—ASTM C-535-69) and should sustain a loss of not more than 10% after 12 cycles of freezing and thawing (AASHTO test 103 for ledge rock procedure A).
 - Rock having a minimum specific gravity of 2.65 is preferred; however, in no case should rock have a specific gravity less than 2.50.

RIPRAP DETAILS (F)



19 E. Willamette Ave.
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CALL UTILITY NOTIFICATION CENTER OF COLORADO
 1-800-922-1987
 CALL BEFORE YOU DIG. IN AN EXCAVATE BEFORE YOU DIG GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

WALDEN PRESERVE 2 - FILING NO. 4

TYPICAL SECTIONS AND DETAILS

NO.	REVISION	DATE	BY
1	FINAL PLAT SUBMITTAL	9/05/18	JPS
2	COUNTY COMMENTS	2/15/19	JPS
3	COUNTY COMMENTS	5/15/19	JPS

HORIZ. SCALE: AS SHOWN
 VERT. SCALE: AS SHOWN
 SURVEYED: AS SHOWN
 CREATED: 9/05/18
 PROJECT NO: 040201
 DRAWN: BJJ
 DESIGNED: JPS
 CHECKED: JPS
 LAST MODIFIED: 5/15/19
 MODIFIED BY: BJJ
 SHEET: TY1