Community & Economic Development Department adcogov.org



4430 South Adams County Parkway 1st Floor, Suite W2000B Brighton, CO 80601-8218

PHONE 720.523.6800

EMAIL epermitcenter@adcogov.org

Request for Comments

Case Name: 1853 Monroe Street Minor Subdivision

Project Number: PRC2023-00025

December 13, 2023

The Adams County Planning Commission is requesting comments on the following application: 1. Final Plat for minor subdivision to create two lots in the Residential-1-C zone district, and partially within the Natural Resources Conservation Overlay District; 2. Waiver from Subdivision Design Standards to seek relief from Adams County Arterial Roadway Design Standards. This request is located at 1853 MONROE ST. The Assessor's Parcel Number is 0181333400011.

Applicant Information:

SUMIT JOSEPH 23657 E ELLSWORTH AVENUE AURORA,, CO 80018-1556

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please send your response by way of e-mail to BMarin@adcogov.org.

Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at www.adcogov.org/current-land-use-cases.

Thank you for your review of this case.

Brayan Marin Planner II



Community & Economic Development Department Planning & Development

4430 S. Adams County Pkwy., 1st Floor, Suite W2000B

Brighton, CO 80601-8218

Phone: 720.523.6800 Website: adcogov.org

A minor subdivision shall only be used to divide parcels of less than twenty (20) acres into four (4) or fewer lots. Minor subdivisions are processed through this application for final plat. Two public hearings are required in the processing of this application. A separate application for Subdivision Engineering Review must be filed in addition to this application for final plat.

Please include this page with your submittal. Submittal instructions and more information about checklist items can be found on pages 2-3.

Required Checklist Items

<u>rrequired e</u>	Trecking retring
Item 01	Development Application Form
Item 02	Written Explanation
Item 03	Final Plat
Item 04	Legal Description
Item 05	Conceptual Site Plan
Item 06	Proof of Ownership
Item 07	Proof of Water and Sewer Services
Item 08	Proof of Utilities
Item 09	Certificate of Taxes Paid
Item 10	Receipt of Payment to Colorado Geological Survey

Discretionary Checklist Items

Item 11	School Impact Analysis
Item 12	Subdivision Engineering Review Application. If already filed, please identify the case number here:
Item 13	Response to Comments
Item 14	Waiver from Subdivision Design Standards

Fees Due When Application is Deemed Complete					
Minor Subdivision (final plat)	• \$1,600				

Community & Economic Development Department www.adcogov.org



4430 South Adams County Parkway 1st Floor, Suite W2000 Brighton, CO 80601-8204 PHONE 720.523.6800 FAX 720.523.6998

DEVELOPMENT APPLICATION FORM

Application Type:						
Subo	ceptual Review division, Preliminary division, Final Correction/ Vacation	Preliminary PUD Final PUD Rezone Special Use	Tempora Variance Conditio Other:			
PROJECT NAME	:					
APPLICANT						
Name(s):			Phone #:			
Address:						
City, State, Zip:						
2nd Phone #:			Email:			
OWNER						
Name(s):			Phone #:			
Address:						
City, State, Zip:						
2nd Phone #:			Email:			
TECHNICAL REF	PRESENTATIVE (C	Consultant, Engin	eer, Surve	yor, Architect, etc.)		
Name:			Phone #:			
Address:						
City, State, Zip:						
2nd Phone #:			Email:			

DESCRIPTION OF SITE

Address:	1853 Monroe Street
City, State, Zip:	Strasburg, CO, 80136
Area (acres or square feet):	0.78 acres
Tax Assessor Parcel Number	0181333400011
Existing Zoning:	R-1-C
Existing Land Use:	Commercial
Proposed Land Use:	Commercial
Have you attende	ed a Conceptual Review? YES NO X
If Yes, please list	PRE#:
under the autho pertinent requirer Fee is non-refun	nat I am making this application as owner of the above described property or acting writy of the owner (attached authorization, if not owner). I am familiar with all ments, procedures, and fees of the County. I understand that the Application Review adable. All statements made on this form and additional application materials are f my knowledge and belief.
Name:	Sumit Joseph Date: 9-07-2023
	Owner's Printed Name
Name:	Sum Jos
	Owner's Signature

DESCRIPTION OF SITE

Address:	
City, State, Zip:	
Area (acres or square feet):	
Tax Assessor Parcel Number	
Existing Zoning:	
Existing Land Use:	
Proposed Land Use:	
Have you attended	d a Conceptual Review? YES NO
If Yes, please list I	PRE#:
under the author pertinent requirem Fee is non-refund	at I am making this application as owner of the above described property or acting ity of the owner (attached authorization, if not owner). I am familiar with all lents, procedures, and fees of the County. I understand that the Application Review dable. All statements made on this form and additional application materials are my knowledge and belief.
Name:	Date:
	Owner's Printed Name
Name:	
	Owner's Signature



WESTERN ENGINEERING CONSULTANTS,

Inc LLC

127 S Denver Ave. Fort Lupton, CO 80621 2501 Mill Street, Brush, CO 80723 Office: 720-685-9951

Cell. 303-913-7341, Fax 720-294-1330

Email: chadwin.cox@westerneci.com

November 22, 2023

Adams County Community and Economic Development 4430 South Adams County Parkway 1st Floor, Suite W2000 Brighton, CO 80601-8216

RE: 1853 MONROE STREET MINOR SUBDIVISION

Adams County Community and Economic Development:

Western Engineering Consultants Inc. LLC (WEC) has prepared this narrative letter to briefly summarize "1853 Monroe Street Minor Subdivision", located at 1853 Monroe Street, Strasburg, CO Adams County.

The subject property is located NE 1/4 of the SE 1/4 of Section 33, Township 3 South, Range 62 West of Sixth Principal Meridian, County of Adams, State of Colorado, as stated in the Commitment for Title Insurance dated December 13, 2021.

PURPOSE / BACKGROUND

The property was previously a Daycare Center and was closed due to Covid pandemic in 2021; the parcel is currently zoned R-1-C in Adams County.

The owner's purpose is to subdivide the 0.818 acres property into two new lots (Lot 1 0.38 ac. And Lot 2 0.44 ac.) in accordance with R-1-C district requirements.



ZONING COMPLIANCE

The development is and will be compatible with the R-1-C character of the surrounding area, see Fig. 1 Adams County Zoning Map.

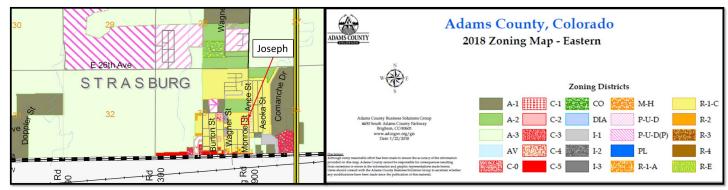


Fig. 1 Zoning Map

ADJACENT USES

To the north is a 1.0 acre parcel owned by School District 31 Strasburg zoned R-1-C, to the south there are two parcels (0.63 and 1.925 acres) zoned R-1-C owned by the Strasburg Sanitation and Water District, to the east lies Monroe Street and further east is the Strasburg East Third Filing Subdivision zoned R-1-A.

RELATIONSHIP TO & IMPACT UPON ADJACENT USES

The proposed residential development will be character compatible with the surrounding areas. The Adams County Comprehensive Plan shows this area as Urban Residential, and the proposed development is consistent with 2012 Adams County Comprehensive Plan, See Fig 2. Future Land use Map.

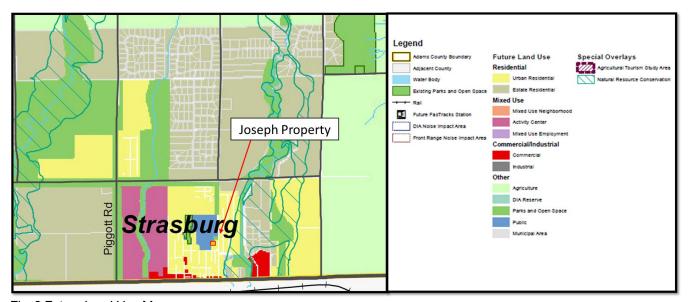


Fig. 2 Future Land Use Map

ACCESS LAYOUT

Lot 1 and Lot 2 will continue accessing from Monroe Street through proposed independent access, see Fig 3 Site Plan

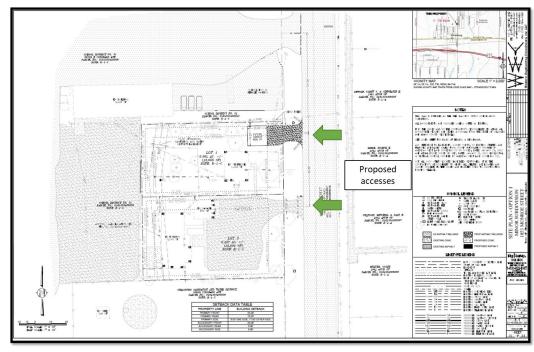


Fig. 3 Site Plan

STATEMENT ON COMMUNITY NEED FOR PROPOSED SUBDIVISION & ZONING

The proposed Subdivision aligns to the 2012 Adams County Comprehensive and Zoning Plan. The proposed use will complement the surrounding land uses currently adjacent to the property, consisting of single-family dwellings, public schools, and Strasburg Water District facilities.

The proposed uses will not be detrimental to the public health, safety, or general welfare as similar uses exist throughout other entities in the nearby area. The proposed use will be required to conform in all other respects to all applicable Adams County zoning regulations and standards.

GEOLOGICAL HAZARDS

No geologic hazards or environmental conditions/ concerns are known to exist on the property. The NRCS Study is enclosed.

ZONING, USE, PHASING, and UTILITY DISTRICTS

The following summarizes the proposed specifics:

ZoningProposed Use

• Type of structures to be built

Water source

Sanitary Sewer source

Storm sewer

Gas

Electricity

Fire Protection

Currently zoned R-1-C and no changes are proposed.

Residential

One new residence.

Strasburg Sanitation and Water District Strasburg Sanitation and Water District

Strasburg

Xcel

Core Electric Bill is enclosed.

Strasburg Fire District 8

EXISTING INFRASTRUCTURE / FIRE ACCESS

Monroe Street (paved 2 lane road with turn lane) exists to the east.

Water and sanitary service exists from Strasburg Water and Sewer District for both the existing residence and future residence, enclosed bills for both services.

Electric service exists and serves the property.

SUBDIVISION IMPROVEMENTS

A waiver request for Subdivision Design Standards is enclosed. The existing conditions of Monroe Street do not allow the requirements to construct roadway improvements adjacent to the proposed site.

POTENTIAL IMPACT IN ADJACENT PROPERTIES

No negative impact is anticipated from this development to adjacent properties after construction has been completed.

Traffic impacts from this proposal are expected to be significantly reduced now that the Daycare is not in operation and the proposed use is as two single family residence. Please see the attached Trip Generation Estimate for the properties as single family residences.

SUBDIVISION MINOR/FINAL SUBMITTAL CHECKLIST

1.	Development Application Form (Rezoning)	Enclosed
2.	Written explanation of the project	This document
3.	Final Plat	Enclosed
4.	Legal Description	Enclosed
5.	Conceptual Site Plan (Cds)	Enclosed
6.	Proof of Ownership	Enclosed
7.	Proof of Water and Sewer Services	Enclosed
8.	Proof of Utilities	Enclosed
9.	Certificate of Taxes Paid	Enclosed
10.	Receipt of Payment to Colorado Geological Survey	Enclosed
11.	School Impact Analysis	Enclosed
12.	Subdivision Engineering Review Application	Enclosed

CL OSING

The Applicant is excited to propose this project in Adams County.

The desired schedule is to achieve approvals and begin Construction in the middle 2024 if the residential market allows.

Please contact me with any questions or comments you may have on this Project Narrative.

Sincerely,



Western Engineering Consultants inc., LLC Chadwin F. Cox, P.E. Senior Project Manager

CASE NO: PLT2022-00017

1853 MONROE STREET MINOR SUBDIVISON

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

Sheet 1 of 2

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS THAT JOSEPH SUMIT, BEING THE OWNER OF THAT PART OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH PRICIPAL MERIDIAN BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF 6TH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220.00 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220.00 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927, COUNTY OF ADAMS, STATE OF COLORADO.

SAID PARCEL CONTAINS 35,630 SQUARE FEET OR 0.82 ACRES, MORE OR LESS

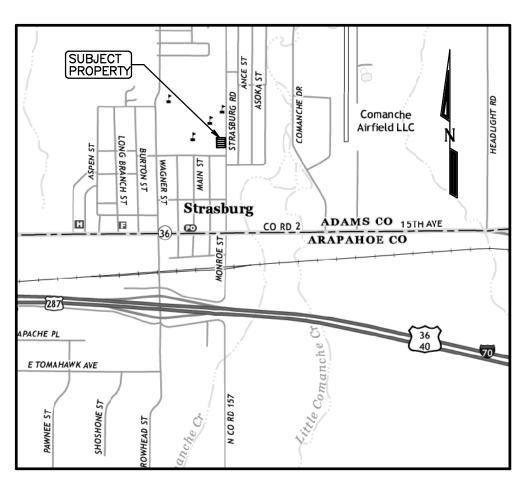
HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF 1853 MONROE STREET MINOR SUBDIVISON, AND DO HEREBY GRANT TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR THE USE OF THE PUBLIC, THE EASEMENTS AND OTHER PUBLIC UTITLITY, CABLE TV AND DETENTION POND AREAS, FLOODWAY AND FLOODPLAIN LIMITS, DRAINAGE AND OTHER PUBLIC PURPOSES AS DETERMINED BY THE COUNTY OF ADAMS.

JOSEPH SUMIT
ACKNOWLEDGEMENT
COLORADO) SS ADAMS COUNTY)
ADAMS COUNTY) 33
THE FOREGOING PLAT AND DEDICATION WAS ACKNOWLEDGED BEFORE ME BY: JOSEPH SUMIT AS OWNER
THISDAY OF, 20
NOTARY PUBLIC
MY COMMISSION EXPIRES:
MY ADDRESS IS:

SURVEYOR'S STATEMENT:

I, CURTIS D. HOOS, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAT WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THIS PLAT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ME TO DETERMINE OWNERSHIP.

CURTIS D. HOOS, PLS 37971 FOR AND ON BEHALF OF: AMERICAN WEST LAND SURVEYING CO. A COLORADO CORPORATION



VICINITY MAP: 1" = 2000'

NOTES:

1) BASIS OF BEARINGS: THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH P.M., IN ADAMS COUNTY, COLORADO, IS ASSUMED TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

2) ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

3) CERTIFICATION DEFINED: THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR, IN THE PRACTICE OF LAND SURVEYING, CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.

4) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON

5) AMERICAN WEST LAND SURVEYING COMPANY RELIED UPON TITLE COMMITMENT PROVIDED BY LAND TITLE GUARANTEE COMPANY DATED JUNE 7, 2022, ORDER NO. RND70775384 FOR INFORMATION REGARDING EASEMENTS AND RIGHTS-OF-WAY OF RECORD

6) DISTANCES ON THIS DRAWING ARE EXPRESSED IN U.S. SURVEY FEET AND DECIMALS THEREOF. A U.S. SURVEY FOOT IS DEFINED AS EXACTLY 1200/3937 METERS.

7) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP DATED MARCH 5, 2007, MAP NO. 08001C1002H, THE SUBJECT PROPERTY SHOWN HEREON LIES WITHING FLOOD ZONE "X" (AREA OF MINIMAL FLOOD HAZARD).

DI ANININIC	COMMISSION	ADDROVAL.
PLANNING	COMMISSION	APPRUVAL:

RECOMMENDED	FOR	APPROVAL E	BY THE	ADAMS	COUNTY	PLANNING	COMMISSIO	Ν
THIS	DAY	OF		/	A.D. 20			
CHAIR								
BOARD C)F	COUNT	/ C(OMMI	SSION	IERS	APPROV	/Δ
APPROVED BY	THE .	ADAMS COUN	ITY BO	ARD OF	COUNTY	COMMISSI	ONERS	

ADAMS COUNTY ATTORNEY'S OFFICE:

THIS _____ DAY OF _____ A.D. 20___

APPROVED AS TO FORM
CLERK AND RECORDER'S CERTIFICATE:
THIS MAP WAS FILED FOR RECORD IN THE OFFICE OF ADAMS COUNTY CLERK AND RECORDER, IN THE STATE OF COLORADO,
ATM. ON THE DAY OF, A.D. 20

RECEPTION NO._____



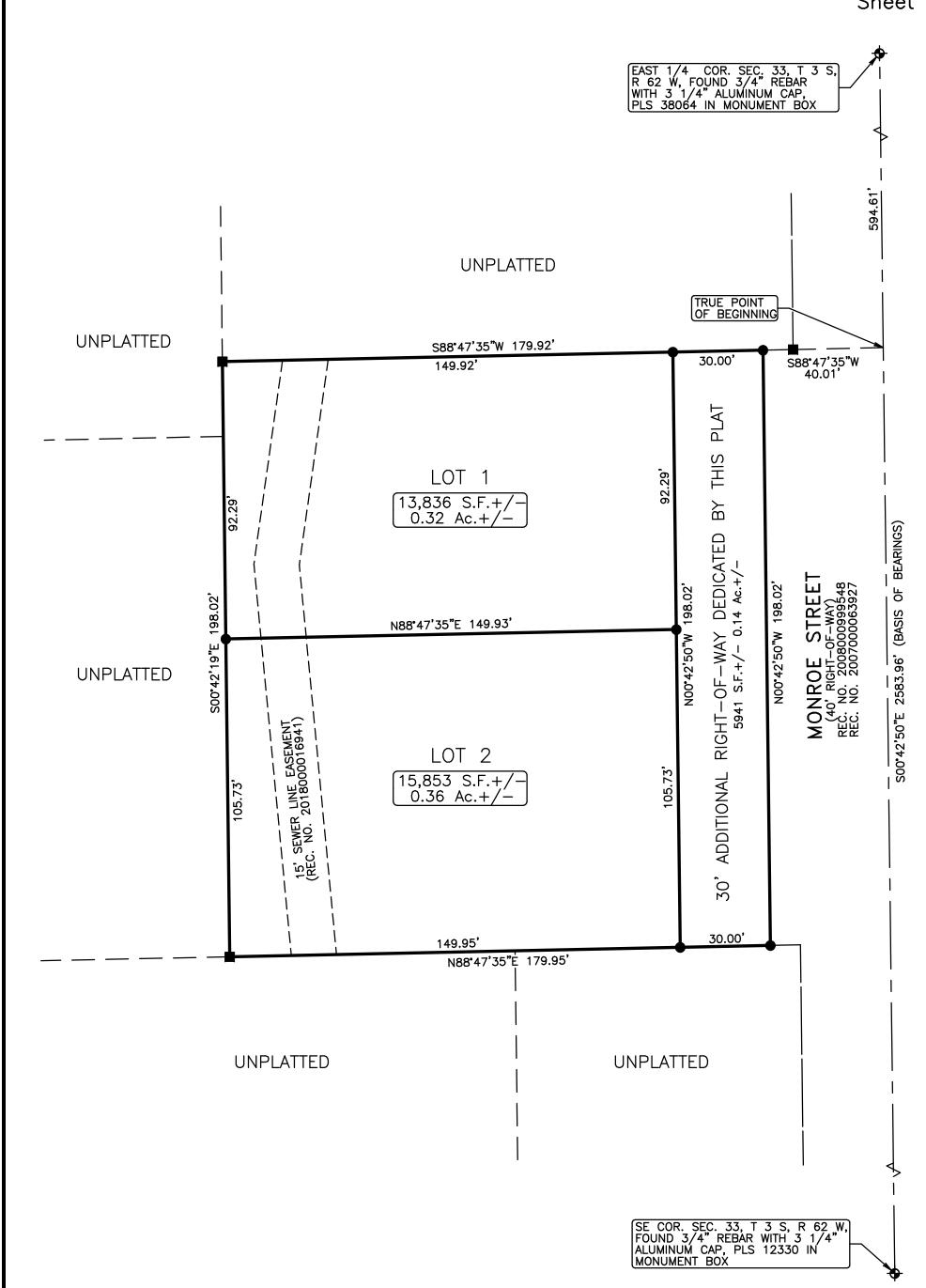
COUNTY CLERK AND RECORDER

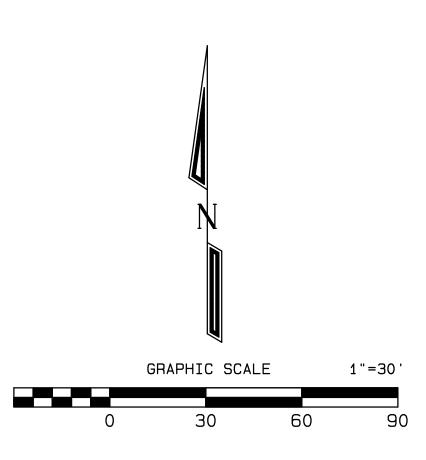
² O Box 129, Brighton, CO 80601 * P:303—659-	-1532 F:303–655	-0575 * amwestis.com
REVISION	DATE	SCALE 1" = 30'
		DATE: JUNE 27, 2022
		DRAWN BY: CDH
		CHECKED BY: MJH
		CLIENT: JOSEPH
		JOB NO: 22-
FILE: \\SERVER\Surveys\T_S\T3S_	R62W\S33\S33\1	853 MONROE ST_SUB.p

1853 MONROE STREET MINOR SUBDIVISON

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

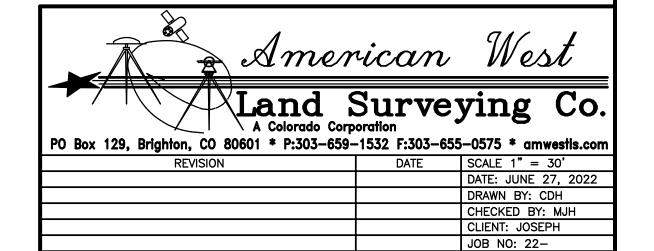
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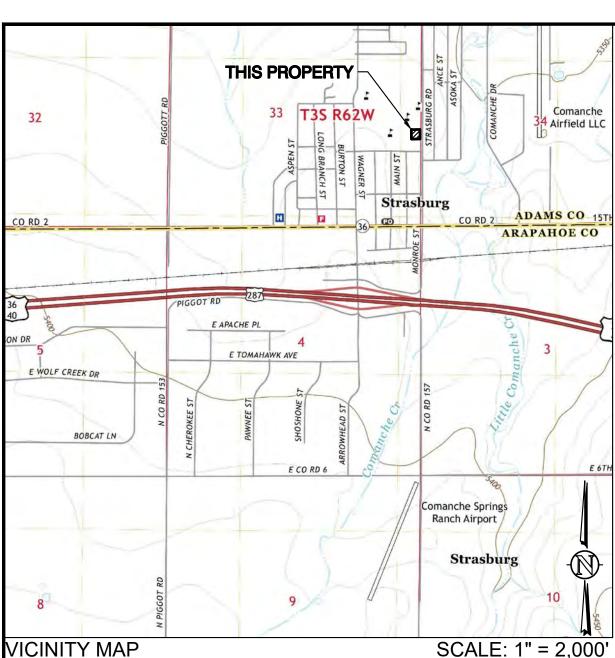


LEGEND

- → = ALIQUOT MONUMENT, AS NOTED
- = SET 5/8" X 24" REBAR WITH 2" ALUMINUM CAP, PLS 37971
- = FOUND 5/8" REBAR WITH 1 1/4" RED PLASTIC CAP, PLS 38539



FILE: \\SERVER\Surveys\T_S\T3S_R62W\S33\S33\1853 MONROE ST_SUB.pro



SE 1/4, S33, T3S, R62W, 6th P.M.

SHOWN VICINITY MAP TAKEN FROM USGS QUAD MAP - STRASBURG 7.5 MIN

LEGAL DESCRIPTION

KNOW ALL MEN BY THESE PRESENTS THAT JOSEPH SUMIT, BEING THE OWNER OF THAT PART OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH

ALL OF THAT PROPERTY DESCRIBED IN DEED RECORDED FEBRUARY 8, 2018 AS RECEPTION NO. 2018000011536 IN THE RECORDS OF THE CLERK AND RECORDER FOR ADAMS COUNTY,

A DISTANCE OF 594.61 FEET; THENCE SOUTH 88°47'35" WEST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID PARCEL, A DISTANCE OF 40.001 FEET TO THE WEST RIGHT-OF-WAY LINE OF MONROE STREET AS DESCRIBED IN DEED RECORDED NOVEMBER 13, 2006 AS RECEPTION NO. 2007000063927 IN THE RECORDS OF THE CLERK AND RECORDER FOR ADAMS COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH 88°47'35' WEST, COINCIDENT WITH THE WEST LINE OF SAID PARCEL; A DISTANCE OF 179.92 FEET TO THE NORTHWEST CORNER OF SAID PARCEL; THENCE SOUTH 00°42'19" EAST, COINCIDENT WITH THE WEST LINE OF SAID PARCEL, A DISTANCE OF 198.02 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL; THENCE NORTH 88°47'35" EAST, COINCIDENT WITH THE SOUTH LINE OF SAID PARCEL, A DISTANCE OF 179.95 FEET TO THE WEST RIGHT-OF-WAY LINE OF MONROE STREET; THENCE NORTH 00°42'50" WEST, COINCIDENT WITH SAID WEST RIGHT-OF-WAY LINE, A DISTANCE OF 198.02 FEET TO THE TRUE POINT OF BEGINNING.

SAID PARCEL CONTAINS 35,630 SQUARE FEET OR 0.82 ACRES, MORE OR LESS

HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF THOMPSON MINOR SUBDIVISION, AND DO HEREBY GRANT TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR USE OF THE PUBLIC UTILITY, CABLE TV, AND DETENTION POND AREAS, FLOODWAY AND FLOODPLAIN LIMITS, DRAINAGE, AND OTHER PUBLIC PURPOSES AS DETERMINED BY THE COUNTY OF ADAMS.

BASIS OF BEARING & PROJECT BENCHMARK

BASIS OF BEARING: THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH P.M., IN ADAMS COUNTY, COLORADO, IS ASSUMED TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

PROJECT BENCHMARK: ELEVATIONS ARE BASED UPON STATIC GPS OBSERVATIONS POST PROCESSED THROUGH THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS) AND ARE REPORTED IN NAVD 88 (GEOID 18).

CIVIL SITE PLANS

Located in the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado **SITE CIVIL PLANS FOR:**

1853 MONROE ST MINOR SUBDIVISION

1853 MONROE ST STRASBURG, CO 80136

PREPARED FOR:

VICTOR JOSEPH 1853 MONROE ST STRASBURG, CO 80136 (303)746-1914

APPROVED BY:

VICTOR JOSEPH

WESTERN ENGINEERING CONSULTANTS, INC. LLC DATE CHADWIN F. COX, P.E.

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0 1 2	4	UTILITY & GRADING PLAN
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1 2	6	INTERIM EROSION CONTROL PLAN
1 2	7	FINAL EROSION CONTROL PLAN
1	8	EROSION CONTROL DETAILS
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INITIAL RELEASE

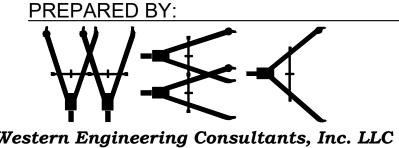
REV PER COUNTY COMMENTS 04/20/22

REV PER COUNTY COMMENTS 05/17/22

MARCH 24, 2022 MAY 27, 2022 **NOVEMBER 21, 2023**



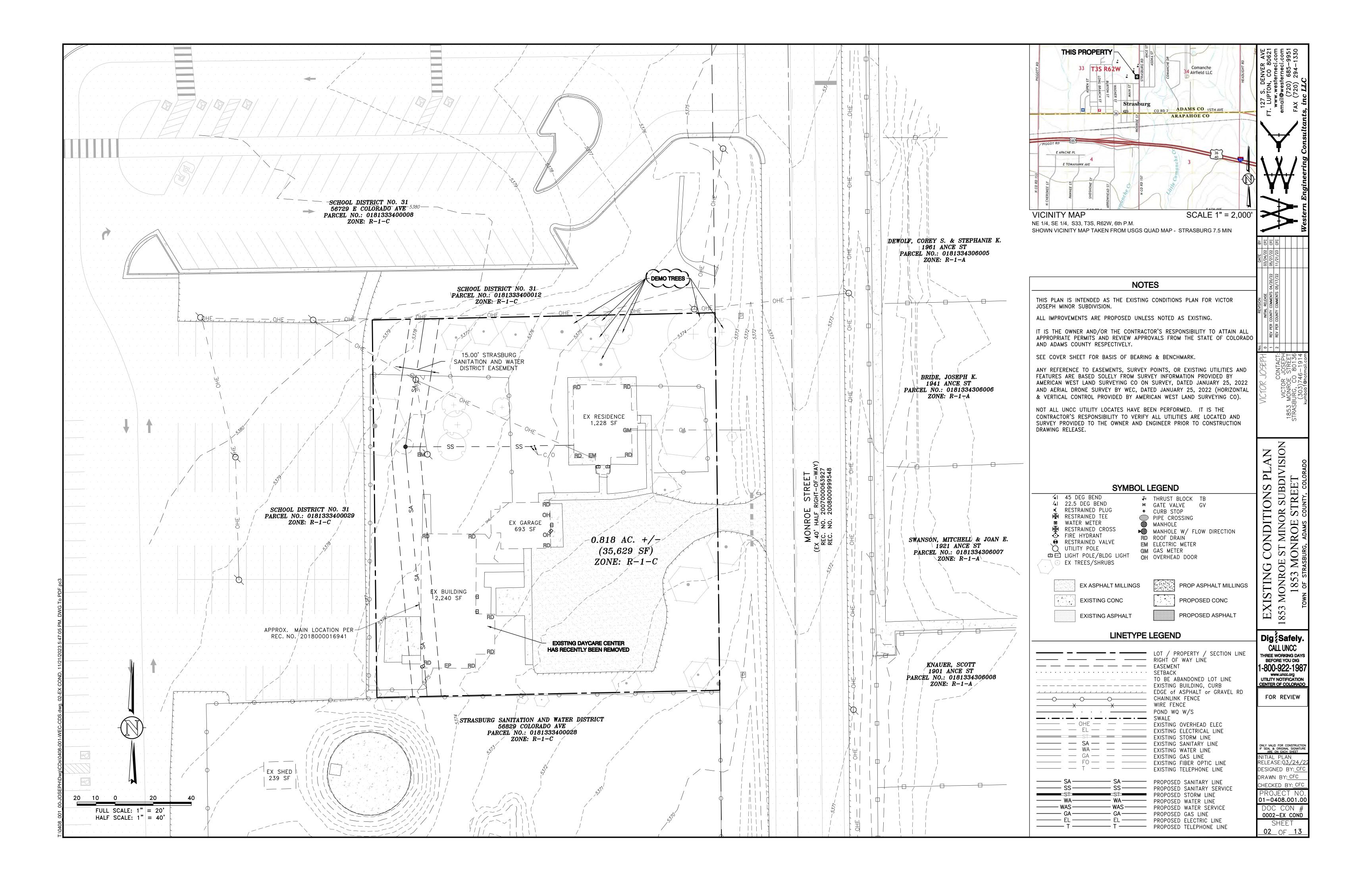
MEMBER UTILITIES.

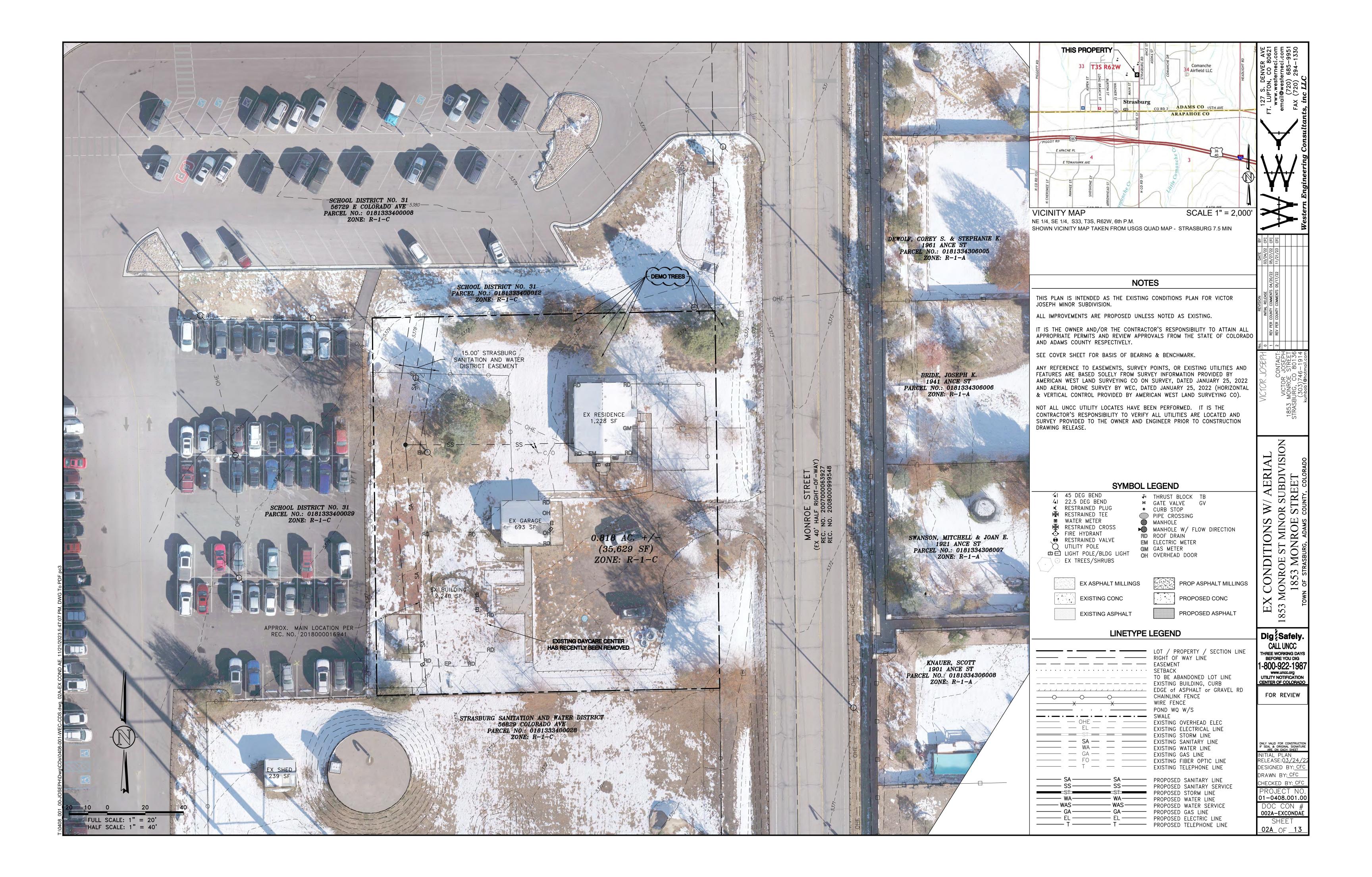


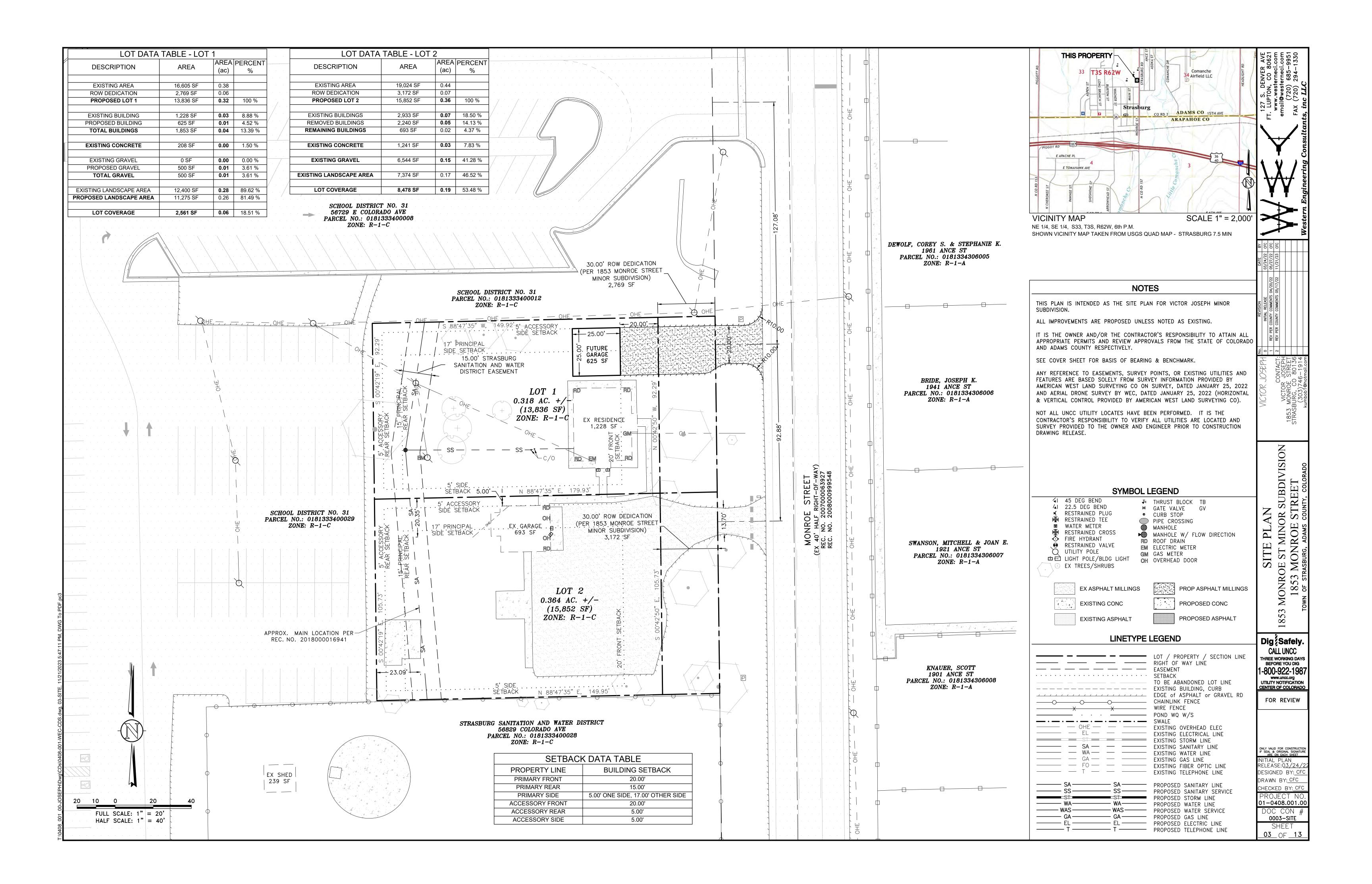
127 S. DENVER AVENUE, FORT LUPTON, CO 80621 Western Engineering Consultants, Inc. LLC 720-685-9951 PH, 720-294-1330 FAX, email@westerneci.com

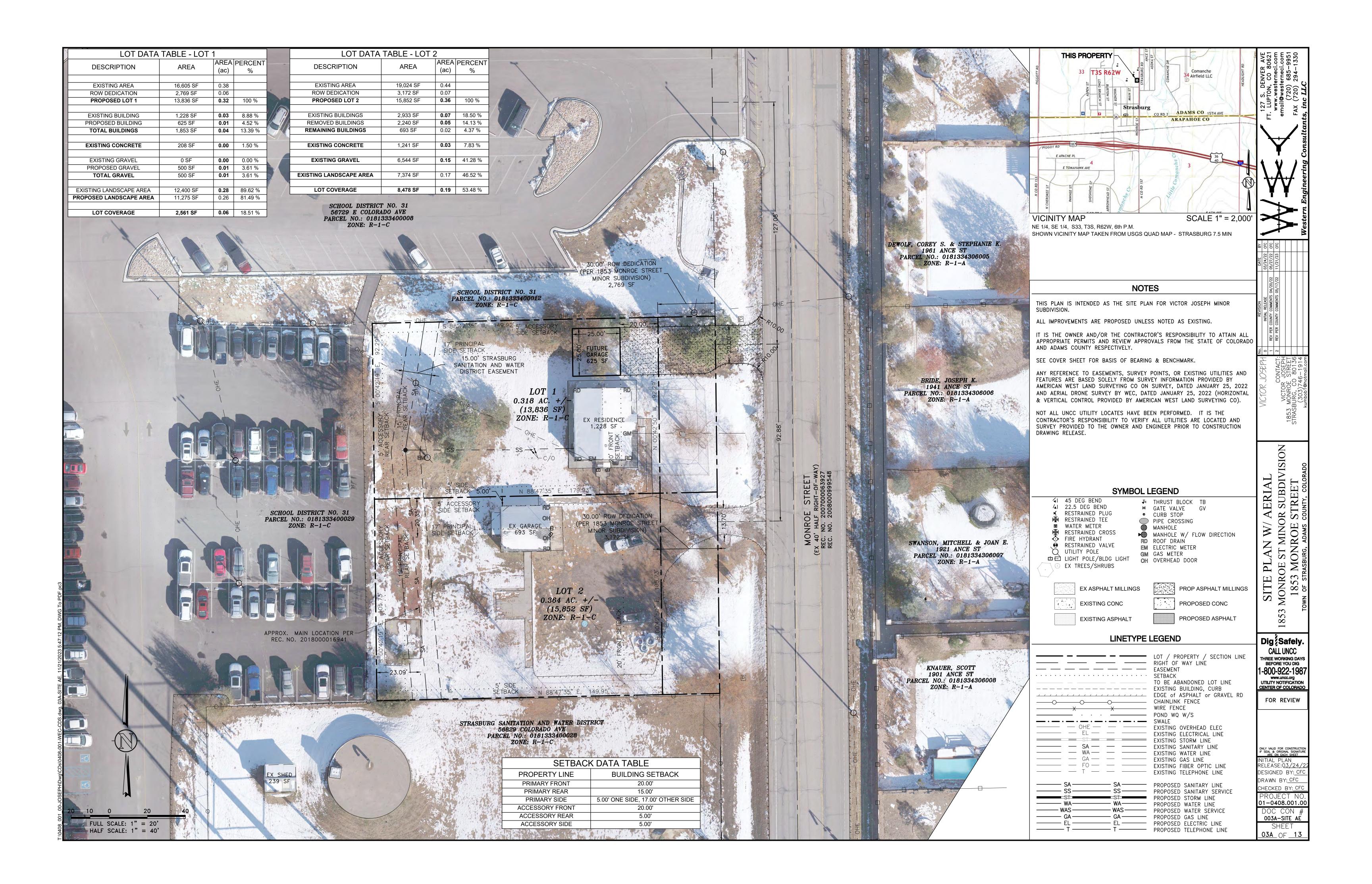
PROJECT NO: 01-0408.001.00 INITIAL PLAN RELEASE: MARCH 24, 2022 1 of 13

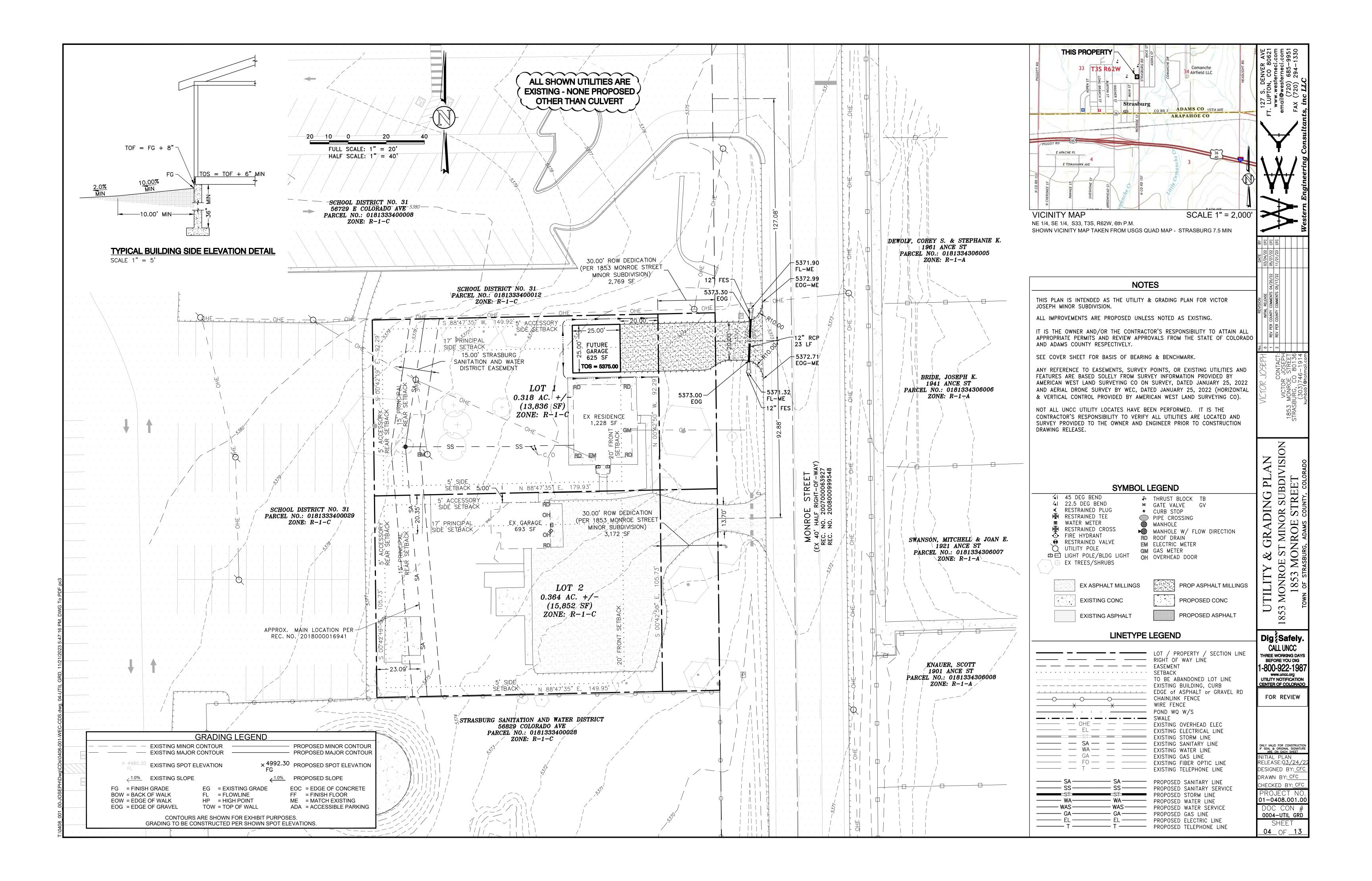
DATE

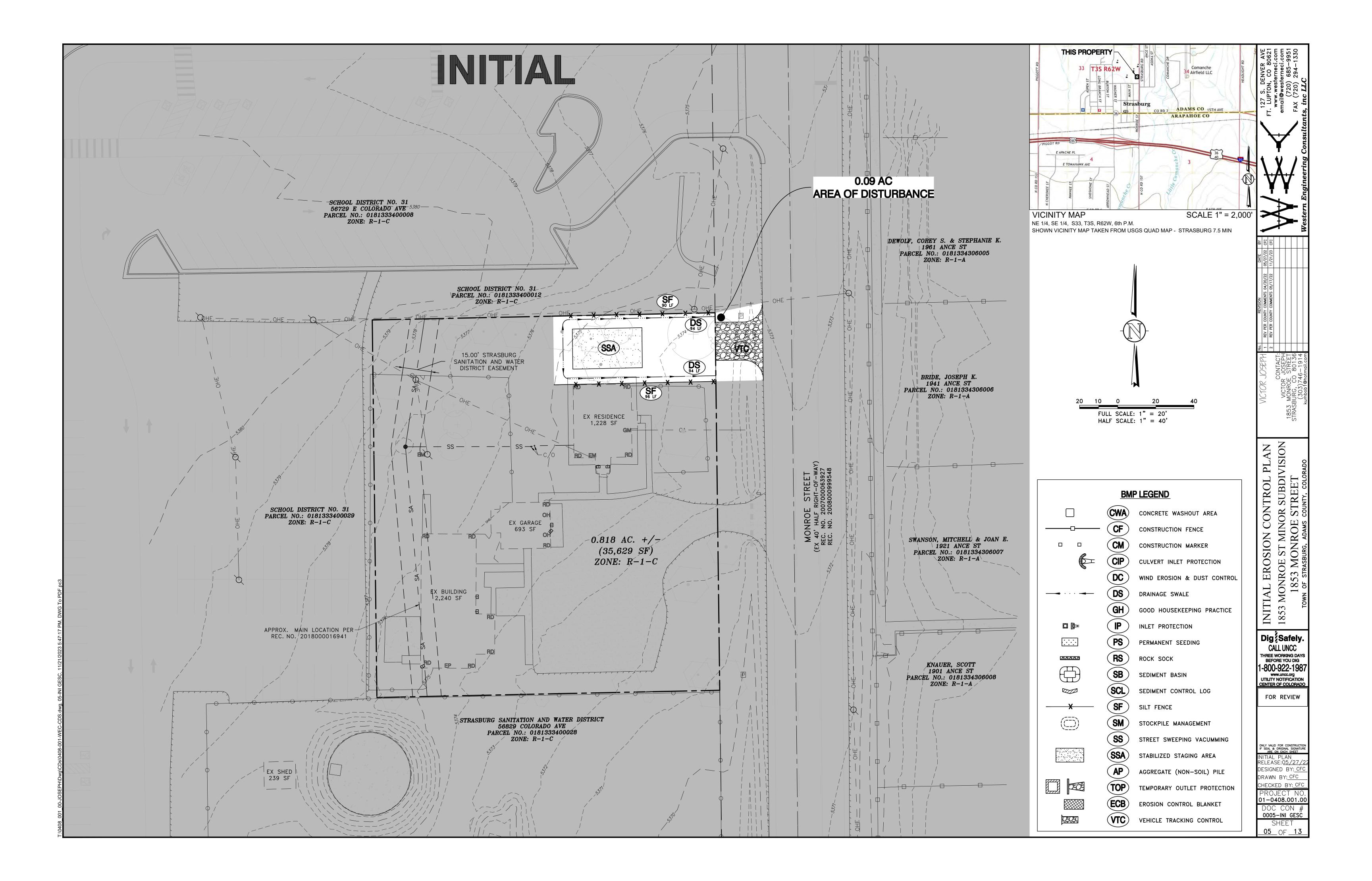


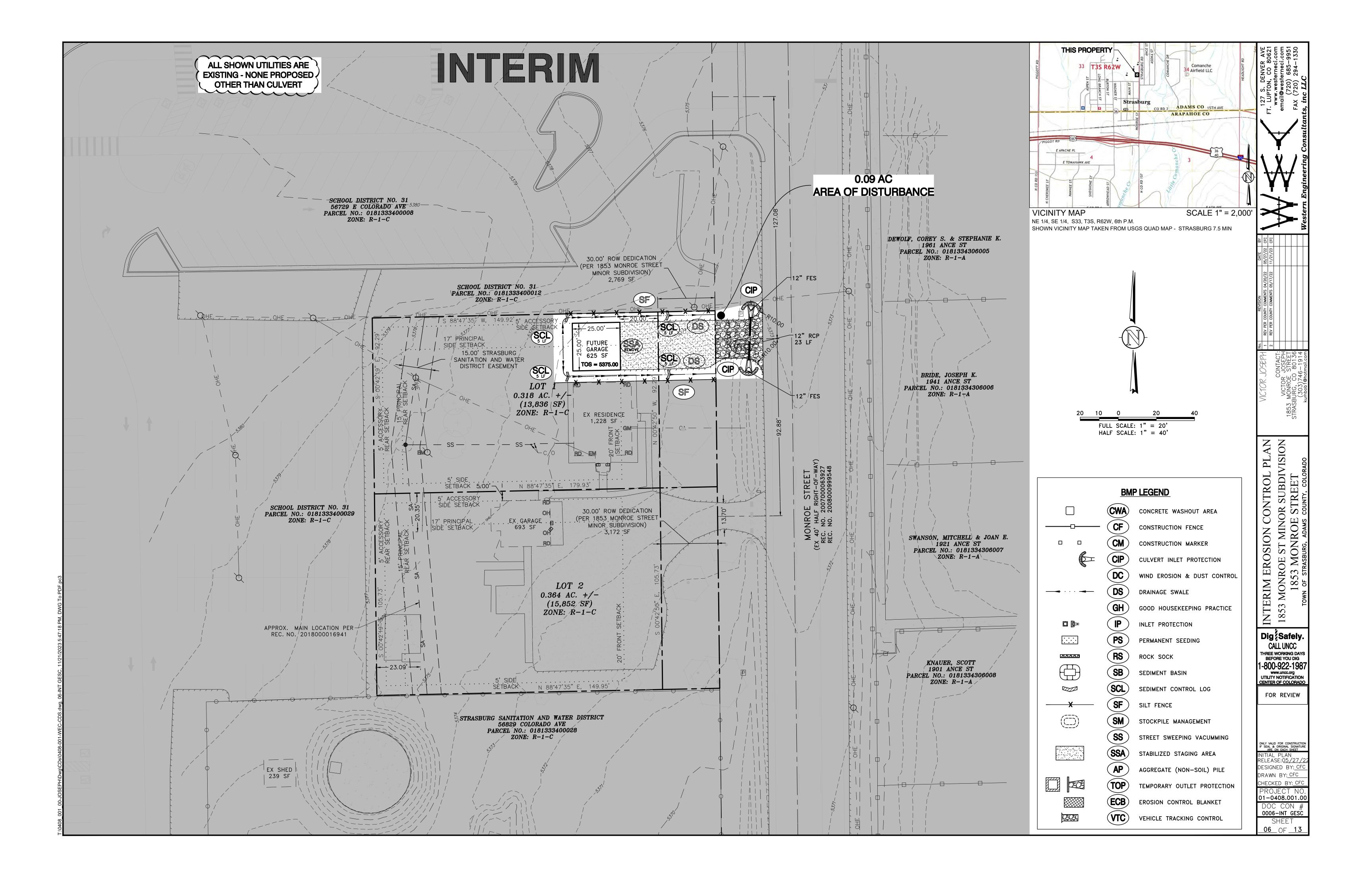


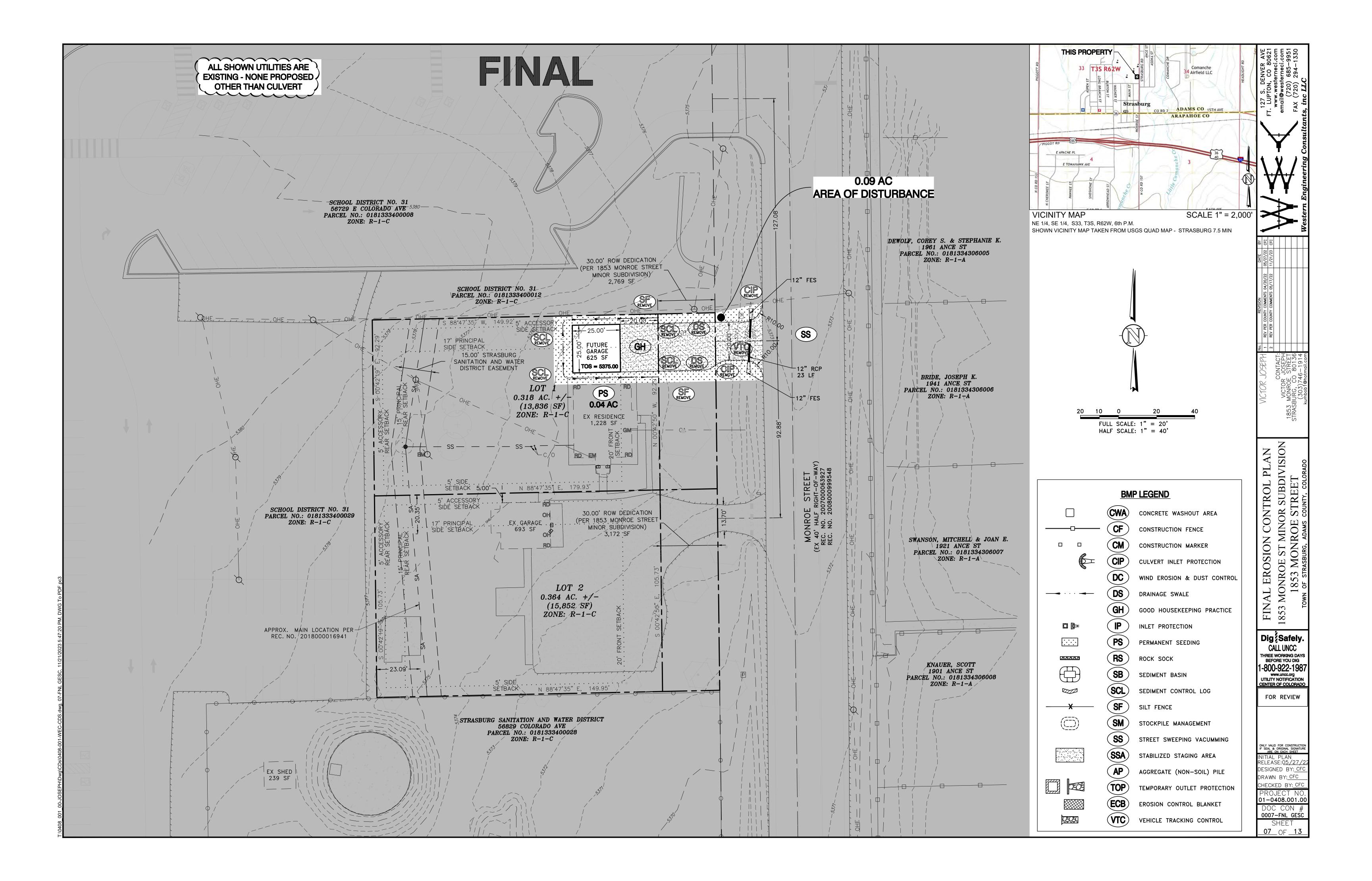












Appropriate Uses

Most construction sites will require a staging area, which should be clearly

Photograph SSA-1. Example of a staging area with a gravel surface to designated in SWMP drawings. The layout prevent mud tracking and reduce runoff. Photo courtesy of Douglas

of the staging area may vary depending on the type of construction activity. Staging areas located in roadways due to space constraints require special measures to avoid materials being washed into storm inlets.

Design and Installation

Stabilized staging areas should be completed prior to other construction activities beginning on the site. Major components of a stabilized staging area include:

- Appropriate space to contain storage and provide for loading/unloading operations, as well as parking
- A stabilized surface, either paved or covered, with 3-inch diameter aggregate or larger.
- Perimeter controls such as silt fence, sediment control logs, or other measures.
- Construction fencing to prevent unauthorized access to construction materials.
- Provisions for Good Housekeeping practices related to materials storage and disposal, as described in the Good Housekeeping BMP Fact Sheet.
- A stabilized construction entrance/exit, as described in the Vehicle Tracking Control BMP Fact Sheet, to accommodate traffic associated with material delivery and waste disposal vehicles.

Over-sizing the stabilized staging area may result in disturbance of existing vegetation in excess of that

required for the project. This increases costs, as well as requirements for long-term stabilization following the construction period. When designing the stabilized staging are minimize the area of disturbance to the extent practical.

***	Stabilized Staging Area				
rea,	Functions				
	Erosion Control	Yes			
	Sediment Control	Moderate			
	Site/Material	Yes			

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

SM-6

Stabilized Staging Area (SSA)

Minimizing Long-Term Stabilization Requirements

- Utilize off-site parking and restrict vehicle access to the site.
- Use construction mats in lieu of rock when staging is provided in an area that will not be disturbed
- Consider use of a bermed contained area for materials and equipment that do not require a stabilized surface.
- Consider phasing of staging areas to avoid disturbance in an area that will not be otherwise

See Detail SSA-1 for a typical stabilized staging area and SSA-2 for a stabilized staging area when materials staging in roadways is required.

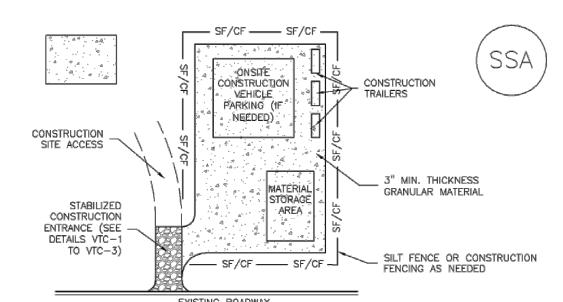
Maintenance and Removal

Maintenance of stabilized staging areas includes maintaining a stable surface cover of gravel, repairing perimeter controls, and following good housekeeping practices.

When construction is complete, debris, unused stockpiles and materials should be recycled or properly disposed. In some cases, this will require disposal of contaminated soil from equipment leaks in an appropriate landfill. Staging areas should then be permanently stabilized with vegetation or other surface cover planned for the development.

SSA-2	Urban Drainage and Flood Control District	November 201
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Stabilized Staging Area (SSA)



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- 2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- 3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- 4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR
- 5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. 6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES
- 1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- 4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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SM-6

SM-6

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

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

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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

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(DETAILS ADAPTED FROM BOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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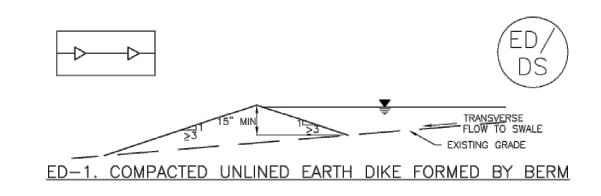
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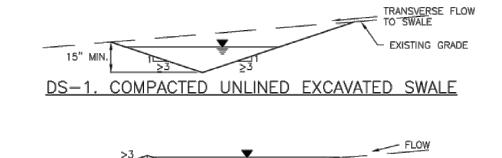
FOR REVIEW

November 2010

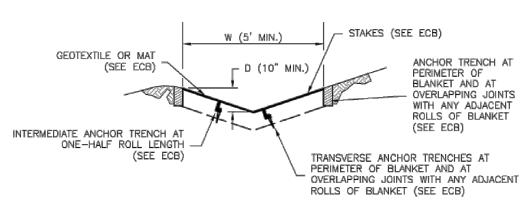
SC-1

Earth Dikes and Drainage Swales (ED/DS)





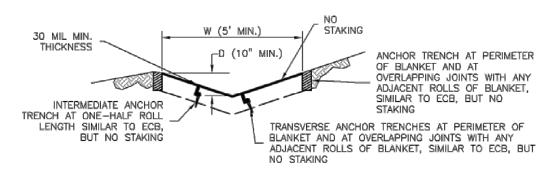




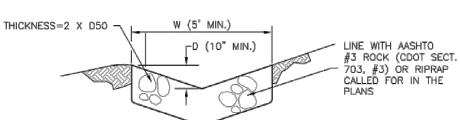
DS-3. ECB LINED SWALE (CUT AND FILL OR BERM)

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Earth Dikes and Drainage Swales (ED/DS)



DS-4. SYNTHETIC LINED SWALE



DS-5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

- 1. SEE SITE PLAN FOR: - LOCATION OF DIVERSION SWALE - TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
 - DEPTH, D, AND WIDTH, W DIMENSIONS.
- FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
 FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.
- 2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2—YEAR FLOW RATE OR 10 CFS.
- 3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY
- 4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.
- 5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.
- 6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS
- 7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

Urban Drainage and Flood Control District

Earth Dikes and Drainage Swales (ED/DS) **EC-10**

EARTH DIKE AND DRAINAGE SWALE MAINTENANCE NOTES

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

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

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

4. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.

5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN

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.

Silt Fence (SF)

Description

SSA-4

A silt fence is a woven geotextile fabric attached to wooden posts and trenched into the ground. It is designed as a sediment barrier to intercept sheet flow runoff from disturbed areas.

Appropriate Uses

A silt fence can be used where runoff is conveyed from a disturbed area as sheet flow. Silt fence is not designed to receive concentrated flow or to be used as a filter fabric. Typical uses include:

- Down slope of a disturbed area to accept sheet flow.
- Along the perimeter of a receiving water such as a stream, pond or wetland.
- At the perimeter of a construction site.

Design and Installation

Silt fence should be installed along the contour of slopes so that it intercepts sheet flow. The maximum recommended tributary drainage area per 100 lineal feet of silt fence, installed along the contour, is approximately 0.25 acres with a disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. Longer and steeper slopes require additional measures. This recommendation only applies to silt fence installed along the contour. Silt fence installed for other uses, such as perimeter control, should be installed in a way that will not produce concentrated flows. For example, a "J-hook" installation may be appropriate to force runoff to pond and evaporate or infiltrate in multiple areas rather than concentrate and cause erosive conditions parallel to the silt fence.

See Detail SF-1 for proper silt fence installation, which involves proper trenching, staking, securing the fabric to the stakes, and backfilling the silt fence. Properly installed silt fence should not be easily pulled out by hand and there should be no gaps between the ground and the fabric.

Silt fence must meet the minimum allowable strength requirements, depth of installation requirement, and other specifications in the design details. Improper installation of silt fence is a common reason for silt fence failure; however. when properly installed and used for the appropriate purposes, it

Silt Fence Functions **Erosion Control** Sediment Control Yes Site/Material Management No

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Photograph SF-1. Silt fence creates a sediment barrier, forcing

sheet flow runoff to evaporate or infiltrate.

can be highly effective.

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ED/DS-4 Urban Storm Drainage Criteria Manual Volume 3

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

Urban Drainage and Flood Control District

NITIAL PLAN

RELEASE:<u>05/27/2</u> DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC 01-0408.001.0

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Maintenance and Removal

Inspection of silt fence includes observing the material for tears or holes and checking for slumping fence and undercut areas bypassing flows. Repair of silt fence typically involves replacing the damaged section with a new section. Sediment accumulated behind silt fence should be removed, as needed to maintain BMP effectiveness, typically before it reaches a depth of 6 inches.

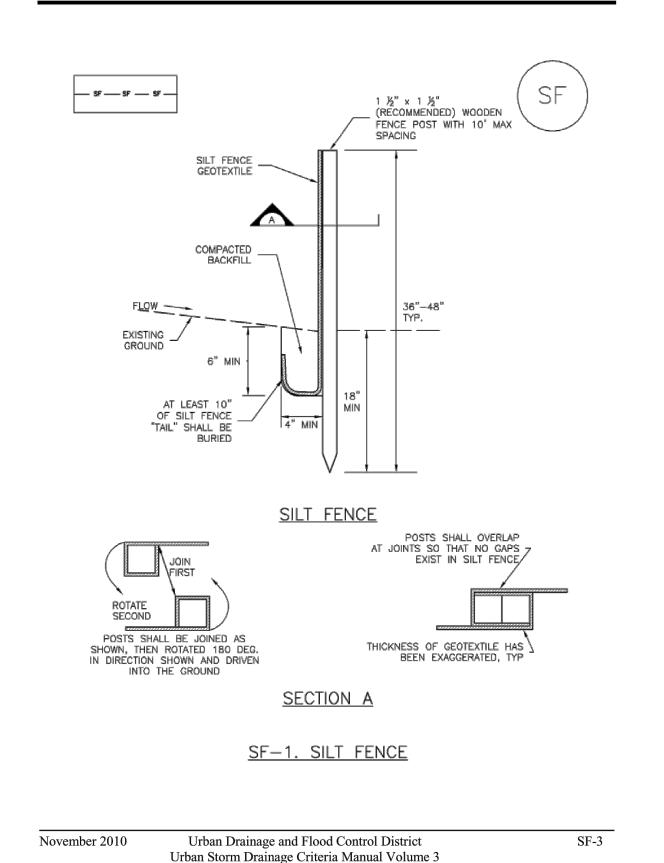
Silt fence may be removed when the upstream area has reached final stabilization.



Photograph SF-2. When silt fence is not installed along the contour, a "J-hook" installation may be appropriate to ensure that the BMP does not create concentrated flow parallel to the silt fence. Photo courtesy of Tom

November 2010

SC-1 Silt Fence (SF)



Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

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

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

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

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES, THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES. 5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC

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

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

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

EROSION, AND PERFORM NECESSARY MAINTENANCE 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE. 4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED

SEDIMENTS IS APPROXIMATELY 6". 5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

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

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION. (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD) NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS, CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

Vehicle Tracking Control (VTC)

SIDEWALK OR OTHER

PAVED SURFACE

INSTALL ROCK FLUSH WITH

COMPACTED SUBGRADE -

OR BELOW TOP OF PAVEMENT

50 FOOT (MIN.)

SM-4

LESS IF CONST

VEHICLES ARE

CONFINED ON BOTH SIDES)

PHYSICALLY

UNLESS OTHERWISE SPECIFIED

NON-WOVEN GEOTEXTILE

VTC-3

SM-4

BY LOCAL JURISDICTION, USE CDOT SECT. #703, AASHTO #3

COARSE AGGREGATE OR 6"

MINUS ROCK

BETWEEN SOIL AND ROCK

UNLESS OTHERWISE SPECIFIED BY LOCAL

3 COARSE AGGREGATE

OR 6" MINUS ROCK

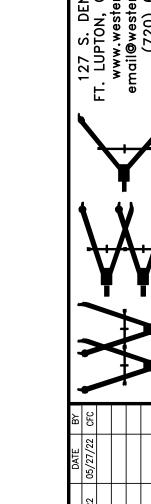
VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

Urban Drainage and Flood Control District

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JURISDICTION, USE COOT SECT. #703, AASHTO

NON-WOVEN GEOTEXTILE FABRIC



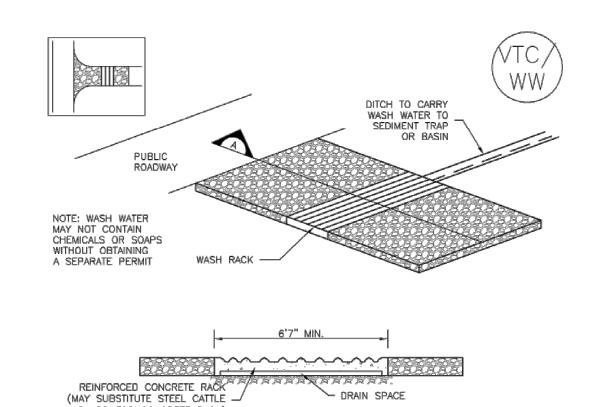
Vehicle Tracking Control (VTC) SM-4

GUARD FOR CONCRETE RACK)

VTC-4

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3



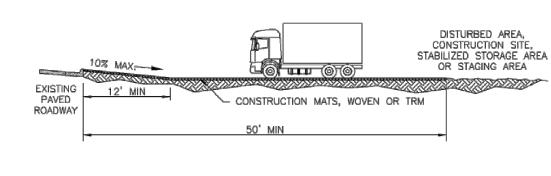
VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

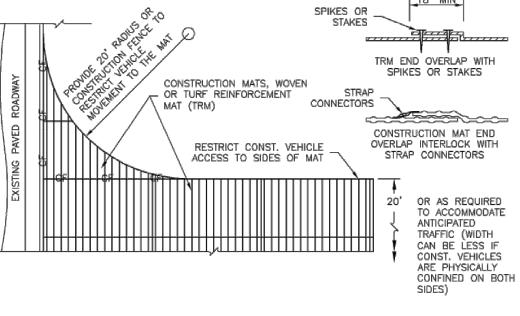
SECTION A

➤ DRAIN SPACE

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

Vehicle Tracking Control (VTC)





VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

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

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS. 4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

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

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

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

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

DOWN STORM SEWER DRAINS.

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

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

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Vehicle Tracking Control (VTC)

Description

Vehicle tracking controls provide stabilized construction site access where vehicles exit the site onto paved public roads. An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicles, reducing tracking onto the paved surface.

Appropriate Uses

Implement a stabilized construction entrance or vehicle tracking control where frequent heavy vehicle traffic exits the construction site onto a paved roadway. An

Photograph VTC-1. A vehicle tracking control pad constructed with properly sized rock reduces off-site sediment tracking.

effective vehicle tracking control is particularly important during the following conditions:

Wet weather periods when mud is easily tracked off site.

During dry weather periods where dust is a concern.

When poorly drained, clayey soils are present on site.

Although wheel washes are not required in designs of vehicle tracking controls, they may be needed at particularly muddy sites.

Design and Installation

Construct the vehicle tracking control on a level surface. Where feasible, grade the tracking control towards the construction site to reduce off-site runoff. Place signage, as needed, to direct construction vehicles to the designated exit through the vehicle tracking control. There are several different types of stabilized construction entrances including:

VTC-1. Aggregate Vehicle Tracking Control. This is a coarse-aggregate surfaced pad underlain by a geotextile. This is the most common vehicle tracking control, and when properly maintained can be effective at removing sediment from vehicle tires.

VTC-2. Vehicle Tracking Control with Construction Mat or Turf Reinforcement Mat. This type of control may be appropriate for site access at very small construction sites with low traffic volume over vegetated areas. Although this application does not typically remove sediment from vehicles, it helps

Vehicle Tracking Control

Functions Erosion Control Moderate Yes Sediment Control Site/Material Management Yes

protect existing vegetation and provides a stabilized entrance.

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVIS
1853 MONROE STREET
TOWN OF STRASBURG, ADAMS COUNTY, COLORADO

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NITIAL PLAN RELEASE:05/27/2 DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC PROJECT N 01-0408.001.0 DOC CON

0009-GESC DTI SHEET <u>09</u> of <u>13</u> Maintenance and Removal

replace aggregate or material used for a

stabilized entrance/exit as needed. If the area becomes clogged and ponds water,

remove and dispose of excess sediment

or replace material with a fresh layer of

With aggregate vehicle tracking controls,

ensure rock and debris from this area do

Remove sediment that is tracked onto the

frequently as needed. Excess sediment

stabilized construction entrance needs

occur. This is typically after the site has been stabilized.

not enter the public right-of-way.

public right of way daily or more

in the roadway indicates that the

Ensure that drainage ditches at the

stabilize areas that may be eroding.

following removal, typically by paving.

entrance/exit area remain clear.

maintenance.

VTC-2

aggregate as necessary.

Inspect the area for degradation and

Photograph VTC-2. A vehicle tracking control pad with wheel wash

November 2010

SC-2

TO THESE FEATURES.

facility. Photo courtesy of Tom Gore.

A stabilized entrance should be removed only when there is no longer the potential for vehicle tracking to

When wheel wash equipment is used, be sure that the wash water is discharged to a sediment trap prior to

discharge. Also inspect channels conveying the water from the wash area to the sediment trap and

When a construction entrance/exit is removed, excess sediment from the aggregate should be removed

and disposed of appropriately. The entrance should be promptly stabilized with a permanent surface

Urban Drainage and Flood Control District

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VTC-3. Stabilized Construction Entrance/Exit with Wheel Wash. This is an aggregate pad, similar

to VTC-1, but includes equipment for tire washing. The wheel wash equipment may be as simple as

hand-held power washing equipment to more advance proprietary systems. When a wheel wash is

Vehicle tracking controls are sometimes installed in combination with a sediment trap to treat runoff.

provided, it is important to direct wash water to a sediment trap prior to discharge from the site.

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

-DIMENSIONS OF OUTLET PROTECTION.

EROSION, AND PERFORM NECESSARY MAINTENANCE

DOCUMENTED THOROUGHLY.

November 2010

SEE PLAN VIEW FOR
 -LOCATION OF OUTLET PROTECTION.

TOP-3

TEMPORARY OUTLET PROTECTION INSPECTION AND MAINTENANCE NOTES

2. DETAIL IS INTENDED FOR PIPES WITH SLOPE \le 10%, ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.

3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS

POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

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

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

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

 $\underline{\text{NOTE}};$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

Description

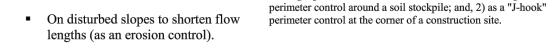
straw, coconut fiber, or compost. The most common type of sediment control log has straw filling and is often referred to as a "straw wattle." All sediment control logs are used as a sediment barrier to intercept sheet flow runoff from disturbed areas.

Sediment Control Log (SCL)

Appropriate Uses

Sediment control logs can be used in the following applications to trap sediment:

- As perimeter control for stockpiles and the site.
- As part of inlet protection designs.
- As check dams in small drainage ditches. (Sediment control logs are not intended for use in channels with high flow velocities.)



As part of multi-layered perimeter control along a receiving water such as a stream, pond or wetland.

Sediment control logs work well in combination with other layers of erosion and sediment controls.

Design and Installation

Sediment control logs should be installed along the contour to avoid concentrating flows. The maximum allowable tributary drainage area per 100 lineal feet of sediment control log, installed along the contour, is approximately 0.25 acres with a disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. Longer and steeper slopes require additional measures. This recommendation only applies to sediment control logs installed along the contour. When installed for other uses, such as perimeter control, it should be installed in a way that will not

produce concentrated flows. For example, a "J-hook" installation may be appropriate to force runoff to pond and evaporate or infiltrate in multiple areas rather than concentrate and cause erosive conditions parallel to the BMP.

Sediment Control Log Erosion Control Moderate Sediment Control Yes Site/Material Management No

SC-2

Photographs SCL-1 and SCL-2. Sediment control logs used as 1) a

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SC-2

Sediment Control Log (SCL)

Although sediment control logs initially allow runoff to flow through the BMP, they can quickly become a barrier and should be installed as if they are impermeable.

Design details and notes for sediment control logs are provided in the following details. Sediment logs must be properly installed per the detail to prevent undercutting, bypassing and displacement. When installed on slopes, sediment control logs should be installed along the contours (i.e., perpendicular to flow).

Improper installation can lead to poor performance. Be sure that sediment control logs are properly trenched (if lighter than 8 lb/foot), anchored and tightly jointed.

Maintenance and Removal

Be aware that sediment control logs will eventually degrade. Remove accumulated sediment before the depth is one-half the height of the sediment log and repair damage to the sediment log, typically by replacing the damaged section.

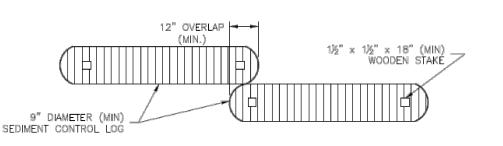
Once the upstream area is stabilized, remove and properly dispose of the logs. Areas disturbed beneath the logs may need to be seeded and mulched. Sediment control logs that are biodegradable may occasionally be left in place (e.g., when logs are used in conjunction with erosion control blankets as permanent slope breaks). However, removal of sediment control logs after final stabilization is typically appropriate when used in perimeter control, inlet protection and check dam applications. Compost from compost sediment control logs may be spread over the area and seeded as long as this does not cover newly established vegetation.

Sediment Control Log (SCL)

_ 1½" × 1½" × 18" (MIN) WOODEN STAKE 9" DIAMETER (MIN) SEDIMENT CONTROL LOG NOTES: 1.LARGER DIAMETER SEDIMENT CONTROL BE EMBEDDED DEEPER. 2.PLACE LOG AGAINST SIDEWALK OR BACK O

> TRENCHED SEDIMENT CONTROL LOG — CENTER STAKE IN CONTROL LOG COMPACTED EXCAVATED SEDIMENT CONTROL LOG

TRENCHED SEDIMENT CONTROL LOG



SCL-1. TRENCHED SEDIMENT CONTROL LOG

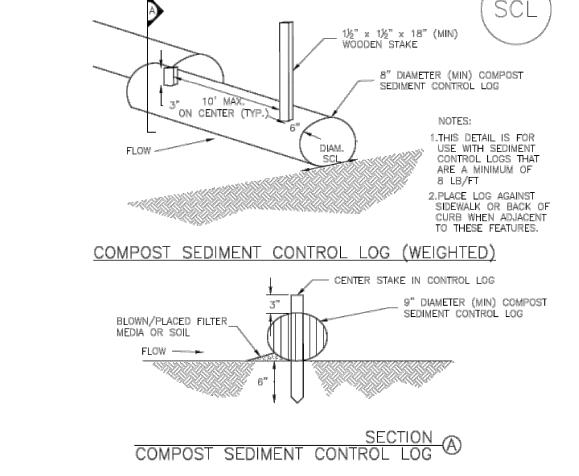
LOG JOINTS

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Sediment Control Log (SCL)

Urban Drainage and Flood Control District

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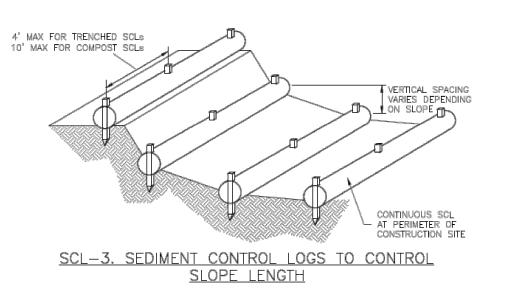
12" OVERLAP ---1½" x 1½" x 18" (MIN) WOODEN STAKE 9" DIAMETER (MIN SEDIMENT CONTROL LOG LOG JOINTS

SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

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Sediment Control Log (SCL)

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SC-2

SCL-2

Sediment Control Log (SCL)

November 2015

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

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4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING, COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND, 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED, IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, 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

Urban Drainage and Flood Control District SCL-6

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EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVISIC
1853 MONROE STREET
TOWN OF STRASBURG, ADAMS COUNTY, COLORADO

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FOR REVIEW

NITIAL PLAN RELEASE:<u>05/27/2</u> DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC ROJECT N 01-0408.001.0 OC CON 0010-GESC DTI

SHEET <u> 10 of 13 </u>



Photograph IP-1. Inlet protection for a curb opening inlet.

Appropriate Uses

Install protection at storm sewer inlets that are operable during construction.

Consider the potential for tracked-out sediment or temporary stockpile areas to contribute sediment to inlets when determining which inlets must be protected. This may include inlets in the general proximity of the construction area, not limited to downgradient inlets. Inlet protection is <u>not</u> a stand-alone BMP and should be used in conjunction with other upgradient BMPs.

Design and Installation

To function effectively, inlet protection measures must be installed to ensure that flows do not bypass the inlet protection and enter the storm drain without treatment. However, designs must also enable the inlet to function without completely blocking flows into the inlet in a manner that causes localized flooding. When selecting the type of inlet protection, consider factors such as type of inlet (e.g., curb or area, sump or on-grade conditions), traffic, anticipated flows, ability to secure the BMP properly, safety and other site-specific conditions. For example, block and rock socks will be better suited to a curb and gutter along a roadway, as opposed to silt fence or sediment control logs, which cannot be properly secured in a curb and gutter setting, but are effective area inlet protection measures.

Several inlet protection designs are provided in the Design Details. Additionally, a variety of proprietary products are available for inlet protection that may be approved for use by local governments. If proprietary products are used, design details and installation procedures from the manufacturer must be followed. Regardless of the type of inlet protection selected, inlet protection is most effective when combined with other BMPs such as curb socks and check dams. Inlet protection is often the last barrier before runoff enters the storm sewer or receiving water.

Design details with notes are provided for these forms of inlet protection:

IP-1. Block and Rock Sock Inlet Protection for Sump or On-grade

ediment Control IP-2. Curb (Rock) Socks Upstream of Inlet Protection, On-grade Site/Material Management No

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IP-3. Rock Sock Inlet Protection for Sump/Area Inlet

IP-4. Silt Fence Inlet Protection for Sump/Area Inlet

IP-5. Over-excavation Inlet Protection

IP-6. Straw Bale Inlet Protection for Sump/Area Inlet

CIP-1. Culvert Inlet Protection

Propriety inlet protection devices should be installed in accordance with manufacturer specifications. More information is provided below on selecting inlet protection for sump and on-grade locations.

Inlets Located in a Sump

When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For curb inlets, the maximum height of the protective barrier should be lower than the top of the curb opening to allow overflow into the inlet during larger storms without excessive localized flooding. If the inlet protection height is greater than the curb elevation, particularly if the filter becomes clogged with sediment, runoff will not enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.

Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on paved surfaces), sediment control logs/straw wattles embedded in the adjacent soil and stacked around the area inlet (on pervious surfaces), over-excavation around the inlet, and proprietary products providing equivalent functions.

Inlets Located on a Slope

For curb and gutter inlets on paved sloping streets, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlets located along unpaved roads, also see the Check Dam Fact Sheet.

Maintenance and Removal

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation upgradient of the inlet protection.

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Inlet Protection (IP)

SC-6

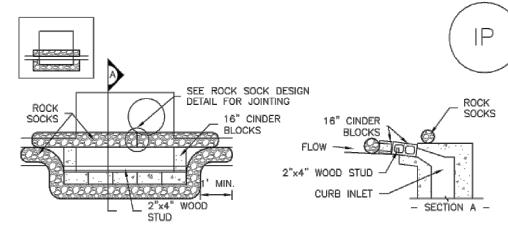
SC-6

IP-7

- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
- Propriety inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.

Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.

SC-6 Inlet Protection (IP)



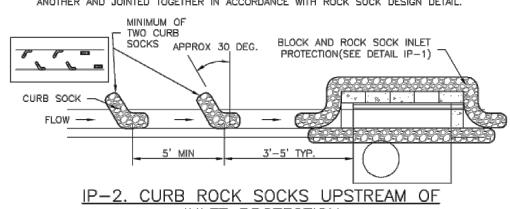
IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



INLET PROTECTION CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

- 1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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Inlet Protection (IP)

ROCK SOCK

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No

Yes

Inlet Protection

(various forms)

Erosion Control

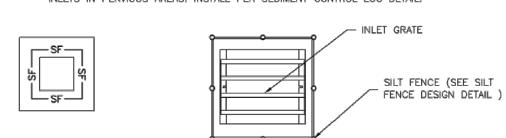
INLET GRATE SEE ROCK SOCK DETAIL

IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS, INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

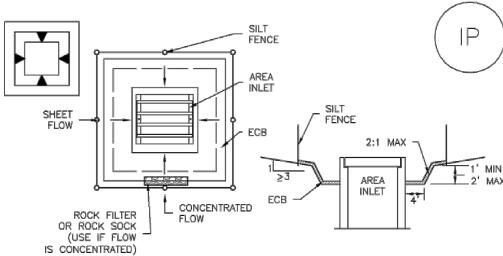
- 1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR

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SC-6

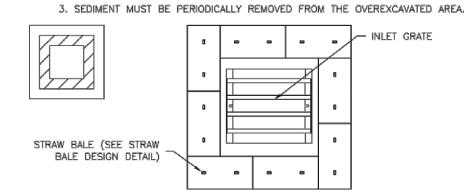
Inlet Protection (IP)



IP-5. OVEREXCAVATION INLET PROTECTION OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY

2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.



IP-6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES 1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS. 2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

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Inlet Protection (IP)

D (12" MIN.) -CUI VERT END SECTION BACKFILL UPSTREAM - ROCK SOCK

Urban Drainage and Flood Control District

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CULVERT INLET PROTECTION SECTION A PLAN [10" MIN. KEY IN ROCK SOCK O" ON BEDROCK, PAVEMENT OR RIPRAP KEY IN ROCK SOCK 2" ON EARTH

SECTION B CIP-1. CULVERT INLET PROTECTION CULVERT INLET PROTECTION INSTALLATION NOTES

-LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK. 5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED

AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD) NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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SC-6

Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION OF INLET PROTECTION. -TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST,

3. 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.

INLET PROTECTION MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF 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 1/4 OF THE HEIGHT FOR

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

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. UDFCD 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

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.

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

IN THE MANUFACTURER'S DETAILS.

August 2013

CHECKED BY: CFC 01 - 0408.001.0

NITIAL PLAN

RELEASE:<u>05/27/2</u>

DESIGNED BY: CFC

DRAWN BY: CFC

OC CON 0011-GESC DT SHEET <u> 11</u> of <u>13</u>

August 2013

Description

Implement construction site good housekeeping practices to prevent pollution associated with solid, liquid and hazardous construction-related materials and wastes. Stormwater Management Plans (SWMPs) should clearly specify BMPs including these good housekeeping practices:

- Provide for waste management.
- Establish proper building material staging areas.
- Designate paint and concrete washout areas.
- Establish proper equipment/vehicle fueling and maintenance practices.
- Control equipment/vehicle washing and allowable nonstormwater discharges.
- Develop a spill prevention and response plan.

Acknowledgement: This Fact Sheet is based directly on EPA guidance provided in Developing Your Stormwater Pollution Prevent Plan (EPA 2007).

Appropriate Uses

Good housekeeping practices are necessary at all construction sites.

Design and Installation

The following principles and actions should be addressed in SWMPs:

• Provide for Waste Management. Implement management procedures and practices to prevent or reduce the exposure and transport of pollutants in stormwater from solid, liquid and sanitary wastes that will be generated at the site. Practices such as trash disposal, recycling, proper material handling, and cleanup measures can reduce the potential for stormwater runoff to pick up construction site wastes and discharge them to surface waters. Implement a comprehensive set of waste-management practices for hazardous or toxic materials, such as paints, solvents, petroleum products, pesticides, wood preservatives, acids, roofing tar, and other materials. Practices should include storage, handling, inventory, and cleanup procedures, in case of spills. Specific practices that should be considered include:

Solid or Construction Waste

o Designate trash and bulk waste-collection areas on-

Good Housekeepi	ng
Functions	
Erosion Control	No
Sediment Control	No
Site/Material Management	Yes

Photographs GH-1 and GH-2. Proper materials

storage and secondary containment for fuel tanks are important good housekeeping practices. Photos

courtesy of CDOT and City of Aurora.

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Good Housekeeping Practices (GH) MM-3

- o Recycle materials whenever possible (e.g., paper, wood, concrete, oil).
- o Segregate and provide proper disposal options for hazardous material wastes.
- o Clean up litter and debris from the construction site daily.
- o Locate waste-collection areas away from streets, gutters, watercourses, and storm drains. Wastecollection areas (dumpsters, and such) are often best located near construction site entrances to minimize traffic on disturbed soils. Consider secondary containment around waste collection areas to minimize the likelihood of contaminated discharges.
- o Empty waste containers before they are full and overflowing.

Sanitary and Septic Waste

- o Provide convenient, well-maintained, and properly located toilet facilities on-site.
- o Locate toilet facilities away from storm drain inlets and waterways to prevent accidental spills and contamination of stormwater.
- o Maintain clean restroom facilities and empty portable toilets regularly.
- o Where possible, provide secondary containment pans under portable toilets.
- o Provide tie-downs or stake-downs for portable toilets.
- o Educate employees, subcontractors, and suppliers on locations of facilities.
- o Treat or dispose of sanitary and septic waste in accordance with state or local regulations. Do not discharge or bury wastewater at the construction site.
- o Inspect facilities for leaks. If found, repair or replace immediately.
- o Special care is necessary during maintenance (pump out) to ensure that waste and/or biocide are not spilled on the ground.

Hazardous Materials and Wastes

- o Develop and implement employee and subcontractor education, as needed, on hazardous and toxic waste handling, storage, disposal, and cleanup.
- o Designate hazardous waste-collection areas on-site.
- o Place all hazardous and toxic material wastes in secondary containment.



Photograph GH-3. Locate portable toilet facilities on level surfaces away from waterways and storm drains. Photo courtesy of WWE.

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November 2010

Good Housekeeping Practices (GH) MM-3

- o Hazardous waste containers should be inspected to ensure that all containers are labeled properly and that no leaks are present.
- **Establish Proper Building Material Handling and Staging Areas.** The SWMP should include comprehensive handling and management procedures for building materials, especially those that are hazardous or toxic. Paints, solvents, pesticides, fuels and oils, other hazardous materials or building materials that have the potential to contaminate stormwater should be stored indoors or under cover whenever possible or in areas with secondary containment. Secondary containment measures prevent a spill from spreading across the site and may include dikes, berms, curbing, or other containment methods. Secondary containment techniques should also ensure the protection of groundwater. Designate staging areas for activities such as fueling vehicles, mixing paints, plaster, mortar, and other potential pollutants. Designated staging areas enable easier monitoring of the use of materials and clean up of spills. Training employees and subcontractors is essential to the success of this pollution prevention principle. Consider the following specific materials handling and staging
- o Train employees and subcontractors in proper handling and storage practices.
- o Clearly designate site areas for staging and storage with signs and on construction drawings. Staging areas should be located in areas central to the construction site. Segment the staging area into sub-areas designated for vehicles, equipment, or stockpiles. Construction entrances and exits should be clearly marked so that delivery vehicles enter/exit through stabilized areas with vehicle tracking controls (See Vehicle Tracking Control Fact Sheet).
- o Provide storage in accordance with Spill Protection, Control and Countermeasures (SPCC) requirements and plans and provide cover and impermeable perimeter control, as necessary, for hazardous materials and contaminated soils that must be stored on site.
- o Ensure that storage containers are regularly inspected for leaks, corrosion, support or foundation failure, or other signs of deterioration and tested for soundness.
- o Reuse and recycle construction materials when possible.
- Designate Concrete Washout Areas. Concrete contractors should be encouraged to use the washout facilities at their own plants or dispatch facilities when feasible; however, concrete washout commonly occurs on construction sites. If it is necessary to provide for concrete washout areas onsite, designate specific washout areas and design facilities to handle anticipated washout water. Washout areas should also be provided for paint and stucco operations. Because washout areas can be a source of pollutants from leaks or spills, care must be taken with regard to their placement and proper use. See the Concrete Washout Area Fact Sheet for detailed guidance.

Both self-constructed and prefabricated washout containers can fill up quickly when concrete, paint, and stucco work are occurring on large portions of the site. Be sure to check for evidence that contractors are using the washout areas and not dumping materials onto the ground or into drainage facilities. If the washout areas are not being used regularly, consider posting additional signage, relocating the facilities to more convenient locations, or providing training to workers and contractors.

When concrete, paint, or stucco is part of the construction process, consider these practices which will help prevent contamination of stormwater. Include the locations of these areas and the maintenance and inspection procedures in the SWMP.

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MM-3

Good Housekeeping Practices (GH)

- o Do not washout concrete trucks or equipment into storm drains, streets, gutters, uncontained areas, or streams. Only use designated washout areas.
- o Establish washout areas and advertise their locations with signs. Ensure that signage remains in
- o Provide adequate containment for the amount of wash water that will be used.
- o Inspect washout structures daily to detect leaks or tears and to identify when materials need to be
- o Dispose of materials properly. The preferred method is to allow the water to evaporate and to recycle the hardened concrete. Full service companies may provide dewatering services and should dispose of wastewater properly. Concrete wash water can be highly polluted. It should not be discharged to any surface water, storm sewer system, or allowed to infiltrate into the ground in the vicinity of waterbodies. Washwater should not be discharged to a sanitary sewer system without first receiving written permission from the system operator.
- Establish Proper Equipment/Vehicle Fueling and Maintenance Practices. Create a clearly designated on-site fueling and maintenance area that is clean and dry. The on-site fueling area should have a spill kit, and staff should know how to use it. If possible, conduct vehicle fueling and maintenance activities in a covered area. Consider the following practices to help prevent the discharge of pollutants to stormwater from equipment/vehicle fueling and maintenance. Include the locations of designated fueling and maintenance areas and inspection and maintenance procedures in the SWMP.
- o Train employees and subcontractors in proper fueling procedures (stay with vehicles during fueling, proper use of pumps, emergency shutoff valves, etc.).
- o Inspect on-site vehicles and equipment regularly for leaks, equipment damage, and other service
- o Clearly designate vehicle/equipment service areas away from drainage facilities and watercourses to prevent stormwater run-on and runoff.
- Use drip pans, drip cloths, or absorbent pads when replacing spent fluids.
- o Collect all spent fluids, store in appropriate labeled containers in the proper storage areas, and recycle fluids whenever possible.
- Control Equipment/Vehicle Washing and Allowable Non-Stormwater Discharges. Implement practices to prevent contamination of surface and groundwater from equipment and vehicle wash water. Representative practices include:
- o Educate employees and subcontractors on proper washing procedures.
- o Use off-site washing facilities, when available.
- o Clearly mark the washing areas and inform workers that all washing must occur in this area.
- o Contain wash water and treat it using BMPs. Infiltrate washwater when possible, but maintain separation from drainage paths and waterbodies.

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Good Housekeeping Practices (GH)

MM-3

- o Use high-pressure water spray at vehicle washing facilities without detergents. Water alone can remove most dirt adequately.
- o Do not conduct other activities, such as vehicle repairs, in the wash area.
- o Include the location of the washing facilities and the inspection and maintenance procedures in
- Develop a Spill Prevention and Response Plan. Spill prevention and response procedures must be identified in the SWMP. Representative procedures include identifying ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and response. The plan should also specify material handling procedures and storage requirements and ensure that clear and concise spill cleanup procedures are provided and posted for areas in which spills may potentially occur. When developing a spill prevention plan, include the following:
- o Note the locations of chemical storage areas, storm drains, tributary drainage areas, surface waterbodies on or near the site, and measures to stop spills from leaving the site.
- o Provide proper handling and safety procedures for each type of waste. Keep Material Safety Data Sheets (MSDSs) for chemical used on site with the SWMP.
- o Establish an education program for employees and subcontractors on the potential hazards to humans and the environment from spills and leaks.
- o Specify how to notify appropriate authorities, such as police and fire departments, hospitals, or municipal sewage treatment facilities to request assistance. Emergency procedures and contact numbers should be provided in the SWMP and posted at storage locations.
- o Describe the procedures, equipment and materials for immediate cleanup of spills and proper
- o Identify personnel responsible for implementing the plan in the event of a spill. Update the spill prevention plan and clean up materials as changes occur to the types of chemicals stored and used at the facility.

MM-3 Good Housekeeping Practices (GH)

Spill Prevention, Control, and Countermeasure (SPCC) Plan

- Construction sites may be subject to 40 CFR Part 112 regulations that require the preparation and implementation of a SPCC Plan to prevent oil spills from aboveground and underground storage tanks. The facility is subject to this rule if it is a non-transportation-related facility that:
- Has a total storage capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons.
- Could reasonably be expected to discharge oil in quantities that may be harmful to navigable waters of the United States and adjoining shorelines. Furthermore, if the facility is subject to 40 CFR Part 112, the SWMP should reference the SPCC Plan.

To find out more about SPCC Plans, see EPA's website on SPPC at www.epa.gov/oilspill/spcc.htm.

Reporting Oil Spills

In the event of an oil spill, contact the National Response Center toll free at 1-800-424-8802 for assistance, or for more details, visit their website: www.nrc.uscg.mil.

Maintenance and Removal

Effective implementation of good housekeeping practices is dependent on clear designation of personnel responsible for supervising and implementing good housekeeping programs, such as site cleanup and disposal of trash and debris, hazardous material management and disposal, vehicle and equipment maintenance, and other practices. Emergency response "drills" may aid in emergency preparedness.

Checklists may be helpful in good housekeeping efforts.

Staging and storage areas require permanent stabilization when the areas are no longer being used for construction-related activities.

Construction-related materials, debris and waste must be removed from the construction site once construction is complete.

Design Details

See the following Fact Sheets for related Design Details:

MM-1 Concrete Washout Area MM-2 Stockpile Management

SM-4 Vehicle Tracking Control

Design details are not necessary for other good housekeeping practices; however, be sure to designate where specific practices will occur on the appropriate construction drawings.

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Street Sweeping and Vacuuming (SS)

Description Street sweeping and vacuuming remove sediment that has been tracked onto roadways to reduce sediment transport into storm drain systems or a surface

offsite onto paved roadways.

Appropriate Uses Use this practice at construction sites where vehicles may track sediment

Design and Installation

Photograph SS-1. A street sweeper removes sediment and potential pollutants along the curb line at a construction site. Photo courtesy of Street sweeping or vacuuming should be

conducted when there is noticeable sediment accumulation on roadways adjacent to the construction site. Typically, this will be concentrated at the entrance/exit to the construction site. Well-maintained stabilized construction entrances, vehicle tracking controls and tire wash facilities can help reduce the necessary frequency of street sweeping and

On smaller construction sites, street sweeping can be conducted manually using a shovel and broom. Never wash accumulated sediment on roadways into storm drains.

Maintenance and Removal

- Inspect paved roads around the perimeter of the construction site on a daily basis and more frequently, as needed. Remove accumulated sediment, as needed.
- Following street sweeping, check inlet protection that may have been displaced during street
- Inspect area to be swept for materials that may be hazardous prior to beginning sweeping operations.

Street Sweeping/ Vacuum	ning
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	Yes

Urban Drainage and Flood Control District

SM-7

EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVIS
1853 MONROE STREET

TOWN OF STRASBIRG ADAMS COUNTY COLORADO

Dig Safely. CALL UNCC THREE WORKING DAYS **BEFORE YOU DIG** 1-800-922-1987 www.uncc.org UTILITY NOTIFICĂTION **CENTER OF COLORADO**

FOR REVIEW

NITIAL PLAN RELEASE:05/27/ DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC ROJECT N 01-0408.001.0 DOC CON 0012-GESC DTI

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Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically 30 days or longer),

Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of proactive stabilization measures should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of

Typically, local governments have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

inactivity, temporary seeding and mulching can provide effective erosion control. Permanent seeding

should be used on finished areas that have not been otherwise stabilized.

Design and Installation

Effective seeding requires proper seedbed preparation, selection of an appropriate seed mixture, use of appropriate seeding equipment to ensure proper coverage and density, and protection with mulch or fabric until plants are established.

The USDCM Volume 2 Revegetation Chapter contains detailed seed mix, soil preparations, and seeding and mulching recommendations that may be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil, resulting in poor quality subsoils at the ground surface that have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other

Temporary and Permanent Seeding			
Functions			
Erosion Control	Yes		
Sediment Control	No		
Site/Material Management	No		

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Temporary and Permanent Seeding (TS/PS)

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (Chrysothamnus nauseosus), fourwing saltbush (Atriplex canescens) and skunkbrush sumac (Rhus trilobata) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (Prunus americana), woods rose (Rosa woodsii), plains cottonwood (Populus sargentii), and willow (Populus spp.) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

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Temporary and Permanent Seeding (TS/PS)

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species ^a (Common name)	Growth Season ^b	Pounds of Pure Live Seed (PLS)/acre ^c	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	1/2
5. Millet	Warm	3 - 15	1/2 - 3/4
6. Sudangrass	Warm	5–10	1/2 - 3/4
7. Sorghum	Warm	5–10	1/2 - 3/4
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2

- usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches. Hydraulic seeding may be substituted for drilling only where slopes are
- steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in
- See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.
- Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

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Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Common ^a Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alakali Soil Seed Mix					1
Alkali sacaton	Sporobolus airoides	Cool	Bunch	1,750,000	0.25
Basin wildrye	Elymus cinereus	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Jose tall wheatgrass	Agropyron elongatum 'Jose'	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix	<u>'</u>			•	
Ephriam crested wheatgrass	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	2.0
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix	ĸ				
Meadow foxtail	Alopecurus pratensis	Cool	Sod	900,000	0.5
Redtop	Agrostis alba	Warm	Open sod	5,000,000	0.25
Reed canarygrass	Phalaris arundinacea	Cool	Sod	68,000	0.5
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Pathfinder switchgrass	Panicum virgatum 'Pathfinder'	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	Agropyron elongatum 'Alkar'	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix ^c				•	
Ruebens Canadian bluegrass	Poa compressa 'Ruebens'	Cool	Sod	2,500,000	0.5
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	Lolium perenne 'Citation'	Cool	Sod	247,000	3.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Total					7.5

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Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix		•	•	•	
Blue grama	Bouteloua gracilis	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	Schizachyrium scoparium 'Camper'	Warm	Bunch	240,000	1.0
Prairie sandreed	Calamovilfa longifolia	Warm	Open sod	274,000	1.0
Sand dropseed	Sporobolus cryptandrus	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed	l Mix		•		•
Ephriam crested wheatgrass ^d	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	Agropyron intermedium 'Oahe'	Cool	Sod	115,000	5.5
Vaughn sideoats grama ^e	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.5

- ^a All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.
- See Table TS/PS-3 for seeding dates.
- If site is to be irrigated, the transition turf seed rates should be doubled.
- Crested wheatgrass should not be used on slopes steeper than 6H to 1V.
- Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	Warm	Cool	Warm	Cool
January 1–March 15			✓	✓
March 16–April 30	4	1,2,3	✓	✓
May 1–May 15	4		✓	
May 16–June 30	4,5,6,7			
July 1–July 15	5,6,7			
July 16–August 31				
September 1–September 30		8,9,10,11		
October 1–December 31			✓	✓

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

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EROSION CONTROL DETAILS
53 MONROE ST MINOR SUBDIVIS
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TOWN OF STRASBIRG ADAMS COUNTY COLORADO Dig Safely. CALL UNCC THREE WORKING DAYS BEFORE YOU DIG 1-800-922-1987 www.uncc.org UTILITY NOTIFICATION

FOR REVIEW

CENTER OF COLORADO

INITIAL PLAN RELEASE:05/27/2 DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC PROJECT N 01-0408.001.0 DOC CON

0013-GESC DTI SHEET

LAND TITLE GUARANTEE COMPANY



Date: November 14, 2023

Subject: Attached Title Policy/Guarantee

Enclosed please find your product relating to the property located at 1853 MONROE ST., STRASBURG, CO 80136.

If you have any inquiries or require further assistance, please contact SCOTT CIESLEWICZ at (303) 850-4189 or scieslewicz@ltgc.com

Chain of Title Documents:

<u>Adams county recorded 02/08/2018 under reception no. 2018000011536</u>

Property Information Binder

CONDITIONS AND STIPULATIONS

1. Definition of Terms

The following terms when used in this Binder mean:

- (a) "Land": The land described, specifically or by reference, in this Binder and improvements affixed thereto which by law constitute real property;
- (b) "Public Records"; those records which impart constructive notice of matters relating to said land;
- (c) "Date": the effective date;
- (d) "the Assured": the party or parties named as the Assured in this Binder, or in a supplemental writing executed by the Company;
- (e) "the Company" means Old Republic National Title Insurance Company, a Minnesota stock company.

2. Exclusions from Coverage of this Binder

The company assumes no liability including cost of defense by reason of the following:

- (a) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; taxes and assessments not yet due or payable and special assessments not yet certified to the Treasurer's office.
- (b) Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
- (c) Title to any property beyond the lines of the Land, or title to streets, roads, avenues, lanes, ways or waterways on which such land abuts, or the right to maintain therein vaults, tunnels, ramps, or any other structure or improvement; or any rights or easements therein unless such property, rights or easements are expressly and specifically set forth in said description.
- (d) Mechanic's lien(s), judgment(s) or other lien(s).
- (e) Defects, liens, encumbrances, adverse claims or other matters: (a) created, suffered or agreed to by the Assured;(b) not known to the Company, not recorded in the Public Records as of the Date, but known to the Assured as ofthe Date; or (c) attaching or creating subsequent to the Date.

3. Prosecution of Actions

- The Company shall have the right at its own costs to institute and prosecute any action or proceeding
 or do any other act which in its opinion may be necessary or desirable to establish or confirm the
 matters herein assured; and the Company may take any appropriate action under the terms of this
 Binder, whether or not it shall be liable thereunder and shall not thereby concede liability or waive any
 provision hereof.
- In all cases where the Company does not institute and prosecute any action or proceeding, the
 Assured shall permit the Company to use, at its option, the name of the Assured for this purpose.
 Whenever requested by the Company, the Assured shall give the Company all reasonable aid in
 prosecuting such action or proceeding, and the Company shall reimburse the Assured for any expense
 so incurred.

4. Notice of Loss - Limitation of Action

A statement in writing of any loss or damage for which it is claimed the Company is liable under this Binder shall be furnished to the Company within sixty days after such loss or damage shall have been determined, and no right of action shall accrue to the Assured under this Binder until thirty days after such statement shall have been furnished, and no recovery shall be had by the Assured under this Binder unless action shall be commenced thereon with two years after expiration of the thirty day period. Failure to furnish the statement of loss or damage or to commence the action within the time herinbefore specified, shall be conclusive bar against maintenance by the Assured of any action under this Binder.

5. Option to Pay, Settle or Compromise Claims

The Company shall have the option to pay, settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Binder, or to pay the full amount of this Binder. Such payment or tender of payment of the full amount of the Binder shall terminate all liability of the Company hereunder.

6. Limitation of Liability - Payment of Loss

- (a) The liability of the Company under this Binder shall be limited to the amount of actual loss sustained by the Assured because of reliance upon the assurances herein set forth, but in no event shall the liability exceed the amount of the liability stated on the face page hereof.
- (b) The Company will pay all costs imposed upon the Assured in litigation carried on by the Company for the Assured, and all costs and attorneys' fees in litigation carried on by the Assured with the written authorization of the Company.
- (c) No claim for loss or damages shall arise or be maintainable under this Binder (1) if the Company after having received notice of any alleged defect, lien or encumbrance not shown as an Exception or excluded herein removes such defect, lien or encumbrance within a reasonable time after receipt of such notice, or (2) for liability voluntarily assumed by the Assured in settling any claim or suit without written consent of the Company.
- (d) All payments under this Binder, except for attorney's fees as provided for in paragraph 6(b) thereof, shall reduce the amount of the liability hereunder pro tanto, and no payment shall be made without producing this Binder or an acceptable copy thereof for endorsement of the payment unless the Binder be lost or destroyed, in which case proof of the loss or destruction shall be furnished to the satisfaction of the Company.
- (e) When liability has been definitely fixed in accordance with the conditions of this Binder, the loss or damage shall be payable within thirty days thereafter.

7. Subrogation Upon Payment or Settlement

Whenever the Company shall have settled a claim under this Binder, all right of subrogation shall vest in the Company unaffected by any act of the Assured, and it shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Binder not been issued. If the payment does not cover the loss of the Assured, the Company shall be subrogated to the rights and remedies in the proportion which the payment bears to the amount of said loss. The Assured, if requested by the Company, shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect the right of subrogation, and shall permit the Company to use the name of the Assured in any transaction or litigation involving the rights or remedies.

8. Binder Entire Contract

Any action or actions or rights of action that the Assured may have or may bring against the Company arising out of the subject matter hereof must be based on the provisions of this Binder. No provision or condition of this Binder can be waived or changed except by a writing endorsed or attached hereto signed by the President, a Vice President, the Secretary, an Assistant Secretary or other validating officer of the Company.

9. Notices. Where Sent

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at 400 Second Avenue South, Minneapolis, Minnesota 55401, (612) 371-1111.

10. Arbitration

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association.

ANTI-FRAUD STATEMENT: Pursuant to CRS 10-1-128(6)(a), it is unlawful to knowingly provide false, incomplete or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado division of insurance within the department of regulatory agencies.

This anti-fraud statement is affixed and made a part of this policy.

Issued by: Land Title Guarantee Company 3033 East First Avenue Suite 600 Denver, Colorado 80206 303-321-1880

Craig B. Rants, Senior Vice President

TITLE NO LANGE OF THE PARTY OF

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY A Stock Company 400 Second Avenue South, Minneapolis, Minnesota 55401 (612) 371-1111

AMERICAN LAND TITLE ASSOCIATION



Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

Liability: \$50,000.00

Fee: \$500.00

Subject to the exclusions from coverage, the limits of liability and other provisions of the Conditions and Stipulations hereto annexed and made a part of this Binder,

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY a Corporation, herein called the Company,

GUARANTEES

WESTERN ENGINEERING CONSULTANTS, INC. LLC

Herein called the Assured, against loss, not exceeding the liability amount stated above, which the assured shall sustain by reason of any incorrectness in the assurance which the Company hereby gives that, according to the public records as of

October 23, 2023 at 5:00 P.M.

1. Title to said estate or interest at the date hereof is vested in:

SUMIT JOSEPH

2. The estate or interest in the land hereinafter described or referred to covered by this Binder:

FEE SIMPLE

3. The Land referred to in this Binder is described as follows:

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF 6TH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31 IN WARRANTY DEED RECORDED SEPTEMBER 29, 1917 IN BOOK 64 AT PAGE 273, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220.00 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220.00 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927,

COUNTY OF ADAMS, STATE OF COLORADO.

Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

4. The following documents affect the land:

- EXISTING LEASES AND TENANCIES, IF ANY.
- 2. RESERVATIONS BY THE UNION PACIFIC UNION RAIL ROAD COMPANY OF (1) OIL, COAL AND OTHER MINERALS UNDERLYING THE LAND, (2) THE EXCLUSIVE RIGHT TO PROSPECT FOR, MINE AND REMOVE OIL, COAL AND OTHER MINERALS, AND (3) THE RIGHT OF INGRESS AND EGRESS TO PROSPECT FOR, MINE AND REMOVE OIL, COAL AND OTHER MINERALS AS DESCRIBED IN DEED RECORDED DECEMBER 14, 1906 IN BOOK 25 AT PAGE 166, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED APRIL 14, 1971 IN BOOK 1684 AT PAGE 281.

MINERAL DEED BY AND BETWEEN UNION PACIFIC RAILROAD CORPORATION, A UTAH CORPORATION, GRANTOR, AND CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION, GRANTEE, RECORDED MAY 20, 1976 IN BOOK 2064 AT PAGE 801.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED DECEMBER 17, 1976 IN BOOK 2110 AT PAGE 453 AND RE-RECORDED JANUARY 24, 1977 IN BOOK 2543 AT PAGE 669.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED JANUARY 8, 1996 IN BOOK 4659 AT PAGE 485.

RELEASE AND QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED NOVEMBER 23, 1998 UNDER RECEPTION NO. C0470914.

REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 20, 2002 UNDER RECEPTION NO. <u>C0971872</u>.

DEED RECORDED FEBRUARY 6, 2020 UNDER RECEPTION NO. 2020000011990.

- 3. OIL AND GAS LEASE BETWEEN CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION AND AMOCO PRODUCTION COMPANY, A DELAWARE CORPORATION, RECORDED JUNE 02, 1976 IN BOOK 2067 AT PAGE 100; AND RE-RECORDED JUNE 11, 1976 IN BOOK 2457 AT PAGE 76 (ARAPAHOE COUNTY RECORDS) AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.
- 4. OIL AND GAS LEASE BETWEEN CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION AND AMOCO PRODUCTION COMPANY, A DELAWARE CORPORATION, RECORDED AUGUST 12, 1976 IN BOOK 2082 AT PAGE 672; AND RE-RECORDED AUGUST 31, 1976 IN BOOK 2489 AT PAGE 42 (ARAPAHOE COUNTY RECORDS) AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.
 - RATIFICATION OF LEASES IN CONNECTION THEREWITH RECORDED DECEMBER 10, 1990 IN BOOK 3735 AT PAGE 141.
 - NOTE: THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.
- 5. ANY ASSESSMENT OR LIEN OF STRASBURG SANITATION AND WATER DISTRICT, AS DISCLOSED BY RESOLUTION RECORDED MAY 20. 2002 UNDER RECEPTION NO. <u>C0971960</u>.
- 6. RIGHTS OF OTHERS IN AND TO, OVER AND ACROSS ANY PORTION OF SUBJECT PROPERTY LYING WITHIN MONROE STREET, IF ANY, AS DISCLOSED ON MAP. THE REFERENCED DOCUMENT IS STORED IN OUR SYSTEM AS IMAGE 63229433.
- TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ZONING HEARING DECISION - CASE #RCU2006-00033 RECORDED OCTOBER 20, 2006 UNDER RECEPTION NO. 2006000991794.

Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

- 8. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED MARCH 09, 2007 UNDER RECEPTION NO. 2007000024979; FIRST AMENDMENT TO AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED DECEMBER 18, 2008 UNDER RECEPTION NO. 2008000097648.
 - AMENDED AND RESTATED AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED FEBRUARY 18, 2018 UNDER RECEPTION NO. 2018000016944.
- 9. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN RESOLUTION 2015-347 RECORDED AUGUST 05, 2015 UNDER RECEPTION NO. 2015000064252.
- 10. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN SEWER EASEMENT AGREEMENT GRANTED UNTON STRASBURG SANITATION AND WATER DISTRICT RECORDED FEBRUARY 28, 2018 UNDER RECEPTION NO. 2018000016941.
- 11. DEED OF TRUST DATED JUNE 10, 2020 FROM SUMIT JOSEPH TO THE PUBLIC TRUSTEE OF ADAMS COUNTY FOR THE USE OF COYOTE CREEK CAPITAL TO SECURE THE SUM OF \$213,000.00, AND ANY OTHER AMOUNTS PAYABLE UNDER THE TERMS THEREOF, RECORDED JUNE 25, 2019, UNDER RECEPTION NO. 2019000049244.
- 12. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN Zoning resolution 2023-142 RECORDED JUNE 08, 2023 UNDER RECEPTION NO. 2023000032315.

NOTE: ADDITIONAL UPDATES TO THE EFFECTIVE DATE OF THE BINDER MAY BE REQUESTED BY THE PROPOSED INSURED. ONE UPDATE IS INCLUDED WITH THIS BINDER AT NO ADDITIONAL COST. ANY ADDITIONAL UPDATES WILL BE ISSUED AT THE COST OF \$135 PER UPDATE. FOR EACH UPDATE PROVIDED, A REVISED BINDER WILL BE ISSUED SHOWING A NEW EFFECTIVE DATE AND ANY MATTERS RECORDED SINCE THE EFFECTIVE DATE OF THE PREVIOUS BINDER.

THIS PRODUCT WILL ONLY BE UPDATED FOR 24 MONTHS FOLLOWING THE EFFECTIVE DATE OF THE ORIGINAL BINDER.

NOTE: THIS BINDER DOES NOT REFLECT THE STATUS OF TITLE TO WATER RIGHTS OR REPRESENTATION OF SAID RIGHTS, RECORDED OR NOT.

NOTE: THIS BINDER IS NOT A REPORT OR REPRESENTATION AS TO MINERAL INTERESTS, AND SHOULD NOT BE USED, OR RELIED UPON, IN CONNECTION WITH THE NOTICE REQUIREMENTS THAT ARE SET FORTH IN CRS 24-65.5-103.

From: Dickinson - DNR, Wenli <wenli.dickinson@state.co.us>

Sent: Thursday, September 21, 2023 6:33:00 AM **To:** jrhall@adcogov.org <jrhall@adcogov.org>

Cc: LTart@adcogov.org <LTart@adcogov.org>; kunbob1@hotmail.com <kunbob1@hotmail.com>

Subject: Fwd: Request for Comments: PLT2022-00017 Joseph Minor Subdivision

Hello,

DWR provided comments on PLT2022-00017 (Joseph Minor Subdivision) on April 14, 2022, requesting information on the Strasburg Sanitation and Water District. We have received the requested information from the District. Does the county need an updated letter from DWR commenting on this subdivision's water supply? Please let me know.

Regards,

Wenli Dickinson, P.E. Water Resource Engineer

P 303.866.3581 x8206 1313 Sherman St, Suite 821, Denver, CO 80203 wenli.dickinson@state.co.us | dwr.colorado.gov

STRASBURG SANITATION AND WATER DISTRICT

56829 Colorado Ave. PO Box 596, Strasburg, CO 80136 303-622-4443

July 24, 2023

Sumit Joseph DAVID LLC Renumonroe1@gmail.com

Re: Will Serve Letter for 1853 Monroe Street, Strasburg, CO 80136

Dear Ms. Joseph,

At the District's July 19, 2023 board meeting, the Board discussed your request that the District issue a letter confirming its willingness to provide water and sewer service for 1853 Monroe Street, Strasburg, CO 80136, in your attempt to change the property zoning from commercial to residential.

The District's board of directors has discussed the request for service to 1853 Monroe Street and provides this letter to confirm that the District will reserve capacity in its water and wastewater systems to serve the Property, as it already serves this property with two water taps and two sever taps. The Property, and all tenants, owners, and users within the Property, must adhere to all Rules and Regulations of the District.

The District's commitment to reserve capacity in its water and wastewater systems to serve the Property expires on July 19, 2024, after which another request for service must be made by the owner of the Property.

Please feel free to contact our office if you have any questions.

Regards

Tracy Griffin
Tracy Griffin
District Manager

The Energy to Thrive™



July 29, 2023

Joesph Sumit 23657 E Elsworth Ave Auroa, CO 80018-1556

Re: 1853 Monroe Street Strasburg, CO 80136 – Parcel Number 018113334000011

Dear Mr. Sumit:

We are an electric utility operating under the rules and regulations approved by our Board of Directors. The above-referenced parcel of land in Section 33, Township 3 South, and Range 62 West of the 6th P.M., County of Adams, State of Colorado, is located within our service area.

We are willing to extend our facilities to the proposed project in accordance with our extension policies. When you a submit an application for service, the designer assigned will be able to answer any questions concerning the location of electric facilities in relation to the project. Any attempt to identify facilities now may provide inaccurate information due to the phasing of your project and other developments in the vicinity, which may alter the location or type of facilities prior to your request for service.

If you have any further questions, please feel free to contact me.

Sincerely,

Brooks Kaufman

Lands and Rights-of-Way Manager



TREASURER & PUBLIC TRUSTEE ADAMS COUNTY, COLORADO

Certificate Of Taxes Due

Account Number R0081742 Parcel 0181333400011 Assessed To JOSEPH SUMIT 23657 E ELLSWORTH AVE AURORA, CO 80018-1556

Certificate Number 2023-233284
Order Number
Vendor ID
VICTOR JOSEPH
23657 E ELLSWORTH AVE AURORA, CO 80018-1556

Legal Description

Situs Address

SECT.TWN.RNG.33-3-62 DESC: TRACT IN NE4 SE4 SEC 33 DESC BEG AT PT ON E LN SEC 33 WHICH IS 455/85 FT M/L DUE E
OF NE COR OF TRACT CONVEYED TO SCHOOL DIST 31 TH S ALG E LN OF SD SEC 198 FT TO PT TH W 220 FT TH N 198 FT

W 220 FT TH N 198 FT

Fees Payments

Year	Tax		Interest		Fees	Payments	Balance
Tax Charge						x u j menuj	Durantee
2022 \$1	0,217.58		\$206.45	200000	\$0.00	(\$10,424.03)	\$0.00
Total Tax Charge							\$0.00
Grand Total Due as of 07/11/2023							\$0.00
Tax Billed at 2022 Rates for Tax Area 40	6 - 406						
Authority		Mill Levy		Amount	Values	Actual	Assessed
RANGEVIEW LIBRARY DISTRICT		3.6150000*		\$383.30	COMM LND SPEC	\$74,052	\$21,480
FIRE DISTRICT 8 - STRASBURG		12.6140000		\$1,337.46	PURPOS		
ADAMS COUNTY		26.9670000		\$2,859.31	SPECIAL PURPOS	SE \$291,548	\$84,550
NORTH KIOWA BIJOU GROUND W	A	0.0230000		\$2.44	Total	\$365,600	\$106,030
SD 31		44.1360000		\$4,679.74			
STRASBURG PARK & RECREATION	1	5.0100000		\$531.21			
STRASBURG WATER & SANITATIO)	4.0000000		\$424.12			

ALL TAX SALE AMOUNTS ARE SUBJECT TO CHANGE DUE TO ENDORSEMENT OF CURRENT TAXES BY THE LIENHOLDER OR TO ADVERTISING AND DISTRAINT WARRANT FEES. CHANGES MAY OCCUR; PLEASE CONTACT THE TREASURY PRIOR TO MAKING A PAYMENT AFTER AUGUST 1. TAX LIEN SALE REDEMPTION AMOUNTS MUST BE PAID BY CASH OR CASHIER'S CHECK.

\$10,217.58

96.3650000

SPECIAL TAXING DISTRICTS AND THE BOUNDARIES OF SUCH DISTRICTS MAY BE ON FILE WITH THE BOARD OF COUNTY COMMISSIONERS, THE COUNTY CLERK, OR, THE COUNTY ASSESSOR.

This certificate does not include land or improvements assessed under a separate account number, personal property taxes, transfer tax, or, miscellaneous tax collected on behalf of other entities, special or local improvement district assessments, or mobile homes, unless specifically mentioned.

I, the undersigned, do hereby certify that the entire amount of taxes due upon the above described parcels of real property and all outstanding lien sales for unpaid taxes as shown by the records in my office from which the same may still be redeemed with the amount required for redemption on this date are as noted herein. In witness whereof, I have hereunto set my hand and seal.

TREASURER & PUBLIC TRUSTEE, ADAMS COUNTY,

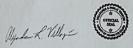
Alexander L Villagran

Taxes Billed 2022

* Credit Levy

4430 S. Adams County Parkway

Brighton, CO 80601





Colorado Geological Survey Payment Portal

Receipt Number: 798818

Colorado Geological Survey Current Date: 11/22/2023

Description Amount Tax

\$600.00

Pre-Pay the Colorado Geological Survey Land Use Review Fee

Must select project size to calculate a price: Very Small Residential

Subdivision -

Project Name: 1853 Monroe Street Minor Sub

County of Project: Adams

Applicant's Name: Sumit Joseph

Applicant's Address (line 1): 23657 E Ellsworth Avenue

Applicant's City: Aurora Applicant's State: CO Applicant's Zip Code: 80018 Applicant's Phone: 303-746-1914

Applicant's Email: kunbob1@hotmail.com

Section: 33

Township: 3 South Range: 62 W

Latitude: 39.743538 Longitude: -104.321751

Pre-Pay the Colorado Geological Survey Land Use Review Fee

Total \$600.00

Payments Received		Amount
CC MasterCard XXXXXXXXXXXXX0159 Authorization # 42627P		\$600.00
Authorization # 42027P	Total	\$600.00

Thank you for the payment.

LEGAL DESCRIPTION

According to Land Title Guaranty document

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF SIXTH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927,

COUNTY OF ADAMS, STATE OF COLORADO.

Fwd: 'School impact analysis"

victor Joseph <kunbob1@hotmail.com>

Fri 7/21/2023 9:14 AM

To:Leticia Maldonado < leticia.maldonado@westerneci.com>

Get Outlook for iOS

From: Sumit Joseph <renumonroe1@gmail.com>

Sent: Thursday, July 20, 2023 2:34:46 PM
To: victor Joseph <kunbob1@hotmail.com>
Subject: Fwd: 'School impact analysis''

----- Forwarded message -----

From: **Brooke Kartus** < <u>bkartus@strasburg31j.com</u>>

Date: Thu, Jul 20, 2023 at 2:07 PM Subject: Re: 'School impact analysis"

To: Sumit Joseph < renumonroe1@gmail.com>

Hi Sumit,

I spoke to my Superintendent and CFO regarding this request. Neither of them are familiar with this request or letter nor can we find any history of such a letter being drafted by the district in the past. I am not sure the school district is the appropriate entity to do this for you. It sounds to me as though maybe you would pay an engineer or third party to produce this for you.

Sorry this is not much help.

Brooke Kartus

Executive Administrative Assistant
Strasburg School District 31J
2102 Wagner St. | Strasburg, CO. 80136

Phone: 303.622.9211 x 899

bkartus@strasburg31j.com www.Strasburg31J.com



From: Sumit Joseph < renumonroe1@gmail.com>

Sent: Monday, July 17, 2023 1:12 PM

To: Brooke Kartus < bkartus@strasburg31j.com>

Subject: 'School impact analysis"

Hi Ms Brooke,

My name is Sumit.Joseph, owner of <u>1853 Monroe St, Strasburg, CO 80136</u>. We are trying to change the title of our property from commercial to residential, for that purposes Adam county has requested, School impact analysis letter. Can you please help me out in this regard.

Thanks Sumit Joseph 3032617374



1st Floor, Suite W2000
Brighton, CO 80601-8204
PHONE 720.523.6800
FAX 720.523.6998

WAIVER FROM SUBDIVISION DESIGN STANDARDS

Application submittals must include all documents on this checklist as well as this page. Please use the reference guide (pg. 2) included in this packet for more information on each submittal item.

All submittals shall include one (1) hard copy of all documents and one (1) electronic copy with all documents combined in a single PDF. For hard copies, each document shall be labeled or tabbed with the corresponding checklist number.

- 1. Development Application Form (pg. 7)
- 2. Application Fees of \$500
- 3. Written Explanation of the Project
- 4. Site Plan Showing Proposed Development
- 5. Copy of Plat Prepared by Registered Land Surveyor (see guide pg. 4)
- 6. Proof of Ownership (title policy dated within 30 days of submittal)
- 7. Proof of Water and Sewer Services
- 8. Proof of Utilities (e.g. electric, gas)
- 9. Neighborhood Meeting Summary
- 10. Legal Description
- 11. Certificate of Taxes Paid
- 12. Certificate of Notice to Mineral Estate Owners/and Lessees (pg. 9)
- 13. Certificate of Surface Development (pg. 10)

Community & Economic Development Department www.adcogov.org



4430 South Adams County Parkway 1st Floor, Suite W2000 Brighton, CO 80601-8204 PHONE 720.523.6800 FAX 720.523.6998

DEVELOPMENT APPLICATION FORM

Application Type) :			
Subo	ceptual Review division, Preliminary division, Final Correction/ Vacation	Preliminary PUD Final PUD Rezone Special Use	Tempora Variance Conditio Other:	
PROJECT NAME	:			
APPLICANT				
Name(s):			Phone #:	
Address:				
City, State, Zip:				
2nd Phone #:			Email:	
OWNER				
Name(s):			Phone #:	
Address:				
City, State, Zip:				
2nd Phone #:			Email:	
TECHNICAL REF	PRESENTATIVE (C	Consultant, Engin	eer, Surve	yor, Architect, etc.)
Name:			Phone #:	
Address:				
City, State, Zip:				
2nd Phone #:			Email:	

DESCRIPTION OF SITE

Address:	1853 Monroe Street
City, State, Zip:	Strasburg, CO, 80136
Area (acres or square feet):	0.78 acres
Tax Assessor Parcel Number	0181333400011
Existing Zoning:	R-1-C
Existing Land Use:	Commercial
Proposed Land Use:	Commercial
Have you attende	ed a Conceptual Review? YES NO X
If Yes, please list	PRE#:
under the autho pertinent requirer Fee is non-refun	nat I am making this application as owner of the above described property or acting writy of the owner (attached authorization, if not owner). I am familiar with all ments, procedures, and fees of the County. I understand that the Application Review adable. All statements made on this form and additional application materials are f my knowledge and belief.
Name:	Sumit Joseph Date: 9-07-2023
	Owner's Printed Name
Name:	Sum Jos
	Owner's Signature



WESTERN ENGINEERING CONSULTANTS,

127 S. Denver Avenue, Ft. Lupton CO 80621 2501 Mill St. Brush, CO 80723 Ph. 303-913-7341, Fax 720-294-1330 Email: chadwin.cox@westerneci.com Inc LLC

November 22, 2023

Adams County Community and Economic Development 4430 South Adams County Parkway 1st Floor, Suite W2000 Brighton, CO 80601-8216

RE: 1853 Monroe Minor Subdivision Waiver from Subdivision Design Standards

Adams County Community and Economic Development:

Western Engineering Consultants Inc. LLC (WEC) has prepared this letter to briefly summarize the proposed "Joseph Minor Subdivision" Waiver from Subdivision Design Standards.

This Waiver has been provided because Monroe Street is classified as a "Regional Arterial/ Major Arterial (Rural)" roadway with 140 ft Right-of-Way as shown in the cross-section in Fig. 1

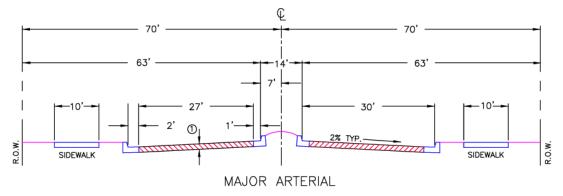


Fig. 1 Major Arterial Cross-Section

According to the Subdivision Design Standards, the developer is required to construct roadway improvements adjacent to the proposed site. However, the existing road at both the site / north and south of this site, is +/- 42 ft wide with houses and backyards that will have to be removed for the build-out of the 140 ft ROW dedication (see Fig 2 in next page), showing it is not possible to meet this requirement without major/expensive demolition of existing homes and yards, see enclosed Future ROW Exhibit.

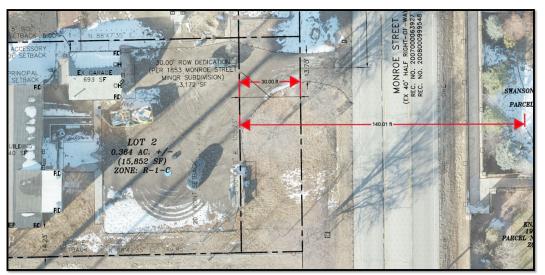


Fig 2 Existing conditions

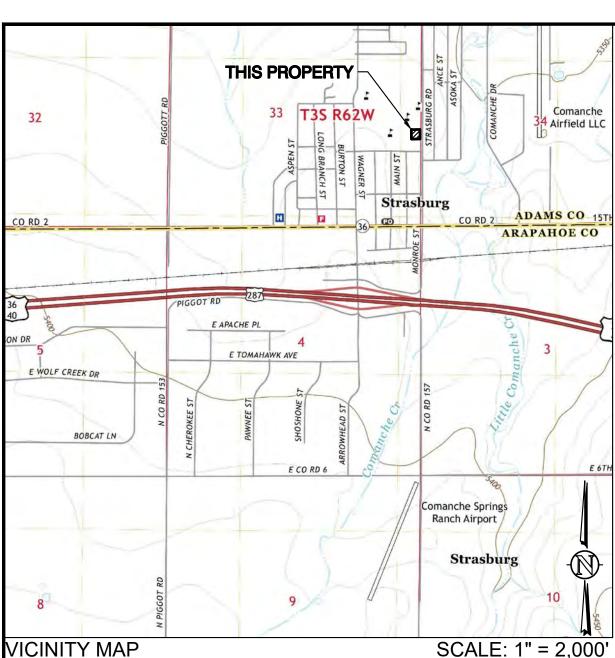
Please contact me with any questions or comments you may have on our proposal for this project!

Sincerely,



Western Engineering Consultants inc., LLC Chadwin F. Cox, P.E. Senior Project Manager

Encl. Waiver from Minor Subdivision Standards submittal plans, and documents.



SE 1/4, S33, T3S, R62W, 6th P.M.

SHOWN VICINITY MAP TAKEN FROM USGS QUAD MAP - STRASBURG 7.5 MIN

LEGAL DESCRIPTION

KNOW ALL MEN BY THESE PRESENTS THAT JOSEPH SUMIT, BEING THE OWNER OF THAT PART OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH

ALL OF THAT PROPERTY DESCRIBED IN DEED RECORDED FEBRUARY 8, 2018 AS RECEPTION NO. 2018000011536 IN THE RECORDS OF THE CLERK AND RECORDER FOR ADAMS COUNTY,

A DISTANCE OF 594.61 FEET; THENCE SOUTH 88°47'35" WEST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID PARCEL, A DISTANCE OF 40.001 FEET TO THE WEST RIGHT-OF-WAY LINE OF MONROE STREET AS DESCRIBED IN DEED RECORDED NOVEMBER 13, 2006 AS RECEPTION NO. 2007000063927 IN THE RECORDS OF THE CLERK AND RECORDER FOR ADAMS COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH 88°47'35' WEST, COINCIDENT WITH THE WEST LINE OF SAID PARCEL; A DISTANCE OF 179.92 FEET TO THE NORTHWEST CORNER OF SAID PARCEL; THENCE SOUTH 00°42'19" EAST, COINCIDENT WITH THE WEST LINE OF SAID PARCEL, A DISTANCE OF 198.02 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL; THENCE NORTH 88°47'35" EAST, COINCIDENT WITH THE SOUTH LINE OF SAID PARCEL, A DISTANCE OF 179.95 FEET TO THE WEST RIGHT-OF-WAY LINE OF MONROE STREET; THENCE NORTH 00°42'50" WEST, COINCIDENT WITH SAID WEST RIGHT-OF-WAY LINE, A DISTANCE OF 198.02 FEET TO THE TRUE POINT OF BEGINNING.

SAID PARCEL CONTAINS 35,630 SQUARE FEET OR 0.82 ACRES, MORE OR LESS

HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF THOMPSON MINOR SUBDIVISION, AND DO HEREBY GRANT TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR USE OF THE PUBLIC UTILITY, CABLE TV, AND DETENTION POND AREAS, FLOODWAY AND FLOODPLAIN LIMITS, DRAINAGE, AND OTHER PUBLIC PURPOSES AS DETERMINED BY THE COUNTY OF ADAMS.

BASIS OF BEARING & PROJECT BENCHMARK

BASIS OF BEARING: THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH P.M., IN ADAMS COUNTY, COLORADO, IS ASSUMED TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

PROJECT BENCHMARK: ELEVATIONS ARE BASED UPON STATIC GPS OBSERVATIONS POST PROCESSED THROUGH THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS) AND ARE REPORTED IN NAVD 88 (GEOID 18).

CIVIL SITE PLANS

Located in the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado **SITE CIVIL PLANS FOR:**

1853 MONROE ST MINOR SUBDIVISION

1853 MONROE ST STRASBURG, CO 80136

PREPARED FOR:

VICTOR JOSEPH 1853 MONROE ST STRASBURG, CO 80136 (303)746-1914

APPROVED BY:

VICTOR JOSEPH

WESTERN ENGINEERING CONSULTANTS, INC. LLC DATE CHADWIN F. COX, P.E.

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0 1 2	2	EXISTING CONDITIONS & DEMO PLAN
0 1 2	3	SITE PLAN
0 1 2	4	UTILITY & GRADING PLAN
1 2	5	INITIAL EROSION CONTROL PLAN
1 2	6	INTERIM EROSION CONTROL PLAN
1 2	7	FINAL EROSION CONTROL PLAN
1	8	EROSION CONTROL DETAILS
1	9	EROSION CONTROL DETAILS
1	10	EROSION CONTROL DETAILS
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1	12	EROSION CONTROL DETAILS
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INITIAL RELEASE

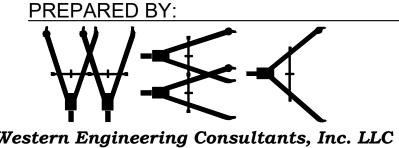
REV PER COUNTY COMMENTS 04/20/22

REV PER COUNTY COMMENTS 05/17/22

MARCH 24, 2022 MAY 27, 2022 **NOVEMBER 21, 2023**



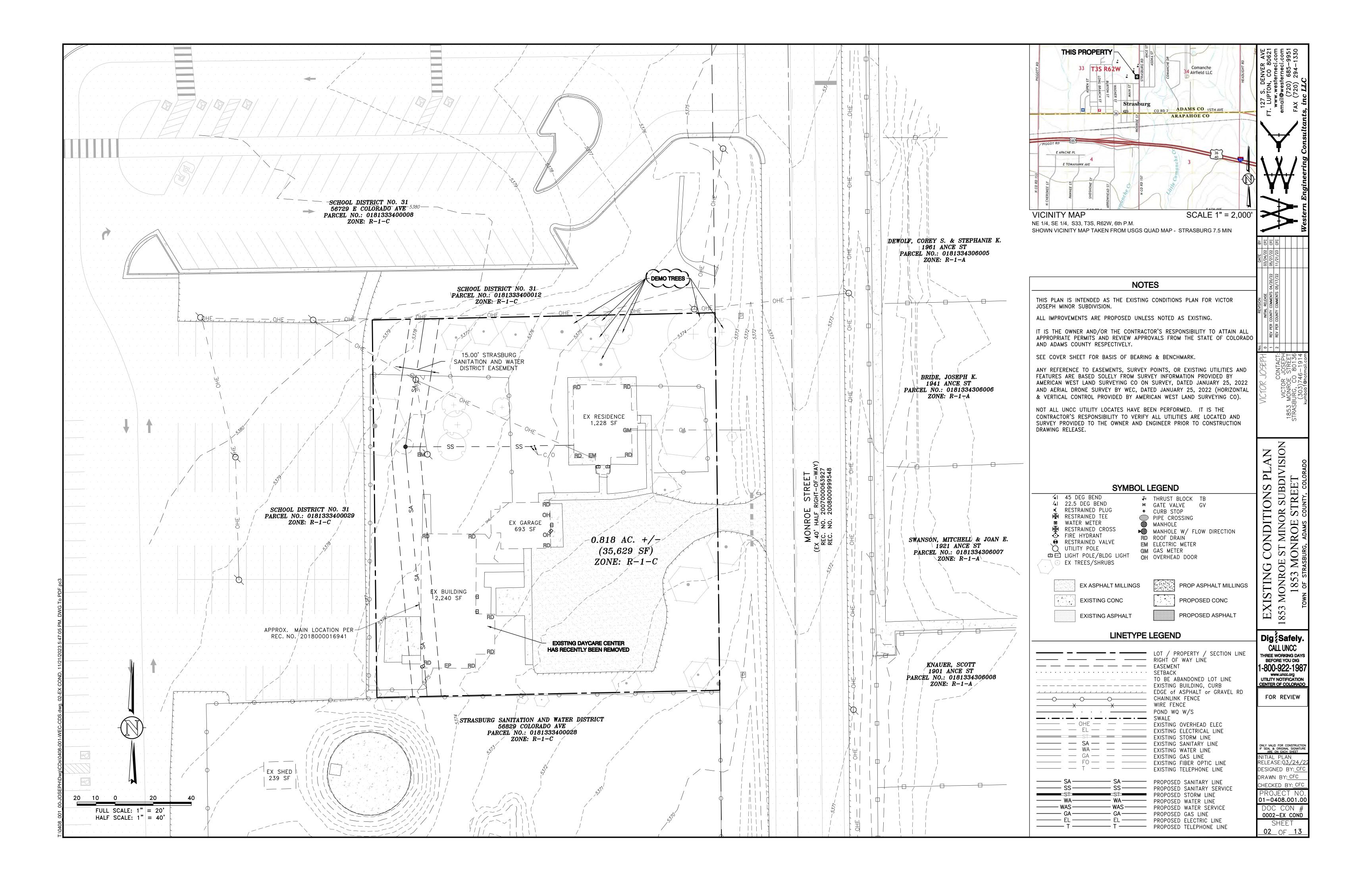
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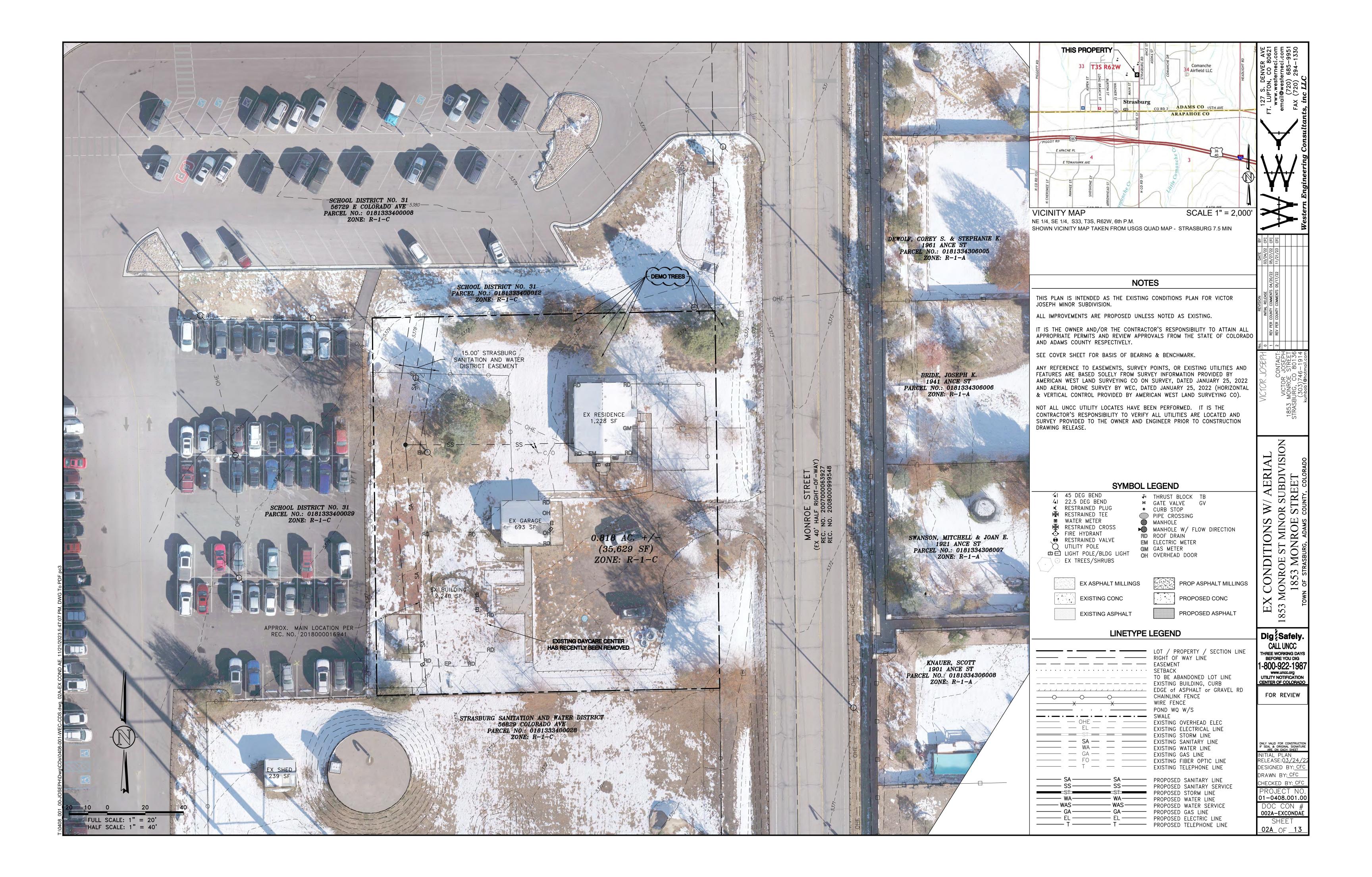


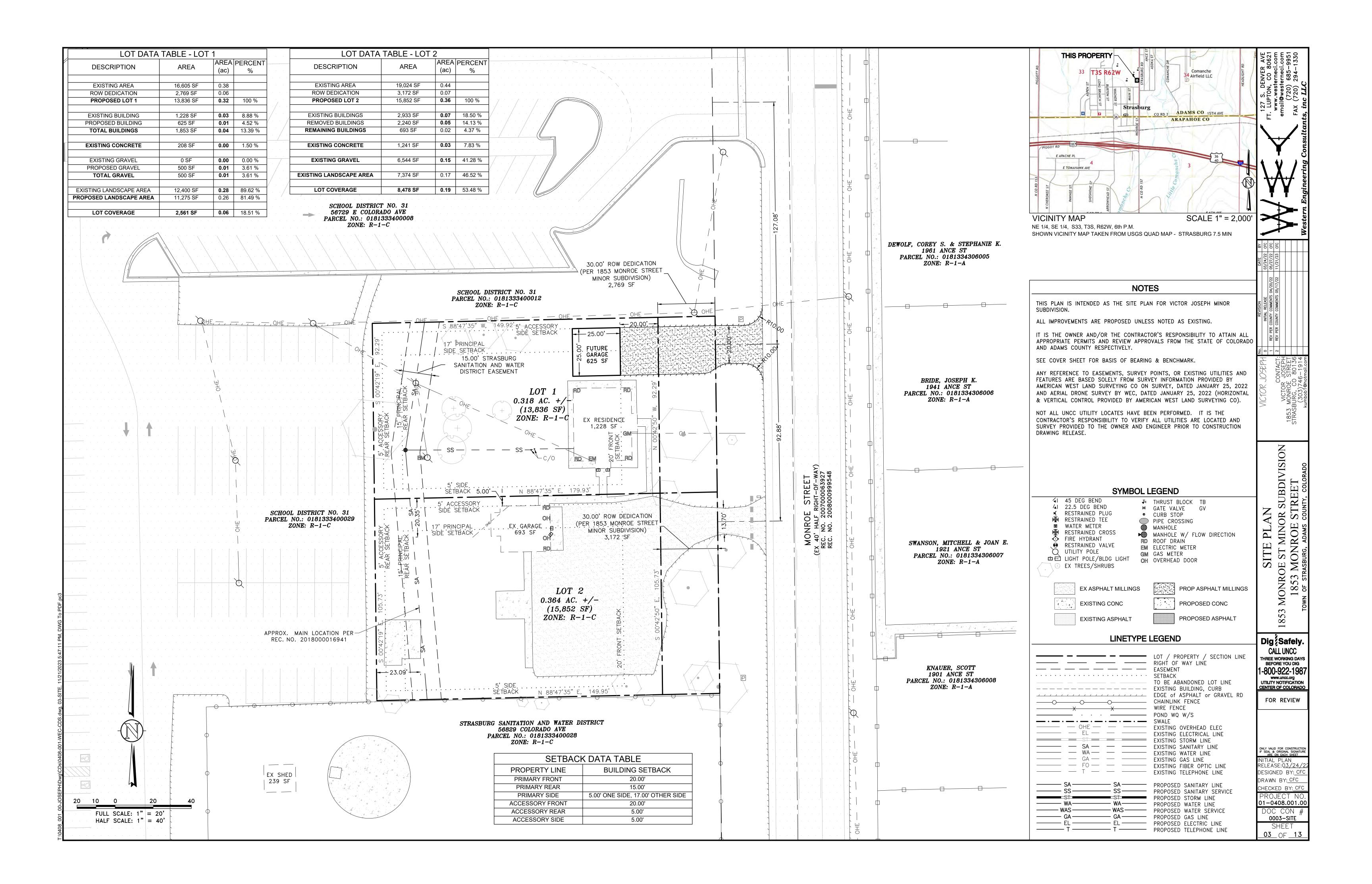
127 S. DENVER AVENUE, FORT LUPTON, CO 80621 Western Engineering Consultants, Inc. LLC 720-685-9951 PH, 720-294-1330 FAX, email@westerneci.com

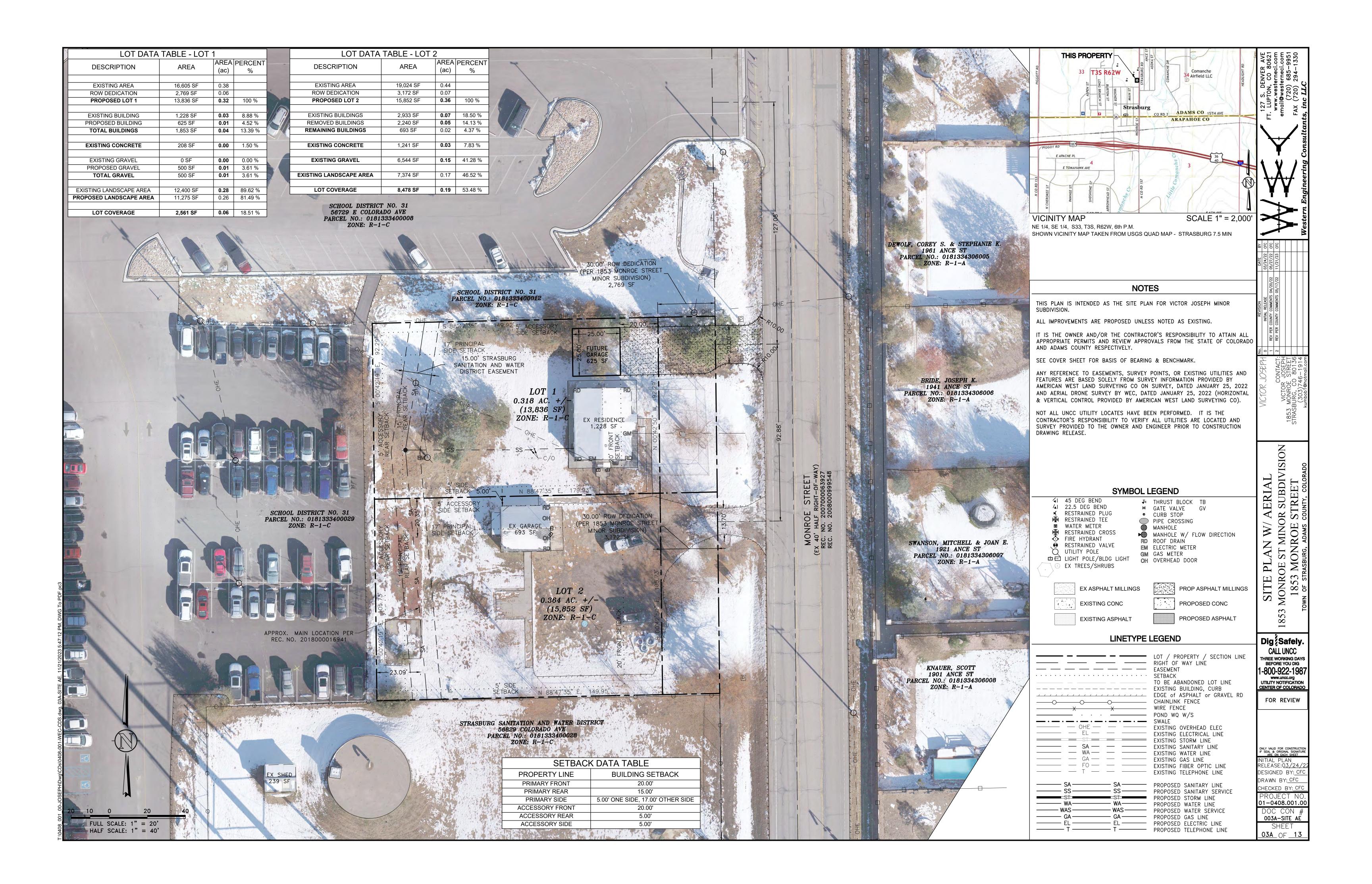
PROJECT NO: 01-0408.001.00 INITIAL PLAN RELEASE: MARCH 24, 2022 1 of 13

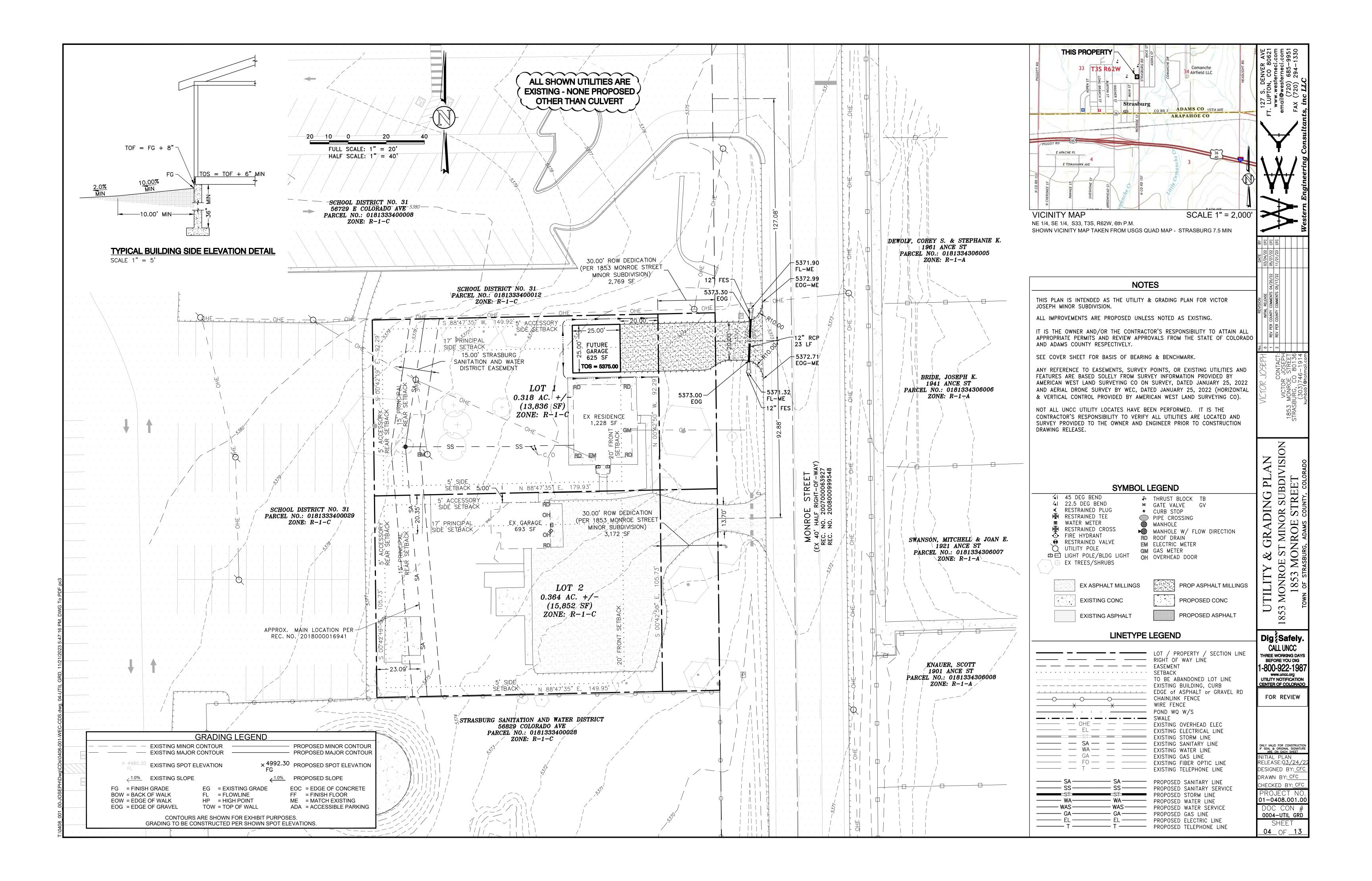
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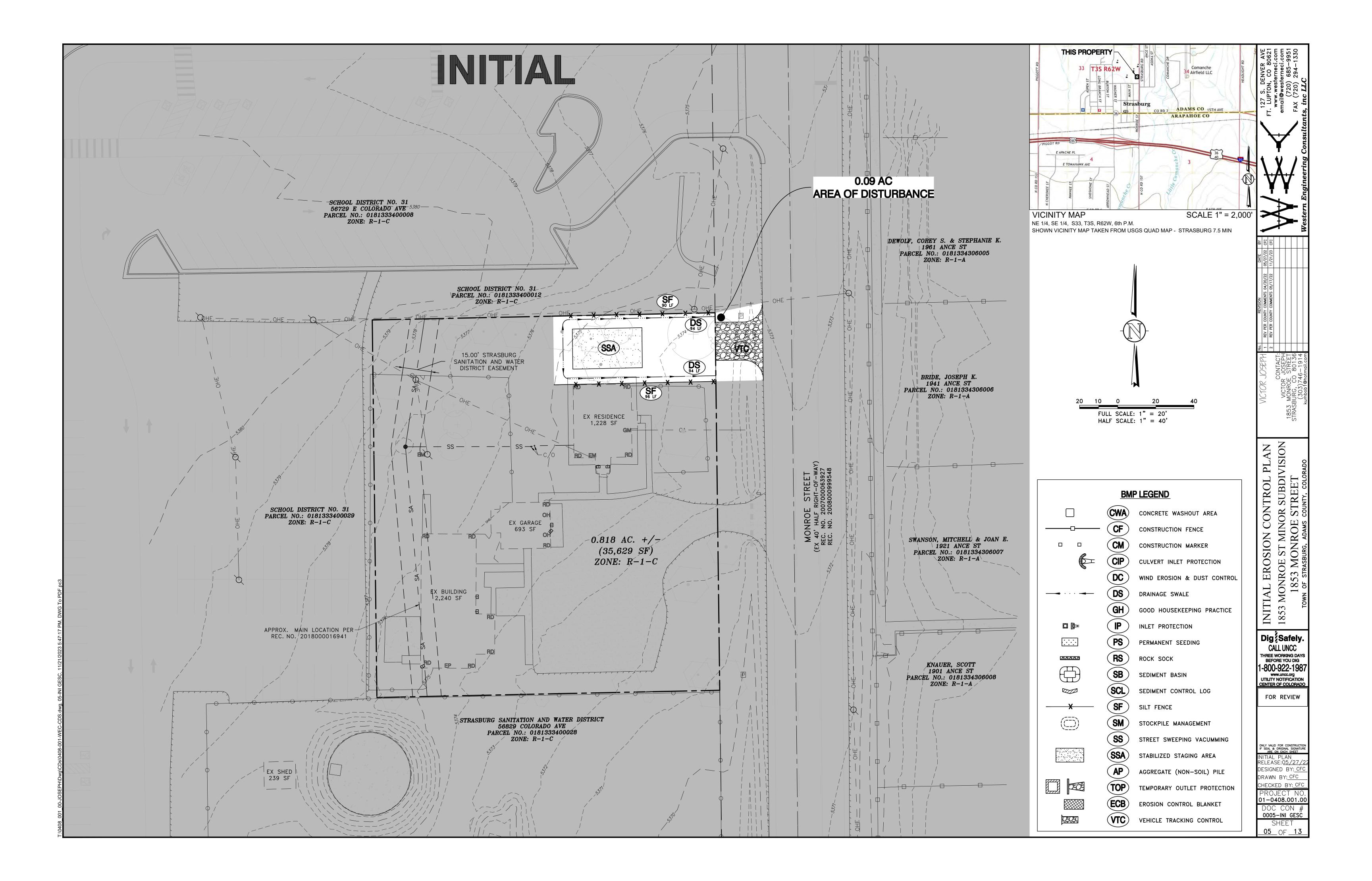


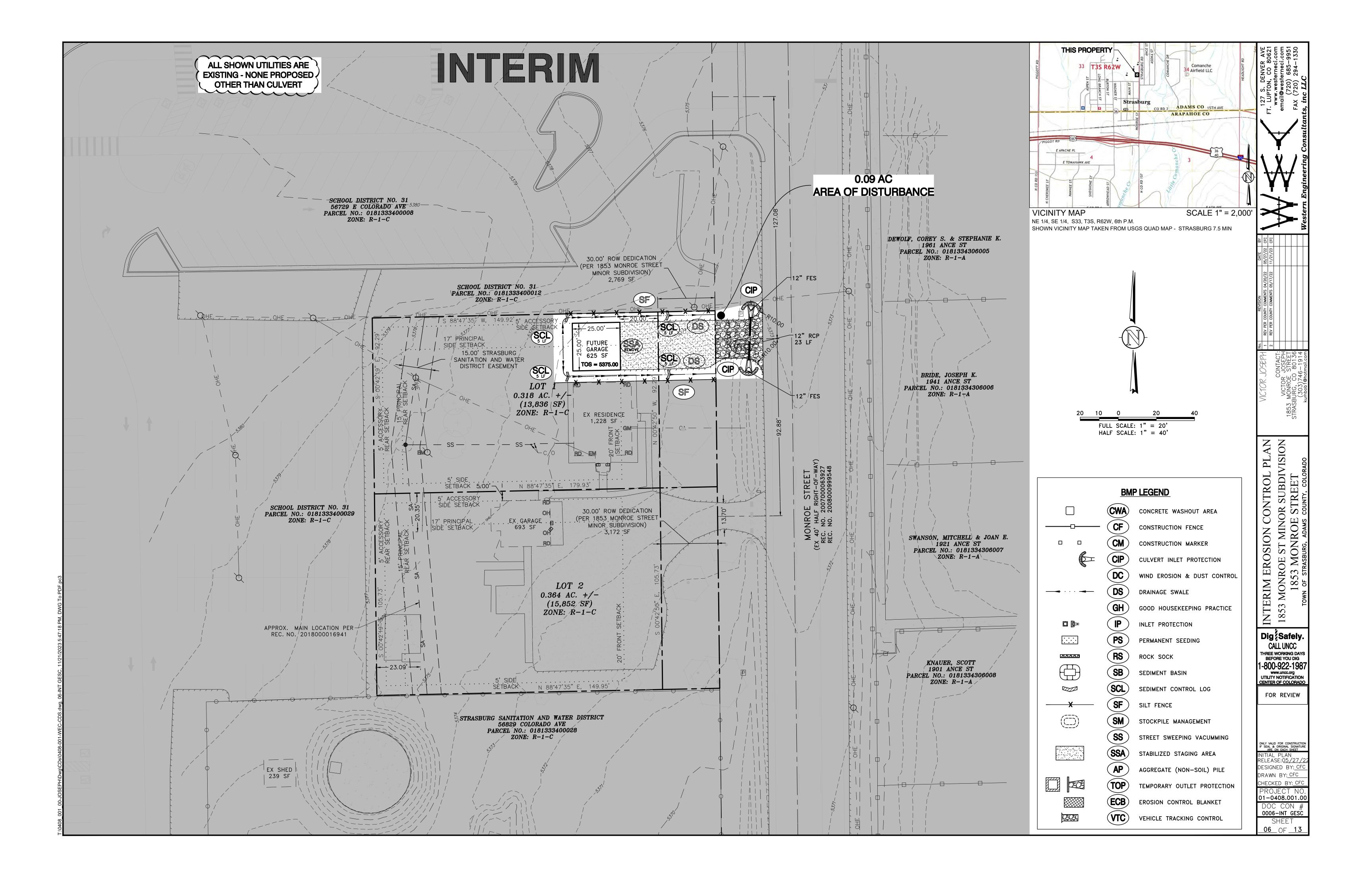


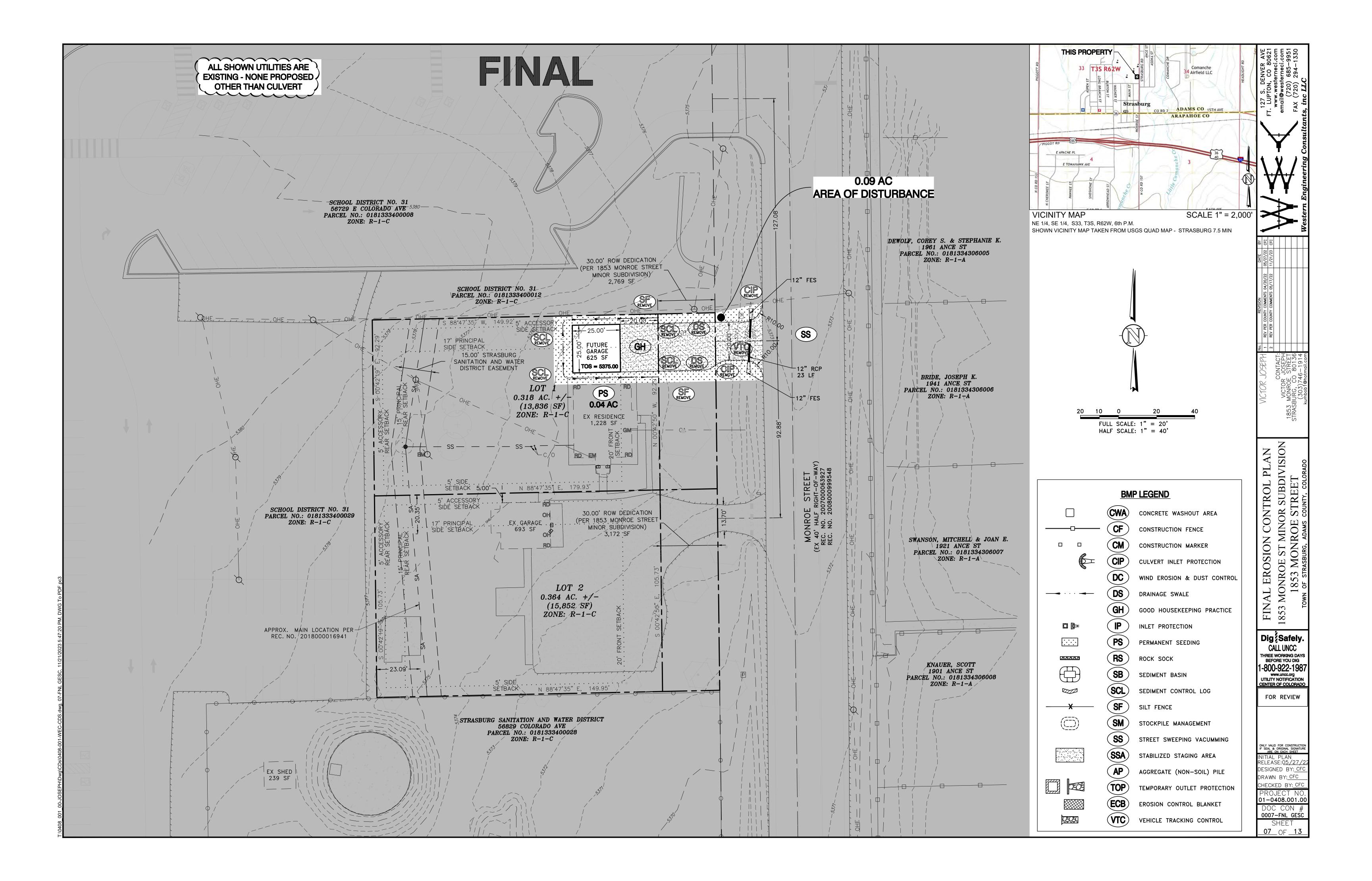












Appropriate Uses

Most construction sites will require a staging area, which should be clearly

Photograph SSA-1. Example of a staging area with a gravel surface to designated in SWMP drawings. The layout prevent mud tracking and reduce runoff. Photo courtesy of Douglas

of the staging area may vary depending on the type of construction activity. Staging areas located in roadways due to space constraints require special measures to avoid materials being washed into storm inlets.

Design and Installation

Stabilized staging areas should be completed prior to other construction activities beginning on the site. Major components of a stabilized staging area include:

- Appropriate space to contain storage and provide for loading/unloading operations, as well as parking
- A stabilized surface, either paved or covered, with 3-inch diameter aggregate or larger.
- Perimeter controls such as silt fence, sediment control logs, or other measures.
- Construction fencing to prevent unauthorized access to construction materials.
- Provisions for Good Housekeeping practices related to materials storage and disposal, as described in the Good Housekeeping BMP Fact Sheet.
- A stabilized construction entrance/exit, as described in the Vehicle Tracking Control BMP Fact Sheet, to accommodate traffic associated with material delivery and waste disposal vehicles.

Over-sizing the stabilized staging area may result in disturbance of existing vegetation in excess of that

required for the project. This increases costs, as well as requirements for long-term stabilization following the construction period. When designing the stabilized staging are minimize the area of disturbance to the extent practical.

***	Stabilized Staging Area				
rea,	Functions				
	Erosion Control	Yes			
	Sediment Control	Moderate			
	Site/Material	Yes			

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Stabilized Staging Area (SSA)

Minimizing Long-Term Stabilization Requirements

- Utilize off-site parking and restrict vehicle access to the site.
- Use construction mats in lieu of rock when staging is provided in an area that will not be disturbed
- Consider use of a bermed contained area for materials and equipment that do not require a stabilized surface.
- Consider phasing of staging areas to avoid disturbance in an area that will not be otherwise

See Detail SSA-1 for a typical stabilized staging area and SSA-2 for a stabilized staging area when materials staging in roadways is required.

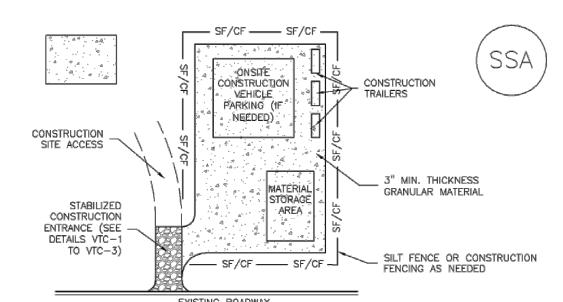
Maintenance and Removal

Maintenance of stabilized staging areas includes maintaining a stable surface cover of gravel, repairing perimeter controls, and following good housekeeping practices.

When construction is complete, debris, unused stockpiles and materials should be recycled or properly disposed. In some cases, this will require disposal of contaminated soil from equipment leaks in an appropriate landfill. Staging areas should then be permanently stabilized with vegetation or other surface cover planned for the development.

SSA-2	Urban Drainage and Flood Control District	November 201
	Urban Storm Drainage Criteria Manual Volume 3	

Stabilized Staging Area (SSA)



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- 2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- 3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- 4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR
- 5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. 6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES
- 1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- 4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

SM-6

SM-6

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

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

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

(DETAILS ADAPTED FROM BOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVIS
1853 MONROE STREET
TOWN OF STRASBURG, ADAMS COUNTY, COLORADO

Dig Safely.

CALL UNCC

THREE WORKING DAYS

BEFORE YOU DIG

1-800-922-1987

www.uncc.org

UTILITY NOTIFICATION

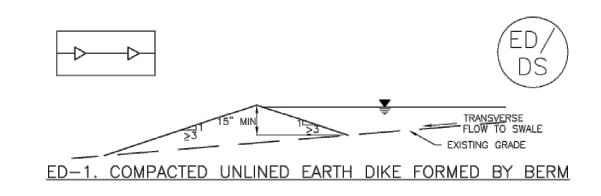
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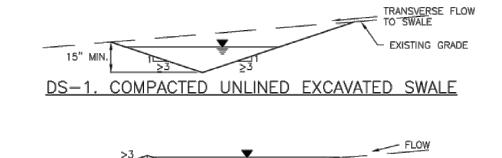
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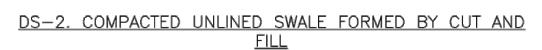
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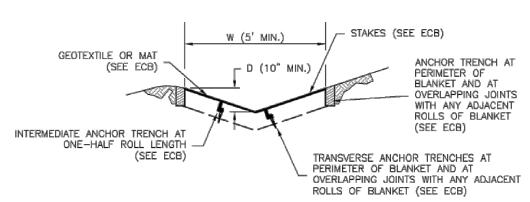
SC-1

Earth Dikes and Drainage Swales (ED/DS)





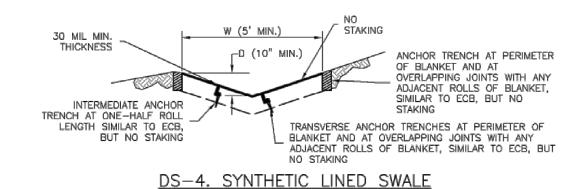




DS-3. ECB LINED SWALE (CUT AND FILL OR BERM)

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Earth Dikes and Drainage Swales (ED/DS)



THICKNESS=2 X D50 -#3 ROCK (CDOT SECT. 703, #3) OR RIPRAP

DS-5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

- 1. SEE SITE PLAN FOR: - LOCATION OF DIVERSION SWALE
- TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
- DEPTH, D, AND WIDTH, W DIMENSIONS. FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
 FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.
- 2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2—YEAR FLOW RATE OR 10 CFS.
- 3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY
- 4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.
- 5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.
- 6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS
- 7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

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

Earth Dikes and Drainage Swales (ED/DS) **EC-10**

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

4. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE. 5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL

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

A silt fence is a woven geotextile fabric attached to wooden posts and trenched into the ground. It is designed as a sediment barrier to intercept sheet flow

Appropriate Uses

A silt fence can be used where runoff is conveyed from a disturbed area as sheet flow. Silt fence is not designed to receive concentrated flow or to be used as a filter fabric. Typical uses include:

- Down slope of a disturbed area to accept sheet flow.
- Along the perimeter of a receiving water such as a stream, pond or wetland.
- At the perimeter of a construction site.

Design and Installation

Silt fence should be installed along the contour of slopes so that it intercepts sheet flow. The maximum recommended tributary drainage area per 100 lineal feet of silt fence, installed along the contour, is approximately 0.25 acres with a disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. Longer and steeper slopes require additional measures. This recommendation only applies to silt fence installed along the contour. Silt fence installed for other uses, such as perimeter control, should be installed in a way that will not produce concentrated flows. For example, a "J-hook" installation may be appropriate to force runoff to pond and evaporate or infiltrate in multiple areas rather than concentrate and cause erosive conditions parallel to the silt fence.

See Detail SF-1 for proper silt fence installation, which involves proper trenching, staking, securing the fabric to the stakes, and backfilling the silt fence. Properly installed silt fence should not be easily pulled out by hand and there should be no gaps between the ground and the fabric.

Silt fence must meet the minimum allowable strength requirements, depth of installation requirement, and other specifications in the design details. Improper installation of silt fence is a common reason for silt fence failure; however. when properly installed and used for the appropriate purposes, it

Silt Fence Functions **Erosion Control** Sediment Control Yes Site/Material Management No

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Photograph SF-1. Silt fence creates a sediment barrier, forcing

sheet flow runoff to evaporate or infiltrate.

can be highly effective.

Urban Storm Drainage Criteria Manual Volume 3

SHEET <u>08</u> of <u>13</u>

ED/DS-4

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

Urban Drainage and Flood Control District

NITIAL PLAN RELEASE:<u>05/27/2</u> DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC 01-0408.001.0

0008-GESC DTI

DIFFERENCES ARE NOTED.

EARTH DIKE AND DRAINAGE SWALE MAINTENANCE NOTES

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

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

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN

Silt Fence (SF) **Description**

SSA-4

runoff from disturbed areas.

Maintenance and Removal

Inspection of silt fence includes observing the material for tears or holes and checking for slumping fence and undercut areas bypassing flows. Repair of silt fence typically involves replacing the damaged section with a new section. Sediment accumulated behind silt fence should be removed, as needed to maintain BMP effectiveness, typically before it reaches a depth of 6 inches.

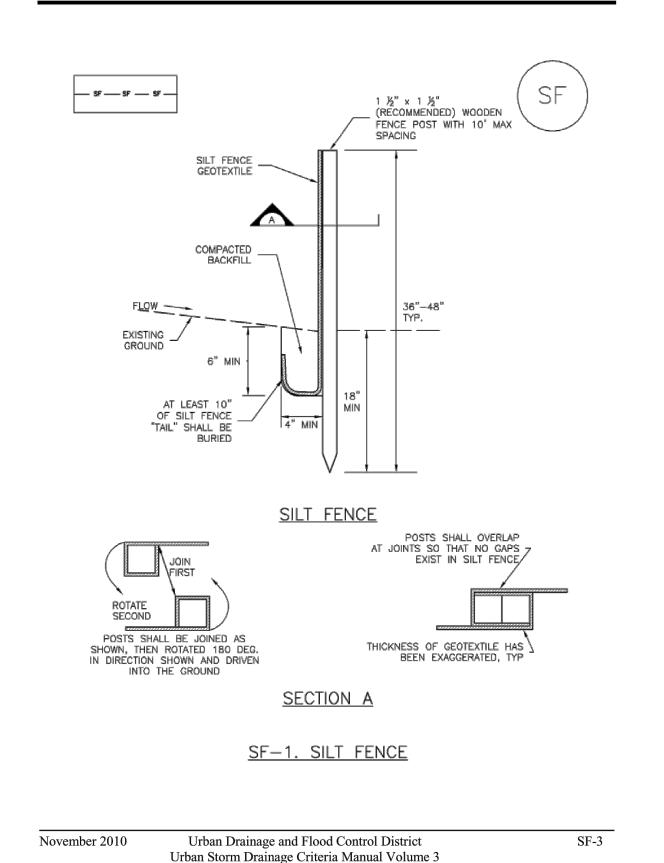
Silt fence may be removed when the upstream area has reached final stabilization.



Photograph SF-2. When silt fence is not installed along the contour, a "J-hook" installation may be appropriate to ensure that the BMP does not create concentrated flow parallel to the silt fence. Photo courtesy of Tom

November 2010

SC-1 Silt Fence (SF)



Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

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

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

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

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES, THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES. 5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC

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

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

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

EROSION, AND PERFORM NECESSARY MAINTENANCE 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE. 4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED

SEDIMENTS IS APPROXIMATELY 6". 5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

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

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION. (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD) NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS, CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

Vehicle Tracking Control (VTC)

SIDEWALK OR OTHER

PAVED SURFACE

INSTALL ROCK FLUSH WITH

COMPACTED SUBGRADE -

OR BELOW TOP OF PAVEMENT

50 FOOT (MIN.)

SM-4

LESS IF CONST

VEHICLES ARE

CONFINED ON BOTH SIDES)

PHYSICALLY

UNLESS OTHERWISE SPECIFIED

NON-WOVEN GEOTEXTILE

VTC-3

SM-4

BY LOCAL JURISDICTION, USE CDOT SECT. #703, AASHTO #3

COARSE AGGREGATE OR 6"

MINUS ROCK

BETWEEN SOIL AND ROCK

UNLESS OTHERWISE SPECIFIED BY LOCAL

3 COARSE AGGREGATE

OR 6" MINUS ROCK

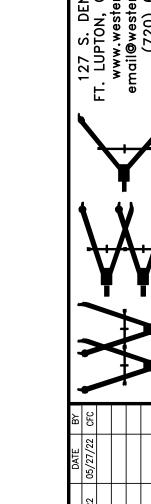
VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

Urban Drainage and Flood Control District

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JURISDICTION, USE COOT SECT. #703, AASHTO

NON-WOVEN GEOTEXTILE FABRIC



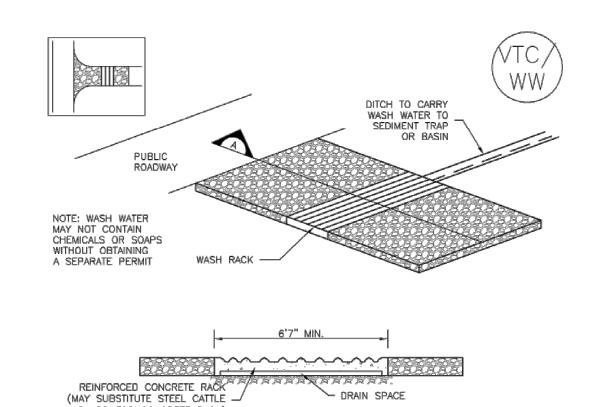
Vehicle Tracking Control (VTC) SM-4

GUARD FOR CONCRETE RACK)

VTC-4

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3



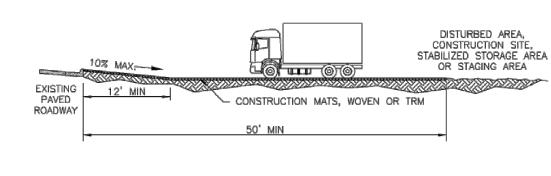
VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

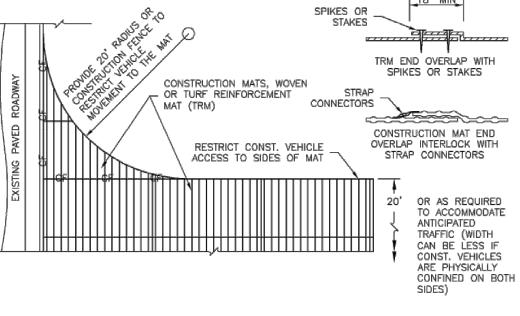
SECTION A

➤ DRAIN SPACE

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

Vehicle Tracking Control (VTC)





VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

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

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS. 4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

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

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

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

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

DOWN STORM SEWER DRAINS.

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

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

November 2010

Vehicle Tracking Control (VTC)

Description

Vehicle tracking controls provide stabilized construction site access where vehicles exit the site onto paved public roads. An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicles, reducing tracking onto the paved surface.

Appropriate Uses

Implement a stabilized construction entrance or vehicle tracking control where frequent heavy vehicle traffic exits the construction site onto a paved roadway. An

Photograph VTC-1. A vehicle tracking control pad constructed with properly sized rock reduces off-site sediment tracking.

effective vehicle tracking control is particularly important during the following conditions:

Wet weather periods when mud is easily tracked off site.

During dry weather periods where dust is a concern.

When poorly drained, clayey soils are present on site.

Although wheel washes are not required in designs of vehicle tracking controls, they may be needed at particularly muddy sites.

Design and Installation

Construct the vehicle tracking control on a level surface. Where feasible, grade the tracking control towards the construction site to reduce off-site runoff. Place signage, as needed, to direct construction vehicles to the designated exit through the vehicle tracking control. There are several different types of stabilized construction entrances including:

VTC-1. Aggregate Vehicle Tracking Control. This is a coarse-aggregate surfaced pad underlain by a geotextile. This is the most common vehicle tracking control, and when properly maintained can be effective at removing sediment from vehicle tires.

VTC-2. Vehicle Tracking Control with Construction Mat or Turf Reinforcement Mat. This type of control may be appropriate for site access at very small construction sites with low traffic volume over vegetated areas. Although this application does not typically remove sediment from vehicles, it helps protect existing vegetation and provides a stabilized entrance.

Vehicle Tracking Control

Functions Erosion Control Moderate Yes Sediment Control Site/Material Management Yes

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVIS
1853 MONROE STREET
TOWN OF STRASBURG, ADAMS COUNTY, COLORADO

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DOC CON 0009-GESC DTI SHEET

<u>09</u> of <u>13</u>

Maintenance and Removal

replace aggregate or material used for a

stabilized entrance/exit as needed. If the area becomes clogged and ponds water,

remove and dispose of excess sediment

or replace material with a fresh layer of

With aggregate vehicle tracking controls,

ensure rock and debris from this area do

Remove sediment that is tracked onto the

frequently as needed. Excess sediment

stabilized construction entrance needs

occur. This is typically after the site has been stabilized.

not enter the public right-of-way.

public right of way daily or more

in the roadway indicates that the

Ensure that drainage ditches at the

stabilize areas that may be eroding.

following removal, typically by paving.

entrance/exit area remain clear.

maintenance.

VTC-2

aggregate as necessary.

Inspect the area for degradation and

Photograph VTC-2. A vehicle tracking control pad with wheel wash

November 2010

SC-2

TO THESE FEATURES.

facility. Photo courtesy of Tom Gore.

A stabilized entrance should be removed only when there is no longer the potential for vehicle tracking to

When wheel wash equipment is used, be sure that the wash water is discharged to a sediment trap prior to

discharge. Also inspect channels conveying the water from the wash area to the sediment trap and

When a construction entrance/exit is removed, excess sediment from the aggregate should be removed

and disposed of appropriately. The entrance should be promptly stabilized with a permanent surface

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VTC-3. Stabilized Construction Entrance/Exit with Wheel Wash. This is an aggregate pad, similar

to VTC-1, but includes equipment for tire washing. The wheel wash equipment may be as simple as

hand-held power washing equipment to more advance proprietary systems. When a wheel wash is

Vehicle tracking controls are sometimes installed in combination with a sediment trap to treat runoff.

provided, it is important to direct wash water to a sediment trap prior to discharge from the site.

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

-DIMENSIONS OF OUTLET PROTECTION.

EROSION, AND PERFORM NECESSARY MAINTENANCE

DOCUMENTED THOROUGHLY.

November 2010

SEE PLAN VIEW FOR
 -LOCATION OF OUTLET PROTECTION.

TOP-3

TEMPORARY OUTLET PROTECTION INSPECTION AND MAINTENANCE NOTES

2. DETAIL IS INTENDED FOR PIPES WITH SLOPE \le 10%, ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.

3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS

POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE

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

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

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

 $\underline{\text{NOTE}};$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

Description

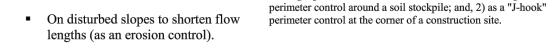
straw, coconut fiber, or compost. The most common type of sediment control log has straw filling and is often referred to as a "straw wattle." All sediment control logs are used as a sediment barrier to intercept sheet flow runoff from disturbed areas.

Sediment Control Log (SCL)

Appropriate Uses

Sediment control logs can be used in the following applications to trap sediment:

- As perimeter control for stockpiles and the site.
- As part of inlet protection designs.
- As check dams in small drainage ditches. (Sediment control logs are not intended for use in channels with high flow velocities.)



As part of multi-layered perimeter control along a receiving water such as a stream, pond or wetland.

Sediment control logs work well in combination with other layers of erosion and sediment controls.

Design and Installation

Sediment control logs should be installed along the contour to avoid concentrating flows. The maximum allowable tributary drainage area per 100 lineal feet of sediment control log, installed along the contour, is approximately 0.25 acres with a disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. Longer and steeper slopes require additional measures. This recommendation only applies to sediment control logs installed along the contour. When installed for other uses, such as perimeter control, it should be installed in a way that will not

produce concentrated flows. For example, a "J-hook" installation may be appropriate to force runoff to pond and evaporate or infiltrate in multiple areas rather than concentrate and cause erosive conditions parallel to the BMP.

Sediment Control Log Erosion Control Moderate Sediment Control Yes Site/Material Management No

SC-2

Photographs SCL-1 and SCL-2. Sediment control logs used as 1) a

November 2015 Urban Drainage and Flood Control District SCL-1 Urban Storm Drainage Criteria Manual Volume 3

SC-2

Sediment Control Log (SCL)

Although sediment control logs initially allow runoff to flow through the BMP, they can quickly become a barrier and should be installed as if they are impermeable.

Design details and notes for sediment control logs are provided in the following details. Sediment logs must be properly installed per the detail to prevent undercutting, bypassing and displacement. When installed on slopes, sediment control logs should be installed along the contours (i.e., perpendicular to flow).

Improper installation can lead to poor performance. Be sure that sediment control logs are properly trenched (if lighter than 8 lb/foot), anchored and tightly jointed.

Maintenance and Removal

Be aware that sediment control logs will eventually degrade. Remove accumulated sediment before the depth is one-half the height of the sediment log and repair damage to the sediment log, typically by replacing the damaged section.

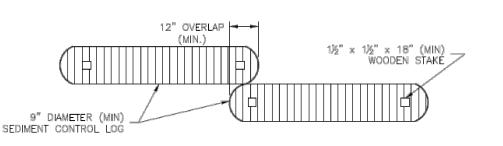
Once the upstream area is stabilized, remove and properly dispose of the logs. Areas disturbed beneath the logs may need to be seeded and mulched. Sediment control logs that are biodegradable may occasionally be left in place (e.g., when logs are used in conjunction with erosion control blankets as permanent slope breaks). However, removal of sediment control logs after final stabilization is typically appropriate when used in perimeter control, inlet protection and check dam applications. Compost from compost sediment control logs may be spread over the area and seeded as long as this does not cover newly established vegetation.

Sediment Control Log (SCL)

_ 1½" × 1½" × 18" (MIN) WOODEN STAKE 9" DIAMETER (MIN) SEDIMENT CONTROL LOG NOTES: 1.LARGER DIAMETER SEDIMENT CONTROL BE EMBEDDED DEEPER. 2.PLACE LOG AGAINST SIDEWALK OR BACK O

> TRENCHED SEDIMENT CONTROL LOG — CENTER STAKE IN CONTROL LOG COMPACTED EXCAVATED SEDIMENT CONTROL LOG

TRENCHED SEDIMENT CONTROL LOG



SCL-1. TRENCHED SEDIMENT CONTROL LOG

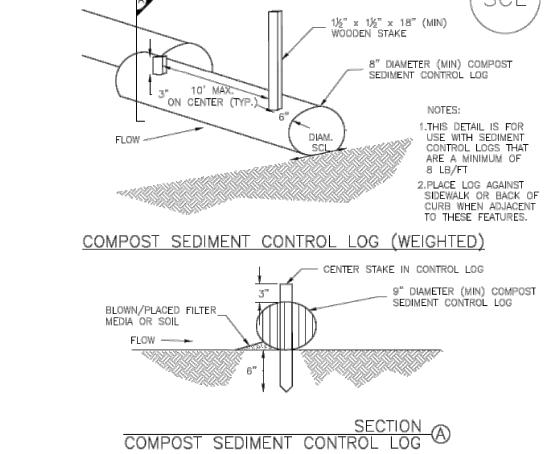
LOG JOINTS

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Sediment Control Log (SCL)

Urban Drainage and Flood Control District

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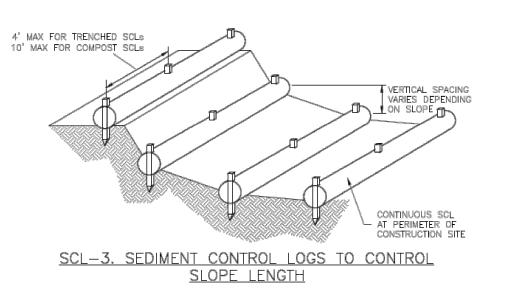


12" OVERLAP ---9" DIAMETER (MIN SEDIMENT CONTROL LOG LOG JOINTS

SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

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

Sediment Control Log (SCL)



SC-2

SCL-2

Sediment Control Log (SCL)

November 2015

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

Urban Drainage and Flood Control District

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4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING, COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND, 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED, IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, 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

Urban Drainage and Flood Control District SCL-6 Urban Storm Drainage Criteria Manual Volume 3

November 2015

EROSION CONTROL DETAILS
3 MONROE ST MINOR SUBDIVISIC
1853 MONROE STREET
TOWN OF STRASBURG, ADAMS COUNTY, COLORADO

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SHEET

<u> 10 of 13 </u>

1½" x 1½" x 18" (MIN) WOODEN STAKE

November 2015

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



Photograph IP-1. Inlet protection for a curb opening inlet.

Appropriate Uses

Install protection at storm sewer inlets that are operable during construction.

Consider the potential for tracked-out sediment or temporary stockpile areas to contribute sediment to inlets when determining which inlets must be protected. This may include inlets in the general proximity of the construction area, not limited to downgradient inlets. Inlet protection is <u>not</u> a stand-alone BMP and should be used in conjunction with other upgradient BMPs.

Design and Installation

To function effectively, inlet protection measures must be installed to ensure that flows do not bypass the inlet protection and enter the storm drain without treatment. However, designs must also enable the inlet to function without completely blocking flows into the inlet in a manner that causes localized flooding. When selecting the type of inlet protection, consider factors such as type of inlet (e.g., curb or area, sump or on-grade conditions), traffic, anticipated flows, ability to secure the BMP properly, safety and other site-specific conditions. For example, block and rock socks will be better suited to a curb and gutter along a roadway, as opposed to silt fence or sediment control logs, which cannot be properly secured in a curb and gutter setting, but are effective area inlet protection measures.

Several inlet protection designs are provided in the Design Details. Additionally, a variety of proprietary products are available for inlet protection that may be approved for use by local governments. If proprietary products are used, design details and installation procedures from the manufacturer must be followed. Regardless of the type of inlet protection selected, inlet protection is most effective when combined with other BMPs such as curb socks and check dams. Inlet protection is often the last barrier before runoff enters the storm sewer or receiving water.

Design details with notes are provided for these forms of inlet protection:

IP-1. Block and Rock Sock Inlet Protection for Sump or On-grade

ediment Control IP-2. Curb (Rock) Socks Upstream of Inlet Protection, On-grade Site/Material Management No

> Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

IP-3. Rock Sock Inlet Protection for Sump/Area Inlet

IP-4. Silt Fence Inlet Protection for Sump/Area Inlet

IP-5. Over-excavation Inlet Protection

IP-6. Straw Bale Inlet Protection for Sump/Area Inlet

CIP-1. Culvert Inlet Protection

Propriety inlet protection devices should be installed in accordance with manufacturer specifications. More information is provided below on selecting inlet protection for sump and on-grade locations.

Inlets Located in a Sump

When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For curb inlets, the maximum height of the protective barrier should be lower than the top of the curb opening to allow overflow into the inlet during larger storms without excessive localized flooding. If the inlet protection height is greater than the curb elevation, particularly if the filter becomes clogged with sediment, runoff will not enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.

Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on paved surfaces), sediment control logs/straw wattles embedded in the adjacent soil and stacked around the area inlet (on pervious surfaces), over-excavation around the inlet, and proprietary products providing equivalent functions.

Inlets Located on a Slope

SC-6

For curb and gutter inlets on paved sloping streets, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlets located along unpaved roads, also see the Check Dam Fact Sheet.

Maintenance and Removal

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation upgradient of the inlet protection.

Urban Drainage and Flood Control District August 2013 Urban Storm Drainage Criteria Manual Volume 3

CONCENTRATED

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

ORIENTED TOWARDS DIRECTION OF FLOW.

IP-5. OVEREXCAVATION INLET PROTECTION

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY

2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH

IP-6. STRAW BALE FOR SUMP INLET PROTECTION

2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.

ROCK FILTER

OR ROCK SOCK

IS CONCENTRATED)

STRAW BALE (SEE STRAW

BALE DESIGN DETAIL)

TIGHTLY ABUTTING ONE ANOTHER.

(USE IF FLOW

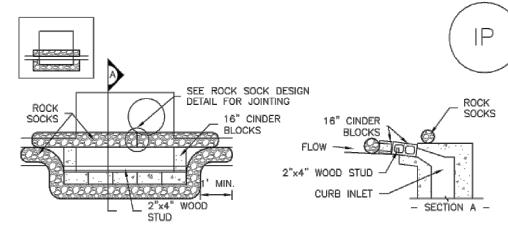
Inlet Protection (IP)

SC-6

- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
- Propriety inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.

Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.

SC-6 Inlet Protection (IP)



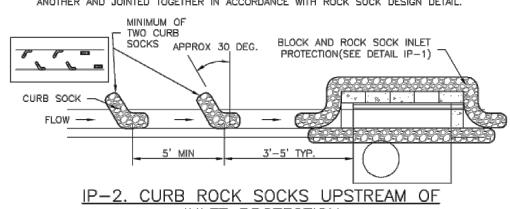
IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



INLET PROTECTION CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

- 1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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

August 2013

Inlet Protection (IP)

ROCK SOCK

August 2013

No

Yes

Inlet Protection

(various forms)

Erosion Control

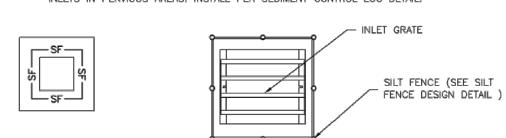
INLET GRATE SEE ROCK SOCK DETAIL

IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS, INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

- 1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- 3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR

INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

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

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 **Inlet Protection (IP)**

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

D (12" MIN.) -CUI VERT END SECTION BACKFILL UPSTREAM - ROCK SOCK

CULVERT INLET PROTECTION SECTION A PLAN [10" MIN. KEY IN ROCK SOCK O" ON BEDROCK, PAVEMENT OR RIPRAP KEY IN ROCK SOCK 2" ON EARTH SECTION B

CIP-1. CULVERT INLET PROTECTION CULVERT INLET PROTECTION INSTALLATION NOTES

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

CULVERT INLET PROTECTION MAINTENANCE NOTES 1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.

MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY. 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

Urban Drainage and Flood Control District

SC-6

Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION OF INLET PROTECTION.

-TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6) 2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING

IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT

3. 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.

INLET PROTECTION MAINTENANCE NOTES

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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 1/4 OF THE HEIGHT FOR

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

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. UDFCD 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

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.

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

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IP-7

SC-6

IN THE MANUFACTURER'S DETAILS.

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Description

Implement construction site good housekeeping practices to prevent pollution associated with solid, liquid and hazardous construction-related materials and wastes. Stormwater Management Plans (SWMPs) should clearly specify BMPs including these good housekeeping practices:

- Provide for waste management.
- Establish proper building material staging areas.
- Designate paint and concrete washout areas.
- Establish proper equipment/vehicle fueling and maintenance practices.
- Control equipment/vehicle washing and allowable nonstormwater discharges.
- Develop a spill prevention and response plan.

Acknowledgement: This Fact Sheet is based directly on EPA guidance provided in Developing Your Stormwater Pollution Prevent Plan (EPA 2007).

Appropriate Uses

Good housekeeping practices are necessary at all construction sites.

Design and Installation

The following principles and actions should be addressed in SWMPs:

• Provide for Waste Management. Implement management procedures and practices to prevent or reduce the exposure and transport of pollutants in stormwater from solid, liquid and sanitary wastes that will be generated at the site. Practices such as trash disposal, recycling, proper material handling, and cleanup measures can reduce the potential for stormwater runoff to pick up construction site wastes and discharge them to surface waters. Implement a comprehensive set of waste-management practices for hazardous or toxic materials, such as paints, solvents, petroleum products, pesticides, wood preservatives, acids, roofing tar, and other materials. Practices should include storage, handling, inventory, and cleanup procedures, in case of spills. Specific practices that should be considered include:

Solid or Construction Waste

o Designate trash and bulk waste-collection areas on-

Good Housekeeping			
Functions			
Erosion Control	No		
Sediment Control	No		
Site/Material Management	Yes		

MM-3

Photographs GH-1 and GH-2. Proper materials

storage and secondary containment for fuel tanks are important good housekeeping practices. Photos

courtesy of CDOT and City of Aurora.

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Good Housekeeping Practices (GH) MM-3

- o Recycle materials whenever possible (e.g., paper, wood, concrete, oil).
- o Segregate and provide proper disposal options for hazardous material wastes.
- o Clean up litter and debris from the construction site daily.
- o Locate waste-collection areas away from streets, gutters, watercourses, and storm drains. Wastecollection areas (dumpsters, and such) are often best located near construction site entrances to minimize traffic on disturbed soils. Consider secondary containment around waste collection areas to minimize the likelihood of contaminated discharges.
- o Empty waste containers before they are full and overflowing.

Sanitary and Septic Waste

- o Provide convenient, well-maintained, and properly located toilet facilities on-site.
- o Locate toilet facilities away from storm drain inlets and waterways to prevent accidental spills and contamination of stormwater.
- o Maintain clean restroom facilities and empty portable toilets regularly.
- o Where possible, provide secondary containment pans under portable toilets.
- o Provide tie-downs or stake-downs for portable toilets.
- o Educate employees, subcontractors, and suppliers on locations of facilities.
- o Treat or dispose of sanitary and septic waste in accordance with state or local regulations. Do not discharge or bury wastewater at the construction site.
- o Inspect facilities for leaks. If found, repair or replace immediately.
- o Special care is necessary during maintenance (pump out) to ensure that waste and/or biocide are not spilled on the ground.

Hazardous Materials and Wastes

- o Develop and implement employee and subcontractor education, as needed, on hazardous and toxic waste handling, storage, disposal, and cleanup.
- o Designate hazardous waste-collection areas on-site.
- o Place all hazardous and toxic material wastes in secondary containment.



Photograph GH-3. Locate portable toilet facilities on level surfaces away from waterways and storm drains. Photo courtesy of WWE.

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Good Housekeeping Practices (GH) MM-3

- o Hazardous waste containers should be inspected to ensure that all containers are labeled properly and that no leaks are present.
- **Establish Proper Building Material Handling and Staging Areas.** The SWMP should include comprehensive handling and management procedures for building materials, especially those that are hazardous or toxic. Paints, solvents, pesticides, fuels and oils, other hazardous materials or building materials that have the potential to contaminate stormwater should be stored indoors or under cover whenever possible or in areas with secondary containment. Secondary containment measures prevent a spill from spreading across the site and may include dikes, berms, curbing, or other containment methods. Secondary containment techniques should also ensure the protection of groundwater. Designate staging areas for activities such as fueling vehicles, mixing paints, plaster, mortar, and other potential pollutants. Designated staging areas enable easier monitoring of the use of materials and clean up of spills. Training employees and subcontractors is essential to the success of this pollution prevention principle. Consider the following specific materials handling and staging
- o Train employees and subcontractors in proper handling and storage practices.
- o Clearly designate site areas for staging and storage with signs and on construction drawings. Staging areas should be located in areas central to the construction site. Segment the staging area into sub-areas designated for vehicles, equipment, or stockpiles. Construction entrances and exits should be clearly marked so that delivery vehicles enter/exit through stabilized areas with vehicle tracking controls (See Vehicle Tracking Control Fact Sheet).
- o Provide storage in accordance with Spill Protection, Control and Countermeasures (SPCC) requirements and plans and provide cover and impermeable perimeter control, as necessary, for hazardous materials and contaminated soils that must be stored on site.
- o Ensure that storage containers are regularly inspected for leaks, corrosion, support or foundation failure, or other signs of deterioration and tested for soundness.
- o Reuse and recycle construction materials when possible.
- Designate Concrete Washout Areas. Concrete contractors should be encouraged to use the washout facilities at their own plants or dispatch facilities when feasible; however, concrete washout commonly occurs on construction sites. If it is necessary to provide for concrete washout areas onsite, designate specific washout areas and design facilities to handle anticipated washout water. Washout areas should also be provided for paint and stucco operations. Because washout areas can be a source of pollutants from leaks or spills, care must be taken with regard to their placement and proper use. See the Concrete Washout Area Fact Sheet for detailed guidance.

Both self-constructed and prefabricated washout containers can fill up quickly when concrete, paint, and stucco work are occurring on large portions of the site. Be sure to check for evidence that contractors are using the washout areas and not dumping materials onto the ground or into drainage facilities. If the washout areas are not being used regularly, consider posting additional signage, relocating the facilities to more convenient locations, or providing training to workers and contractors.

When concrete, paint, or stucco is part of the construction process, consider these practices which will help prevent contamination of stormwater. Include the locations of these areas and the maintenance and inspection procedures in the SWMP.

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MM-3

Good Housekeeping Practices (GH)

- o Do not washout concrete trucks or equipment into storm drains, streets, gutters, uncontained areas, or streams. Only use designated washout areas.
- o Establish washout areas and advertise their locations with signs. Ensure that signage remains in
- o Provide adequate containment for the amount of wash water that will be used.
- o Inspect washout structures daily to detect leaks or tears and to identify when materials need to be
- o Dispose of materials properly. The preferred method is to allow the water to evaporate and to recycle the hardened concrete. Full service companies may provide dewatering services and should dispose of wastewater properly. Concrete wash water can be highly polluted. It should not be discharged to any surface water, storm sewer system, or allowed to infiltrate into the ground in the vicinity of waterbodies. Washwater should not be discharged to a sanitary sewer system without first receiving written permission from the system operator.
- Establish Proper Equipment/Vehicle Fueling and Maintenance Practices. Create a clearly designated on-site fueling and maintenance area that is clean and dry. The on-site fueling area should have a spill kit, and staff should know how to use it. If possible, conduct vehicle fueling and maintenance activities in a covered area. Consider the following practices to help prevent the discharge of pollutants to stormwater from equipment/vehicle fueling and maintenance. Include the locations of designated fueling and maintenance areas and inspection and maintenance procedures in the SWMP.
- o Train employees and subcontractors in proper fueling procedures (stay with vehicles during fueling, proper use of pumps, emergency shutoff valves, etc.).
- o Inspect on-site vehicles and equipment regularly for leaks, equipment damage, and other service
- o Clearly designate vehicle/equipment service areas away from drainage facilities and watercourses to prevent stormwater run-on and runoff.
- Use drip pans, drip cloths, or absorbent pads when replacing spent fluids.
- o Collect all spent fluids, store in appropriate labeled containers in the proper storage areas, and recycle fluids whenever possible.
- Control Equipment/Vehicle Washing and Allowable Non-Stormwater Discharges. Implement practices to prevent contamination of surface and groundwater from equipment and vehicle wash water. Representative practices include:
- o Educate employees and subcontractors on proper washing procedures.
- o Use off-site washing facilities, when available.
- o Clearly mark the washing areas and inform workers that all washing must occur in this area.
- o Contain wash water and treat it using BMPs. Infiltrate washwater when possible, but maintain separation from drainage paths and waterbodies.

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Good Housekeeping Practices (GH)

- o Use high-pressure water spray at vehicle washing facilities without detergents. Water alone can remove most dirt adequately.
- o Do not conduct other activities, such as vehicle repairs, in the wash area.
- o Include the location of the washing facilities and the inspection and maintenance procedures in
- Develop a Spill Prevention and Response Plan. Spill prevention and response procedures must be identified in the SWMP. Representative procedures include identifying ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and response. The plan should also specify material handling procedures and storage requirements and ensure that clear and concise spill cleanup procedures are provided and posted for areas in which spills may potentially occur. When developing a spill prevention plan, include the following:
- o Note the locations of chemical storage areas, storm drains, tributary drainage areas, surface waterbodies on or near the site, and measures to stop spills from leaving the site.
- o Provide proper handling and safety procedures for each type of waste. Keep Material Safety Data Sheets (MSDSs) for chemical used on site with the SWMP.
- o Establish an education program for employees and subcontractors on the potential hazards to humans and the environment from spills and leaks.
- o Specify how to notify appropriate authorities, such as police and fire departments, hospitals, or municipal sewage treatment facilities to request assistance. Emergency procedures and contact numbers should be provided in the SWMP and posted at storage locations.

o Describe the procedures, equipment and materials for immediate cleanup of spills and proper

o Identify personnel responsible for implementing the plan in the event of a spill. Update the spill prevention plan and clean up materials as changes occur to the types of chemicals stored and used at the facility.

MM-3 Good Housekeeping Practices (GH)

Spill Prevention, Control, and Countermeasure (SPCC) Plan

- Construction sites may be subject to 40 CFR Part 112 regulations that require the preparation and implementation of a SPCC Plan to prevent oil spills from aboveground and underground storage tanks. The facility is subject to this rule if it is a non-transportation-related facility that:
- Has a total storage capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons.
- Could reasonably be expected to discharge oil in quantities that may be harmful to navigable waters of the United States and adjoining shorelines. Furthermore, if the facility is subject to 40 CFR Part 112, the SWMP should reference the SPCC Plan.

To find out more about SPCC Plans, see EPA's website on SPPC at www.epa.gov/oilspill/spcc.htm.

Reporting Oil Spills

In the event of an oil spill, contact the National Response Center toll free at 1-800-424-8802 for assistance, or for more details, visit their website: www.nrc.uscg.mil.

Maintenance and Removal

Effective implementation of good housekeeping practices is dependent on clear designation of personnel responsible for supervising and implementing good housekeeping programs, such as site cleanup and disposal of trash and debris, hazardous material management and disposal, vehicle and equipment maintenance, and other practices. Emergency response "drills" may aid in emergency preparedness.

Checklists may be helpful in good housekeeping efforts.

Staging and storage areas require permanent stabilization when the areas are no longer being used for construction-related activities.

Construction-related materials, debris and waste must be removed from the construction site once construction is complete.

Design Details

See the following Fact Sheets for related Design Details:

MM-1 Concrete Washout Area MM-2 Stockpile Management

SM-4 Vehicle Tracking Control

Design details are not necessary for other good housekeeping practices; however, be sure to designate where specific practices will occur on the appropriate construction drawings.

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Street Sweeping and Vacuuming (SS)

Street sweeping and vacuuming remove sediment that has been tracked onto roadways to reduce sediment transport into storm drain systems or a surface

offsite onto paved roadways.

Description

Appropriate Uses Use this practice at construction sites where vehicles may track sediment

Design and Installation

Photograph SS-1. A street sweeper removes sediment and potential pollutants along the curb line at a construction site. Photo courtesy of Street sweeping or vacuuming should be

conducted when there is noticeable sediment accumulation on roadways adjacent to the construction site. Typically, this will be concentrated at the entrance/exit to the construction site. Well-maintained stabilized construction entrances, vehicle tracking controls and tire wash facilities can help reduce the necessary frequency of street sweeping and

On smaller construction sites, street sweeping can be conducted manually using a shovel and broom. Never wash accumulated sediment on roadways into storm drains.

Maintenance and Removal

- Inspect paved roads around the perimeter of the construction site on a daily basis and more frequently, as needed. Remove accumulated sediment, as needed.
- Following street sweeping, check inlet protection that may have been displaced during street
- Inspect area to be swept for materials that may be hazardous prior to beginning sweeping operations.

Street Sweeping/ Vacuum	ning
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	Yes

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Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically 30 days or longer),

Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of proactive stabilization measures should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of

Typically, local governments have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

inactivity, temporary seeding and mulching can provide effective erosion control. Permanent seeding

should be used on finished areas that have not been otherwise stabilized.

Design and Installation

Effective seeding requires proper seedbed preparation, selection of an appropriate seed mixture, use of appropriate seeding equipment to ensure proper coverage and density, and protection with mulch or fabric until plants are established.

The USDCM Volume 2 Revegetation Chapter contains detailed seed mix, soil preparations, and seeding and mulching recommendations that may be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil, resulting in poor quality subsoils at the ground surface that have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other

Temporary and Permanent Seeding		
Functions		
Erosion Control	Yes	
Sediment Control	No	
Site/Material Management	No	

TS/PS-1

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Temporary and Permanent Seeding (TS/PS)

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (Chrysothamnus nauseosus), fourwing saltbush (Atriplex canescens) and skunkbrush sumac (Rhus trilobata) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (Prunus americana), woods rose (Rosa woodsii), plains cottonwood (Populus sargentii), and willow (Populus spp.) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

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Temporary and Permanent Seeding (TS/PS)

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species ^a (Common name)	Growth Season ^b	Pounds of Pure Live Seed (PLS)/acre ^c	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	1/2
5. Millet	Warm	3 - 15	1/2 - 3/4
6. Sudangrass	Warm	5–10	1/2 - 3/4
7. Sorghum	Warm	5–10	1/2 - 3/4
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2

- usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches. Hydraulic seeding may be substituted for drilling only where slopes are
- steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in
- See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.
- Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

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Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Common ^a Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alakali Soil Seed Mix					1
Alkali sacaton	Sporobolus airoides	Cool	Bunch	1,750,000	0.25
Basin wildrye	Elymus cinereus	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Jose tall wheatgrass	Agropyron elongatum 'Jose'	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix	<u>'</u>			•	
Ephriam crested wheatgrass	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	2.0
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix	K			•	1
Meadow foxtail	Alopecurus pratensis	Cool	Sod	900,000	0.5
Redtop	Agrostis alba	Warm	Open sod	5,000,000	0.25
Reed canarygrass	Phalaris arundinacea	Cool	Sod	68,000	0.5
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Pathfinder switchgrass	Panicum virgatum 'Pathfinder'	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	Agropyron elongatum 'Alkar'	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix ^c				•	
Ruebens Canadian bluegrass	Poa compressa 'Ruebens'	Cool	Sod	2,500,000	0.5
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	Lolium perenne 'Citation'	Cool	Sod	247,000	3.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Total					7.5

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Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix		•		•	
Blue grama	Bouteloua gracilis	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	Schizachyrium scoparium 'Camper'	Warm	Bunch	240,000	1.0
Prairie sandreed	Calamovilfa longifolia	Warm	Open sod	274,000	1.0
Sand dropseed	Sporobolus cryptandrus	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed	l Mix				
Ephriam crested wheatgrass ^d	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	Agropyron intermedium 'Oahe'	Cool	Sod	115,000	5.5
Vaughn sideoats grama ^e	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.5

- ^a All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.
- See Table TS/PS-3 for seeding dates.
- If site is to be irrigated, the transition turf seed rates should be doubled.
- Crested wheatgrass should not be used on slopes steeper than 6H to 1V.
- Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

	(Numbers in	l Grasses table reference able TS/PS-1)	Perennial Grasses		
Seeding Dates	Warm	Cool	Warm	Cool	
January 1–March 15			✓	✓	
March 16-April 30	4	1,2,3	✓	✓	
May 1–May 15	4		✓		
May 16–June 30	4,5,6,7				
July 1–July 15	5,6,7				
July 16–August 31					
September 1–September 30		8,9,10,11			
October 1–December 31			✓	✓	

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

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EROSION CONTROL DETAILS
53 MONROE ST MINOR SUBDIVIS
1853 MONROE STREET

TOWN OF STRASBIRG ADAMS COUNTY COLORADO Dig Safely. CALL UNCC THREE WORKING DAYS BEFORE YOU DIG 1-800-922-1987 www.uncc.org UTILITY NOTIFICATION

FOR REVIEW

CENTER OF COLORADO

INITIAL PLAN RELEASE:05/27/2 DESIGNED BY: CFC DRAWN BY: CFC CHECKED BY: CFC PROJECT N 01-0408.001.0 DOC CON 0013-GESC DTI

SHEET

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

CASE NO: PLT2022-00017

1853 MONROE STREET MINOR SUBDIVISON

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

Sheet 1 of 2

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS THAT JOSEPH SUMIT, BEING THE OWNER OF THAT PART OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH PRICIPAL MERIDIAN BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF 6TH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220.00 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220.00 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927, COUNTY OF ADAMS, STATE OF COLORADO.

SAID PARCEL CONTAINS 35,630 SQUARE FEET OR 0.82 ACRES, MORE OR LESS

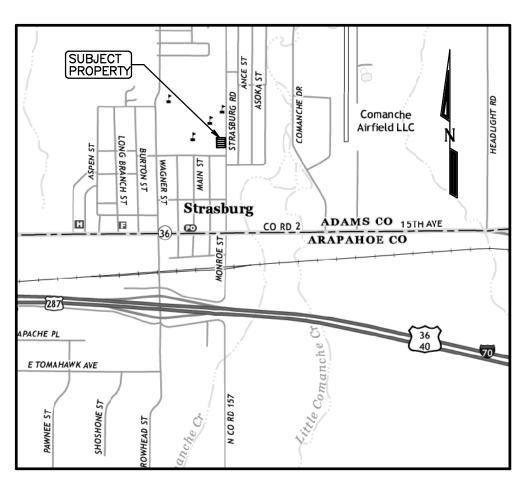
HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF 1853 MONROE STREET MINOR SUBDIVISON, AND DO HEREBY GRANT TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR THE USE OF THE PUBLIC, THE EASEMENTS AND OTHER PUBLIC UTITLITY, CABLE TV AND DETENTION POND AREAS, FLOODWAY AND FLOODPLAIN LIMITS, DRAINAGE AND OTHER PUBLIC PURPOSES AS DETERMINED BY THE COUNTY OF ADAMS.

JOSEPH SUMIT
ACKNOWLEDGEMENT
COLORADO) SS ADAMS COUNTY)
ADAMS COUNTY) 33
THE FOREGOING PLAT AND DEDICATION WAS ACKNOWLEDGED BEFORE ME BY: JOSEPH SUMIT AS OWNER
THISDAY OF, 20
NOTARY PUBLIC
MY COMMISSION EXPIRES:
MY ADDRESS IS:

SURVEYOR'S STATEMENT:

I, CURTIS D. HOOS, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAT WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THIS PLAT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ME TO DETERMINE OWNERSHIP.

CURTIS D. HOOS, PLS 37971 FOR AND ON BEHALF OF: AMERICAN WEST LAND SURVEYING CO. A COLORADO CORPORATION



VICINITY MAP: 1" = 2000'

NOTES:

1) BASIS OF BEARINGS: THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH P.M., IN ADAMS COUNTY, COLORADO, IS ASSUMED TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

2) ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

3) CERTIFICATION DEFINED: THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR, IN THE PRACTICE OF LAND SURVEYING, CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.

4) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON

5) AMERICAN WEST LAND SURVEYING COMPANY RELIED UPON TITLE COMMITMENT PROVIDED BY LAND TITLE GUARANTEE COMPANY DATED JUNE 7, 2022, ORDER NO. RND70775384 FOR INFORMATION REGARDING EASEMENTS AND RIGHTS-OF-WAY OF RECORD

6) DISTANCES ON THIS DRAWING ARE EXPRESSED IN U.S. SURVEY FEET AND DECIMALS THEREOF. A U.S. SURVEY FOOT IS DEFINED AS EXACTLY 1200/3937 METERS.

7) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP DATED MARCH 5, 2007, MAP NO. 08001C1002H, THE SUBJECT PROPERTY SHOWN HEREON LIES WITHING FLOOD ZONE "X" (AREA OF MINIMAL FLOOD HAZARD).

DI ANININIC	COMMISSION	ADDROVAL.
PLANNING	COMMISSION	APPRUVAL:

RECOMMENDED	FOR	APPROVAL E	BY THE	ADAMS	COUNTY	PLANNING	COMMISSIO	Ν
THIS	DAY	OF		/	A.D. 20			
CHAIR								
BOARD C)F	COUNT	/ C(OMMI	SSION	IERS	APPROV	/Δ
APPROVED BY	THE .	ADAMS COUN	ITY BO	ARD OF	COUNTY	COMMISSI	ONERS	

ADAMS COUNTY ATTORNEY'S OFFICE:

THIS _____ DAY OF _____ A.D. 20___

APPROVED AS TO FORM
CLERK AND RECORDER'S CERTIFICATE:
THIS MAP WAS FILED FOR RECORD IN THE OFFICE OF ADAMS COUNTY CLERK AND RECORDER, IN THE STATE OF COLORADO,
ATM. ON THE DAY OF, A.D. 20

RECEPTION NO._____



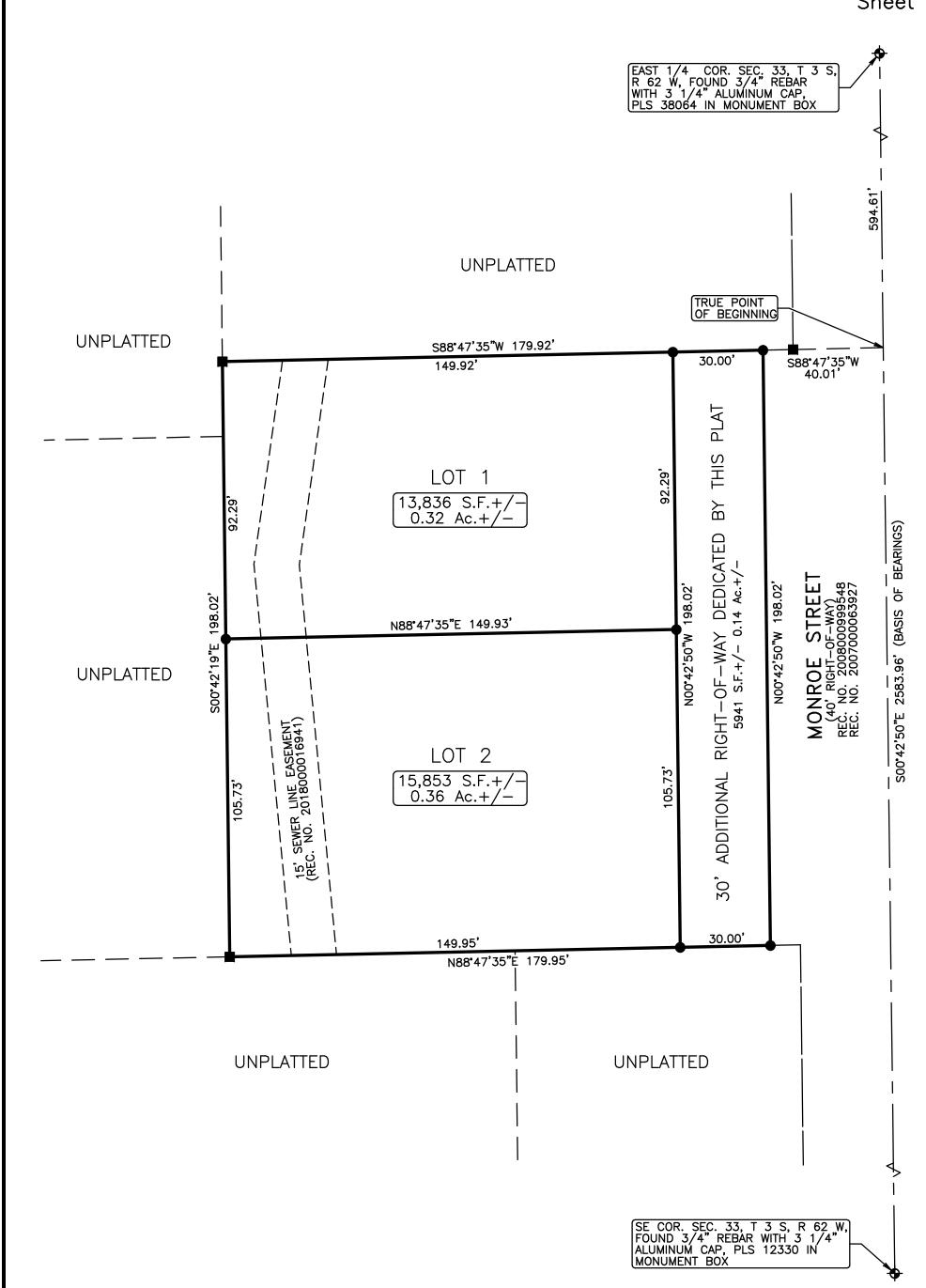
COUNTY CLERK AND RECORDER

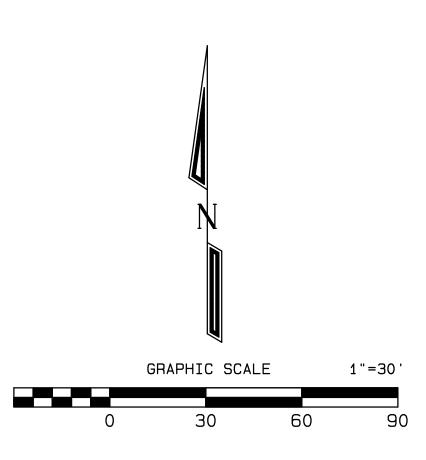
² O Box 129, Brighton, CO 80601 * P:303—659-	-1532 F:303–655	-0575 * amwestis.com
REVISION	DATE	SCALE 1" = 30'
		DATE: JUNE 27, 2022
		DRAWN BY: CDH
		CHECKED BY: MJH
		CLIENT: JOSEPH
		JOB NO: 22-
FILE: \\SERVER\Surveys\T_S\T3S_	R62W\S33\S33\1	853 MONROE ST_SUB.p

1853 MONROE STREET MINOR SUBDIVISON

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

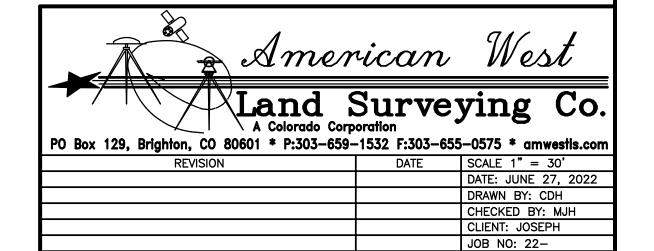
Sheet 2 of 2





LEGEND

- → = ALIQUOT MONUMENT, AS NOTED
- = SET 5/8" X 24" REBAR WITH 2" ALUMINUM CAP, PLS 37971
- = FOUND 5/8" REBAR WITH 1 1/4" RED PLASTIC CAP, PLS 38539



FILE: \\SERVER\Surveys\T_S\T3S_R62W\S33\S33\1853 MONROE ST_SUB.pro

LAND TITLE GUARANTEE COMPANY



Date: November 14, 2023

Subject: Attached Title Policy/Guarantee

Enclosed please find your product relating to the property located at 1853 MONROE ST., STRASBURG, CO 80136.

If you have any inquiries or require further assistance, please contact SCOTT CIESLEWICZ at (303) 850-4189 or scieslewicz@ltgc.com

Chain of Title Documents:

<u>Adams county recorded 02/08/2018 under reception no. 2018000011536</u>

Property Information Binder

CONDITIONS AND STIPULATIONS

1. Definition of Terms

The following terms when used in this Binder mean:

- (a) "Land": The land described, specifically or by reference, in this Binder and improvements affixed thereto which by law constitute real property;
- (b) "Public Records"; those records which impart constructive notice of matters relating to said land;
- (c) "Date": the effective date;
- (d) "the Assured": the party or parties named as the Assured in this Binder, or in a supplemental writing executed by the Company;
- (e) "the Company" means Old Republic National Title Insurance Company, a Minnesota stock company.

2. Exclusions from Coverage of this Binder

The company assumes no liability including cost of defense by reason of the following:

- (a) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; taxes and assessments not yet due or payable and special assessments not yet certified to the Treasurer's office.
- (b) Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
- (c) Title to any property beyond the lines of the Land, or title to streets, roads, avenues, lanes, ways or waterways on which such land abuts, or the right to maintain therein vaults, tunnels, ramps, or any other structure or improvement; or any rights or easements therein unless such property, rights or easements are expressly and specifically set forth in said description.
- (d) Mechanic's lien(s), judgment(s) or other lien(s).
- (e) Defects, liens, encumbrances, adverse claims or other matters: (a) created, suffered or agreed to by the Assured;(b) not known to the Company, not recorded in the Public Records as of the Date, but known to the Assured as ofthe Date; or (c) attaching or creating subsequent to the Date.

3. Prosecution of Actions

- The Company shall have the right at its own costs to institute and prosecute any action or proceeding
 or do any other act which in its opinion may be necessary or desirable to establish or confirm the
 matters herein assured; and the Company may take any appropriate action under the terms of this
 Binder, whether or not it shall be liable thereunder and shall not thereby concede liability or waive any
 provision hereof.
- In all cases where the Company does not institute and prosecute any action or proceeding, the
 Assured shall permit the Company to use, at its option, the name of the Assured for this purpose.
 Whenever requested by the Company, the Assured shall give the Company all reasonable aid in
 prosecuting such action or proceeding, and the Company shall reimburse the Assured for any expense
 so incurred.

4. Notice of Loss - Limitation of Action

A statement in writing of any loss or damage for which it is claimed the Company is liable under this Binder shall be furnished to the Company within sixty days after such loss or damage shall have been determined, and no right of action shall accrue to the Assured under this Binder until thirty days after such statement shall have been furnished, and no recovery shall be had by the Assured under this Binder unless action shall be commenced thereon with two years after expiration of the thirty day period. Failure to furnish the statement of loss or damage or to commence the action within the time herinbefore specified, shall be conclusive bar against maintenance by the Assured of any action under this Binder.

5. Option to Pay, Settle or Compromise Claims

The Company shall have the option to pay, settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Binder, or to pay the full amount of this Binder. Such payment or tender of payment of the full amount of the Binder shall terminate all liability of the Company hereunder.

6. Limitation of Liability - Payment of Loss

- (a) The liability of the Company under this Binder shall be limited to the amount of actual loss sustained by the Assured because of reliance upon the assurances herein set forth, but in no event shall the liability exceed the amount of the liability stated on the face page hereof.
- (b) The Company will pay all costs imposed upon the Assured in litigation carried on by the Company for the Assured, and all costs and attorneys' fees in litigation carried on by the Assured with the written authorization of the Company.
- (c) No claim for loss or damages shall arise or be maintainable under this Binder (1) if the Company after having received notice of any alleged defect, lien or encumbrance not shown as an Exception or excluded herein removes such defect, lien or encumbrance within a reasonable time after receipt of such notice, or (2) for liability voluntarily assumed by the Assured in settling any claim or suit without written consent of the Company.
- (d) All payments under this Binder, except for attorney's fees as provided for in paragraph 6(b) thereof, shall reduce the amount of the liability hereunder pro tanto, and no payment shall be made without producing this Binder or an acceptable copy thereof for endorsement of the payment unless the Binder be lost or destroyed, in which case proof of the loss or destruction shall be furnished to the satisfaction of the Company.
- (e) When liability has been definitely fixed in accordance with the conditions of this Binder, the loss or damage shall be payable within thirty days thereafter.

7. Subrogation Upon Payment or Settlement

Whenever the Company shall have settled a claim under this Binder, all right of subrogation shall vest in the Company unaffected by any act of the Assured, and it shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Binder not been issued. If the payment does not cover the loss of the Assured, the Company shall be subrogated to the rights and remedies in the proportion which the payment bears to the amount of said loss. The Assured, if requested by the Company, shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect the right of subrogation, and shall permit the Company to use the name of the Assured in any transaction or litigation involving the rights or remedies.

8. Binder Entire Contract

Any action or actions or rights of action that the Assured may have or may bring against the Company arising out of the subject matter hereof must be based on the provisions of this Binder. No provision or condition of this Binder can be waived or changed except by a writing endorsed or attached hereto signed by the President, a Vice President, the Secretary, an Assistant Secretary or other validating officer of the Company.

9. Notices. Where Sent

All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at 400 Second Avenue South, Minneapolis, Minnesota 55401, (612) 371-1111.

10. Arbitration

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association.

ANTI-FRAUD STATEMENT: Pursuant to CRS 10-1-128(6)(a), it is unlawful to knowingly provide false, incomplete or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado division of insurance within the department of regulatory agencies.

This anti-fraud statement is affixed and made a part of this policy.

Issued by: Land Title Guarantee Company 3033 East First Avenue Suite 600 Denver, Colorado 80206 303-321-1880

Craig B. Rants, Senior Vice President

TITLE NO LANGE OF THE PARTY OF

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY A Stock Company 400 Second Avenue South, Minneapolis, Minnesota 55401 (612) 371-1111

AMERICAN LAND TITLE ASSOCIATION



Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

Liability: \$50,000.00

Fee: \$500.00

Subject to the exclusions from coverage, the limits of liability and other provisions of the Conditions and Stipulations hereto annexed and made a part of this Binder,

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY a Corporation, herein called the Company,

GUARANTEES

WESTERN ENGINEERING CONSULTANTS, INC. LLC

Herein called the Assured, against loss, not exceeding the liability amount stated above, which the assured shall sustain by reason of any incorrectness in the assurance which the Company hereby gives that, according to the public records as of

October 23, 2023 at 5:00 P.M.

1. Title to said estate or interest at the date hereof is vested in:

SUMIT JOSEPH

2. The estate or interest in the land hereinafter described or referred to covered by this Binder:

FEE SIMPLE

3. The Land referred to in this Binder is described as follows:

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF 6TH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31 IN WARRANTY DEED RECORDED SEPTEMBER 29, 1917 IN BOOK 64 AT PAGE 273, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220.00 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220.00 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927,

COUNTY OF ADAMS, STATE OF COLORADO.

Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

4. The following documents affect the land:

- EXISTING LEASES AND TENANCIES, IF ANY.
- 2. RESERVATIONS BY THE UNION PACIFIC UNION RAIL ROAD COMPANY OF (1) OIL, COAL AND OTHER MINERALS UNDERLYING THE LAND, (2) THE EXCLUSIVE RIGHT TO PROSPECT FOR, MINE AND REMOVE OIL, COAL AND OTHER MINERALS, AND (3) THE RIGHT OF INGRESS AND EGRESS TO PROSPECT FOR, MINE AND REMOVE OIL, COAL AND OTHER MINERALS AS DESCRIBED IN DEED RECORDED DECEMBER 14, 1906 IN BOOK 25 AT PAGE 166, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED APRIL 14, 1971 IN BOOK 1684 AT PAGE 281.

MINERAL DEED BY AND BETWEEN UNION PACIFIC RAILROAD CORPORATION, A UTAH CORPORATION, GRANTOR, AND CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION, GRANTEE, RECORDED MAY 20, 1976 IN BOOK 2064 AT PAGE 801.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED DECEMBER 17, 1976 IN BOOK 2110 AT PAGE 453 AND RE-RECORDED JANUARY 24, 1977 IN BOOK 2543 AT PAGE 669.

QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED JANUARY 8, 1996 IN BOOK 4659 AT PAGE 485.

RELEASE AND QUITCLAIM DEED IN CONNECTION THEREWITH RECORDED NOVEMBER 23, 1998 UNDER RECEPTION NO. C0470914.

REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 20, 2002 UNDER RECEPTION NO. <u>C0971872</u>.

DEED RECORDED FEBRUARY 6, 2020 UNDER RECEPTION NO. 2020000011990.

- 3. OIL AND GAS LEASE BETWEEN CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION AND AMOCO PRODUCTION COMPANY, A DELAWARE CORPORATION, RECORDED JUNE 02, 1976 IN BOOK 2067 AT PAGE 100; AND RE-RECORDED JUNE 11, 1976 IN BOOK 2457 AT PAGE 76 (ARAPAHOE COUNTY RECORDS) AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.
- 4. OIL AND GAS LEASE BETWEEN CHAMPLIN PETROLEUM COMPANY, A DELAWARE CORPORATION AND AMOCO PRODUCTION COMPANY, A DELAWARE CORPORATION, RECORDED AUGUST 12, 1976 IN BOOK 2082 AT PAGE 672; AND RE-RECORDED AUGUST 31, 1976 IN BOOK 2489 AT PAGE 42 (ARAPAHOE COUNTY RECORDS) AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.
 - RATIFICATION OF LEASES IN CONNECTION THEREWITH RECORDED DECEMBER 10, 1990 IN BOOK 3735 AT PAGE 141.
 - NOTE: THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.
- 5. ANY ASSESSMENT OR LIEN OF STRASBURG SANITATION AND WATER DISTRICT, AS DISCLOSED BY RESOLUTION RECORDED MAY 20. 2002 UNDER RECEPTION NO. <u>C0971960</u>.
- 6. RIGHTS OF OTHERS IN AND TO, OVER AND ACROSS ANY PORTION OF SUBJECT PROPERTY LYING WITHIN MONROE STREET, IF ANY, AS DISCLOSED ON MAP. THE REFERENCED DOCUMENT IS STORED IN OUR SYSTEM AS IMAGE 63229433.
- TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ZONING HEARING DECISION - CASE #RCU2006-00033 RECORDED OCTOBER 20, 2006 UNDER RECEPTION NO. 2006000991794.

Old Republic National Title Insurance Company PROPERTY INFORMATION BINDER

Order Number: RND70822091 **Policy No.:** PIB70822091.25737791

- 8. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED MARCH 09, 2007 UNDER RECEPTION NO. 2007000024979; FIRST AMENDMENT TO AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED DECEMBER 18, 2008 UNDER RECEPTION NO. 2008000097648.
 - AMENDED AND RESTATED AGREEMENT FOR TEMPORARY EASEMENT ENCROACHMENT RECORDED FEBRUARY 18, 2018 UNDER RECEPTION NO. 2018000016944.
- 9. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN RESOLUTION 2015-347 RECORDED AUGUST 05, 2015 UNDER RECEPTION NO. 2015000064252.
- 10. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN SEWER EASEMENT AGREEMENT GRANTED UNTON STRASBURG SANITATION AND WATER DISTRICT RECORDED FEBRUARY 28, 2018 UNDER RECEPTION NO. 2018000016941.
- 11. DEED OF TRUST DATED JUNE 10, 2020 FROM SUMIT JOSEPH TO THE PUBLIC TRUSTEE OF ADAMS COUNTY FOR THE USE OF COYOTE CREEK CAPITAL TO SECURE THE SUM OF \$213,000.00, AND ANY OTHER AMOUNTS PAYABLE UNDER THE TERMS THEREOF, RECORDED JUNE 25, 2019, UNDER RECEPTION NO. 2019000049244.
- 12. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN Zoning resolution 2023-142 RECORDED JUNE 08, 2023 UNDER RECEPTION NO. 2023000032315.

NOTE: ADDITIONAL UPDATES TO THE EFFECTIVE DATE OF THE BINDER MAY BE REQUESTED BY THE PROPOSED INSURED. ONE UPDATE IS INCLUDED WITH THIS BINDER AT NO ADDITIONAL COST. ANY ADDITIONAL UPDATES WILL BE ISSUED AT THE COST OF \$135 PER UPDATE. FOR EACH UPDATE PROVIDED, A REVISED BINDER WILL BE ISSUED SHOWING A NEW EFFECTIVE DATE AND ANY MATTERS RECORDED SINCE THE EFFECTIVE DATE OF THE PREVIOUS BINDER.

THIS PRODUCT WILL ONLY BE UPDATED FOR 24 MONTHS FOLLOWING THE EFFECTIVE DATE OF THE ORIGINAL BINDER.

NOTE: THIS BINDER DOES NOT REFLECT THE STATUS OF TITLE TO WATER RIGHTS OR REPRESENTATION OF SAID RIGHTS, RECORDED OR NOT.

NOTE: THIS BINDER IS NOT A REPORT OR REPRESENTATION AS TO MINERAL INTERESTS, AND SHOULD NOT BE USED, OR RELIED UPON, IN CONNECTION WITH THE NOTICE REQUIREMENTS THAT ARE SET FORTH IN CRS 24-65.5-103.

STRASBURG SANITATION and WATER DISTRICT P.O. BOX 596 STRASBURG, CO 80136

Visit our website at www.strasburgwater.com

TYPE	METER RE	ADING	USED	CHARGES
OF SERVICE	PRESENT	PREVIOUS		
Water	688	688	0	10.00
Sewa				17.00
	MD Fee			44.00
Bitci	VID T CC			

FIRST-CLASSOM U.S. POSTAGEPABAID STRASBURG, CO PERMIT NO. 3

CUS.	TOMER	DUE DATE
ROUTE	ACCOUNT	PAST DUE AFTER THIS DATE
1	346	11/15/21
TOTAL DUE	JPON RECEIPT	PAST DUE AMOUNT
7	1.00	71.71

MAIL THIS STUB WITH YOUR PAYMENT

Service From 9/30/2021 TO 10/29/2021 ACCOUNT # 346 11/1/21

THE PROPERTY OF THE PROPERTY O	METER	READ	CLASS	TOTAL DUE	LATE CHARGE	PAST DUE
10 29 36 71.00 0.71 71.71	10				0.71	71.71

Bills are due and payable within 15 days from above date, delinquent thereafter and subject to 1.5% monthly interest penalty on all past due amount. May be paid at the Guaranty Bank in Strasburg.
Customer assumes full responsibility for knowledge or and compliance with the

rules and regulations of the District. Copies available at District Office.

Prairie Learning Center Joseph, Victor & Sumit 23657 E. Ellsworth Ave. Aurora CO 80018

STRASBURG SANITATION and WATER DISTRICT P.O. BOX 596 STRASBURG, CO 80136

Visit our website at www.strasburgwater.com

TYPE	METER RE	ADING	USED	CHARGES
SERVICE	PRESENT	PREVIOUS	OGED	UIIARGES
Water	773	773	0	10.00
Sewage				17.00
EACM	D Fee			30.77

FIRST-CLASS MAIL FIRST-CLASS SO MAGE U.S. POSTAGEADAI STRASBURG, CO PERMIT NO. 3

CUST	OMER	DUE DATE		
ROUTE	ACCOUNT	PAST DUE AFTER THIS DATE		
1 3		11/15/21		
TOTAL DUE L	PON RECEIPT	PAST DUE AMOUNT		
5	7.77	58.35		

MAIL THIS STUB WITH YOUR PAYMENT

1853 Monroe St.

Service From 9/30/2021 TO 10/29/2021 ACCOUNT # 3 11/1/21

METE	RREAD	101 400	TOTAL DUE	LATE CHARGE	PAST DUE	
MONTH	DAY	CLASS	UPON RECEIPT	AFTER DUE DATE	AMOUNT	
10	20	1	57.77	0.58	58.35	415
10	2)	_	31.11	0.30	30.33	

Bills are due and payable within 15 days from above date, delinquent thereafter and subject to 1.5% monthly interest penalty on all past due amount. May be paid at the Guaranty Bank in Strasburg.

Customer assumes full responsibility for knowledge of and compliance rules and regulations of the District. Copies available at District Office.

Prairie Learning Center Joseph, Victor & Sumit 23657 E. Ellsworth Ave. Aurora CO 80018



5496 N. U.S. Highway 85 | Sedalia, CO 80135







Online

www.CORE.coop





Facebook CORECooperative

Account Inform	per Name			
Account Numbe	r	95570307		
Member Name				
DAVID LLC				
Service Address HOUSE 1853 MO				
Cycle 13	Rate A	District 6		

Account Summary	
Bill Date	02/17/22
Previous Bill	-\$124.64
Total Payments	\$0.00
Credit Balance	-\$124.64
Current Bill	\$64.92
Total Account Balance	-\$59.72

Account #	95570307
CREDIT E	BALANCE
No Paymer	nt Required
-\$59	9.72

Usage Profile

	Last Year 159 kWh			Last Month 340 kWh				is Mo 78 k\				
159	138 MAR	135 APR	126 MAY	127 JUN	131 JUL	113 AUG	55 SEP	40 OCT	78 NOV	203 DEC	340 JAN	378 FEB
FEB 21	MAR 21	APK 21	21	21	21	21	21	21	21	21	22	22



Important Billing Information

CORE offers eBilling and Automatic Bill Pay to make receiving and paying your bills easier. To learn more or to enroll, visit www.CORE.coop/billing-payment.

Additional bill details on back

Message Board

A CORE App is Coming! An account management app for both iOS and Android devices will be available soon. It will allow you to pay your bill, contact us, view your billing history, set up personalized alerts and get the latest CORE updates. Visit www.CORE.coop for additional info.

Capital Credits Expected This Summer. We plan to refund capital credits in 2022, after our software upgrades are completed this spring.

This Month

PLEASE RETURN THIS PORTION WITH YOUR CHECK TO ENSURE PROPER CREDIT TO YOUR ACCOUNT

CYCLE: 1



CORE Electric Cooperative P.O. DRAWER A SEDALIA, CO 80135

Check box to update contact info, sign up for paperless billing or contribute to Energy Outreach Colorado. Fill out information on reverse side



բվիկիկինընժժժմգիկիններերեիներեկ

4568 1 AB 0.461 0165684-IRES198635-ST.1GRP_0-004568 DAVID LLC C/O SUMIT JOSEPH 23657 E ELLSWORTH AVE AURORA CO 80018-1556



Bill Date Account Number

02/17/2: 9557030

Total Account Balance

-\$59.7

CREDIT BALANCE - NO PAYMENT REQUIRE

MAKE CHECKS PAYABLE TO: CORE Electric Cooperative

CORE ELECTRIC COOPERATIVE P.O. BOX 6437 CAROL STREAM IL 60197-6437

00006492 0095570307 00005972 0095570307

LEGAL DESCRIPTION

According to Land Title Guaranty document

A TRACT OF LAND IN THE NE 1/4 OF THE SE 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF SIXTH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 33 WHICH IS 455.58 FEET, MORE OR LESS, DUE EAST OF THE NE CORNER OF A TRACT OF GROUND WHICH HAS BEEN HERETOFORE CONVEYED BY O.E. BRINEY TO JOINT SCHOOL DISTRICT NO. 31, THENCE SOUTH ALONG SAID EAST SECTION LINE 198 FEET TO A POINT, THENCE WEST 220 FEET TO A POINT, THENCE NORTH 198 FEET TO A POINT, THENCE EAST 220 FEET TO THE POINT OF BEGINNING,

EXCEPT THOSE PORTIONS CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO IN DEEDS RECORDED NOVEMBER 13, 2006 UNDER RECEPTION NO. 2006000999548, AND RECORDED JULY 3, 2007 UNDER RECEPTION NO. 2007000063927,

COUNTY OF ADAMS, STATE OF COLORADO.



TREASURER & PUBLIC TRUSTEE ADAMS COUNTY, COLORADO

Certificate Of Taxes Due

Account Number R0081742 Parcel 0181333400011 Assessed To JOSEPH SUMIT 23657 E ELLSWORTH AVE AURORA, CO 80018-1556

Certificate Number 2023-233284
Order Number
Vendor ID
VICTOR JOSEPH
23657 E ELLSWORTH AVE AURORA, CO 80018-1556

Legal Description

Situs Address

SECT.TWN.RNG.33-3-62 DESC: TRACT IN NE4 SE4 SEC 33 DESC BEG AT PT ON E LN SEC 33 WHICH IS 455/85 FT M/L DUE E
OF NE COR OF TRACT CONVEYED TO SCHOOL DIST 31 TH S ALG E LN OF SD SEC 198 FT TO PT TH W 220 FT TH N 198 FT

W 220 FT TH N 198 FT

Fees Payments

Year	Tax		Interest		Fees	Payments	Balance
Tax Charge						x u j menuj	Durantee
2022 \$1	0,217.58		\$206.45	200000	\$0.00	(\$10,424.03)	\$0.00
Total Tax Charge							\$0.00
Grand Total Due as of 07/11/2023							\$0.00
Tax Billed at 2022 Rates for Tax Area 40	6 - 406						
Authority		Mill Levy		Amount	Values	Actual	Assessed
RANGEVIEW LIBRARY DISTRICT		3.6150000*		\$383.30	COMM LND SPEC	\$74,052	\$21,480
FIRE DISTRICT 8 - STRASBURG		12.6140000		\$1,337.46	PURPOS		
ADAMS COUNTY		26.9670000		\$2,859.31	SPECIAL PURPOS	SE \$291,548	\$84,550
NORTH KIOWA BIJOU GROUND W	A	0.0230000		\$2.44	Total	\$365,600	\$106,030
SD 31		44.1360000		\$4,679.74			
STRASBURG PARK & RECREATION	1	5.0100000		\$531.21			
STRASBURG WATER & SANITATIO)	4.0000000		\$424.12			

ALL TAX SALE AMOUNTS ARE SUBJECT TO CHANGE DUE TO ENDORSEMENT OF CURRENT TAXES BY THE LIENHOLDER OR TO ADVERTISING AND DISTRAINT WARRANT FEES. CHANGES MAY OCCUR; PLEASE CONTACT THE TREASURY PRIOR TO MAKING A PAYMENT AFTER AUGUST 1. TAX LIEN SALE REDEMPTION AMOUNTS MUST BE PAID BY CASH OR CASHIER'S CHECK.

\$10,217.58

96.3650000

SPECIAL TAXING DISTRICTS AND THE BOUNDARIES OF SUCH DISTRICTS MAY BE ON FILE WITH THE BOARD OF COUNTY COMMISSIONERS, THE COUNTY CLERK, OR, THE COUNTY ASSESSOR.

This certificate does not include land or improvements assessed under a separate account number, personal property taxes, transfer tax, or, miscellaneous tax collected on behalf of other entities, special or local improvement district assessments, or mobile homes, unless specifically mentioned.

I, the undersigned, do hereby certify that the entire amount of taxes due upon the above described parcels of real property and all outstanding lien sales for unpaid taxes as shown by the records in my office from which the same may still be redeemed with the amount required for redemption on this date are as noted herein. In witness whereof, I have hereunto set my hand and seal.

TREASURER & PUBLIC TRUSTEE, ADAMS COUNTY,

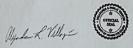
Alexander L Villagran

Taxes Billed 2022

* Credit Levy

4430 S. Adams County Parkway

Brighton, CO 80601



CERTIFICATION OF NOTICE TO MINERAL ESTATE OWNERS

I/We, SUMIT JOSE			
(the "Applicant") by signif	ng below, hereb	by declare and certify as follows:	·
With respect to the property Physical Address: Legal Description:	ty located at: 1853 Monroe See attached	Street, Strasburg, CO 80136	
Parcel #(s):01	81333400011		
(PLEASE CHECK ONE):			
to mineral est	ate owners purs	, 20 ²² , which is n ing, notice of application for surface desuant to section 24-65.5-103 of the Co	olorado Revised Statutes;
Clerk and Recowner is iden	corder for the a	rds of the Adams County Tax Assesso bove identified parcel and have found	r and the Adams County that no mineral estate
Date: 3-17-2022	Applicant:	Sunit Joseph	
	By: Print Name: Address:	Sumit Joseph Sumit Joseph 23657 E Ellsworth Avenue Aurora, CO 80018-1556	
STATE OF COLORADO)		
COUNTY OF ADAMS)		
Subscribed and sworn Witness my hand and	sepn.	.10	_, 20 <u>22</u> by
My Commission expires:		Notary Public Name and Address of Person Preparent	REPRINT PULOTION OF THE PROPERTY OF THE PROPER
After Recording Return 1	O.	Name and Address of Person Prepa	rring Legal Concription:

A recorded copy of this Certification shall be submitted to the Adams County Community and Economic Development Department with all applicable land use applications.



Record PLT2022-00017:

PLT - Subdivision

Record Status: Awaiting Client Reply

Downloaded 5/23/2022

WEC RESPONSES - 11/22/2023

Planner Review

Due on 05/04/2022, assigned to Libby Tart

Marked as Resubmittal Required on 05/13/2022 by Libby Tart

Comment:

PLN1: The applicant is requesting a Minor Subdivision to subdivide one lot of 0.818 acres into two lots – Lot 1 0.38 acres and Lot 2 0.44 acres. The zoning is R-1-C and both lots must conform to the R-1-C standards for minimum lot width and size.

Response: Proposed lot size and R-1-C dimensions were previously met.

PLN2: The minimum lot size for internal lots shall be 7,000 s.f., with a minimum lot width of 65-feet. Both lots meet this requirement with Lot 1 being 92-feet in width and 16,605 s.f. and Lot 2 being 105.75 feet in width and 19,024 s.f. in size.

Response: Noted

PLN3: While this is a subdivision request and not a site plan/building permit request, the applicant should note the following for future building permit applications: • Lot 1's garage must be setback from the primary structure, per R-1-C zone district requirements for accessory structures. • Lot 2's existing residence was used as a commercial daycare and likely requires a change of use if converted back to a residence or a use outside of a daycare. Please work with the Building Division to determine this.

Response: Noted

PLN4: Engineering and right-of-way are noting larger comments due to the location being on a minor arterial street and the dedication of right-of-way and easements for this. Please review their comments and work with your consultant on drafting the minor subdivision plat to bring it into conformance with their requirements. Our engineer will be discussing the street section further with our Public Works Department.

Response: Noted

Geological Survey Review

Due on 05/04/2022, assigned to TBD

Marked as Complete on 05/13/2022 by Libby Tart

Comment: Colorado Geological Survey has reviewed the Joseph Minor Subdivision referral. I understand the applicant proposes to subdivide one lot of 0.818 acres, physical address 1853 Monroe Street, Strasburg, creating two residential lots. Proposed Lot 1, 0.38 acre, contains an existing residence. Proposed Lot 2, 0.44 acre, contains a former daycare building. No geologic hazards are known or suspected to be present that would preclude approval of the two-lot subdivision as proposed. CGS therefore has no objection to approval of PLT2022-00017. Mineral resource potential. According to the Atlas of Sand, Gravel, and Quarry Aggregate Resources, Colorado Front Range Counties (Schwochow et al, Colorado Geological Survey Special Publications 5-A, Plate 2, and 5-B, Roper School Quadrangle, 1974), the subject property does not contain a mapped aggregate resource. Thank you for the opportunity to review and comment on this project. If you have questions or require additional review, please call me at (303) 384-2643, or e-mail carlson@mines.edu. Sincerely, Jill Carlson, C.E.G. Engineering Geologist.

Response: Noted

PLT2022-00017 Joseph Minor Subdivision Engineering Review Comments

WEC Responses – 11/22/2023

ENG1: Flood Insurance Rate Map – FIRM Panel # (08001C1002H), Federal Emergency Management Agency, March 5, 2007. According to the above reference, the project site is NOT located within a delineated 100-year flood hazard zone; A floodplain use permit will not be required.

Response: Noted

ENG2: The applicant shall be responsible to ensure compliance with all Federal, State, and Local water quality construction requirements. The project site is NOT within the County's MS4 Stormwater Permit area. The installation of erosion and sediment control BMPs are expected. The applicant will be required to obtain a State of Colorado COR-400000 Stormwater permit. The County requires that a copy of that permit be submitted to the County prior to issuance of any construction permits.

Response: Erosion and Sediment Control Plans were previously provided. The CDPHE states that the COR-400000 permit is for construction activities that disturb greater than one acre. As this project will disturb less than one acre, a COR-400000 permit has not been provided at this time.

ENG3: Prior to scheduling the final plat/FDP BOCC hearing, the developer is required to submit for review and receive approval of all construction documents (construction plans and reports). Construction documents shall include, at a minimum, onsite and public improvements construction plans, drainage report, traffic impact study. All construction documents must meet the requirements of the Adams County Development Standards and Regulations. The developer shall submit to the Adams County Development Review Engineering division the following: Engineering Review Application, Engineering Review Fee, two (2) copies of all construction documents. The development review fee for an Engineering Review is dependent on the type of project and/or the size of the project. The Development Review few can be found in the Development Services Fee Schedule, located on the following web page: http://www.adcogov.org/one-stop-customer-center. Response: Noted

ENG4: Monroe St is classified as a "Regional Arterial/Major Arterial (Rural)" roadway. The developer is required to construct roadway improvements adjacent to the proposed site. Roadway improvements will consist of buildout of the improvements shown in the County's "Regional Arterial/Major Arterial (Rural)" roadway cross-section, any roadway improvements as required by the approved traffic impact study.

Response: Additional 30 ft Right-of-Way has been included in the undated Plat and Site Plan. A waiver from Subdivision Design Standards has been submitted. At the site, and north and south of this site, the existing road is +/- 42 ft wide with houses and back yards that will have to be removed for the full buildout of the 140 ft ROW dedication (see enclosed exhibit - showing that it is not possible to meet this requirement without major/expensive demolition of existing homes and yards).

The improvements shown in the "Regional Arterial/Major Arterial (Rural)" cross-section cannot be constructed with this development. The applicant should apply for a waiver to the County's subdivision standards to allow the requirement for the construction of these improvements be waived by the Board of County Commissioners.

Response: A Waiver from Subdivision Design Standards has been submitted, enclosed is the email from the Adams County EPermit.

ENG5: Prior to the issuance of any construction or building permits, the developer shall enter into a Subdivision Improvements Agreement (SIA) with the County and provide a security bond for all public improvements.

Response: Noted

ENG6: No building permits will be issued until all public improvements have been constructed, inspected and preliminarily accepted by the County's Transportation Dept.

Response: Noted

ENG7: The developer is responsible for the repair or replacement of any broken or damaged section of curb gutter and sidewalk or other County owned infrastructure damaged by the construction of improvements for this development.

Response: Noted

ENG8: LOW IMPACT DEVELOPMENT (LID) STANDARDS AND REQUIREMENTS Section 9-01-03-14: All construction projects shall reduce drainage impacts to the maximum extent practicable, and implement practices such as:

- 1.On-site structural and non-structural BMPs to promote infiltration, evapo-transpiration or use of stormwater,
- 2. Minimization of Directly Connected Impervious Area (MDCIA),
- 3. Green Infrastructure (GI),
- 4. Preservation of natural drainage systems that result in the infiltration, evapo-transpiration or use of stormwater in order to protect water quality and aquatic habitat.
- 5. Use of vegetation, soils, and roots to slow and filter stormwater runoff.
- 6. Management of stormwater as a resource rather than a waste product by creating functional, attractive, and environmentally friendly developments.
- 7. Treatment of stormwater flows as close to the impervious area as possible.

LID shall be designed and maintained to meet the standards of these Regulations and the Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual, Volume 3.

Response: Noted

ENG9: If the applicant is proposing to install over 3,000 square feet of impervious area on the project site, a drainage report and drainage plans in accordance to Chapter 9 of the Adams County Development Review Manual, are required to be completed by a registered professional engineer and submitted to Adams County for review and final approval.

Response: Noted. Over 3,000 sf of impervious area will not be installed, a drainage narrative detailing this has been provided.

The County does offer relief to the Stormwater Detention requirements when the proposal is for a rural lot-split. The applicant is welcome to request this relief.

Response: Noted. This relief has been requested in the provided drainage narrative.

1853 MONROE STREET MINOR SUBDIVISON

CASE NO: PLT2022-00017

Case No. Added

Removed Remove overtype

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

Sheet 1 of 2

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS THAT JOSEPH SUMIT, BEING THE OWNER OF THAT PART OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH PRICIPAL MERIDIAN BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

ALL OF THAT PROPERTY DESCRIBED IN DEED RECORDED FEBRUARY 8, 2018 AS RECEPTION NO. 2018000011536 IN THE RECORDS OF THE CLERK AND RECORDER FOR ADAMS COUNTY,

CONSIDERING THE EAST LINE OF THE SOUTH ATTEMPT OF SAID SECTION 33 TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO;

COMMENCING EAST, COINCI Match that of the title DISTANCE OF EXTENSION COMMITMENT. Title Commitment needs to be Updated to within 30 days of ADAMS COUN SOUTH 88*47 ADAMS COUN SOUTH 88*47 COINCIDENT WITH THE COMMITMENT COM

Removed texts

SAID PARCEL CONTAINS 35,630 SQUARE FEET OR 0.82 ACRES, MORE OR LESS

HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF THOMPSON MINOR SUBDIVISION, AND DO HEREBY GRANT TO THE COUNTY OF ADAMS, STATE OF COLORADO, FOR THE USE OF THE PUBLIC, THE EASEMENTS AND OTHER PUBLIC UTITLITY, CABLE TV AND DETENTION POND AREAS, FLOODWAY AND FLOODPLAIN LIMITS, DRAINAGE AND OTHER PUBLIC PURPOSES AS DETERMINED BY THE COUNTY OF ADAMS.

JOSEPH SUMIT **ACKNOWLEDGEMENT** COLORADO ADAMS COUNTY THE FOREGOING PLAT AND DEDICATION WAS ACKNOWLEDGED REFORE ME BY: JOSEPH SUMIT As Owner Text has been _Day of. added NOTARY PUBLIC MY COMMISSION EXPIRES:

SURVEYOR'S STATEMENT:

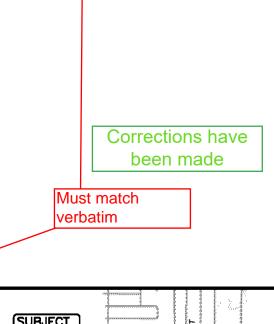
MY ADDRESS IS: _

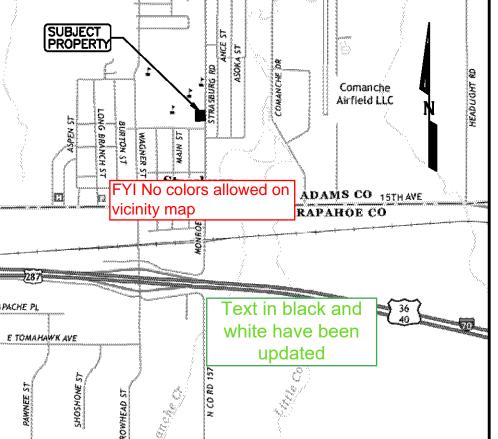
I, CURTIS D. HOOS, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAT WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THIS PLAT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ME TO DETERMINE OWNERSHIP.

CURTIS D. HOOS, PLS 37971 FOR AND ON BEHALF OF: AMERICAN WEST LAND SURVEYING CO. A COLORADO CORPORATION

PLANNING COMMISSION APPROVAL RECOMMENDED FOR APPROVAL BY THE ADAMS COUNTY PLANNING COMMISSION THIS _____ DAY OF ____ CHAIR

BOARD OF COUNTY COMMISSIONERS' APPROVAL APPROVED BY THE ADAMS COUNTY BOARD OF COUNTY COMMISSIONERS THIS DAY OF _____ A.D. 202_ CHAIR





VICINITY MAP: 1" = 2000

Flood Plain Note Storm Drainage Facilities Statement if applicable

Not Applicable

BOARD OF COUNTY COMMISSIONERS APPROVAL:

APPROVED BY THE ADAMS COUNTY	BOARD OF COMMISSIONERS THIS	
)AY OF	20	
MAIDMAN		

NOTES:

1) BASIS OF BEARINGS: THE EAST LINE OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 3 SOUTH, RANGE 62 WEST OF THE 6TH P.M., IN ADAMS COUNTY, COLORADO, IS ASSUMED TO BEAR SOUTH 00°42'50" EAST, BEING MONUMENTED ON THE NORTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 38064 IN MONUMENT BOX, AND ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" ALUMINUM CAP, PLS 12330 IN MONUMENT BOX, AND WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

2) ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

3) CERTIFICATION DEFINED: THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR, IN THE PRACTICE OF LAND SURVEYING, CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.

4) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN

5) THIS SUNCE Need to reference the title commitment with its revised date

Revised, and Title is included

6) DISTANCES ON THIS DRAWING ARE EXPRESSED IN U.S. SURVEY FEET AND DECIMALS THEREOF. A U.S. SURVEY FOOT IS DEFINED AS EXACTLY 1200/3937 METERS.

CLERK AND RECORDER'S CERTIFICATE:

THIS MAP WAS FILED FOR RECORD IN THE CRECORDER, IN THE STATE OF COLORADO,	OFFICE OF ADAMS COUNTY CLERK AND
ATM. ON THE DAY OF	, A.D. 20
BY: DEPUTY	COUNTY CLERK AND RECORDER
RECEPTION NO	

Move the notes above all signature/ approval blocks in the following order: Planning Commission **Board of County Commissioners** County Attorney's Office Clerk and Recorder

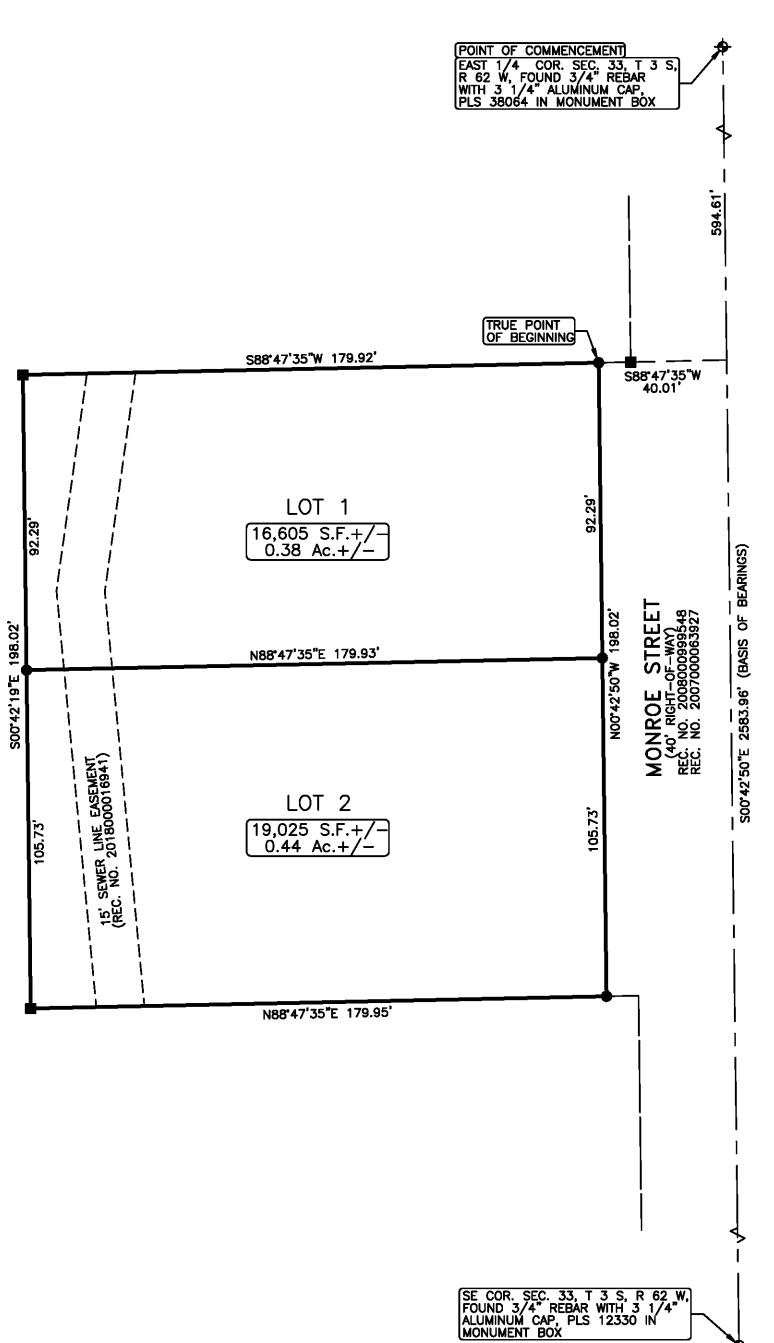
ADAMS COUNTY ATTORNEY'S OFFICE	
APPROVED AS TO FORM	<u> </u>
	R

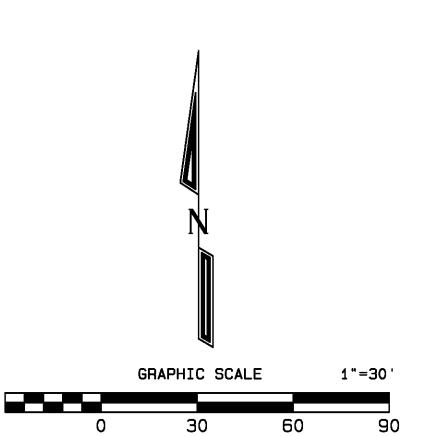
American West PO Box 129, Brighton, CO 80601 * P:303-659-1532 F:303-655-0575 * amwestis.com SCALE 1" = 30' DATE DATE: MARCH 18, 2022 DRAWN BY: CDH CHECKED BY: MJH CLIENT: JOSEPH JOB NO: 22-FILE: Z:\T_S\T3S_R62W\S33\S33\1853 MONROE ST_SUB.pro

1853 MONROE STREET MINOR SUBDIVISON

Part of the Southeast 1/4 of Section 33, Township 3 South, Range 62 West of the 6th P.M., County of Adams, State of Colorado

Sheet 2 of 2





LEGEND

- → = ALIQUOT MONUMENT, AS NOTED
- = SET 5/8" X 24" REBAR WITH 2" ALUMINUM CAP, PLS 37971
- = FOUND 5/8" REBAR WITH 1 1/4" RED PLASTIC CAP, PLS 38539



CASE NO:

Case No. Added

A colorado corb	ordilori	
O Box 129, Brighton, CO 80601 * P:303—659-	-1532 F:303-655	i-0575 * amwestis.com
REVISION	DATE	SCALE 1" = 30'
		DATE: MARCH 18, 2022
		DRAWN BY: CDH
		CHECKED BY: MJH
		CLIENT: JOSEPH
		JOB NO: 22-
FILE: Z:\T_S\T3S_I	R62W\S33\S33\1	853 MONROE ST_SUB.pro