

Exhibit A

Main Street Depot Parking Lot Construction Plans
Engineer Quantities

MAIN STREET OFF-STREET PARKING LOT

LOTS 2-6 OF BLOCK 13
WITHIN THE NE QUARTER OF SECTION 18, T8S, R64W, 6TH P.M.,
TOWN OF ELIZABETH, ELBERT COUNTY, COLORADO

OWNER

TOWN OF ELIZABETH
151 S BANNER ST
P.O. BOX 159
ELIZABETH, CO 80107
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ENGINEER

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SURVEYOR

AZTEC CONSULTANTS
390 EAST MINERAL AVE, SUITE 1,
LITTLETON, CO 80122
(303) 713-1898
CONTACT: MIKE NOFFSINGER

UTILITY PROVIDERS

CORE ELECTRIC
188 CTC BLVD SUITE A
LOUISVILLE, CO 80027
(303) 887-3877



VICINITY MAP



BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED UPON THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 18, TOWNSHIP 8 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, ASSUMED TO BEAR SOUTH 89°12'42" WEST, A DISTANCE OF 2642.37 FEET.

BENCHMARK

PROJECT BENCHMARK (AZTEC #400):
PROJECT BENCHMARK IS A NGS MONUMENT DESIGNATION H 53 (POINT ID KK0312). SAID MONUMENT IS AN NGS STANDARD DISK SET ON THE TOP OF A CONCRETE PORCH, STAMPED "H 53 1934". MONUMENT IS LOCATED ON 188 S. MAIN ST., NORTH EAST SIDE OF THE FORMER BANK, 4 FT EAST OF THE CENTERLINE OF SIDEWALK AND 5 INCHES NORTH OF A BRICK PILLAR.
NGS PUBLISHED ELEVATION = 6451.58 FT (NAVD 88)

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PROFESSIONAL ENGINEER CERTIFICATION

THESE CONSTRUCTION PLANS FOR THE MAIN STREET OFF-STREET PARKING LOT WERE PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF ELIZABETH DESIGN REVIEW STANDARDS AND GUIDELINES, WATER AND SEWER STANDARDS, STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA, AND THE GRADING, EROSION AND SEDIMENT CONTROL MANUAL.

MARTIN METSKER, PE #41743
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DENVER, CO 80231
PHONE (303) 632-8867 EXT.110

DATE

THESE DESIGNS, PLANS, AND CONTRACT DOCUMENTS ARE REVIEWED FOR CONCEPT AND GENERAL CONFORMANCE TO THE TOWN'S MINIMUM STANDARDS ONLY. AND THE PRIMARY RESPONSIBILITY FOR DESIGN ADEQUACY IS TO REMAIN WITH THE ENGINEER OF RECORD. THIS REVIEW DOES NOT IMPLY RESPONSIBILITY BY THE TOWN OF ELIZABETH OR THE TOWN ENGINEER FOR COMPLETENESS, ACCURACY OR CORRECTNESS OF CALCULATION. THE REVIEW DOES NOT IMPLY THAT QUANTITIES OF ITEMS INDICATED ON THE PLANS ARE THE FINAL QUANTITIES REQUIRED. THE REVIEW SHALL NOT BE CONSTRUED FOR ANY REASON AS ACCEPTANCE OF FINANCIAL RESPONSIBILITY BY THE TOWN FOR ADDITIONAL ITEMS AND ADDITIONAL QUANTITIES OF ITEMS SHOWN THAT MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.

APPROVED FOR CONSTRUCTION WITHIN ONE YEAR OF THE EARLIEST OF THESE DATES.

BY: _____ DATE: _____
TOWN ENGINEER

BY: _____ DATE: _____
TOWN OF ELIZABETH-PUBLIC WORKS DIRECTOR

BY: _____ DATE: _____
TOWN OF ELIZABETH-TOWN ADMINISTRATOR

BY: _____ DATE: _____
ELIZABETH FIRE DEPARTMENT



DATE	BY
11/01/2024	MM
01/17/2025	MM
02/28/2025	MM

REVISION DESCRIPTION

1	1ST SUBMITTAL
2	2ND SUBMITTAL
3	3RD SUBMITTAL

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
COVER SHEET

Know what's below.
Call before you dig.



SHEET
1 OF 32

GENERAL NOTES:

- UNLESS OTHERWISE NOTICED HEREIN, ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE GOVERNING MUNICIPALITY, DISTRICT, AGENCY OR ENTITY. IF THE GOVERNING MUNICIPALITY, DISTRICT, AGENCY OR ENTITY DOES NOT HAVE A STANDARD, AN APPLICABLE STANDARD FROM THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS (IN 63 STANDARDS), AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SHALL BE ADHERED TO. FURTHER ALL OTHER APPLICABLE STATE AND FEDERAL REGULATIONS ARE TO BE FOLLOWED. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS OR REGULATIONS, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
- ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.
- EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED UPON THE BEST INFORMATION AVAILABLE AS SUPPLIED BY SURFACE EVIDENCE AND UTILITY COMPANY MAPS. UTILITIES THAT EXIST MAY NOT BE SHOWN HEREIN. THE SIZE, LOCATION, TYPE AND NUMBER OF UTILITY SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND NOTIFICATION OF ANY DISCREPANCY SHALL BE MADE TO THE OWNER AND ENGINEER BEFORE ANY OTHER WORK IS PERFORMED.
- THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THEIR RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS ARE ALSO TO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED.
- A STATE CONSTRUCTION DOWATERING WASTEWATER DISCHARGE PERMIT IS REQUIRED IF DOWATERING IS REQUIRED IN ORDER TO INSTALL UTILITIES OR WATER IS DISCHARGED INTO A STORM SEWER, CHANNEL, IRRIGATION DITCH OR ANY WATERS OF THE UNITED STATES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF JOB SITE SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
- DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWINGS.
- IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE DEVELOPER SHALL CONTACT THE DESIGNER AND THE LOCAL ENTITY ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL REFER TO AN APPROVED GEOTECHNICAL STUDY FOR ADDITIONAL INFORMATION PERTAINING TO THE SITE CONSTRUCTION, MATERIALS AND PAVEMENTS.
- CONTRACTOR SHALL REFER TO THE APPROVED EROSION CONTROL MANAGEMENT PLAN FOR IMPLEMENTATION OF BEST MANAGEMENT PRACTICES TO MINIMIZE OR ELIMINATE EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.

GRADING NOTES:

- REFER TO THE ROADWAY PLANS FOR GRADING AND CONSTRUCTION DETAIL IN THE PUBLIC RIGHT OF WAY.
- REFER TO APPROVED GEOTECHNICAL REPORT FOR ADDITIONAL CONSTRUCTION AND GRADING REQUIREMENTS.
- STOCKPILE ON-SITE TOPSOIL FOR REUSE ON-SITE. LOCATIONS OF TOPSOIL REUSE SHALL BE IN LANDSCAPE AREAS, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, THAT ARE IN CONTACT WITH EXTERIOR FOUNDATION WALLS AND ARE LESS THAN EIGHT (8) INCHES FROM EXPOSED EARTH SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.
- FOR ALL AREAS ADJACENT TO STRUCTURES THAT ARE HARD SURFACE, THE FINAL FINISH GRADE SHALL FALL AWAY FROM THE BUILDING AT A GRADE OF 1.4% (MIN) FOR PEDESTRIAN PATHS OR 3% FOR NON-PEDESTRIAN AREAS.
- FOR ALL AREAS ADJACENT TO STRUCTURES THAT ARE NOT HARD SURFACE, THE FINAL FINISH GRADE SHALL FALL AWAY FROM THE BUILDING AT A GRADE OF 10% (MIN) FOR 10-FT (MIN.), UNLESS MODIFIED BY AN APPROVED GEOTECHNICAL STUDY.
- STEPS AND GRADES SHOWN INSIDE BUILDING ENVELOPES AND GARAGES ARE FOR INFORMATION ONLY. REFER TO ARCHITECTURAL PLANS FOR CONSTRUCTION DETAILS.
- REFER TO THE ARCHITECTURAL AND/OR STRUCTURAL PLANS FOR THE LOCATION AND EXTENT OF FOUNDATION STEM WALLS AND/OR EXPOSED FOUNDATION.
- REFER TO THE LANDSCAPE PLANS FOR RETAINING WALL MATERIALS AND CONSTRUCTION DETAILS.
- SPOT ELEVATIONS TAKE PRECEDENCE OVER CONTOURS.
- SPOT ELEVATIONS ARE FLOWLINE OR FINISH GRADE UNLESS OTHERWISE INDICATED.
- SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF FIVE PERCENT (5%).
- RAMP AND SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 2%.
- RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 12.1% (3.33%) AND SHALL NOT EXCEED THIRTY FEET IN LENGTH OR THIRTY INCHES IN HEIGHT, WITHOUT INTERMEDIATE LANDINGS.
- RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HAND RAILS ON BOTH SIDES.
- ALL SITE STEP TREADS ARE 11-INCHES DEEP UNLESS OTHERWISE NOTED.
- STAIRWAY AND RAMP LANDINGS SHALL HAVE A MAXIMUM SLOPE, IN ANY DIRECTION, OF TWO PERCENT AND SHALL NOT BE LESS THAN THE WIDTH OF THE STAIRS AND 5-FT LONG, UNLESS OTHERWISE INDICATED ON THE PLAN.
- ALL RAMPS AND STAIRS SHALL BE CONSTRUCTED, INCLUDING THE USE OF RAILINGS, IN ACCORDANCE WITH APPLICABLE ADA (ADAAG), FAIR HOUSING STANDARDS, AND BUILDING CODE STANDARDS.
- EDGE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH APPLICABLE CODES AT ALL LOCATIONS WHICH REQUIRE HANDRAILS.
- RE LANDSCAPE PLANS AND/OR ARCHITECTURAL PLANS FOR HANDRAIL DETAIL.
- RETAINING WALL ELEVATIONS ARE SHOWN TO THE EXPOSED FACE OF WALL AT THE TOE AND THE TOP OF WALL.
- RETAINING WALLS ARE TO BE DESIGNED BY OTHERS.
- THE CONTRACTOR SHALL REVIEW ALL ELEVATIONS WITH THEIR SURVEYOR PRIOR TO STAKING AND CONSTRUCTION OF THE BUILDINGS.
- REFER TO LANDSCAPE PLANS FOR PLANTER DESIGN INCLUDING HEIGHT ABOVE FINISH GRADE.
- ALL ROOF DOWNSPOUTS MUST CONNECT TO THE ROOF DRAIN PIPING SYSTEM OR DOWNSPOUTS THAT DISCHARGE TO THE SURFACE SHALL SPILL ONTO THE SPLASH BLOCKS THAT EXTEND A MINIMUM OF FIVE (5) FEET AWAY FROM THE FOUNDATION.

PAVING, SIGNING & STRIPING NOTES:

- PAVING OF PUBLIC STREETS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH THE GOVERNING AGENCY CRITERIA.
- ALL ON-SITE CURBS AND GUTTER IS 6-IN VERTICAL WITH 1-FT SPILL PAN UNLESS OTHERWISE INDICATED.
- ON-SITE SIDEWALK SHALL BE 4-IN THICK MIN. AND 5-IN THICK (MIN) IF IT CROSSES A DRIVING SURFACE.
- CONCRETE PAVING JOINTS SHALL BE IN CONFORMANCE WITH GOVERNING AGENCY ROADWAY STANDARDS OR, IN THE ABSENCE OF A STANDARD, THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) M & S STANDARDS, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- UNLESS SPECIFICALLY DETAILED ON THESE PLANS AND REFERENCED TO AN APPROVED GEOTECHNICAL STUDY, THESE PLANS DO NOT DETAIL THE REQUIRED PAVING SECTIONS.
- SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH CDOT CRITERIA AND COMPACTED TO 95% OPTIMUM DENSITY IN ACCORDANCE WITH AASHTO T-99, UNLESS FURTHER RESTRICTED BY THE APPROVED PAVING DESIGN.
- ALL PAVEMENT IS ASPHALT UNLESS OTHERWISE INDICATED. NO CONTRACTION OR EXPANSION JOINTS SHALL BE LOCATED WITHIN TWELVE INCHES (LONGITUDINALLY) OF THE FLOWLINE.
- CONCRETE FOR DRIVING SURFACES SHALL BE CDOT CLASS P UNLESS OTHERWISE INDICATED OR APPROVED BY THE ENGINEER.
- TOOLED OR SAWED CONTRACTION JOINTS AT 8-FT ON CENTER (MAX) OR AS SHOWN ON PLAN.
- ALL CONCRETE JOINTS PER CDOT STANDARDS.
- ALL EXPANSION JOINTS SHALL BE SEALED PER CDOT STANDARDS.
- ALL NEW OR RELOCATED STREET/TRAFFIC SIGNS SHALL BE INSTALLED PER CURRENT GOVERNING MUNICIPALITY STANDARDS.
- SIGNAGE AND STRIPING SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH GOVERNING AGENCY STANDARDS. IN THE ABSENCE OF A STANDARD IT SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION.
- STRIPING OUTSIDE OF THE RIGHT-OF-WAY SHALL BE EPOXY PAINT. SYMBOLS SHALL BE METHYL METHACRYLATE, HOT-APPLIED THERMOPLASTIC (60 MIL), PREFORMED PLASTIC (60 MIL) OR INLINED TAPE (STANDARD), OR APPROVED EQUAL.

DEMOLITION NOTES:

- THE WORK GENERALLY INCLUDES REMOVAL/DEMOLITION OF INDICATED EXISTING SURFACE FEATURES (I.E. STRUCTURES, CURB, GUTTER, DRAINAGE STRUCTURES, ASPHALT, LIGHTS, VEGETATION, ETC.) AND UNDERGROUND UTILITIES (I.E. ELECTRIC LINES, GAS LINES, FIBER OPTIC LINES, DRAINAGE LINES, ETC.) WITHIN THE PROPERTY BOUNDARY. NO WORK UNLESS SPECIFICALLY NOTED SHALL BE OUTSIDE OF THE SUBJECT PROPERTY. SEE PLANS FOR LIMITS OF REMOVAL/DEMOLITION.
- LIMITS OF REMOVAL SHOWN ARE APPROXIMATE.
- CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS INCLUDING SITE SAFETY FOR ALL ASPECTS OF DEMOLITION INCLUDING OPERATION WITHIN THE REGULATIONS OF GOVERNING AGENCIES.
- ALL UNDERGROUND STORM SEWER, WATER, SANITARY SEWER, GAS, ELECTRIC, OTHER UTILITY LOCATIONS, AND EXISTING SITE APPURTENANCES ARE BASED ON THE ALTA SURVEY PREPARED FOR THE SITE AND ARE TO BE CONSIDERED APPROXIMATE ONLY. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL ITEMS NOTED AS "REMOVE" SHALL BE DEMOLISHED/REMOVED FROM THE SITE. ALL ITEMS NOTED "VERIFY/REMOVE" SHALL BE REMOVED ONLY AFTER VERIFICATION THAT THE UTILITY IS NO LONGER NEEDED TO PROVIDE SERVICE TO ANY ADJACENT PROPERTIES OR USERS. COORDINATE WITH LOCAL UTILITY PROVIDER. ALL ITEMS NOTED FOR REUSE SHALL BE REPLACED AS DIRECTED. HOWEVER, THE GOVERNING AGENCY (IN THE INSTANCE OF PUBLIC INFRASTRUCTURE) OR THE ENGINEER SHALL DETERMINE IF THE ITEM IS IN ADEQUATE CONDITION TO BE REUSED.
- ITEMS TO BE REUSED SHALL BE REMOVED AND SAFELY STORED AS NECESSARY PRIOR TO REPLACEMENT.
- UNLESS SPECIFICALLY DIRECTED, THE CONTRACTOR SHALL DISPOSE OF CONCRETE, ASPHALT RUBBLE AND ANY OTHER DEMOLISHED/REMOVED MATERIALS OFF-SITE.
- CONTRACTOR SHALL DISPOSE OF AND TRANSPORT DEBRIS TO OFF-SITE IN A SAFE AND LEGAL MANNER AND SHALL NOT STORE OR BURN MATERIALS ON-SITE. CONTRACTOR SHALL HANDLE AND DISPOSE OF ALL DEBRIS IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. DISPOSAL SHALL BE TRANSPORTED TO AN APPROVED LANDFILL OR OTHER APPROVED FACILITY.
- CONCRETE SHALL BE REMOVED TO THE NEAREST JOINT.
- THE CONTRACTOR SHALL VERIFY ALL UTILITIES HAVE BEEN DISCONNECTED AS REQUIRED FOR THE WORK.
- CONTRACTOR SHALL ERECT BARRIERS, FENCES, DUMDRALS, ENCLOSURES, ETC. TO PROTECT THE SITE AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL (SIGNS, BARRICADES, FLAGMEN, LIGHTS, ETC) IN ACCORDANCE WITH THE MUTCD, CURRENT EDITION, AS REQUIRED FOR THE WORK.
- CONTRACTOR SHALL OBTAIN ALL PERMITS AND LICENSES REQUIRED FOR DEMOLITION OF WORK SHOWN.
- CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION AND BENCHMARK(S). CONTRACTOR SHALL HAVE A LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THE CONTRACTOR'S COST.

DEMOLITION NOTES (CONT.):

- CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, FEATURES, IMPROVEMENTS, AND UTILITIES (OVERHEAD OR UNDERGROUND) AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION NOT INTENDED TO BE REMOVED OR DEMOLISHED. CONTRACTOR WILL BE RESPONSIBLE FOR ALL RESULTANT COSTS DUE TO SUCH DAMAGES.
- REFER TO SHEET C3-10 FOR DEMOLITIONS IN THE RIGHT OF WAY.

GENERAL UTILITY NOTES:

- DESIGN OF UTILITIES WITHIN FIVE (5) FEET OF THE BUILDING ARE EXCLUDED FROM THESE PLANS. UTILITIES, INCLUDING DOWNSPOUT CONNECTIONS, CLEAN-OUTS, ETC WITHIN FIVE (5) FEET OF THE BUILDING SHALL BE DETAILED BY THE ARCHITECT OR MECHANICAL ENGINEER.

SANITARY NOTES:

- CONCRETE USED IN SANITARY SEWER STRUCTURES SHALL BE AS SPECIFIED BY THE GOVERNING AGENCY OR CLASS B AS DEFINED BY CDOT STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, IN THE ABSENCE OF AN AGENCY SPECIFICATION.
- SEWER SERVICE CONNECTIONS WITH THE MAIN LINE SHALL BE IN ACCORDANCE WITH GOVERNING AGENCY STANDARDS. IF NO STANDARD EXISTS, WYE OR TEE (AS NOTED ON PLANS) SHALL BE CUT INTO THE MAIN LINE AND INSTALLED WITH FLEXIBLE NON-SHEAR REINFORCED COUPLINGS ON THE MAIN.
- IF NOT SPECIFIED BY THE UTILITY DISTRICT, SANITARY SEWER SERVICE CONNECTIONS TO THE MAINLINE SHALL CONNECT AT 2.00 OR 10.00 ON THE MAIN.
- MINIMUM DROP FROM THE SERVICE LINE READ TO THE MAIN SHALL BE EQUAL TO THE SIZE OF THE MAINLINE.
- SLOPE OF SERVICE LINES SHALL BE AS NOTED ON PLANS.
- PIPE AND FITTINGS SHALL BE PER GOVERNING AGENCY STANDARD AND IN THE ABSENCE OF A STANDARD SHALL BE PVC SDR 35, MEETING ASTM D3034.
- BEDDING SHALL BE PROVIDED AND PLACED IN ACCORDANCE WITH GOVERNING AGENCY STANDARD OR APPROVED EQUAL.
- PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- ALL PIPE LENGTHS ARE MEASURED TO CENTER OF MANHOLES.
- COORDINATES FOR MANHOLES ARE TO CENTER OF STRUCTURE, UNLESS OTHERWISE INDICATED.

STORM NOTES:

- CONCRETE USED IN STORM SEWER STRUCTURES SHALL BE AS SPECIFIED BY THE GOVERNING AGENCY OR CLASS B AS DEFINED BY CDOT STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, IN THE ABSENCE OF AN AGENCY SPECIFICATION.
- REFER TO STORM SEWER PLANS FOR LANDSCAPE/ ROOF DRAINS AND DETENTION POND FACILITIES, INCLUDING OUTFALLS.
- IF CONNECTED TO AN UNDERGROUND SYSTEM, DOWNSPOUTS SHALL HAVE AN OVERFLOW PROTECTION. REFER TO ARCHITECTURAL PLANS.
- ALL PVC PIPE SHALL BE PVC SCHEDULE 40, OR APPROVED EQUAL.
- ALL CONCRETE PIPE SHALL BE REINFORCED AND CLASS III (MIN).
- SLOPE OF SERVICE LINES SHALL BE AS NOTED ON PLANS.
- BEDDING SHALL BE PROVIDED AND PLACED IN ACCORDANCE WITH GOVERNING AGENCY STANDARD OR APPROVED EQUAL.
- PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- ALL PIPE LENGTHS ARE MEASURED TO CENTER OF MANHOLES AND LANDSCAPE INLETS, AND INSIDE FACE OF OTHER STRUCTURES.
- COORDINATES FOR TYPER INLETS ARE TO FLOWLINE AT MIDPOINT OF INLET.
- COORDINATES FOR ALL OTHER STRUCTURES ARE TO CENTER OF STRUCTURE, UNLESS OTHERWISE INDICATED.
- LANDSCAPE DRAINS (18" SQUARE OR SMALLER) SHALL BE 60% CATCH BASINS WITH ADA COMPLIANT GRATES THAT MEET HS-20 LOADING OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
B.O.P.	BOTTOM OF PIPE
CC	CONCRETE
CL	ROADWAY CENTERLINE
CMP	CORRUGATED METAL PIPE
CR	CURB RAMP
DE / DEMO	DEMOLITION
DIA	DIAMETER
DWG	DRAWING
DRNG	DRAINAGE
ESMT	EASEMENT
E / ELEC	ELECTRICAL
E	EAST
EC	EDGE OF CONCRETE
EG	EXISTING GRADE
EL / ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EX / EXIST	EXISTING
FES	FLARED END SECTION
FG	FINISHED GRADE
FL	FLOWLINE
FH	FIRE HYDRANT
FO	FIBER OPTIC
G	GAS
GND	GROUND
GRV	GRAVEL
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT
INT	INTERSECTION
INV	INVERT
LP	LOW POINT
LF	LEFT
LN	LANE
LS	LIFT STATIO
MAT	MATERIAL
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH
NO.	NUMBER
NTS	NOT TO SCALE
OH	OVERHEAD
OHSL	OVERHEAD ELECTRICAL
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURVATURE, REVERSE
PE	PROFESSIONAL ENGINEER
PI	POINT OF INTERSECTION
PLS	PROFESSIONAL LAND SURVEYOR
PR	PROPOSED
PT	POINT OF TANGENCY / POINT
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS / RIGHT
REC	RECORDING
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT-OF-WAY
RD	ROAD / ROADWAY
RT	RIGHT
S	SOUTH
SD	STORM DRAIN
SEC	SECTION
SHT	SHEET
SI	SIGNING & STRIPING
SS	SANITARY SEWER
ST	STREET
STA	STATION
STD	STANDARD
SW	SIDEWALK
T / TELE	TELEPHONE
TBC	TOP BACK OF CURB
TC	TOP OF CURB / TRAFFIC CONTROL
TOE	TOE OF SLOPE
TOW	TOP OF WALL
T.O.P.	TOP OF PIPE
TYP	TYPICAL
TV	TELEVISION
UE	UTILITY EASEMENT
VERT	VERTICAL
VC	VERTICAL CURVE
W	WEST / WATER
WT	WATER
XC	CROSS-SECTION
Y1	SINGLE YELLOW STRIPE
Y2	DOUBLE YELLOW STRIPE

LEGEND

	PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR FINISHED GRADE PROJECT BOUNDARY RIGHT OF WAY (ROW) EASEMENT CENTERLINE LOT / TRACT / PARCEL BOUNDARY SIGHT / SAFETY TRIANGLE BLOCK NUMBER LOT NUMBER DRAINAGE SWALE GUARDRAIL STREET LIGHT STREET SIGNS CURB RAMPS TOWNHOMES ROAD WARPING CONCRETE MAINTENANCE ACCESS / GRAVEL ROAD RIPRAP SOIL RIPRAP SAWCUT STORM (FES, MH, & INLET) SANITARY WATER (HYDRANT, VALVE, BEND, MH) RAIL WATER (VALVE, BEND, MH) FOREBAY STORM INLETS (TYPE C, D, 12, & R) STORM 100 YEAR HGL STORM 5 YEAR HGL ALLOT BLOT WALKOUT LOT TRANSITION LOT EX STORM (FES, MH, & INLET) EX SANITARY EX WATER (HYDRANT, VALVE, BEND, MH) EXISTING OVERHEAD ELECTRIC EXISTING UNDERGROUND ELECTRIC EXISTING STORM EXISTING SWALE EXISTING SANITARY CLEAN OUT EXISTING TREE EXISTING SIGN EXISTING WATER EXISTING GAS EXISTING FIBER OPTIC EXISTING ELECTRIC EXISTING TELEPHONE EXISTING FENCE EXISTING WETLAND EX BOLLARD EX ELECTRIC BREAKER BOX EX FIBER OPTIC VALVE EX GAS METER EX METAL POST EX OIL & GAS WELL EX TELEPHONE PEDESTAL EXISTING POWER POLE & GUY WIRE EX WATER MH, METER, & VENT PIPE EX WATER VALVE & HYDRANT
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DATE	BY
11/01/2024	MM
01/17/2025	MM
02/28/2025	MM

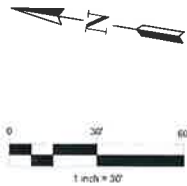
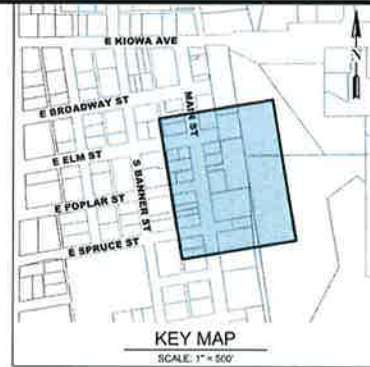
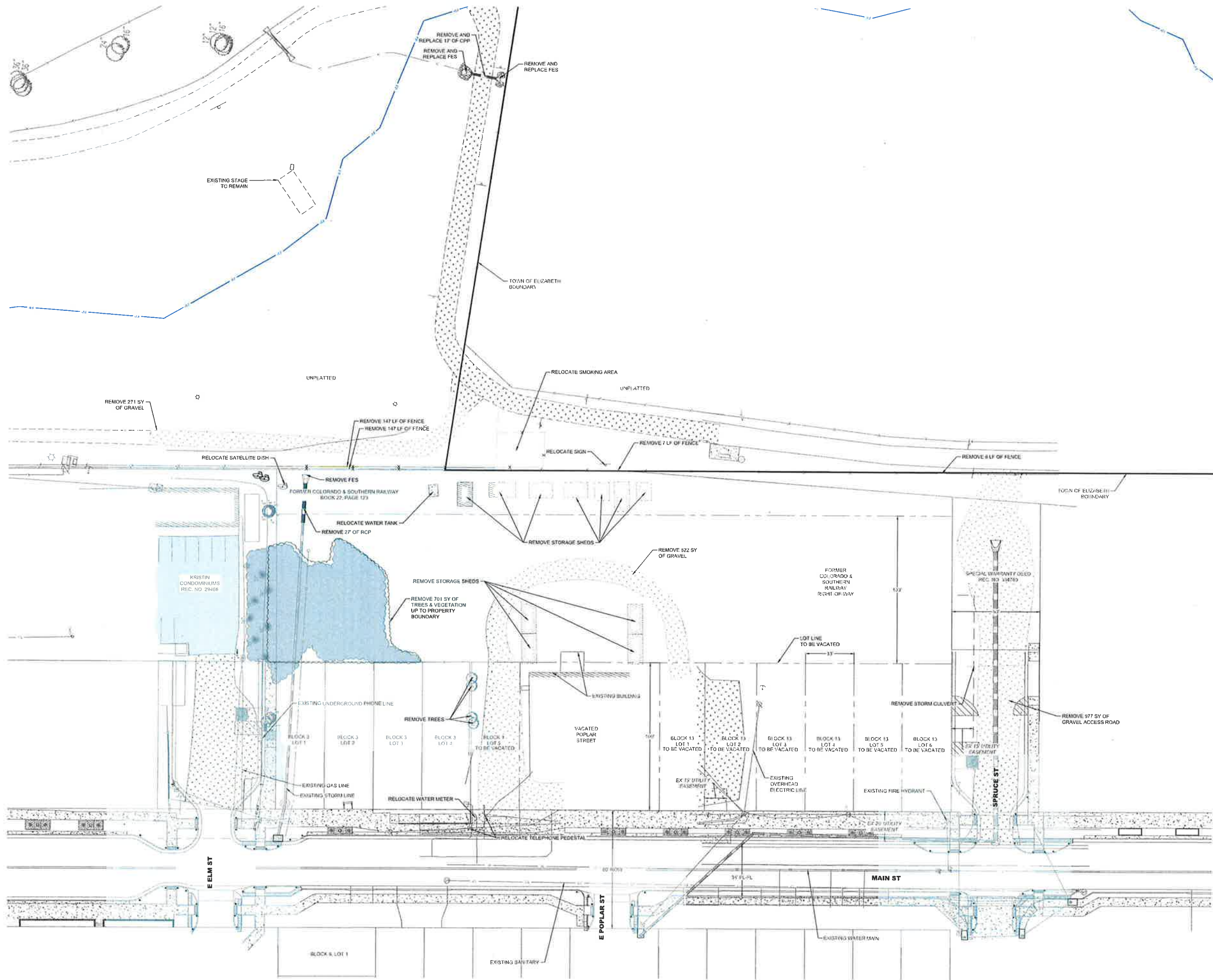
#	REVISION DESCRIPTION
1	1ST SUBMITTAL
2	2ND SUBMITTAL
3	3RD SUBMITTAL

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GENERAL NOTES



3/12/2025 11:15 AM: X:\TOWN OF ELIZABETH\CD\LANDSCAPE\MAIN ST PARKING PRELIMINARY CDS EXISTING.DWG 1



LEGEND

- PROJECT BOUNDARY
- RIGHT OF WAY (ROW)
- EASEMENT
- CENTERLINE
- LOT / TRACT / PARCEL BOUNDARY
- LOT BOUNDARY TO BE VACATED
- TOWN OF ELIZABETH BOUNDARY
- 10-YR FLOODPLAIN (HIGHLIGHTED)
- STREET SIGNS
- CURB RAMPS
- EXISTING TREE
- EXISTING SIGN
- CONCRETE
- MAINTENANCE ACCESS / GRAVEL ROAD
- EXISTING FENCE



DATE	BY
1/10/2024	MM
01/17/2025	MM
02/28/2025	MM

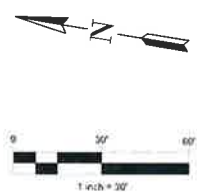
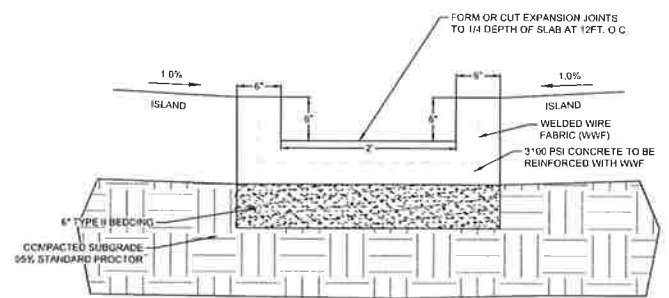
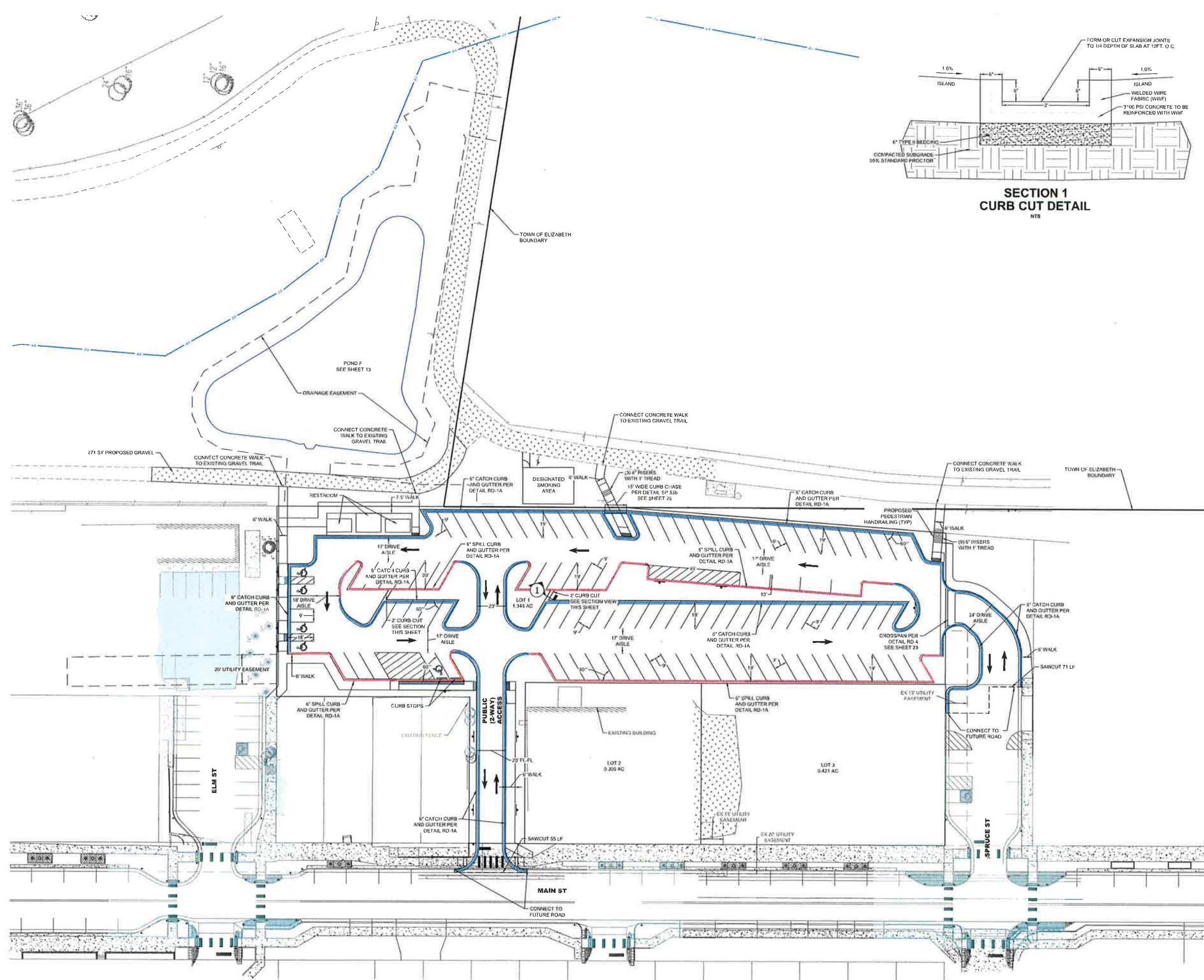
#	REVISION DESCRIPTION
1	1ST SUBMITTAL
2	2ND SUBMITTAL
3	3RD SUBMITTAL

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
EXISTING SITE & DEMO PLAN



3/19/2023 11:16 AM, X:TOWN OF ELIZABETH\CD\PLANS\01 - MAIN ST PARKING\ELIMINARY CDS SITE PLAN.DWG 1



- LEGEND**
- PROJECT BOUNDARY
 - RIGHT OF WAY (ROW)
 - EASEMENT
 - CENTERLINE
 - LOT / TRACT / PARCEL BOUNDARY
 - LOT BOUNDARY TO BE VACATED
 - TOWN OF ELIZABETH BOUNDARY
 - 100 YR FLOODPLAIN (RUNNING CREEK)
 - STREET SIGNS
 - CURB RAMPS
 - EXISTING TREE
 - EXISTING SIGN
 - CONCRETE
 - MAINTENANCE ACCESS / GRAVEL ROAD
 - EXISTING FENCE

LEGEND:
SPILL CURB -
CATCH CURB -

PARKING LOT COUNT:
STANDARD - 107
HANDICAP - 5

0200 E. Grand Ave. A-314
Colorado Springs, CO 80907
ph: 303.632.8867

#	DATE	BY	REVISION DESCRIPTION
1	11/02/2024	MM	1ST SUBMITTAL
2	01/17/2025	MM	2ND SUBMITTAL
3	02/28/2025	MM	3RD SUBMITTAL

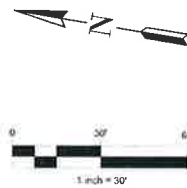
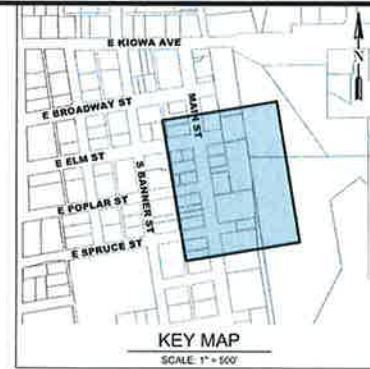
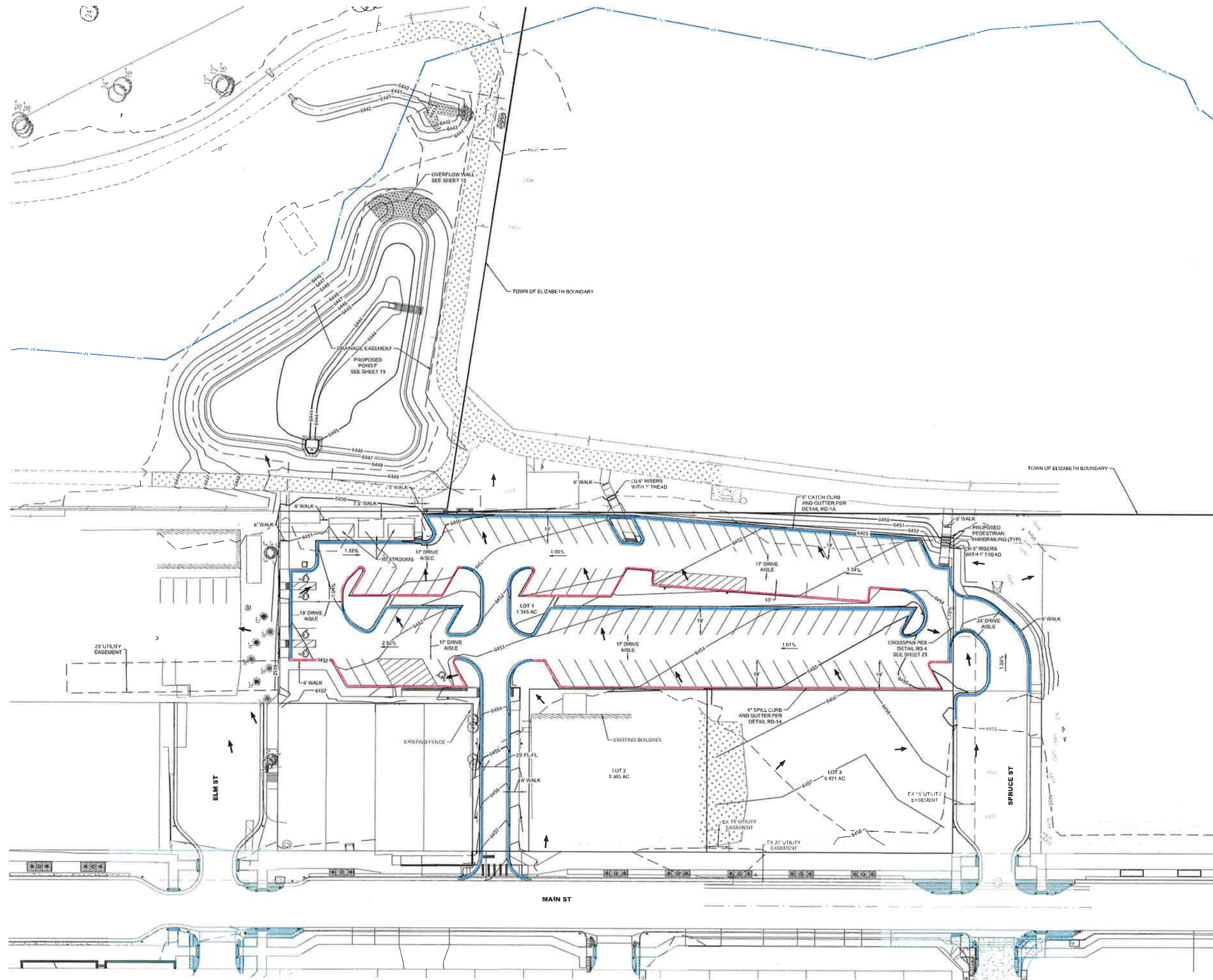
NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
OVERALL SITE PLAN

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

SHEET
4 OF 32

3/12/2025 11:18 AM X:TOWN OF ELIZABETH\CD\PLANS\01 - MAIN ST PARKING\PRELIMINARY CDS GRADING PLAN DWG 1



- LEGEND**
- PROJECT BOUNDARY
 - RIGHT OF WAY (ROW)
 - EASEMENT
 - LOT / TRACT / PARCEL BOUNDARY
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR (1 FT)
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR (1 FT)
 - 100-YR FLOODPLAIN (DRAINING CREEK)
 - 100-YR WATER SURFACE ELEVATION
 - STREET SIGNS
 - CURB RAMPS
 - EXISTING TREE
 - EXISTING SIGN
 - CONCRETE
 - MAINTENANCE ACCESS / GRAVEL ROAD
 - EXISTING FENCE

- LEGEND:**
- SPILL CURB -
 - CATCH CURB -

terrancia
td design
10200 E Grand Ave. A-314
Denver, CO 80231
PH: 303.602.8807

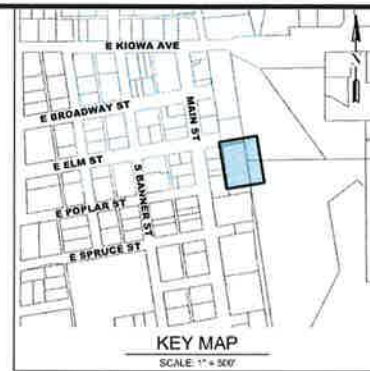
#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/01/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
OVERALL GRADING PLAN

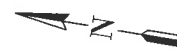
Know what's below.
Call before you dig.
811

SHEET
6 OF 32



KEY MAP

SCALE: 1" = 500'



LEGEND

- | | |
|--|-----------------------------------|
| | PROJECT BOUNDARY |
| | RIGHT OF WAY (ROW) |
| | EASEMENT |
| | LOT / TRACT / PARCEL BOUNDARY |
| | PROPOSED MAJOR CONTOUR |
| | PROPOSED MINOR CONTOUR (1 FT) |
| | PROPOSED MAJOR CONTOUR |
| | PROPOSED MINOR CONTOUR (1 FT) |
| | 100-YR FLOODPLAIN (RUNNING CREEK) |
| | 100-YR WATER SURFACE ELEVATION |
| | STREET SIGNS |
| | CURB RAMPS |
| | EXISTING TREE |
| | EXISTING SIGN |
| | CONCRETE |
| | MAINTENANCE ACCESS / GRAVEL ROAD |
| | EXISTING FENCE |

LEGEND:

ADA ACCESS - [\[1 2 3 4 5 6 \]](#)

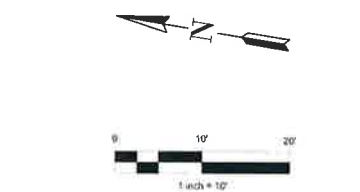
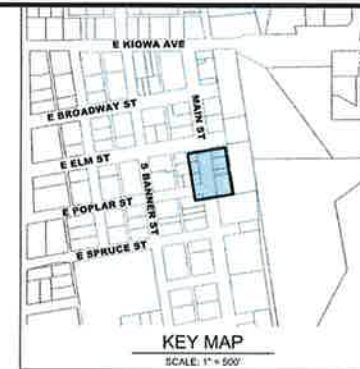
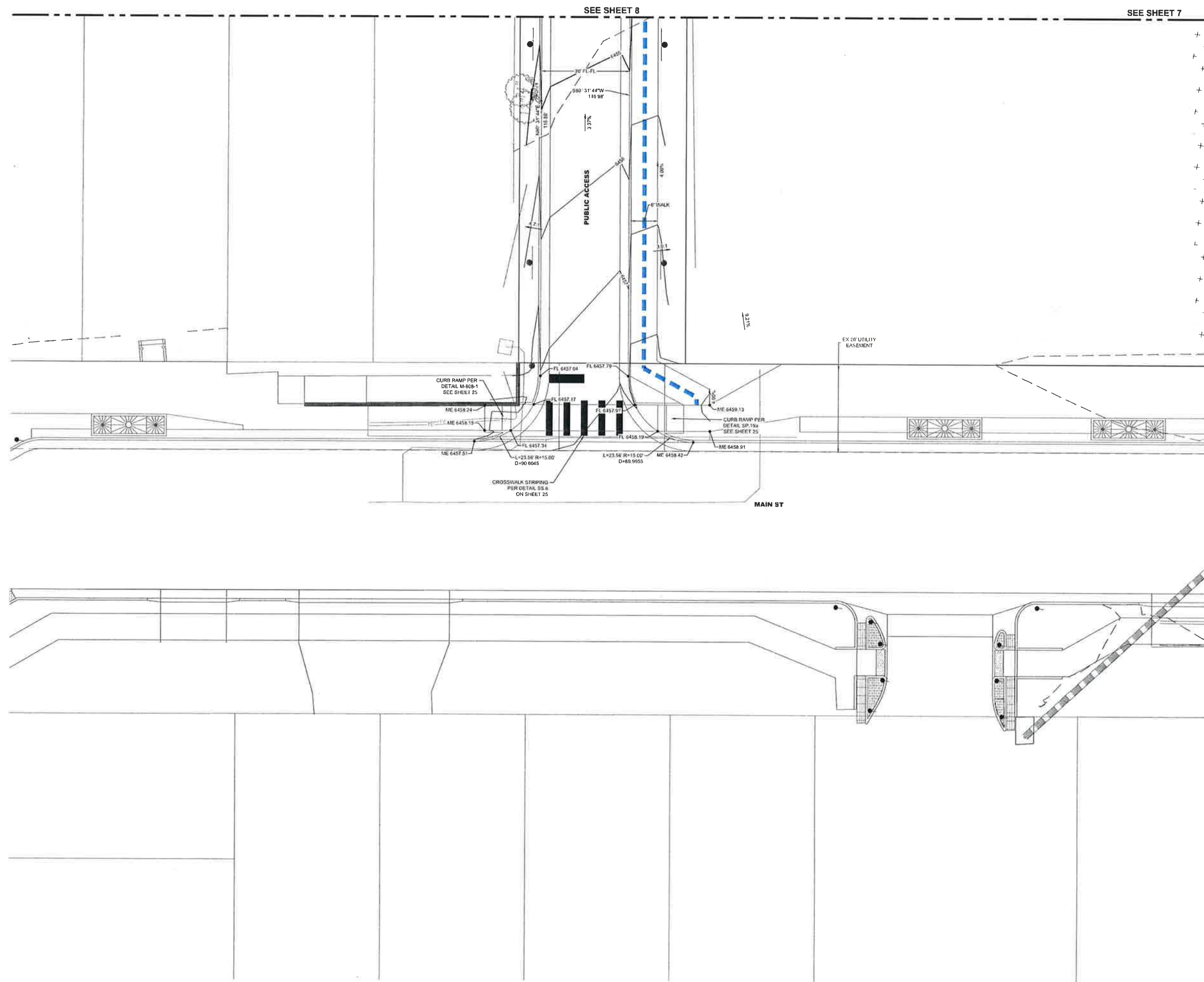
td terracina design
800.301.2211 E. Cleveland, OH 44115

#	REVISION DESCRIPTION	BY	DATE
1	1ST SUBMITTAL		11/01/2024
2	2ND SUBMITTAL		01/17/2025
3	3RD SUBMITTAL		02/26/2025

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS

Know what's below
Call before you dig
811



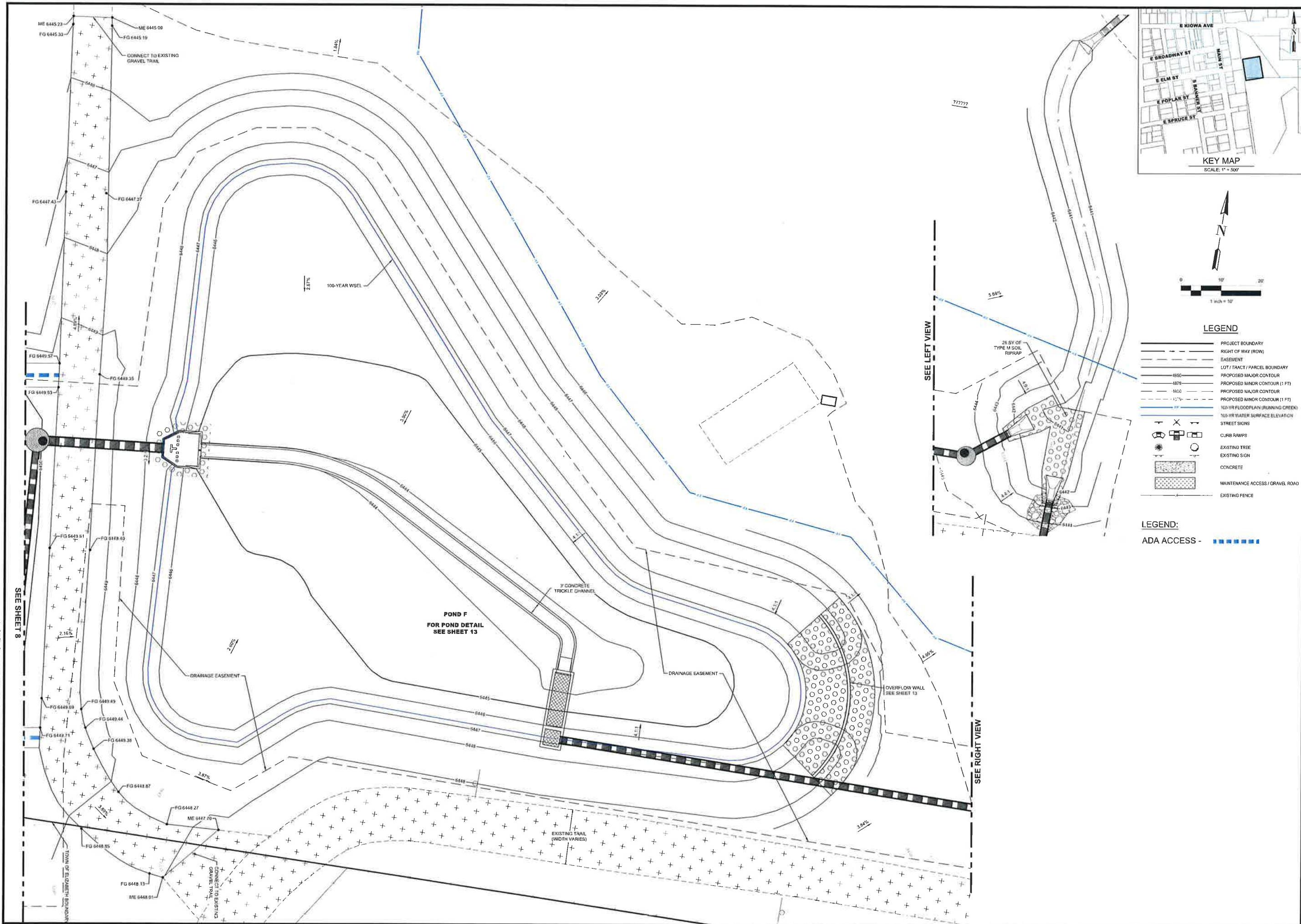
LEGEND

	PROJECT BOUNDARY
	RIGHT OF WAY (ROW)
	EASEMENT
	LOT / TRACT / PARCEL BOUNDARY
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR (1 FT)
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR (1 FT)
	10-15 YR FLOODPLAIN (RUNNING CREEK)
	100 YR WATER SURFACE ELEVATION
STREET SIGNS	
	CLUB RAMPS
	EXISTING TREE
	EXISTING SIGN
	CONCRETE
	MAINTENANCE ACCESS / GRAVEL ROAD
	EXISTING FENCE

LEGEND:

ADA ACCESS -

811 Know what's below. Call before you dig.	MAIN STREET OFF-STREET PARKING LOT TOWN OF ELIZABETH, COLORADO CONSTRUCTION DOCUMENTS HORIZONTAL CONTROL & GRADING PLAN (3 OF 4)	NOT FOR CONSTRUCTION	#	REVISION DESCRIPTION	BY	DATE
			1	1ST SUBMITTAL	MM	11/01/2024
			2	2ND SUBMITTAL	MM	01/17/2025
			3	3RD SUBMITTAL	MM	02/28/2025
SHEET		9 OF 32		terracina design td 10300 E. Grant Ave. A-314 Denver, CO 80231 PH: 303.632.8867		



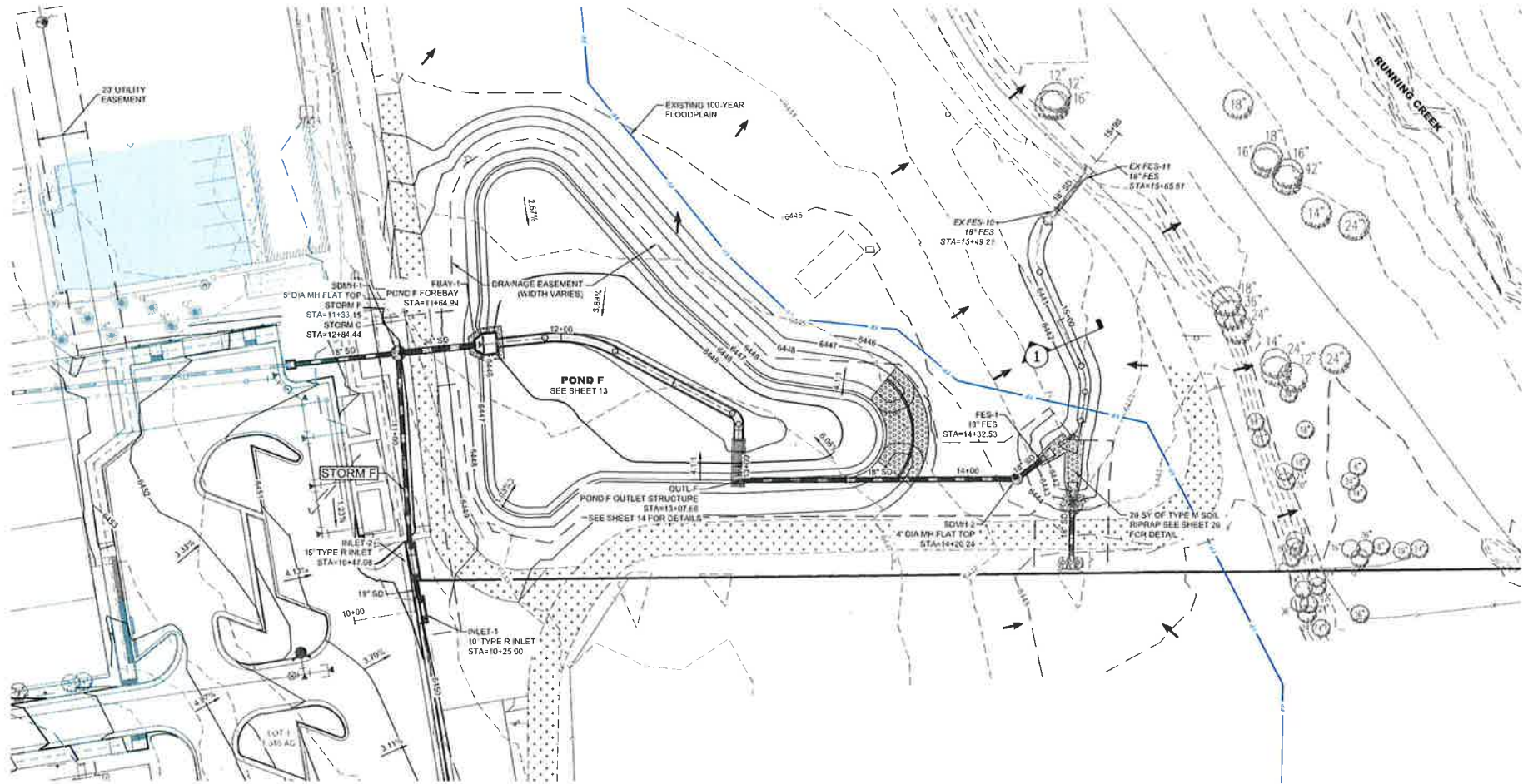
td
terraccina
design
10200 E. Girard Ave. A-314
Denver, CO 80231
ph: 303.632.8597

#	REVISION DESCRIPTION	DATE	BY
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2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/23/2025	MM

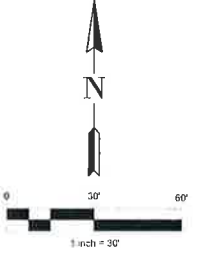
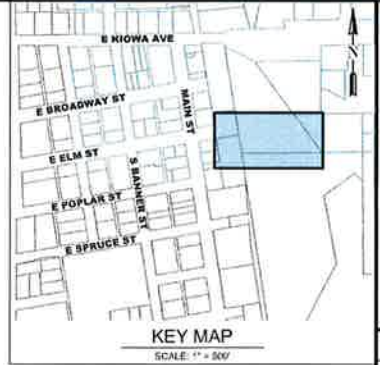
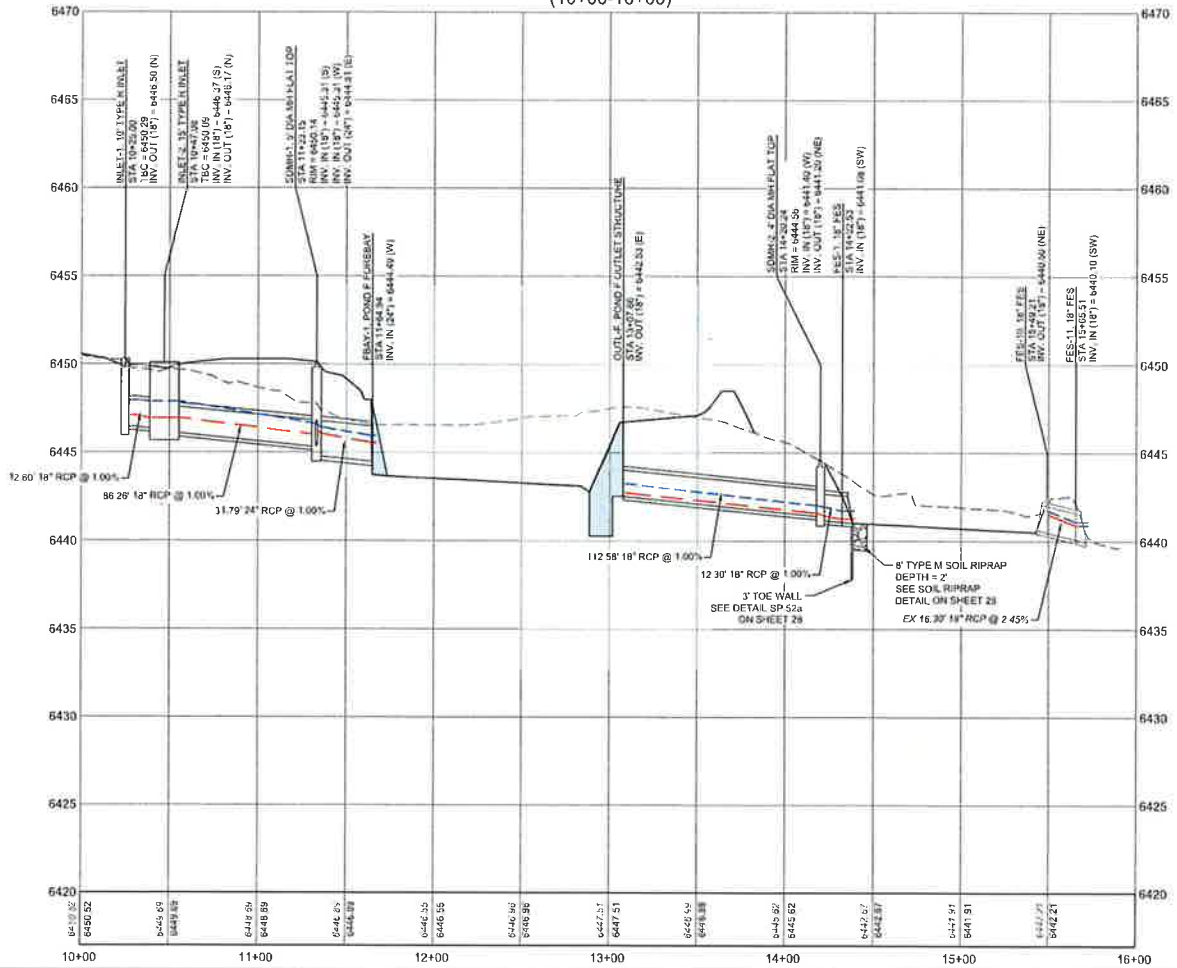
**NOT FOR
CONSTRUCTION**

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
HORIZONTAL CONTROL & GRADING PLAN (4 OF 4)

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



STORM F
(10+00-16+00)



PROFILE LEGEND

	100-YR HGL
	5 YR HGL
	EXIST GRADE
	PROJ GRADE
	1\"/>

LEGEND

	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROJECT BOUNDARY
	RIGHT OF WAY (ROW)
	EASEMENT
	LOT BOUNDARY
	CONCRETE
	MAINTENANCE ACCESS / GRAVEL ROAD
	RIPRAP
	SOIL RIPRAP
	STORM FES, MH, & INLET
	SANITARY WATER, HYDRANT, VALVE, BEND, MH
	FOREBAY
	STORM INLETS (TYPE C, D, 13, & 14)
	STORM 100 YEAR HGL
	STORM 5 YEAR HGL
	EX STORM (FES, MH, & INLET)
	EXISTING UTILITY
	EXISTING SWALE
	EXISTING SIGN
	EXISTING WATER
	EXISTING FENCE
	EXISTING POWER POLE & GUY WIRE
	EX WATER MH, METER, & VENT PIPE
	EX WATER VALVE & HYDRANT

PROPOSED SWALE
SECTION 1
NTS



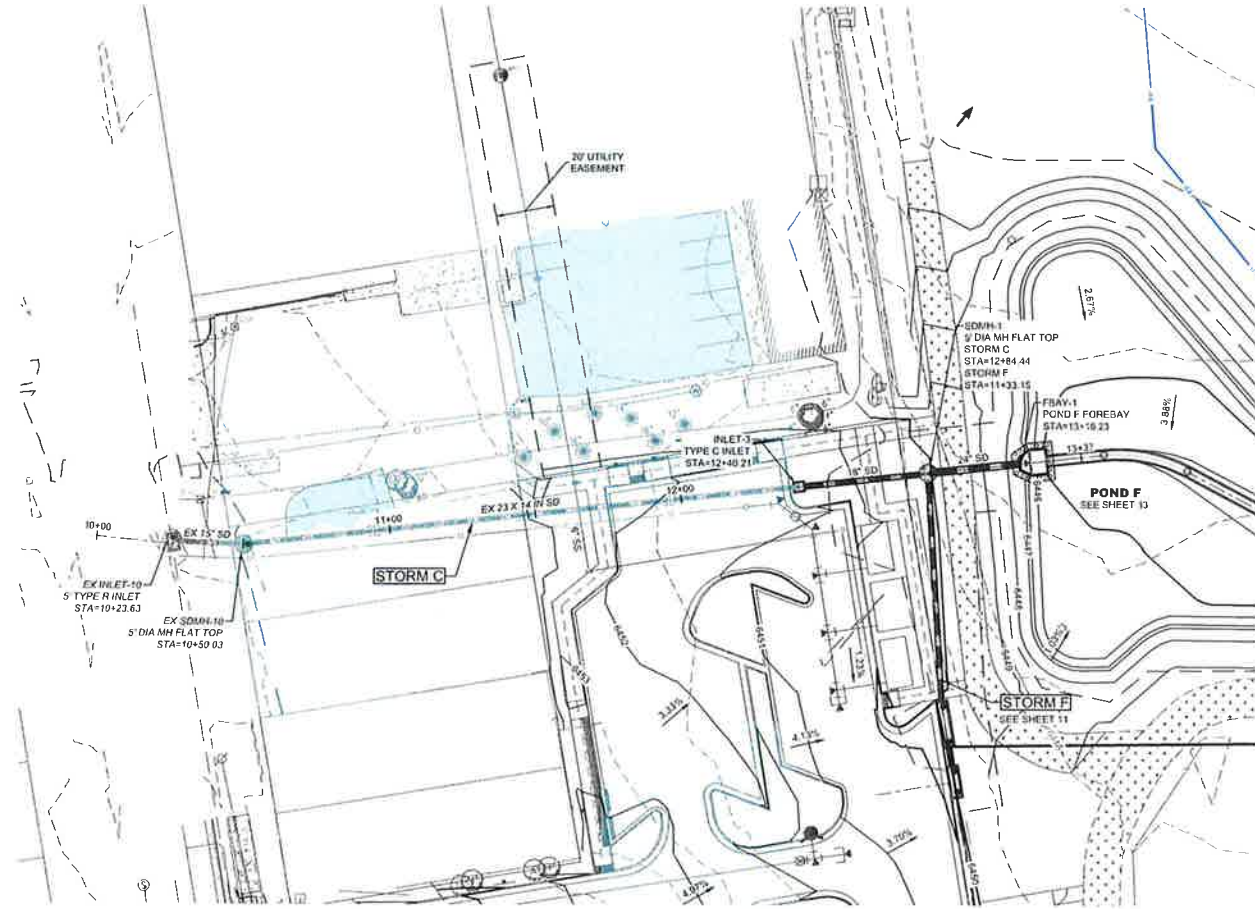
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2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

NOT FOR
CONSTRUCTION

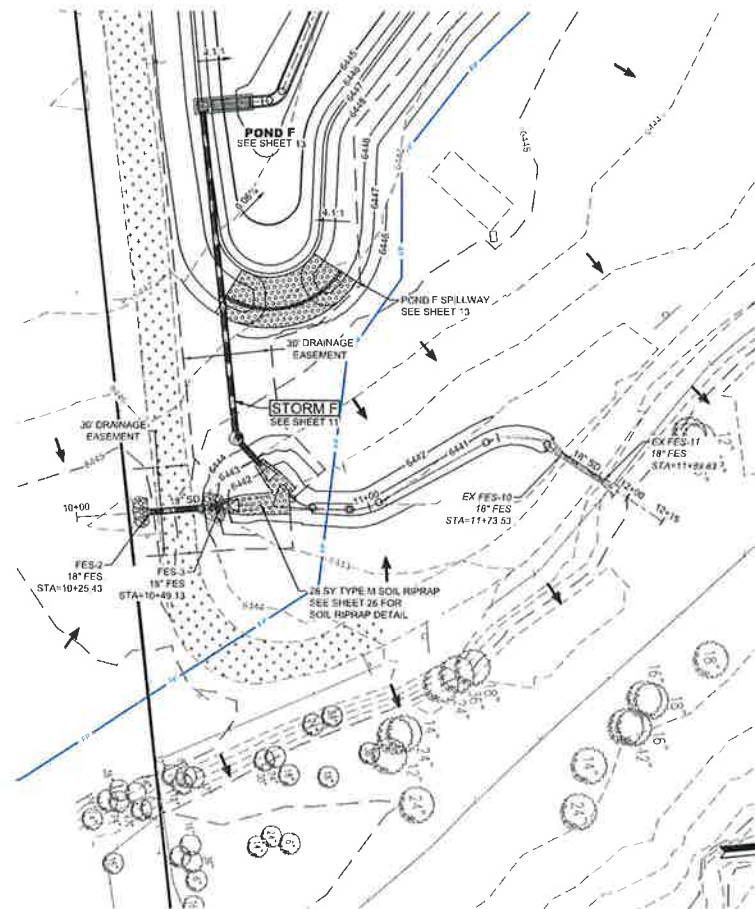
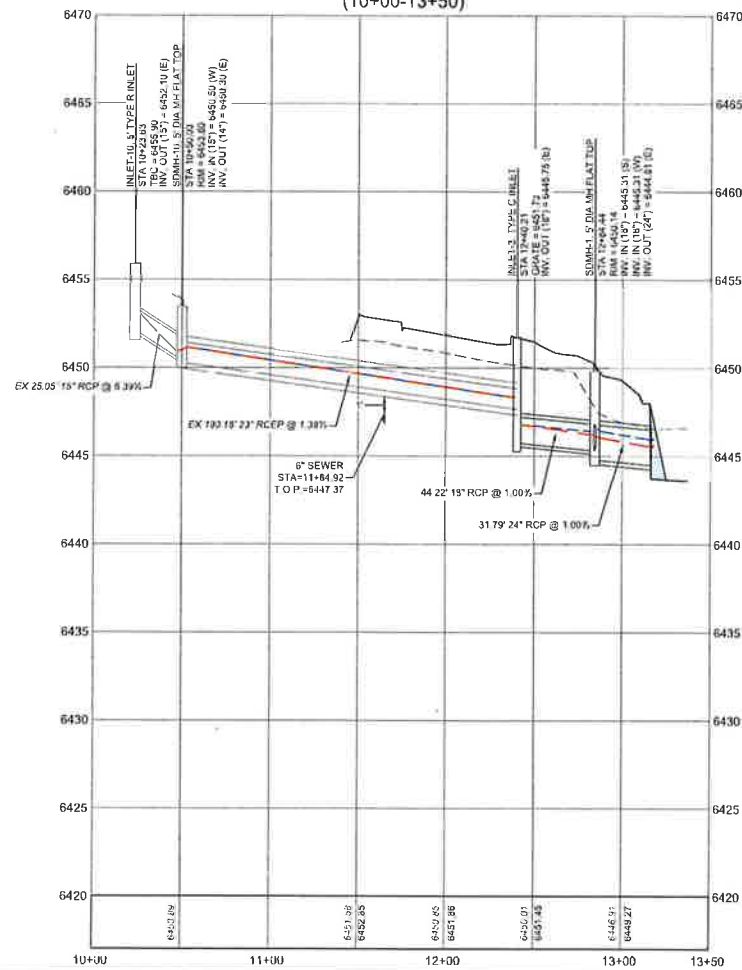
MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
STORM P&P - STORM F



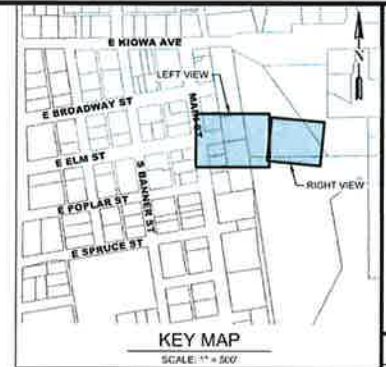
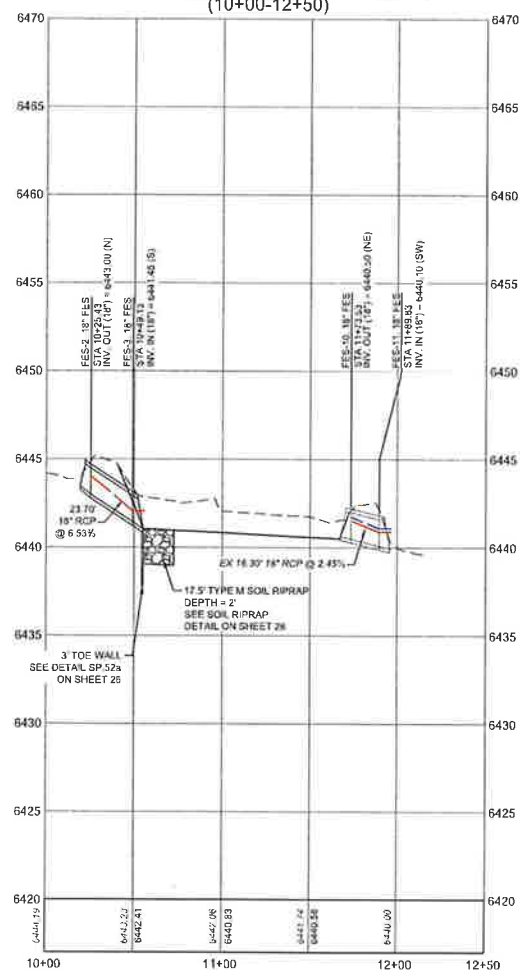
3/12/2025 11:17 AM, X:TOWN OF ELIZABETH CAD PLANS 01 - MAIN ST PARKING PRELIMINARY CDS STORM P&P DWG. 2



STORM C
(10+00-13+50)

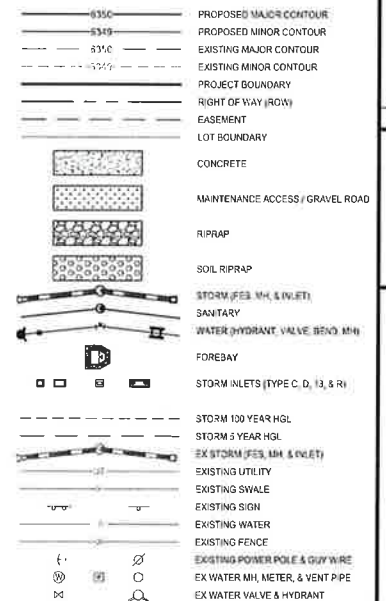


STORM CULVERT
(10+00-12+50)



PROFILE LEGEND	
100-YR HGL	1"=50' (HORIZ)
5-YR HGL	1"=5' (VERT)
EXIST GRADE	
PROPOSED GRADE	

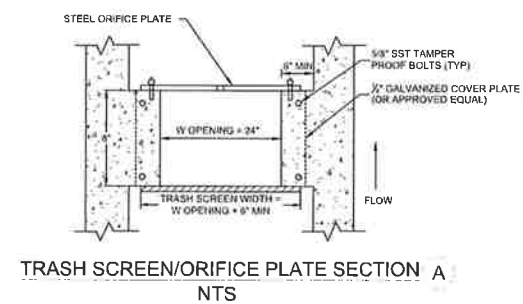
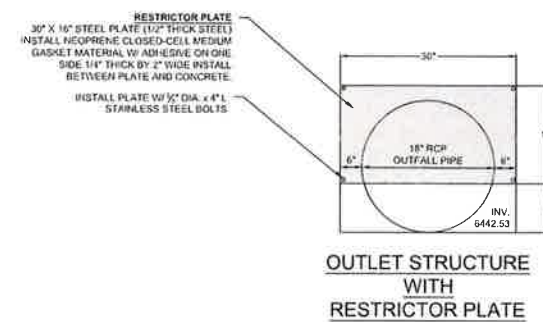
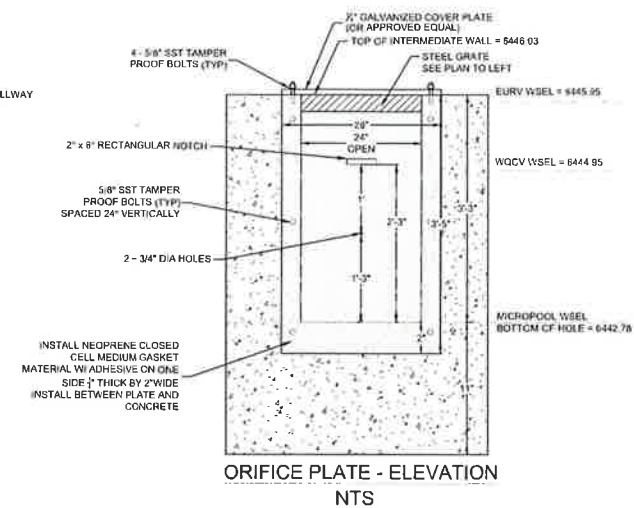
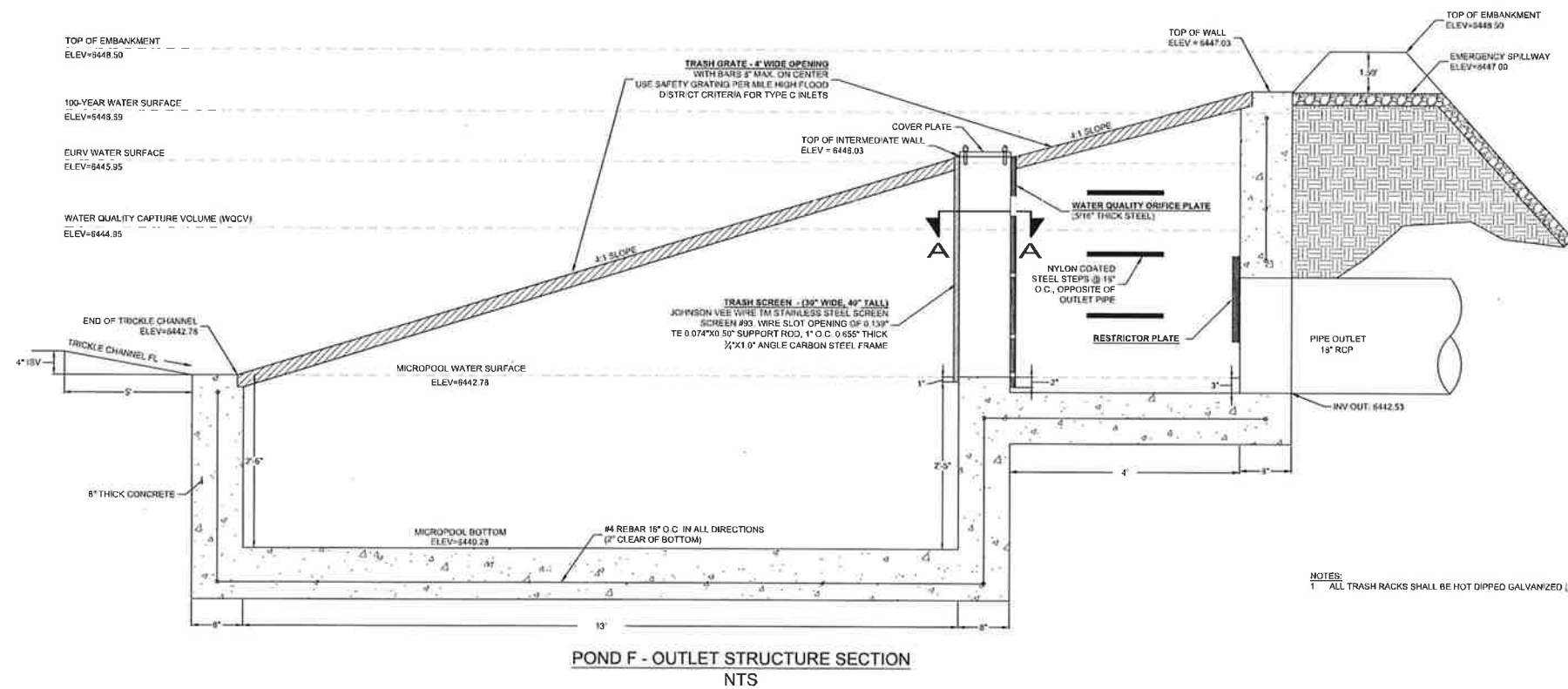
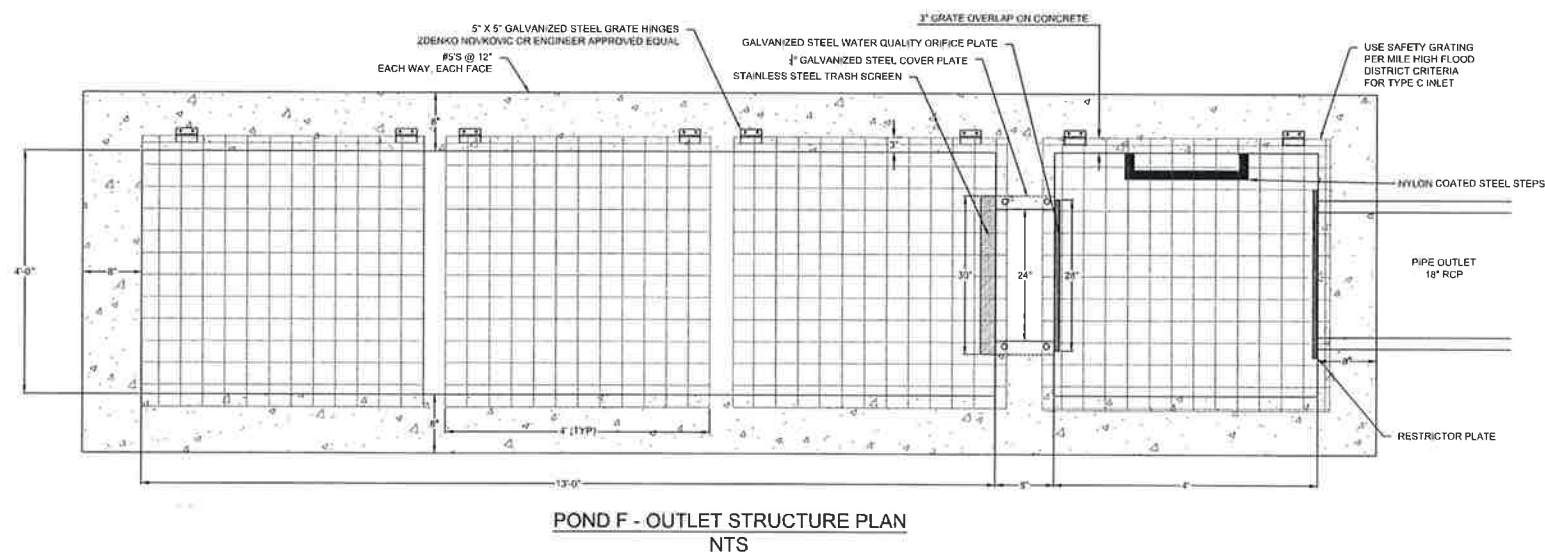
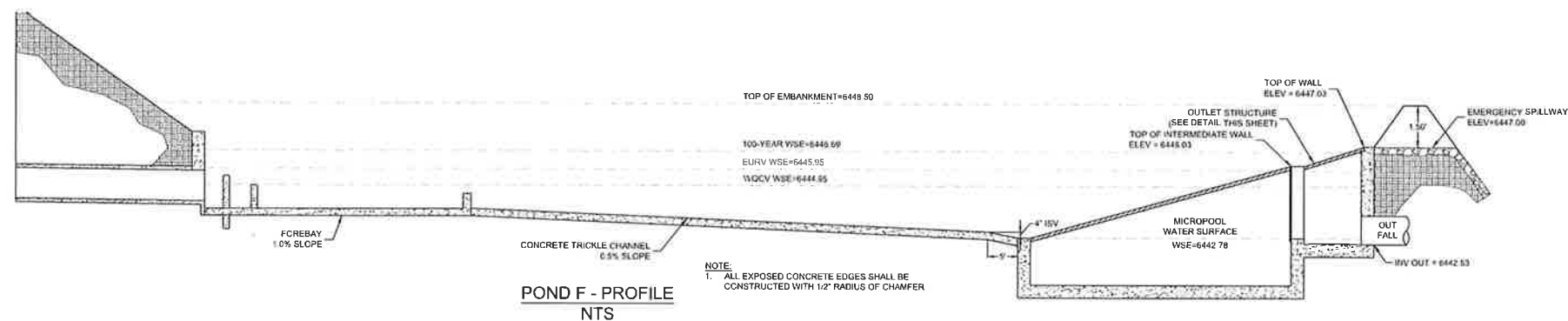
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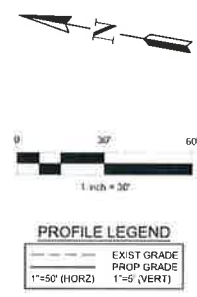
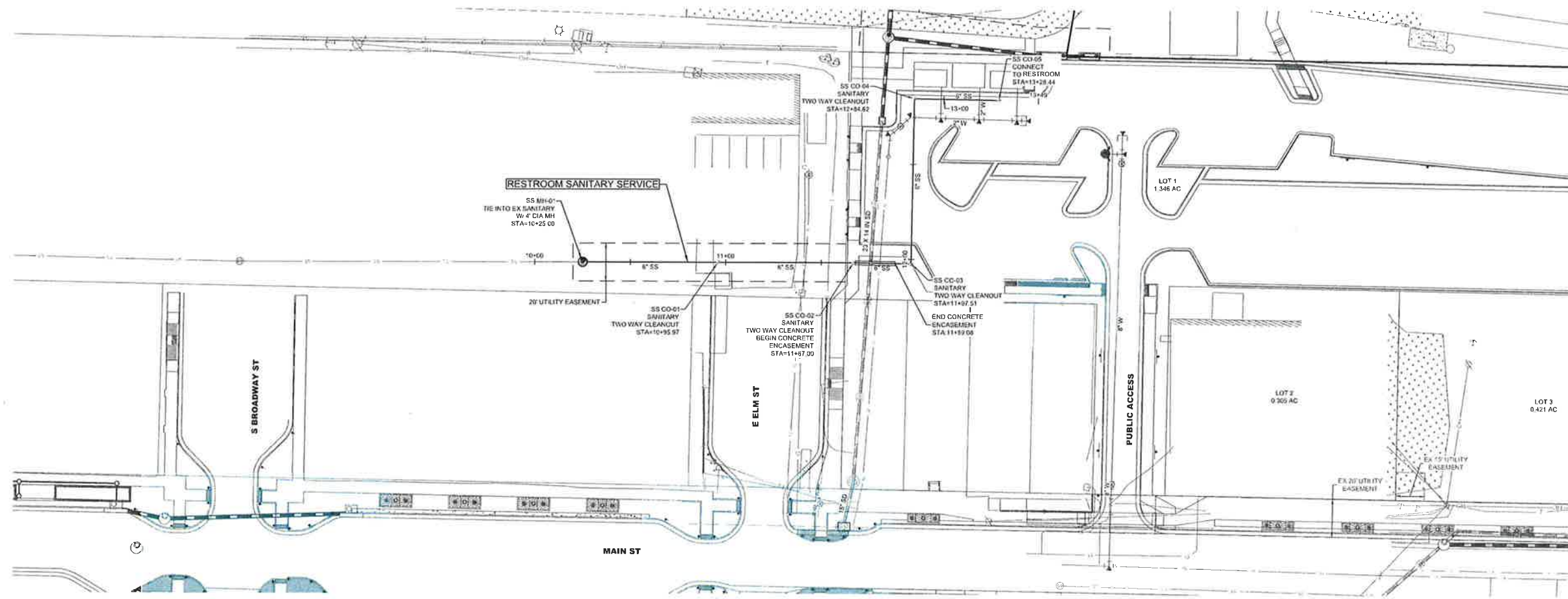
DATE	BY	REVISION DESCRIPTION
11/02/2024	MM	1 1ST SUBMITTAL
01/17/2025	MM	2 2ND SUBMITTAL
02/28/2025	MM	3 3RD SUBMITTAL

NOT FOR
CONSTRUCTION

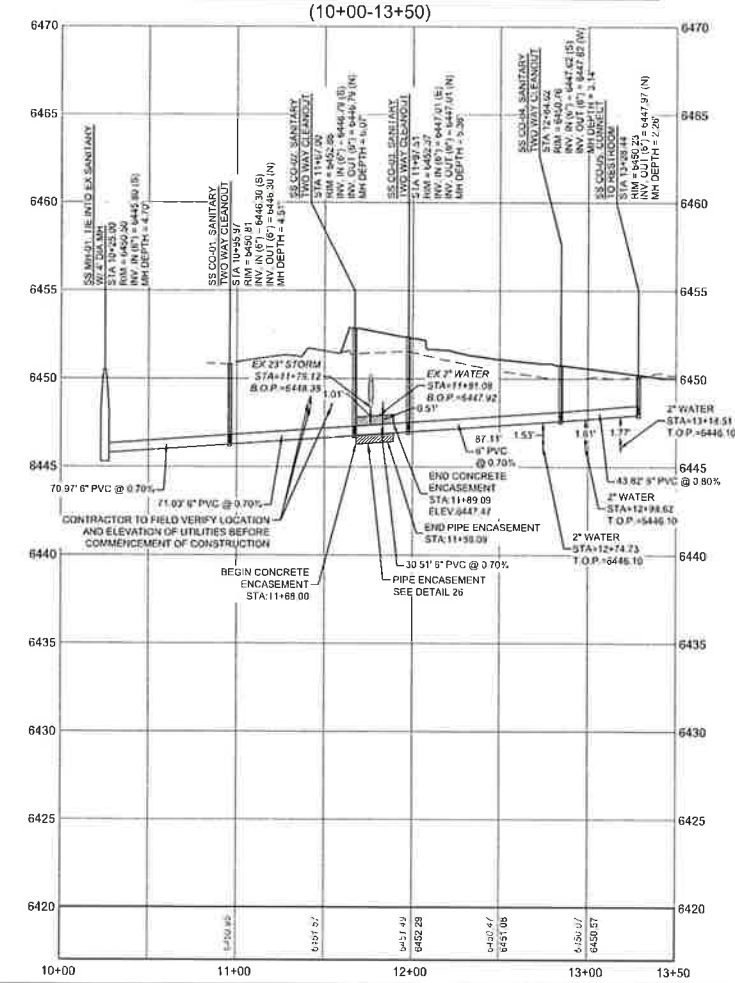
MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
STORM P&P - STORM C AND CULVERT



NOTES:
1 ALL TRASH RACKS SHALL BE HOT DIPPED GALVANIZED (TYPICAL)



RESTROOM SANITARY SERVICE



terraccina
design
td
10200 E. Grand Ave., A-314
Denver, CO 80231
PH: 303.632.8867

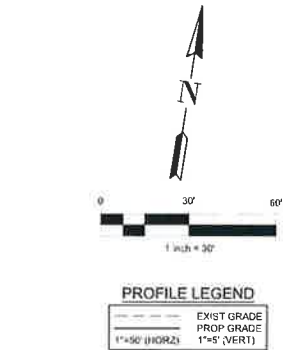
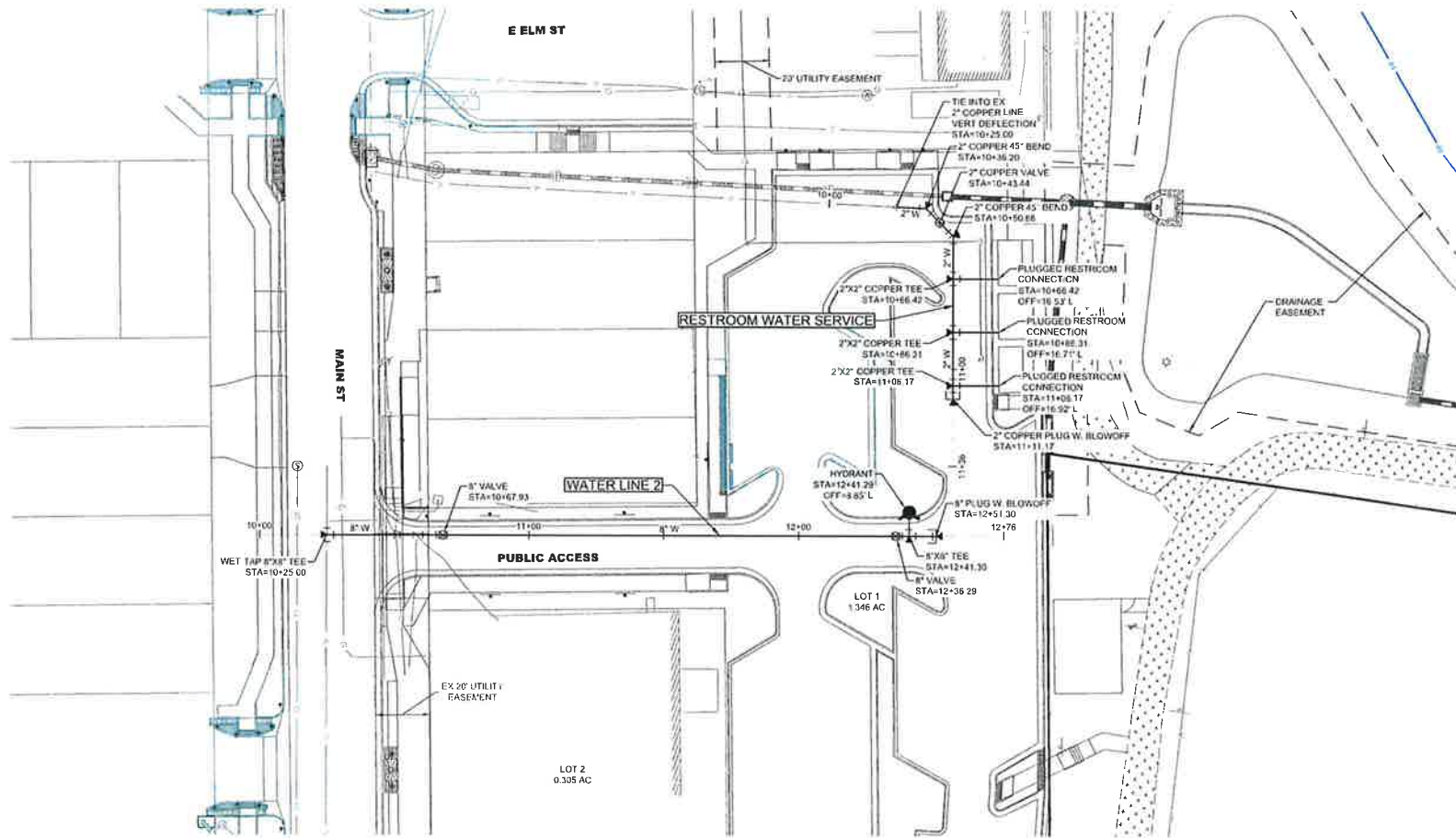
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1	1ST SUBMITTAL	11/01/2024	MM
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3	3RD SUBMITTAL	02/25/2025	MM

NOT FOR CONSTRUCTION

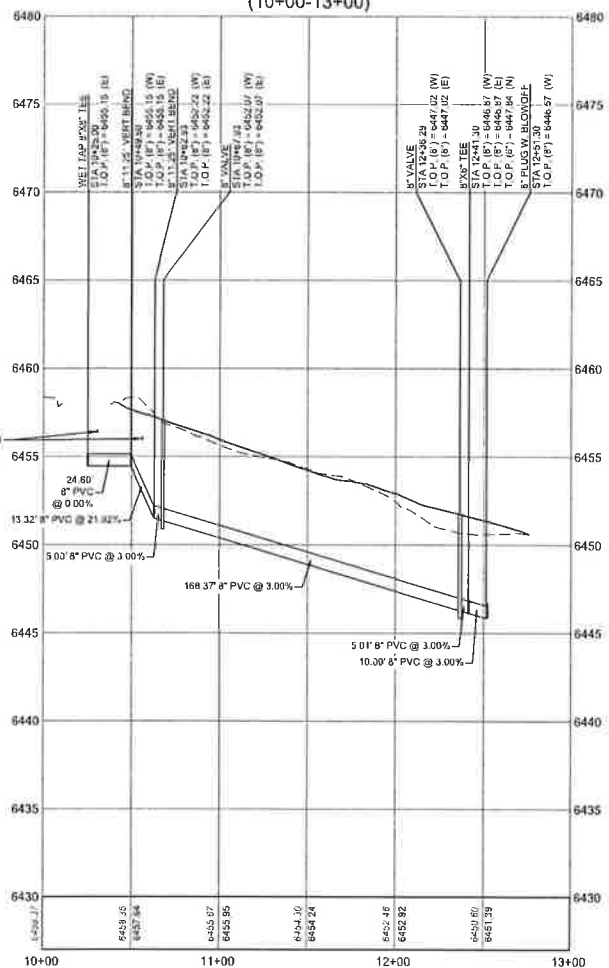
MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
SANITARY P&P - RESTROOM SANITARY SERVICE

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

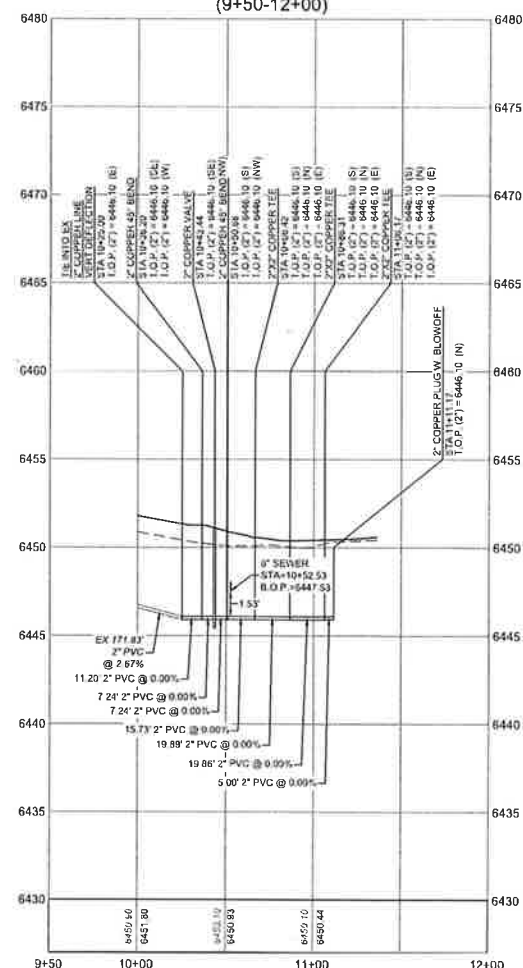
SHEET
15 OF 32



WATER LINE 2
(10+00-13+00)



RESTROOM WATER SERVICE
(9+50-12+00)

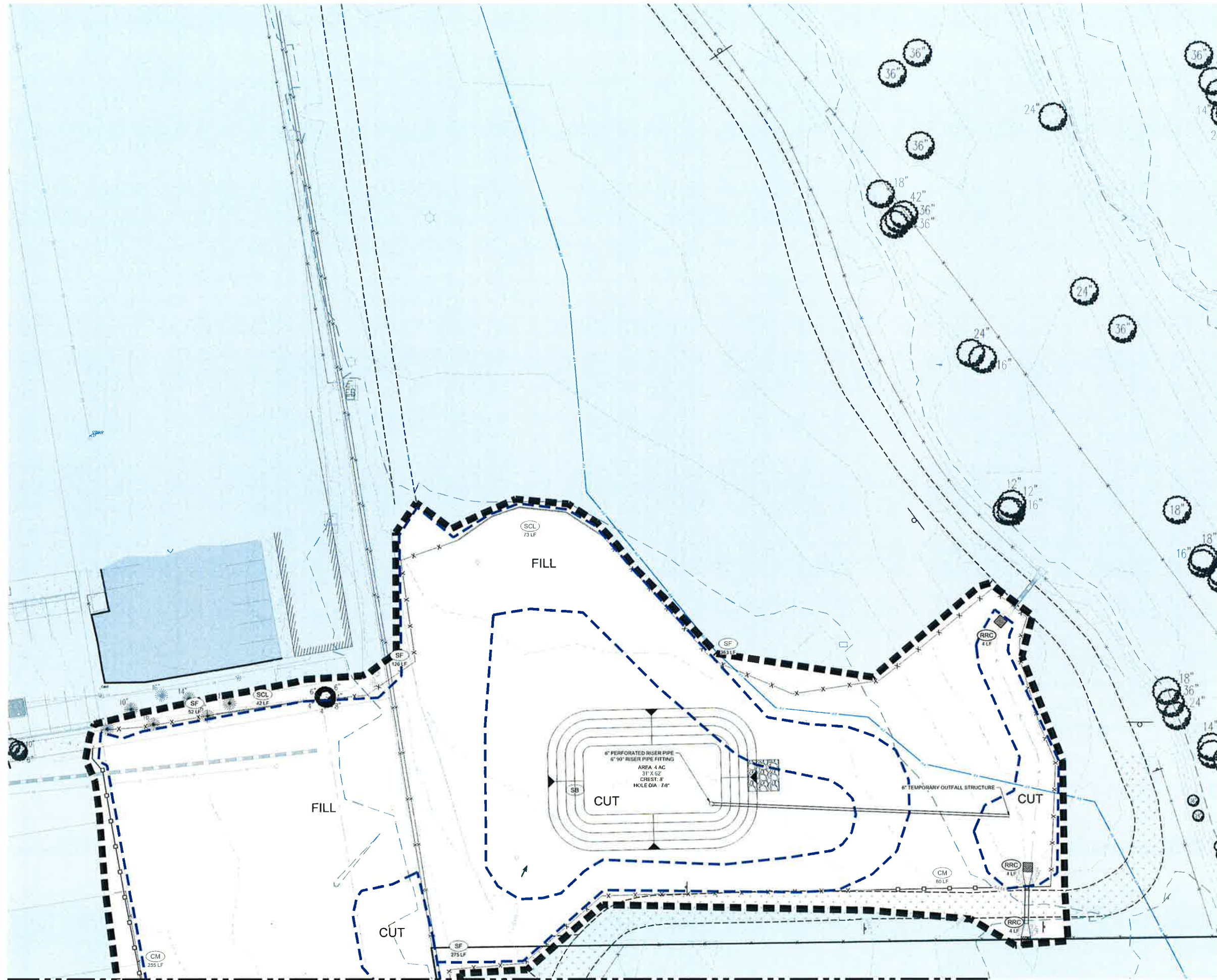


#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/01/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

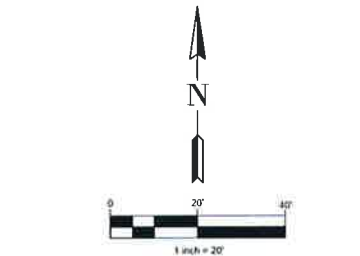
NOT FOR
CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
WATER P&P - RESTROOM WATER SERVICE

3/10/2025 11:17 AM X:\TOWN OF ELIZABETH\CD\PLANS\01 - MAIN ST PARKING\PRELIMINARY\GSC - INITIAL.DWG 1



SEE SHEET 18



LEGEND	
	OUTSIDE LIMITS OF CONSTRUCTION
	CD CHECK DAM
	CWA CONCRETE WASHOUT AREA
	CM CONSTRUCTION MARKER
	CS CURB SOCK / ROCK SOCK
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET
	IP INLET PROTECTION
	RRC REINFORCED ROCK BERM FOR CULVERT PROTECTION
	SB TEMPORARY SEDIMENT BASIN
	SCL SEDIMENT CONTROL LOG
	SF SILT FENCE
	ST SEDIMENT TRAP
	SM SEEDING AND MULCHING
	SSA STABILIZED STAGING AREA
	SR SURFACE ROUGHENING
	VTC VEHICLE TRACKING CONTROL
	LOC LIMITS OF CONSTRUCTION

- NOTES:
- SEE SHEETS 25-32 FOR GESC DETAILS.
 - THE SITE EARTHWORK:
1995 CY CUT, 4779 CY FILL, 2814 CY NET FILL



10000 E. Grand Ave., A-314
Denver, CO 80231
ph: 303.632.8667

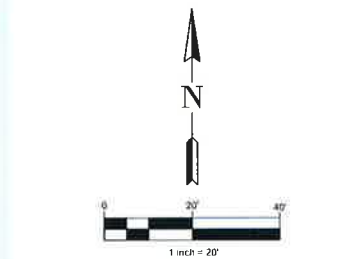
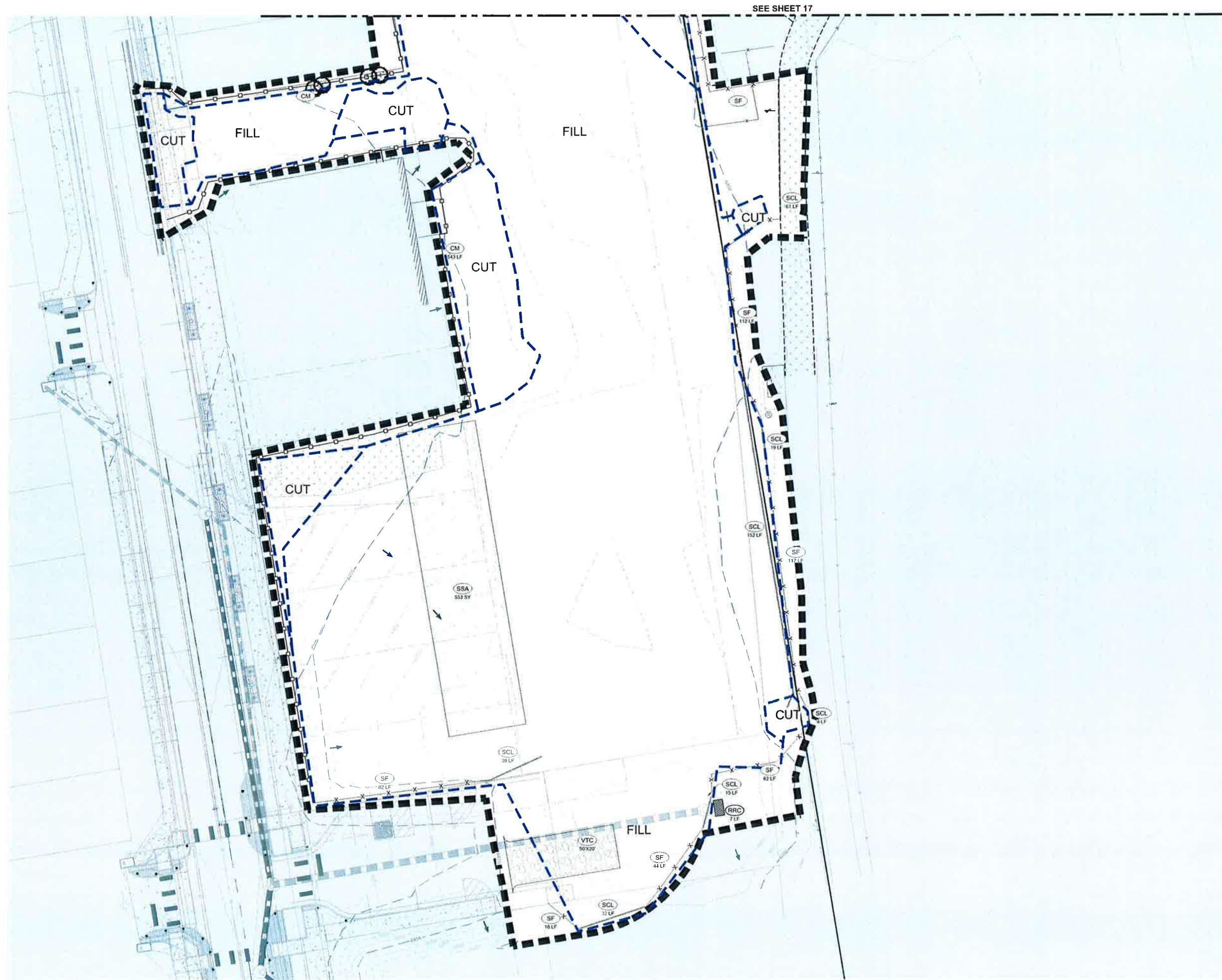
#	DATE	BY	REVISION DESCRIPTION
1	11/01/2024	MM	1ST SUBMITTAL
2	01/17/2025	MM	2ND SUBMITTAL
3	02/26/2025	MM	3RD SUBMITTAL

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - INITIAL PLAN



SHEET
17 OF 32



LEGEND	
	OUTSIDE LIMITS OF CONSTRUCTION
	CD CHECK DAM
	CWA CONCRETE WASHOUT AREA
	CM CONSTRUCTION MARKER
	CS CURB SOCK/ROCK SOCK
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET
	IP INLET PROTECTION
	RRC REINFORCED ROCK BERM FOR CULVERT PROTECTION
	SB TEMPORARY SEDIMENT BASIN
	SCL SEDIMENT CONTROL LOG
	SF SILT FENCE
	ST SEDIMENT TRAP
	SM SEEDING AND MULCHING
	SSA STABILIZED STAGING AREA
	SR SURFACE ROUGHENING
	VTC VEHICLE TRACKING CONTROL
	LOC LIMITS OF CONSTRUCTION

NOTES:
1. SEE SHEETS 25-32 FOR GESC DETAILS.
2. THE SITE EARTHWORK:
1966 CY CUT, 4779 CY FILL, 2814 CY NET FILL



10000 E. General Ave., Suite 314
Denver, CO 80231
PH: 303.632.8867

DATE	BY
11/07/2024	MM
01/17/2025	MM
02/25/2025	MM

#

REVISION DESCRIPTION

1	1ST SUBMITTAL
2	2ND SUBMITTAL
3	3RD SUBMITTAL

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - INITIAL PLAN

Know what's Below.
Call before you dig.

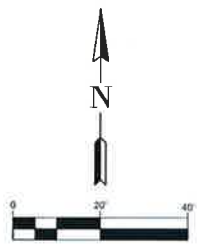


SHEET
18 OF 32

3/13/2025 11:18 AM X:\TOWN OF ELIZABETH\CD\PLANS\01 - MAIN ST PARKING\PRELIMINARY.DWG GESC - INTERIM.DWG 1



SEE SHEET 20



LEGEND	
	OUTSIDE LIMITS OF CONSTRUCTION
	CD CHECK DAM
	CWA CONCRETE WASHOUT AREA
	CM CONSTRUCTION MARKER
	CS CURB SOCK / ROCK SOCK
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET
	IP INLET PROTECTION
	RRC REINFORCED ROCK BERM FOR CULVERT PROTECTION
	SB TEMPORARY SEDIMENT BASIN
	SCL SEDIMENT CONTROL LOG
	SF SILT FENCE
	ST SEDIMENT TRAP
	SM SEEDING AND MULCHING
	SSA STABILIZED STAGING AREA
	SR SURFACE ROUGHENING
	VTC VEHICLE TRACKING CONTROL
	LOC LIMITS OF CONSTRUCTION

NOTES:
1. SEE SHEETS 25-32 FOR GESC DETAILS.
2. THE SITE EARTHWORK:
1800 CY CUT, 4775 CY FILL, 2014 CY NET FILL



terracedesign
td
18500 E COLFAX AVE, SUITE 100
DENVER, CO 80231
PH: 303.632.8887

#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/07/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

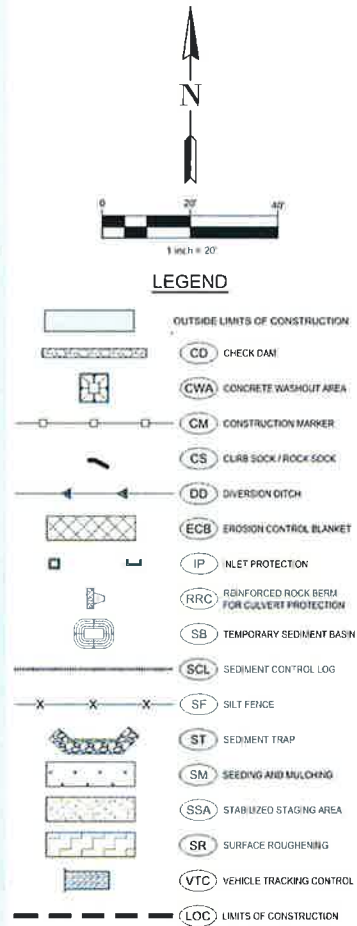
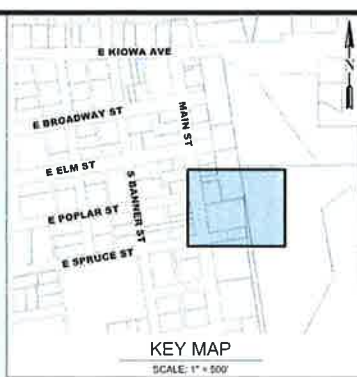
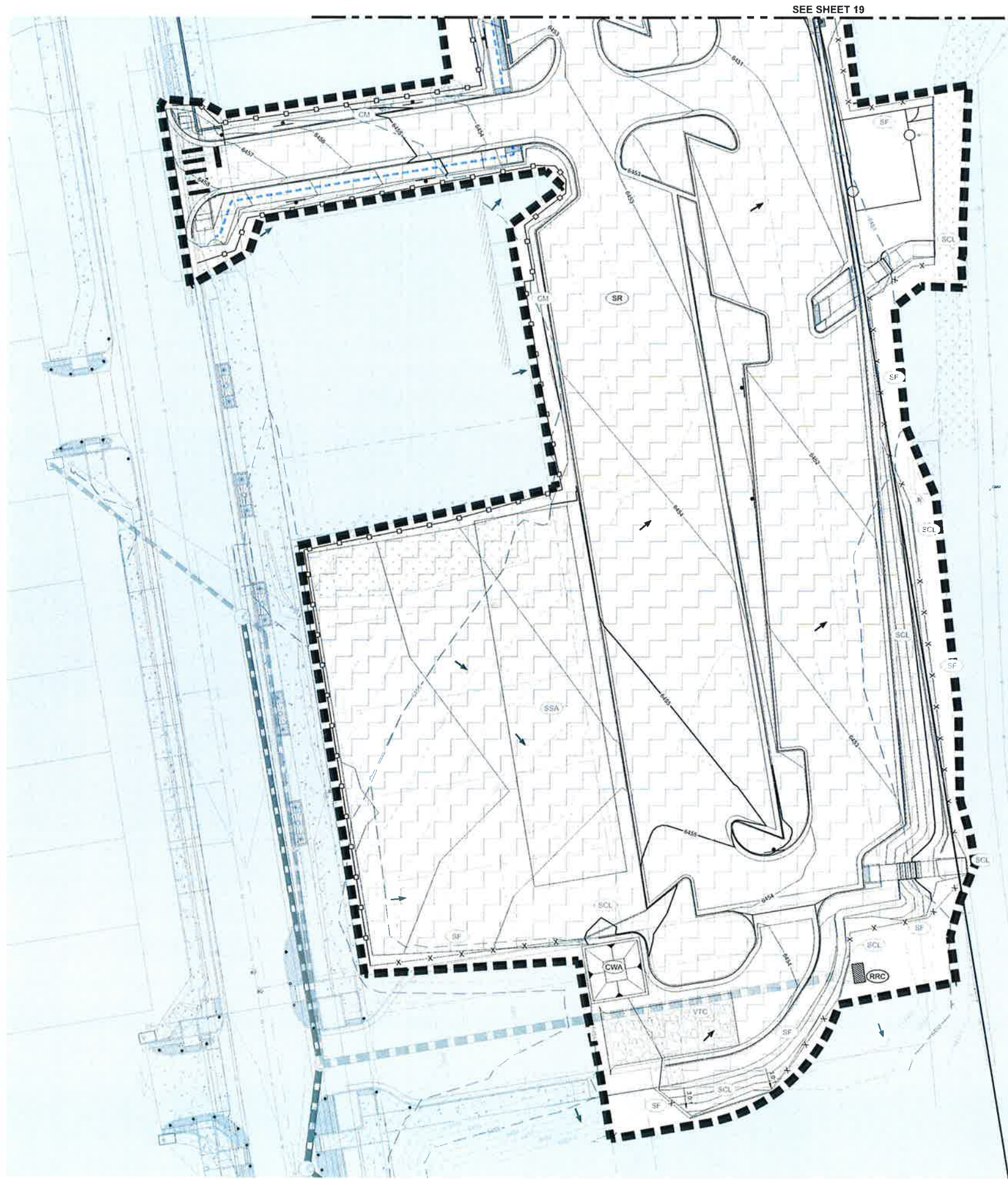
NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - INTERIM PLAN



Know what's below.
Call before you dig.

SHEET
19 OF 32



NOTES:

- SEE SHEETS 25-32 FOR GESC DETAILS.
- THE SITE EARTHWORK:
1966 CY CUT, 4778 CY FILL, 2814 CY NET FILL

terraccina

td

design

10000 E Grant Ave., A-314
Denver, CO 80231
PH: 303.632.8867

#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/07/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

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MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - INTERIM PLAN

Know what's below.
Call before you dig.

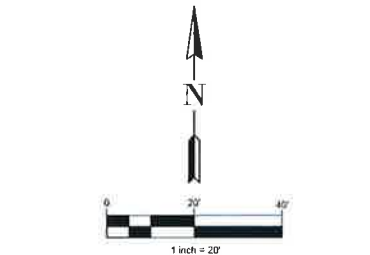
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SHEET
20 OF 32

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SEE SHEET 22



LEGEND	
	OUTSIDE LIMITS OF CONSTRUCTION
	CD CHECK DAM
	CWA CONCRETE WASHOUT AREA
	CM CONSTRUCTION MARKER
	CS CURB SOCK / ROCK SOCK
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET
	IP INLET PROTECTION
	RRC REINFORCED ROCK BERM FOR CULVERT PROTECTION
	SB TEMPORARY SEDIMENT BASIN
	SCL SEDIMENT CONTROL LOG
	SF SILT FENCE
	ST SEDIMENT TRAP
	SM SEEDING AND MULCHING
	SSA STABILIZED STAGING AREA
	SR SURFACE ROUGHENING
	VTC VEHICLE TRACKING CONTROL
	LOC LIMITS OF CONSTRUCTION

NOTES:
1. SEE SHEETS 25-32 FOR GESC DETAILS
2. THE SITE EARTHWORK:
1966 CY CUT, 4779 CY FILL, 2814 CY NET FILL



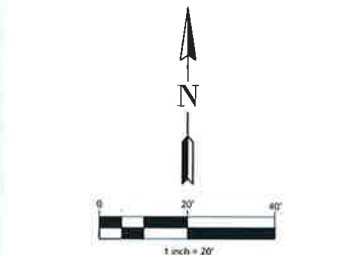
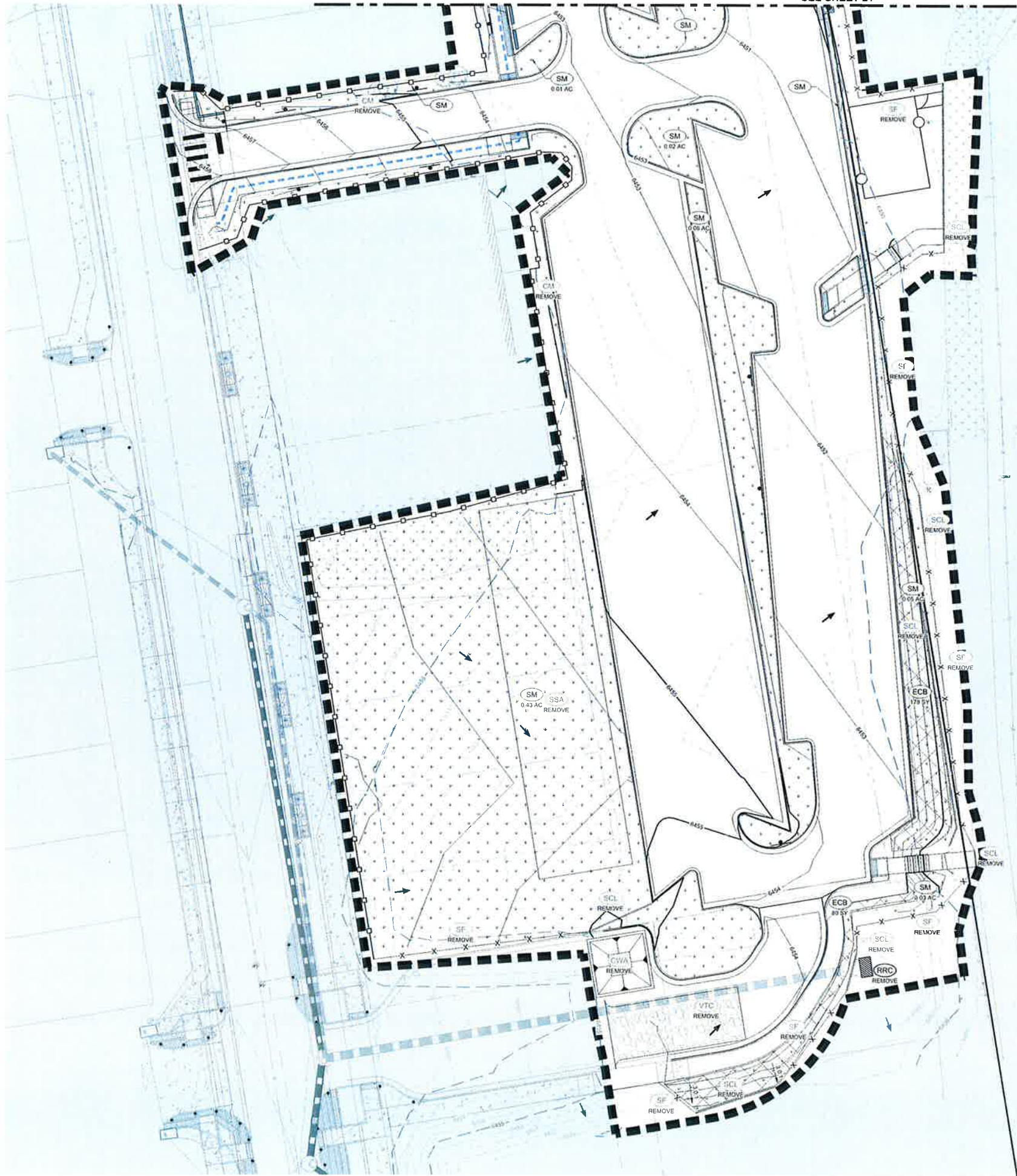
DATE	BY
11/01/2024	MM
01/17/2025	MM
02/28/2025	MM

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - FINAL PLAN



SEE SHEET 21



LEGEND	
	OUTSIDE LIMITS OF CONSTRUCTION
	CD CHECK DAM
	CWA CONCRETE WASHOUT AREA
	CM CONSTRUCTION MARKER
	CS CURB SOCK / ROCK SOCK
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET
	IP INLET PROTECTION
	RRC REINFORCED ROCK BERM FOR CULVERT PROTECTION
	SB TEMPORARY SEDIMENT BASIN
	SCL SEDIMENT CONTROL LOG
	SF BILT FENCE
	ST SEDIMENT TRAP
	SM SEEDING AND MULCHING
	SSA STABILIZED STAGING AREA
	SR SURFACE ROUGHENING
	VTC VEHICLE TRACKING CONTROL
	LOC LIMITS OF CONSTRUCTION

NOTES:
1. SEE SHEETS 25-32 FOR GESC DETAILS.
2. THE SITE EARTHWORK:
1966 CY CUT, 4779 CY FILL, 2814 CY NET FILL

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td
design

00000 E. COLFAX AVE
DENVER, CO 80202
PH: 303.632.8867

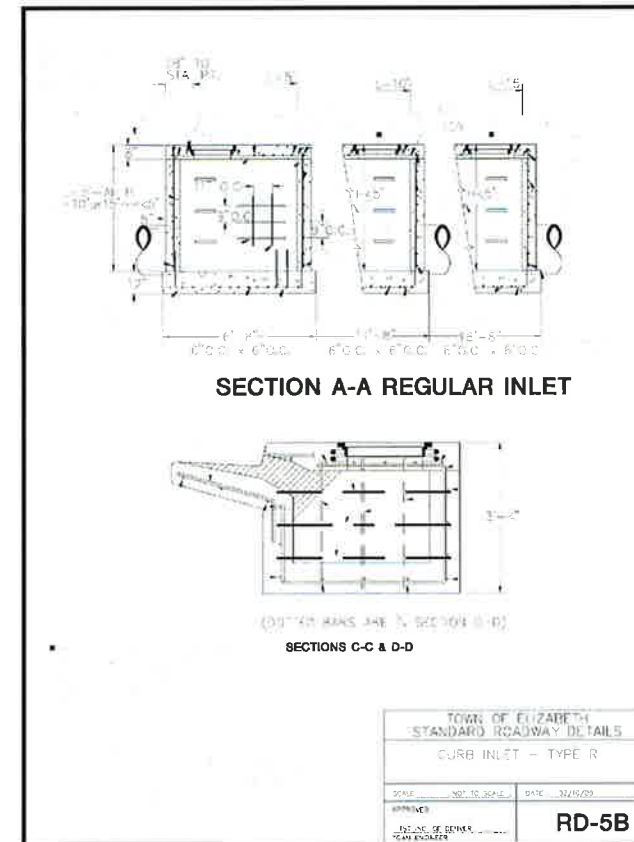
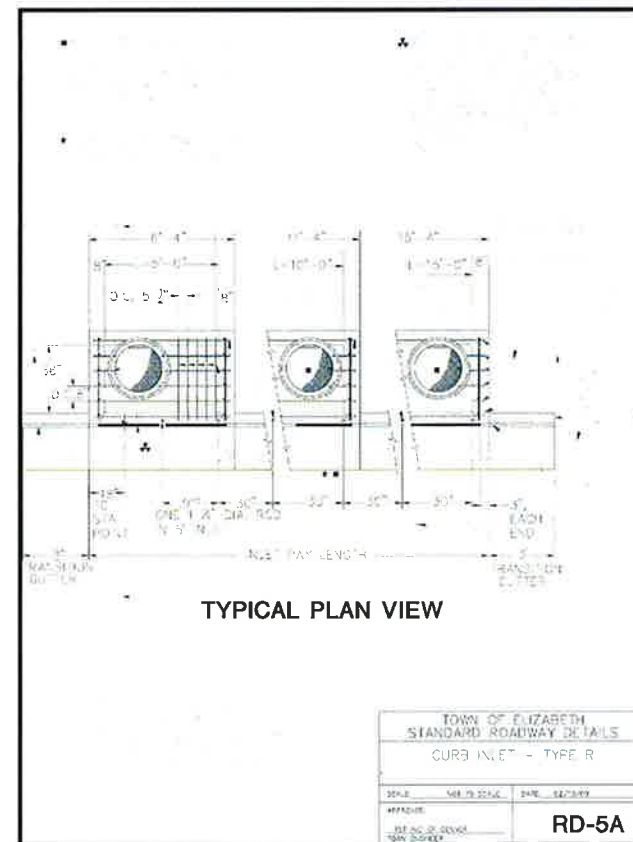
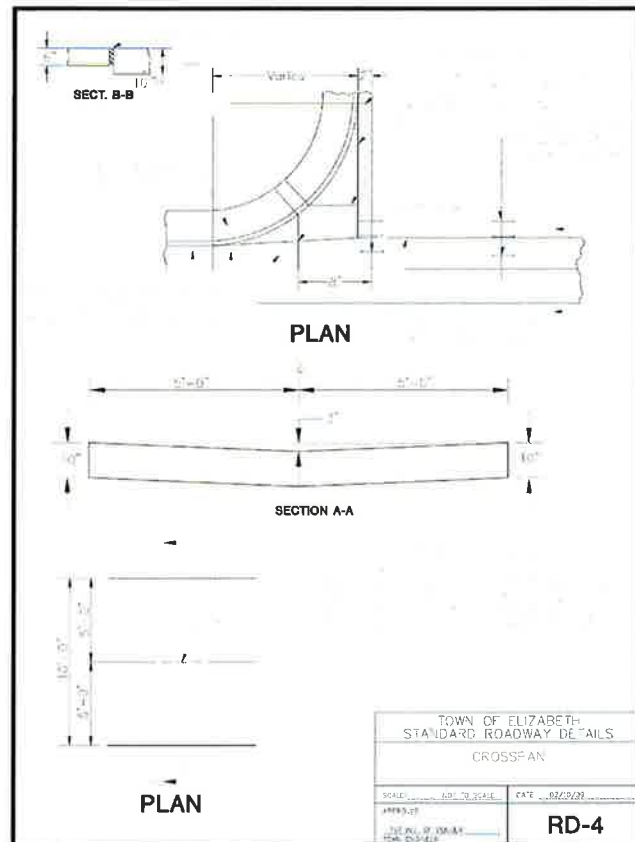
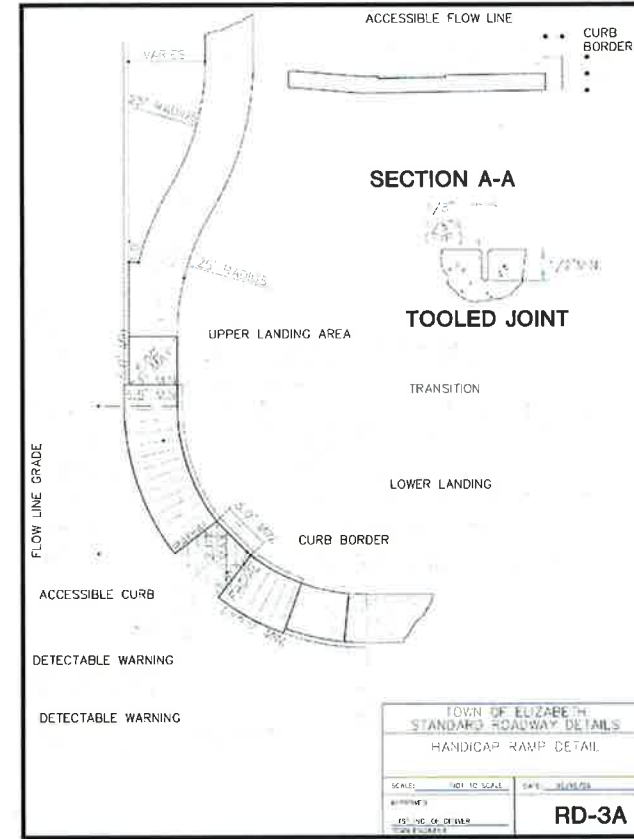
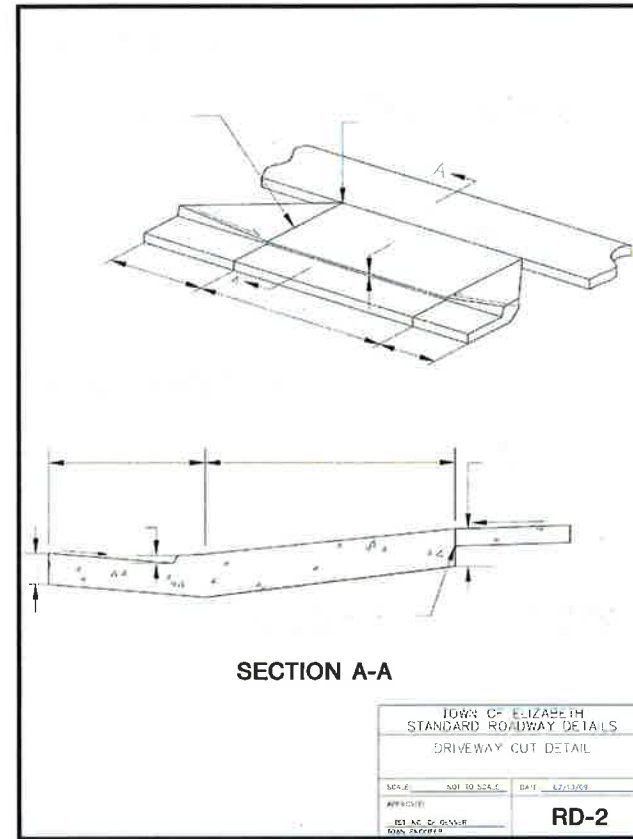
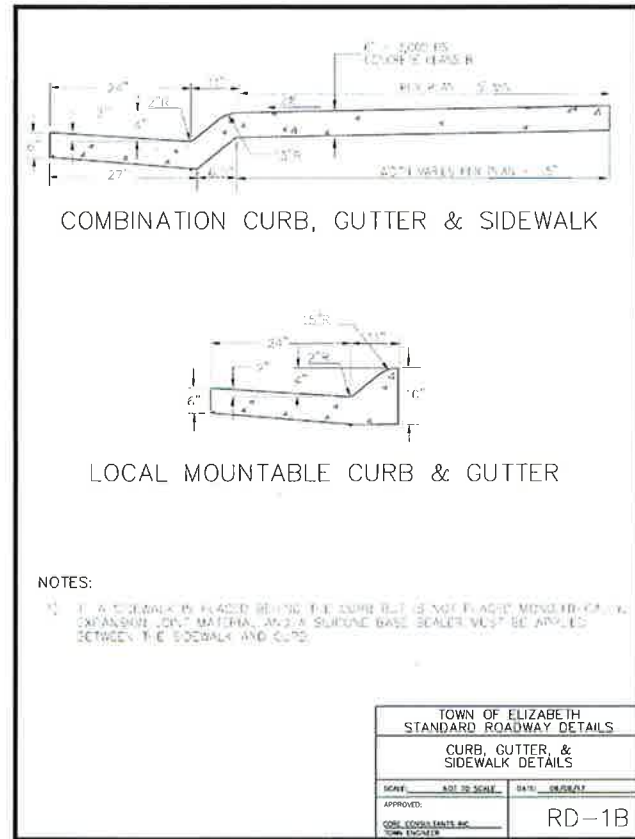
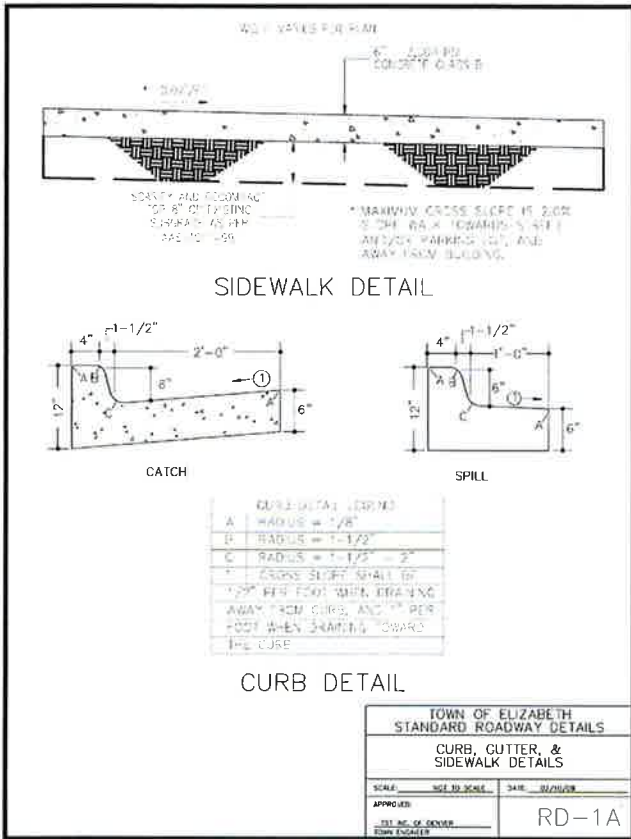
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02/28/2025	MM	3 3RD SUBMITTAL

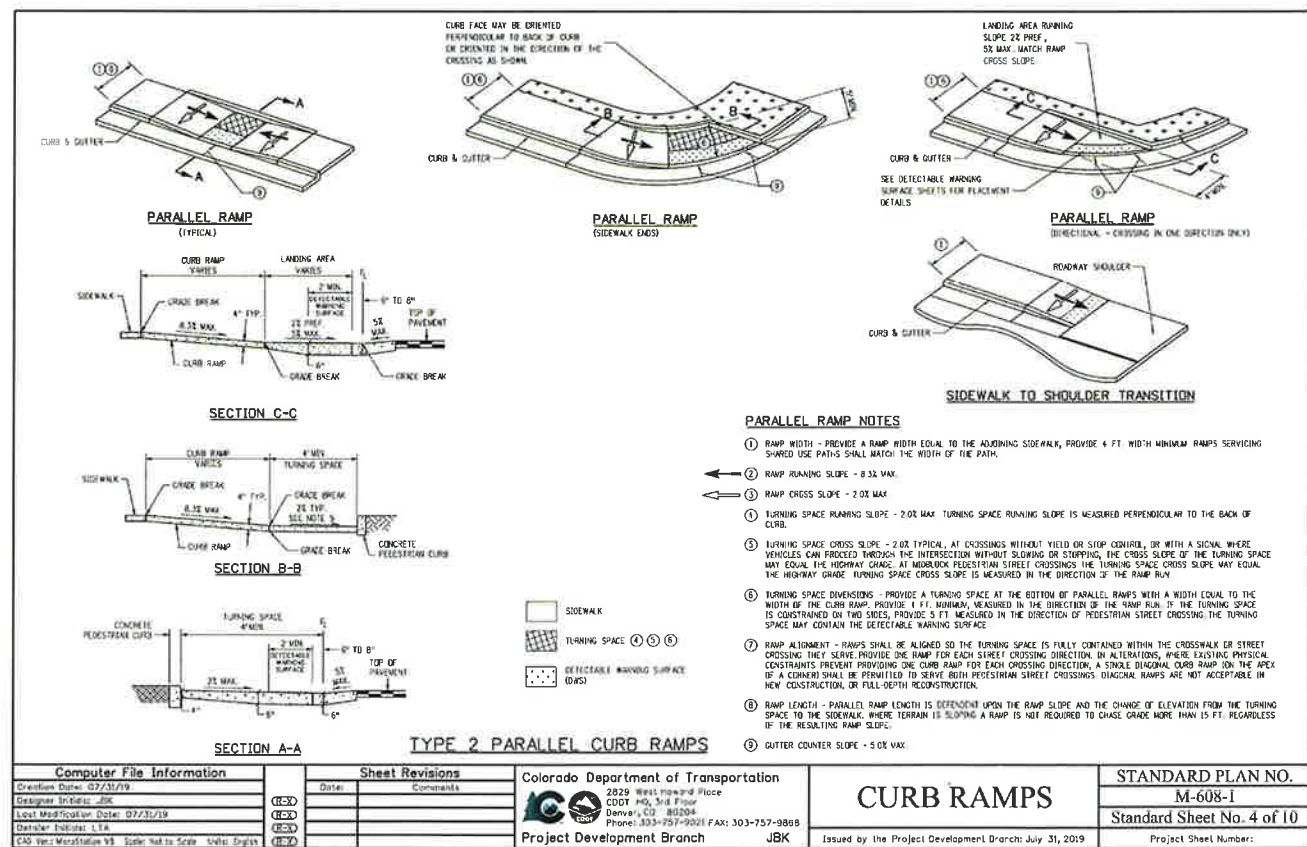
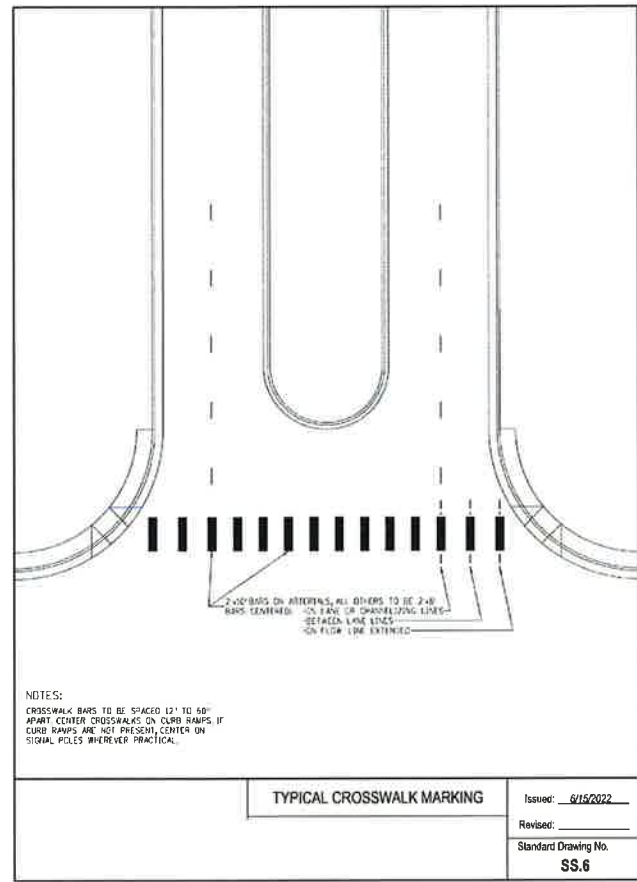
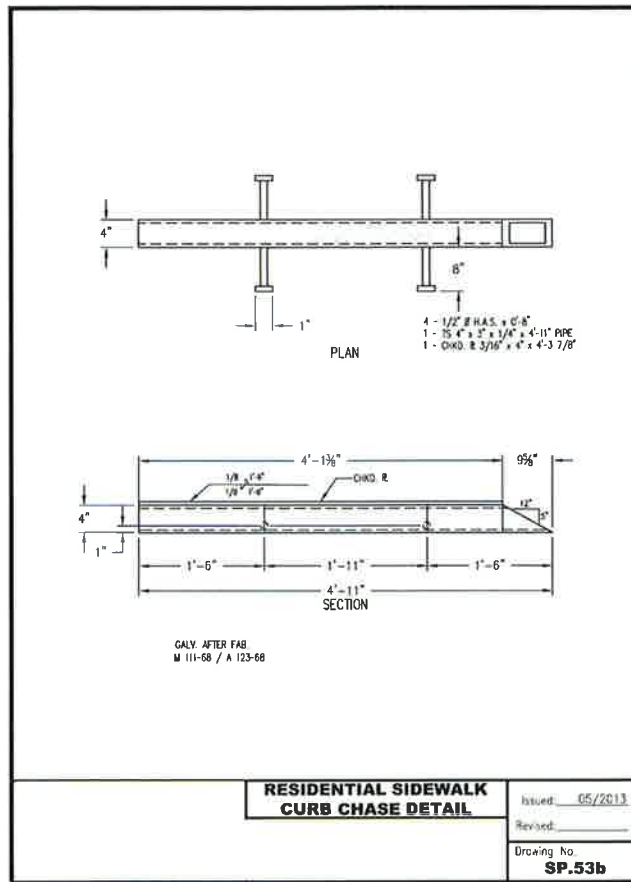
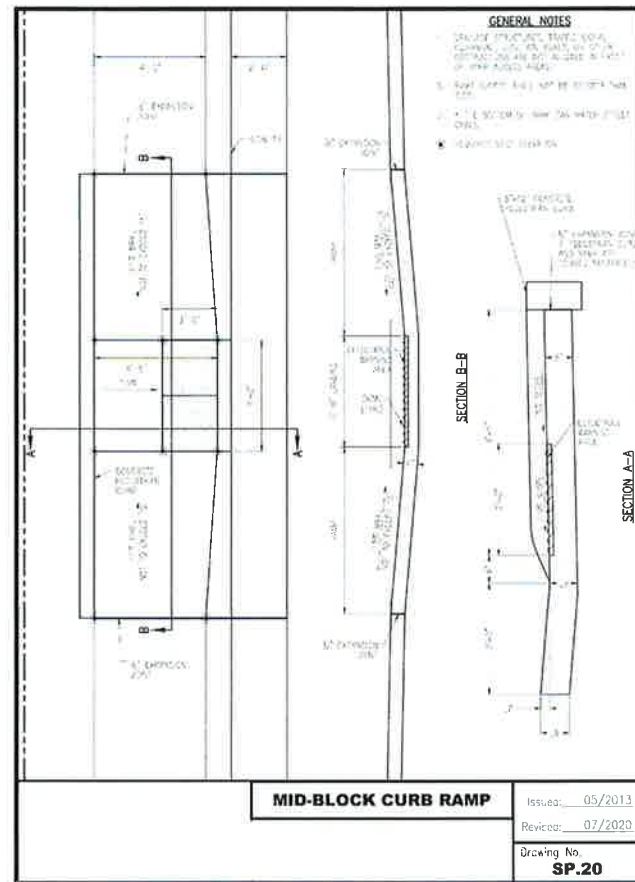
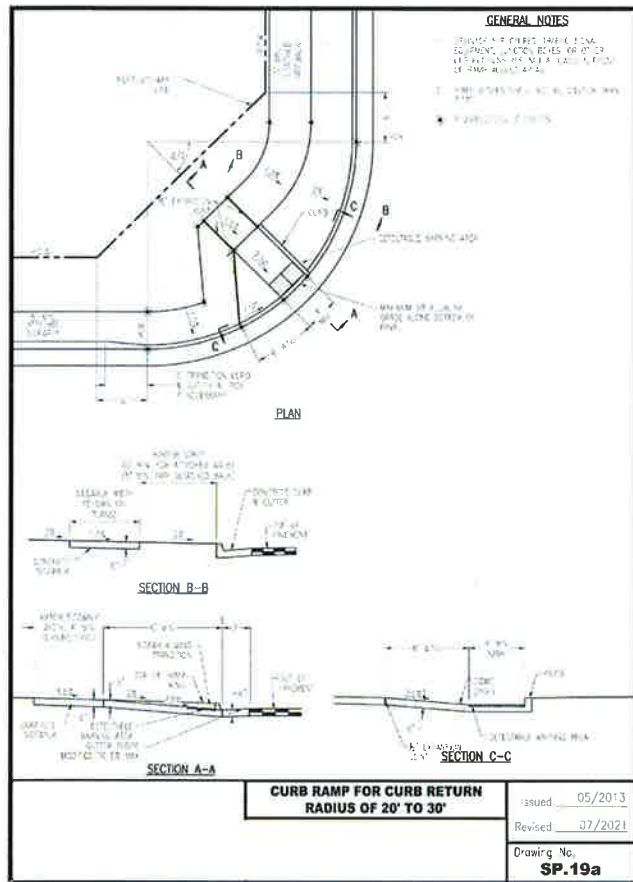
NOT FOR
CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
GESC - FINAL PLAN

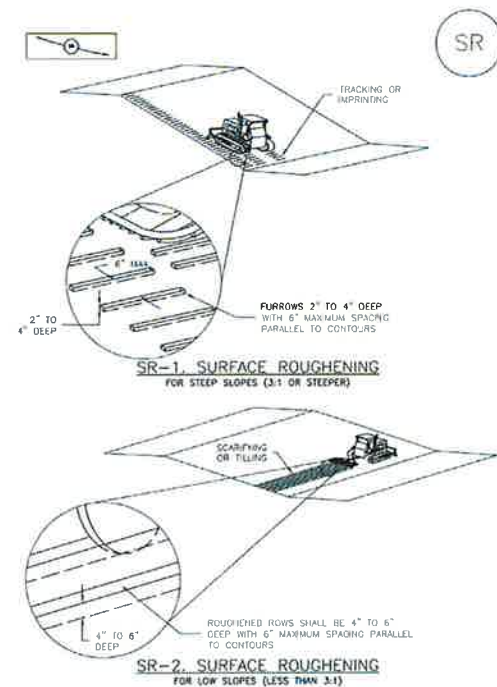
Know what's below.
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SHEET
22 OF 32





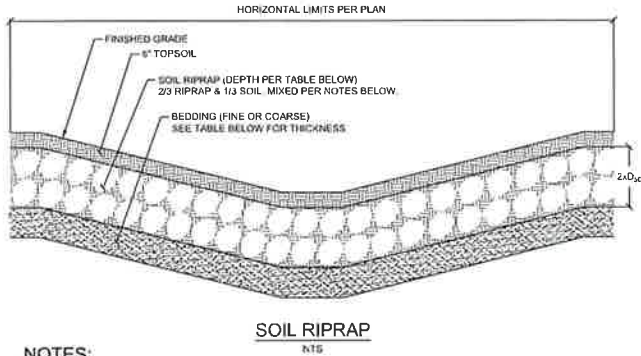
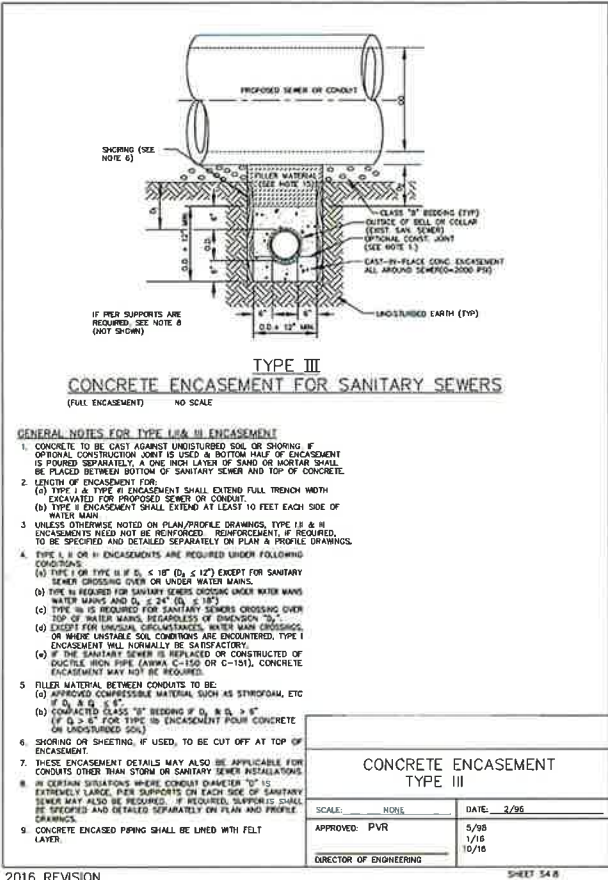
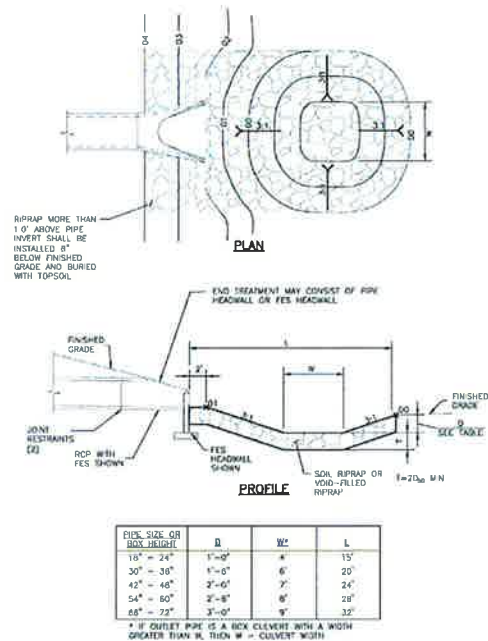
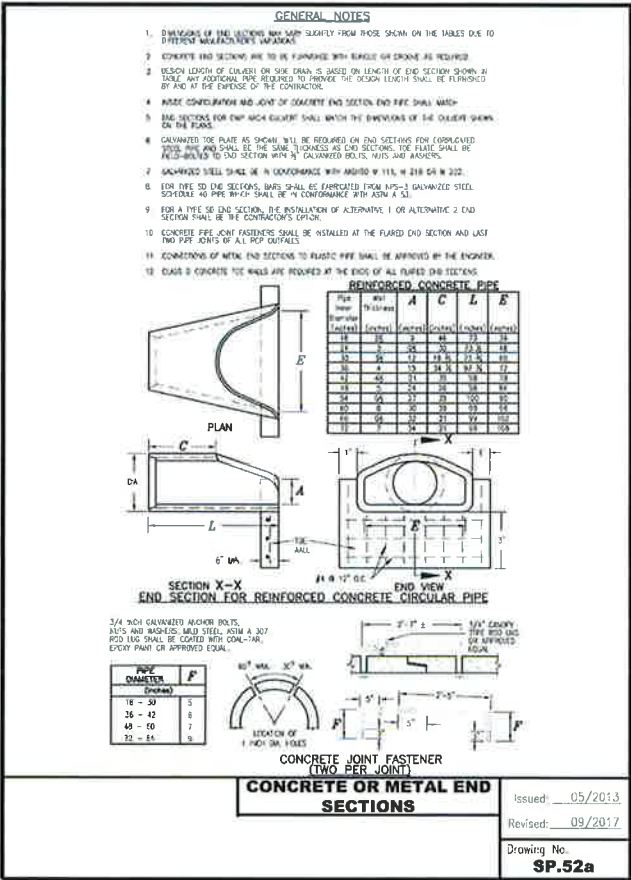
Surface Roughening (SR) **EC-1**



#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/01/2020	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/26/2025	MM

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
DETAILS



#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/17/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

NOT FOR
CONSTRUCTION

Temporary and Permanent Seeding (TS/PS) EC-2

Description

Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparing a seedbed, selecting an appropriate seed mixture, using proper planting techniques, and protecting the seeded area with mulch, geotextiles, or other appropriate measures.

Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically determined by local government requirements), proactive stabilization measures, including planting a temporary seed mix, 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 inactivity of up to one year, temporary seeding and mulching can provide effective erosion control. Permanent seeding should be used on finished areas that have not been otherwise stabilized.

The USDCM Volume 2 *Revegetation* Chapter contains suggested annual grains and native seed mixes to use for temporary seeding. Alternatively, local governments may have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

Design and Installation

Effective seeding requires proper seedbed preparation, selecting an appropriate seed mixture, using appropriate seeding equipment to ensure proper coverage and density, and protecting seeded areas with mulch or fabric until plants are established.

The USDCM Volume 2 *Revegetation* Chapter contains detailed seed mixes, soil preparation practices, and seeding and mulching recommendations that should be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseding 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 hydroseding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlaid grading can result in loss of topsoil and compaction, resulting in poor quality subsoils at the ground surface that



Photograph TS-PS-1. Equipment used to drill seed. Photo courtesy of Douglas County.

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) EC-2

Table TS/PS-1. Seeding Dates for Annual and Perennial Grasses

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

Mulch

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 USDCM Volume 2 *Revegetation* Chapter and Volume 3 *Mulching BMP Fact Sheet (EC-04)* for additional guidance.

Maintenance and Removal

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

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

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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Temporary and Permanent Seeding (TS/PS) EC-2

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 soil amendments and retilled 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. If present, at a minimum of 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 retilled the upper 12 inches of the surface prior to placing topsoil. If adding compost to the existing soil surface, retiling is necessary. Surface roughening will assist in placing a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth. Topsoil should not be placed when either the salvaged topsoil or receiving ground are frozen or snow covered.

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.

Refer to MIIID's Topsoil Management Guidance for detailed information on topsoil assessment, design, and construction.

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. Temporary grain seed mixes suitable for the Denver metropolitan area are listed in Table TS/PS-1. Native temporary seed mixes are provided in USDCM Volume 2, Chapter 13, Appendix A. 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.

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 seed mix tables in the USDCM Volume 2 *Revegetation* Chapter 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 equipment. These are to be considered only as general

TS/PS-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	January 2021
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Mulching (MU) EC-4

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No



Photograph MU-1. An area that was recently seeded, mulched, and crimped.

June 2012	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	MU-1
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Temporary and Permanent Seeding (TS/PS) EC-2

recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbush sumac (*Rhus trilobata*) could be added to the upland seed mixes at 0.25, 0.3 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 (*Salix 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.

Timing of seeding is an important aspect of the revegetation process. For upland and riparian areas on the Colorado Front Range, the suitable timing for seeding is from October through May. The most favorable time to plant non-irrigated areas is during the fall, so that seed can take advantage of winter and spring moisture. Seed should not be planted if the soil is frozen, snow covered, or wet.

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-2 for appropriate seeding dates.

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Mulching (MU) EC-4

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2,000 pounds per acre may be required for effective hydroseding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

MU-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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Temporary and Permanent Seeding (TS/PS) EC-2

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	½
5. Millet	Warm	3 - 15	½ - ¾
6. Winter wheat	Cool	20-35	1 - 2
7. Winter barley	Cool	20-35	1 - 2
8. Winter rye	Cool	20-35	1 - 2
9. Triticale	Cool	25-40	1 - 2

^a Successful seeding of annual grass resulting in adequate plant growth will 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.

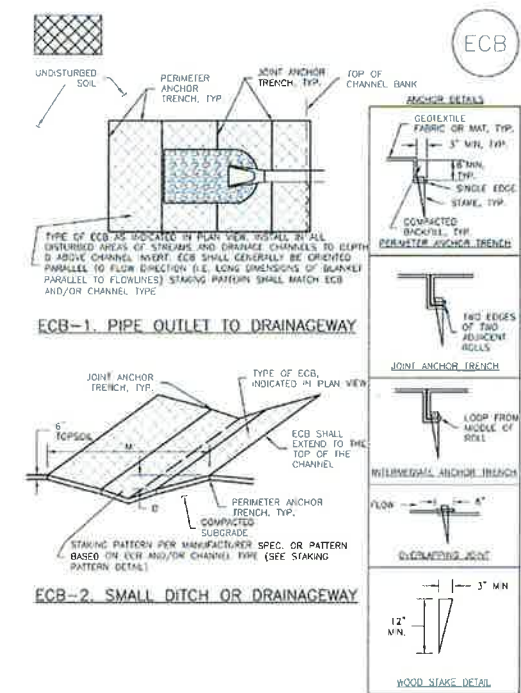
Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

^b See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

^c Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brilliant Drill or by hydraulic seeding.

TS/PS-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	January 2021
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Rolled Erosion Control Products (RECP) EC-6

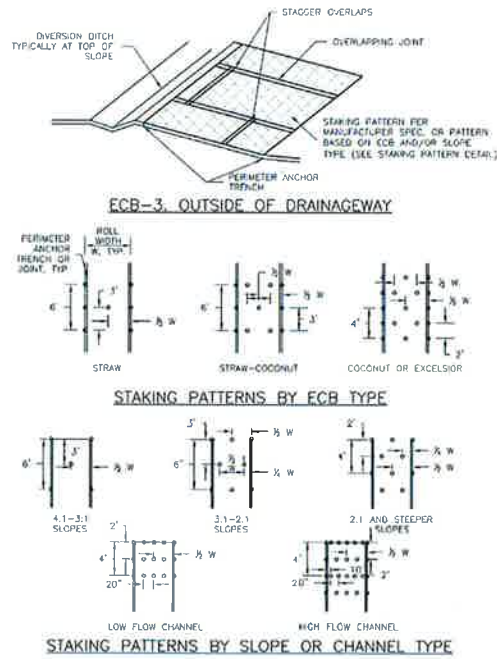


RECP-6	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/01/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

NOT FOR
CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO
CONSTRUCTION DOCUMENTS
DETAILS



EROSION CONTROL BLANKET INSTALLATION NOTES

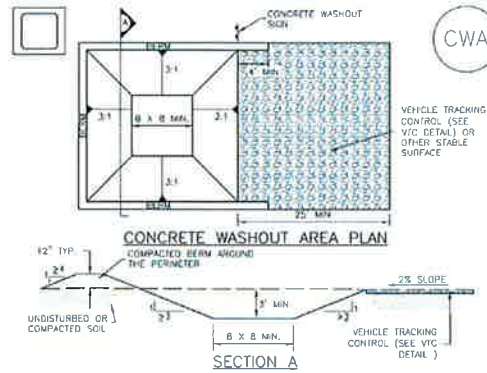
1. SEE PLAN VIEW FOR:
 - LOCATION OF ECB;
 - TYPE OF ECB (STRAW, STRAW-COCOANUT, COCOANUT, OR EXCELSIOR);
 - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECP, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCOANUT AND EXCELSIOR ROLLS.
7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TYPE	COCOANUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW**	-	100%	-	DOUBLE/NATURAL
STRAW-COCOANUT	50% MIN	70% MAX	-	DOUBLE/NATURAL
COCOANUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

**STRAW ROLLS MAY ONLY BE USED IN AREAS OF EROSION AND DAMAGE CHAINS. MATERIAL NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

EROSION CONTROL BLANKET 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. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
 5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEDENTILE THAT HAVE EXCEED TO CRACKED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDCO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
- (DETAILS ADAPTED FROM BOULDER COUNTY, COLORADO AND THE CITY OF PUEBLO, COLORADO THAT AVAILABLE IN AUTOCAD)

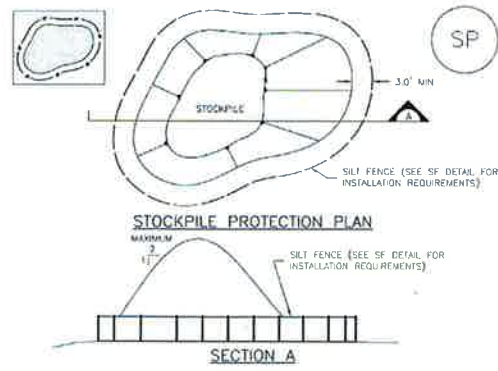


CWA-1. CONCRETE WASHOUT AREA

- CWA INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
 - CWA INSTALLATION LOCATION.
 2. DO NOT LOCATE AN UNPAVED CWA WITHIN 1,000' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE. THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
 3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 6' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
 5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
 7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 4. THE CWA SHALL BE REPAIRED, CLEARED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
 5. CONCRETE WASHOUT WATER, WASHED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
 6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
 7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- DETAILS ADAPTED FROM BOULDER COUNTY, COLORADO AND THE CITY OF PUEBLO, COLORADO THAT AVAILABLE IN AUTOCAD
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDCO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



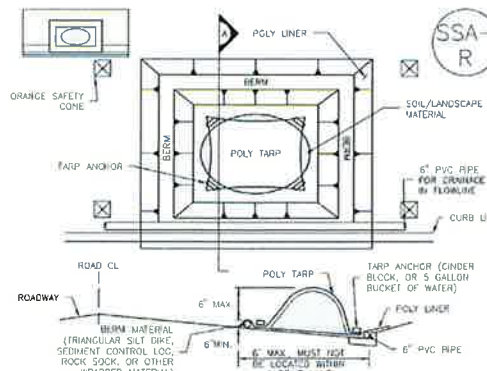
SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILE;
 - TYPE OF STOCKPILE PROTECTION.
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ADULTY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLIPS DOWN THE PERIMETER, AND OTHER FACTORS.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE BOUNDING, TEMPORARY SEEDING AND MULCHING. EROSION CONTROL BLANKETS, OR SOIL BINDERS SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE RESEED AND MULCHED WITH A TEMPORARY GRASS COVER FACE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DRAINAGEWAY CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

STOCKPILE 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.
- STOCKPILE PROTECTION MAINTENANCE NOTES
4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
 5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.
- DETAILS ADAPTED FROM PUEBLO COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDCO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF MATERIAL STAGING AREAS;
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.
3. MATERIALS MUST BE STAGED ON THE POLY LINER, ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.
4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.
5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BARRIERS UNDER THE BASE LINER.
6. FEATURE IS NOT INTENDED FOR USE WITH HOT MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.
7. THIS FEATURE CAN BE USED FOR:
 - UTILITY REPAIRS;
 - WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED;
 - OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

MM-2 Stockpile Management (SM)

MATERIALS STAGING IN ROADWAY MAINTENANCE NOTES

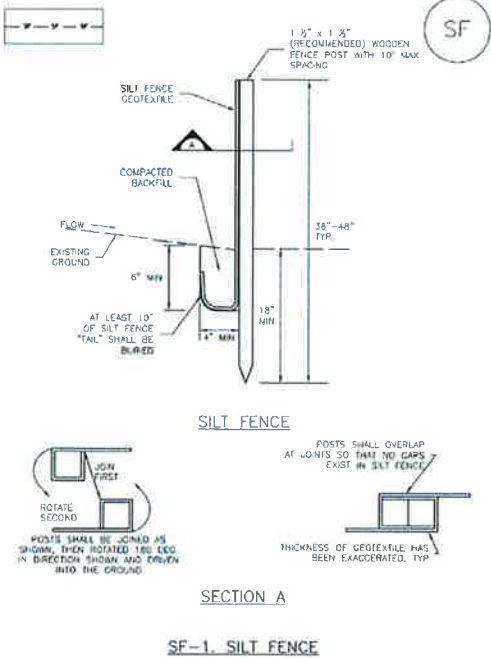
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3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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

(DETAILS ADAPTED FROM ALBERTA GOVERNMENT)

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Silt Fence (SF) SC-1



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Urban Storm Drainage Criteria Manual Volume 3

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOWING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (3-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR FLOWING AND DEPOSITION.
2. A UNIFORM 6\"/>
3. COMPACT ANCHOR TRENCH BY HAND WITH A \"JAMMING JACK\" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1\"/>
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE PLACED 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

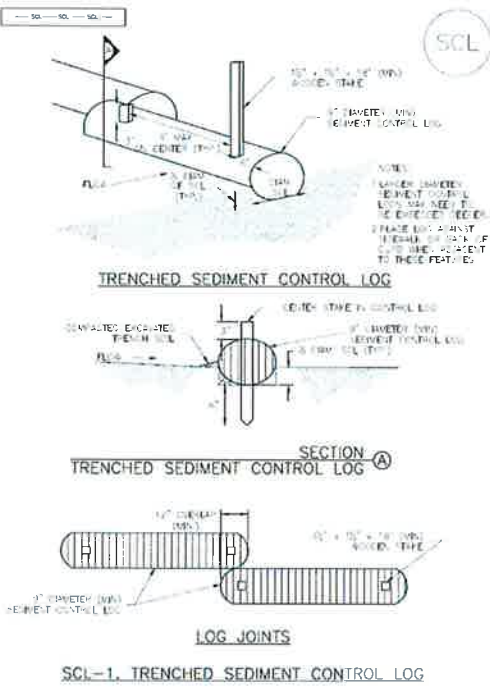
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3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6\"/>
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDS, AND MULCH OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN ALBERTA)

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

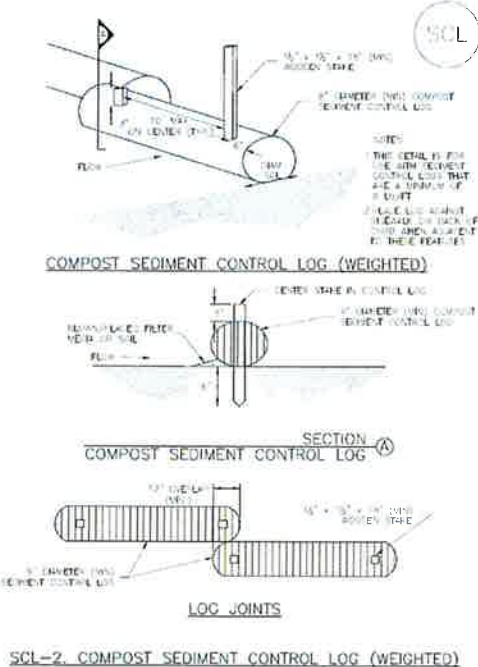
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Sediment Control Log (SCL) SC-2



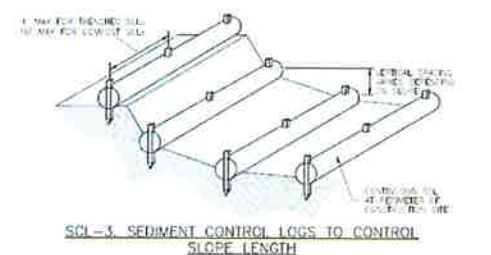
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SC-2 Sediment Control Log (SCL)



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Sediment Control Log (SCL) SC-2



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SC-2 Sediment Control Log (SCL)

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 UPSTREAM LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELLOCEL, OR COCONUT FIBER, AND SHALL BE FREE OF ANY HARMFUL WOOD SEEDS OR EFFECTS INCLUDING HIPS, HOLES AND CRACKS WEAR.
4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SLOPES. 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, TRENCH DEPTH INSTALLATION WITH SEDIMENT NOT TO DAMAGE UNDERLAINING A LATTER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
6. THE MINIMUM GROUND COVER 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 COMPACTIONED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR RIGID ROLLER IN PLACE.
7. FOLLOW MANUFACTURER'S GUIDANCE FOR STAKING. IF MANUFACTURER'S INSTRUCTIONS DO NOT SPECIFY STAKING, STAKES SHALL BE PLACED ON 4' CENTERS AND ENDED BY A MINIMUM OF 6\"/>

SEDIMENT CONTROL LOG MAINTENANCE NOTES

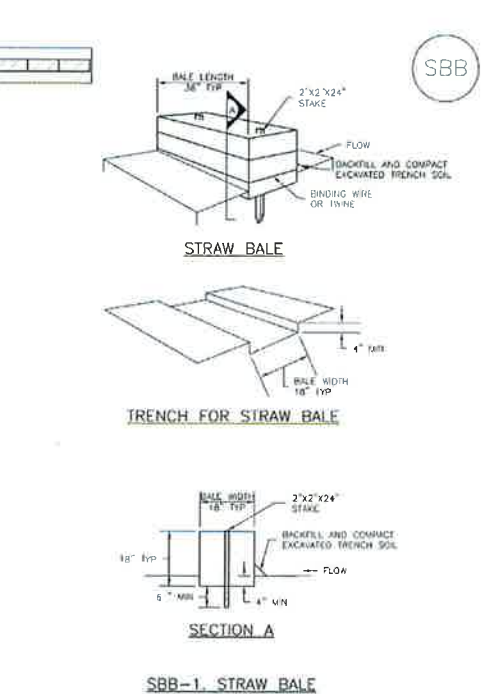
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
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 1/3 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 SOILS ARE REMOVED AND THE AREA RESEED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDS, AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, COLORADO COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN ALBERTA)

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

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SC-3 Straw Bale Barrier (SBB)



SP-2 Urban Drainage and Flood Control District November 2010
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terraccina
design
td

10000 E. Colorado Ave.
Denver, CO 80231
Tel: 303.632.6667

#	REVISION DESCRIPTION	DATE	BY
1	1ST SUBMITTAL	11/01/2024	MM
2	2ND SUBMITTAL	01/17/2025	MM
3	3RD SUBMITTAL	02/28/2025	MM

NOT FOR CONSTRUCTION

MAIN STREET OFF-STREET PARKING LOT
TOWN OF ELIZABETH, COLORADO

CONSTRUCTION DOCUMENTS
DETAILS

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

SHEET
29 OF 32

Straw Bale Barrier (SBB)

SC-3

STRAW BALE INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF STRAW BALES.
2. STRAW BALES SHALL CONSIST OF CERTIFIED WHEAT FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WHEAT FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND MUST NOT BE LESS THAN 25 POUNDS.
4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ADJUTING ONE ANOTHER.
5. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"X18"X18".
6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4" STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALES(S). ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALE(S) AND COMPACTED.
7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x2"x24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

STRAW BALE 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. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER 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 STRAW BALE BARRIER.
6. STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF FORTY, 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.

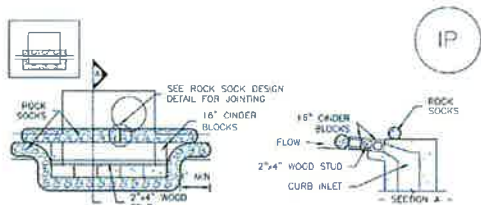
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SB-3

SC-6

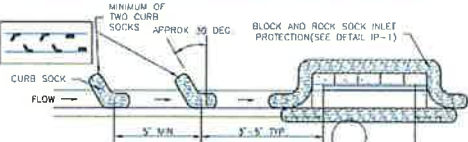
Inlet Protection (IP)



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 "CUBES" BLOCKS SHALL BE Laid ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ADJUTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BASS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ADJUTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR 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.

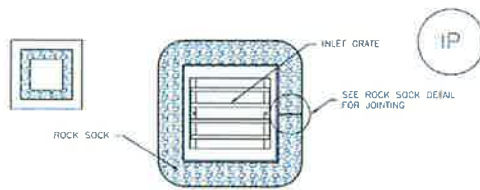
IP-4

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Inlet Protection (IP)

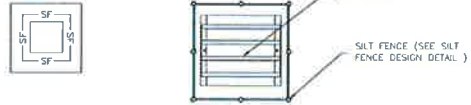
SC-6



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.

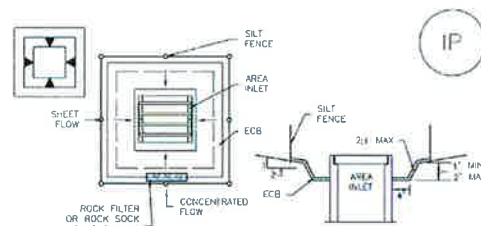
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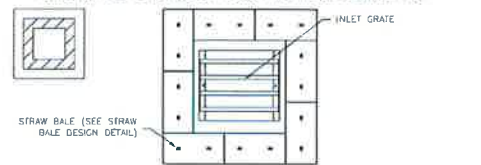
Inlet Protection (IP)



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 SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



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 ADJUTING ONE ANOTHER.

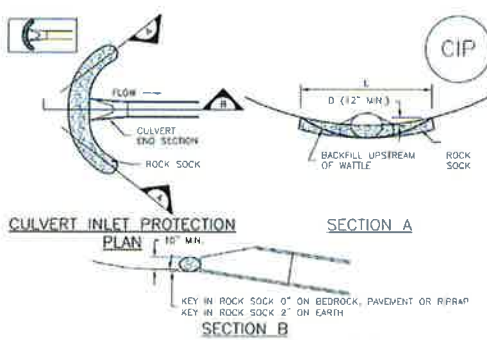
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Inlet Protection (IP)

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CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK SOCK DESIGN 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 OF 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 TOWN OF FORTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION OF INLET PROTECTION.
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

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 SEDIMENT VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/2 OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED. UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM TOWN OF FORTY, COLORADO AND CITY OF ALABAMA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

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.

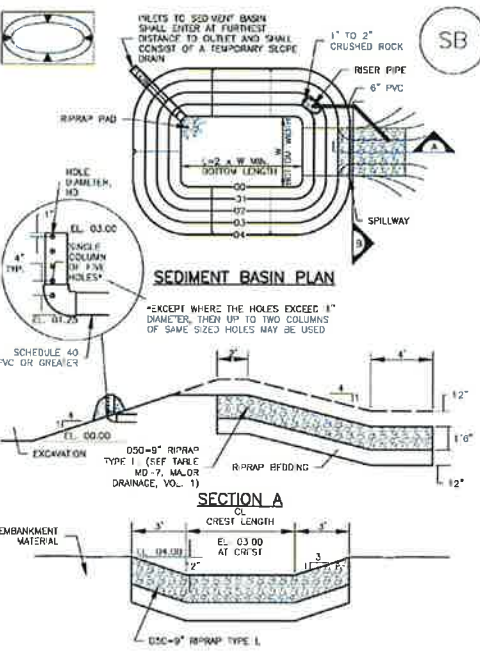
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Sediment Basin (SB)

SC-7



SEDIMENT BASIN PLAN

SECTION A

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Sediment Basin (SB)

Upstream Drainage Area (rounded to nearest acre) (ac)	Basin Bottom Width (ft) (ft)	Spillway Crest Length (ft) (ft)	Hole Diameter (in) (in)
1	12 1/2	2	5/8
2	21	3	3/4
3	28	4	1
4	33 1/2	5	1 1/8
5	38 1/2	6	1 1/4
6	43	7	1 1/2
7	47 1/2	8	1 3/4
8	51	9	1 7/8
9	55	10	2
10	58 1/2	11	2 1/8
11	61	12	2 1/4
12	64	13	2 1/2
13	67 1/2	14	2 3/4
14	70 1/2	15	2 7/8
15	73 1/2	16	3

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION OF SEDIMENT BASIN.
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON OR ON BASINS AS A STORMWATER CONTROL.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MAXIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
6. PIPE 30" OR 40" OR GREATER SHALL BE USED.
7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

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Sediment Basin (SB)

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SEDIMENT BASIN 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 IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN THE SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CHUTE).
5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GROSS EROSION IS ACCEPTED BY THE LOCAL JURISDICTION.
6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHES OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM URBAN STORM DRAINAGE CRITERIA)

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

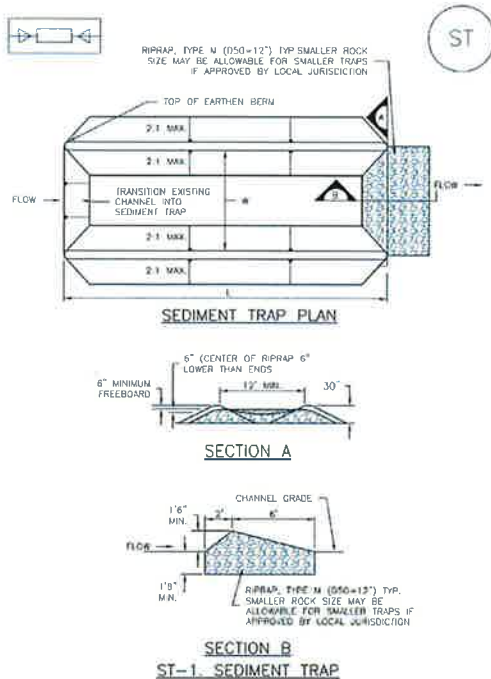
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Sediment Trap (ST)



ST-2

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Sediment Trap (ST)

SC-8

SEDIMENT TRAP INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP
2. ONLY USE FOR DRAINAGE AREAS LESS THAN 1 ACRE.
3. SEDIMENT TRAPS SHALL BE INSTALLED PRIOR TO ANY UPGRADING AND-DISTURBING ACTIVITIES.
4. SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D1557.
5. SEDIMENT TRAP OUTLET TO BE CONSTRUCTED OF RIPRAP, TYPE M (1050+12") TYP. SMALLER ROCK SIZE MAY BE ALLOWABLE FOR SMALLER TRAPS IF APPROVED BY LOCAL JURISDICTION.
6. THE TOP OF THE EARTHEN BERM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE RIPRAP OUTLET STRUCTURE.
7. THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE A MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

SEDIMENT TRAP 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. REMOVE SEDIMENT ACCUMULATED IN TRAP AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN THE SEDIMENT DEPTH REACHES 3/4 THE HEIGHT OF THE AIRMAP OUTLET.
5. SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
6. WHEN SEDIMENT TRAPS ARE REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHES OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM URBAN STORM DRAINAGE CRITERIA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

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ST-3

Construction Phasing/Sequencing (CP)

SM-1

Table CP-1. Typical Phased BMP Installation for Construction Projects

Project Phase	BMPs
Pre-disturbance, Site Access	• Install sediment controls downgradient of access point (on paved streets this may consist of inlet protection). • Establish vehicle tracking control at entrances to paved streets. Fence as needed. • Use construction fencing to define the boundaries of the project and limit access to areas of the site that are not to be disturbed.
Site Clearing and Grubbing	Note: It may be necessary to protect inlets in the general vicinity of the site, even if not downgradient, if there is a possibility that sediment tracked from the site could contribute to the inlets. • Install perimeter controls as needed on downgradient perimeter of site (silt fence, wattles, etc). • Limit disturbance to those areas planned for disturbance and protect undisturbed areas within the site (construction fence, flagging, etc). • Preserve vegetative buffer at site perimeter. • Create stabilized staging area. • Locate portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds. • Construct concrete washout area and provide signage. • Establish waste disposal areas. • Install sediment basins. • Create dirt perimeter berms and/or brush barriers during grubbing and clearing. • Separate and stockpile topsoil, leave roughened undisturbed cover. • Protect stockpiles with perimeter control BMPs. Stockpiles should be located away from drainage paths and should be accessed from the upgradient side so that perimeter controls can remain in place on the downgradient side. Use erosion control blankets, temporary seeding, and/or mulch for stockpiles that will be inactive for an extended period. • Leave disturbed area of site in a roughened condition to limit erosion. Consider temporary revegetation for areas of the site that have been disturbed but that will be inactive for an extended period. • Water to minimize dust but not to the point that watering creates runoff.

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SM-1 Construction Phasing/Sequencing (CP)

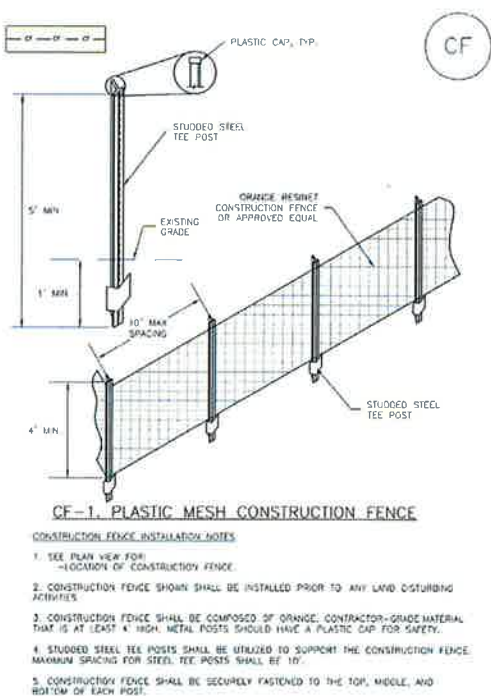
Project Phase	BMPs
Utility And Infrastructure Installation	In Addition to the Above BMPs: • Close trench as soon as possible (generally at the end of the day). • Use rough-cut street control or apply road base for streets that will not be promptly paved. • Provide inlet protection as streets are paved and inlets are constructed. • Protect and repair BMPs, as necessary. • Perform street sweeping as needed.
Building Construction	In Addition to the Above BMPs: • Implement materials management and good housekeeping practices for home building activities. • Use perimeter controls for temporary stockpiles from foundation excavations. • For lots adjacent to streets, lot-line perimeter controls may be necessary at the back of curb.
Final Grading	In Addition to the Above BMPs: • Remove excess or waste materials. • Remove stored materials.
Final Stabilization	In Addition to the Above BMPs: • Seed and mulch/trackify. • Seed and install blankets on steep slopes. • Remove all temporary BMPs when site has reached final stabilization.

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SM-3 Construction Fence (CF)



CF-2

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Construction Fence (CF)

SM-3

CONSTRUCTION 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHES, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

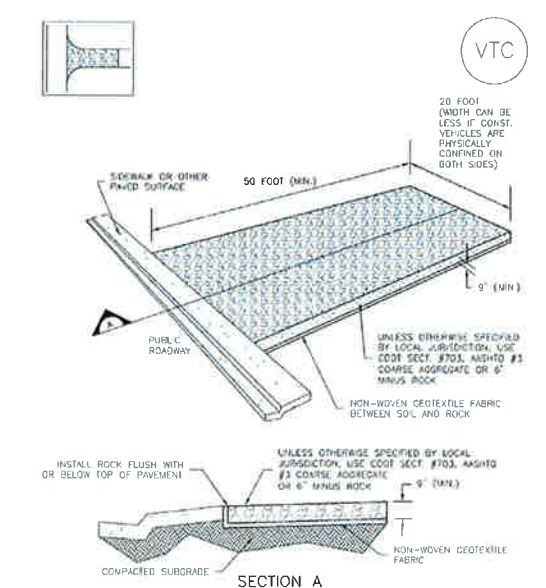
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CF-3

Vehicle Tracking Control (VTC)

SM-4

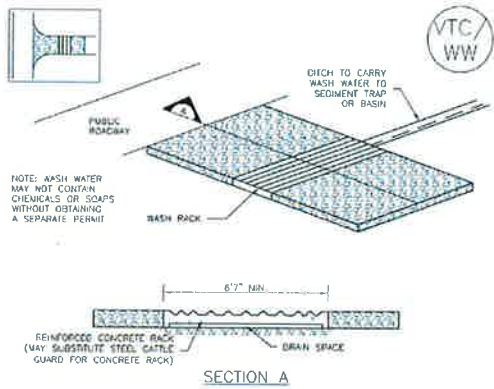


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VTC-3

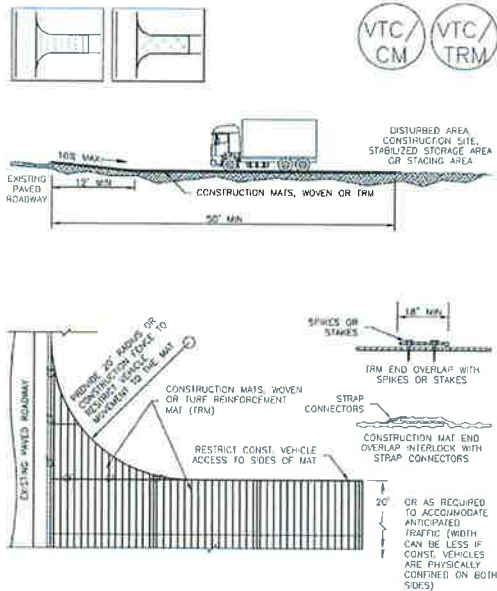
SM-4 Vehicle Tracking Control (VTC)



VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

VTC-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Vehicle Tracking Control (VTC) SM-4



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

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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)/EXIT(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 DRAIN 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 BIRMINGHAM, COLORADO; NOT AVAILABLE IN AUTOCAD)

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Stabilized Construction Roadway (SCR) SM-5

Description

A stabilized construction roadway is a temporary method to control sediment runoff, vehicle tracking, and dust from roads during construction activities.

Appropriate Uses

Use on high traffic construction roads to minimize dust and erosion.

Stabilized construction roadways are used instead of rough-cut street controls on roadways with frequent construction traffic.

Design and Installation

Stabilized construction roadways typically involve two key components: 1) stabilizing the road surface with an aggregate base course of 3-inch-diameter granular material and 2) stabilizing roadside ditches, if applicable. Early application of road base is generally suitable where a layer of coarse aggregate is specified for final road construction.

Maintenance and Removal

Apply additional gravel as necessary to ensure roadway integrity.

Inspect drainage ditches along the roadway for erosion and stabilize, as needed, through the use of check dams or rolled erosion control products.

Gravel may be removed once the road is ready to be paved. Prior to paving, the road should be inspected for grade changes and damage. Regrade and repair as necessary.

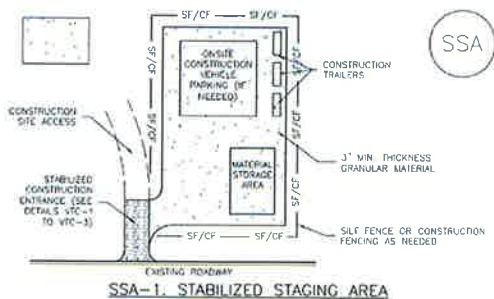


Photograph SCR-1. Stabilized construction roadway.

Stabilized Construction Roadway	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	Yes

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Stabilized Staging Area (SSA) SM-6



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 MATERIAL.
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 AS NEEDED.

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 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, DECEDED 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.

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

SSA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Street Sweeping and Vacuuming (SS) SM-7

Description

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

Appropriate Uses

Use this practice at construction sites where vehicles may track sediment offsite onto paved roadways.

Design and Installation

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 vacuuming.

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 sweeping.
- Inspect areas to be swept for materials that may be hazardous prior to beginning sweeping operations.



Photograph SS-1. A street sweeper removes sediment and potential pollutants along the curb line at a construction site. Photo courtesy of Tom Givens.

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

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Paving and Grinding Operations (PGO) SM-12

Description

Manage runoff from paving and grinding operations to reduce pollutants entering storm drainage systems and natural drainageways.

Appropriate Uses

Use runoff management practices during all paving and grinding operations such as surfacing, resurfacing, and saw cutting.

Design and Installation

There are a variety of management strategies that can be used to manage runoff from paving and grinding operations:

- Establish inlet protection for all inlets that could potentially receive runoff.
- Schedule paving operations when dry weather is forecasted.
- Keep spill kits onsite for equipment spills and keep drip pans onsite for stored equipment.
- Install perimeter controls when asphalt material is used on embankments or shoulders near waterways, drainages, or inlets.
- Do not wash any paved surface into receiving storm drain inlets or natural drainageways. Instead, loose material should be swept or vacuumed following paving and grinding operations.
- Store materials away from drainages or waterways.
- Recycle asphalt and pavement material when feasible. Material that cannot be recycled must be disposed of in accordance with applicable regulations.

See BMP Fact Sheets for Inlet Protection, Silt Fence and other perimeter controls selected for use during paving and grinding operations.

Maintenance and Removal

Perform maintenance and removal of inlet protection and perimeter controls in accordance with their respective fact sheets.

Promptly respond to spills in accordance with the spill prevention and control plan.

Paving and Grinding Operations	
Functions	
Erosion Control	No
Sediment Control	No
Site/Material Management	Yes

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Town of Elizabeth - Main Street Depot - Grading, Paving, Concrete, & Utilities					
Description	Engineers Quantity (Bid)	Contractors Takeoff	Unit	Unit Price	Contractor Bid (Engineers Qty)
<u>EARTHWORK</u>					
Mobilization	1		EA	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Cut to Fill	2,960		CY	\$ -	\$ -
Excess Cut to Haul off Site			CY	\$ -	\$ -
Imported Fill Material	2,604				
Fine Grading			SY	\$ -	\$ -
Temporary Sediment Basins	1		EA	\$ -	\$ -
Clearing/Grubbing	2		AC	\$ -	\$ -
Topsoil - Strip, Stockpile, & Redistribute (6 Inch)			CY	\$ -	\$ -
Subex Excavation			CY	\$ -	\$ -
<u>PAVING</u>					
Mobilization	1		EA	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Remove Asphalt Pavement	106		SY	\$ -	\$ -
Saw Cut Existing Asphalt	125		LF	\$ -	\$ -
After Utility Install - Cut Grade to subgrade design	1,487		SY	\$ -	\$ -
Haul excess dirt to onsite stockpile (after cutting to subgrade) - Per 1000/CY			CY	\$ -	\$ -
Subgrade Prep (rip and re-compact)	5,947		SY	\$ -	\$ -
Local - Asphalt - 5" Thick	3,992		SY	\$ -	\$ -
Local - Asphalt - 5" Thick	1,347		TONS		
8" Base Course "ABC" - Prep (Grading and Compaction to 1' beyond back of curb)	5,947		SY	\$ -	\$ -
8" Base Course "ABC" - Prep (Grading and Compaction to 1' beyond back of curb)	2,114		TONS		
Adjust Manholes/Cleanouts	2		EA	\$ -	\$ -
Adjust Valves	4		EA	\$ -	\$ -
Public Signage	13		EA	\$ -	\$ -
Street Name Signs	1		EA	\$ -	\$ -
Striping - White Line - 6" Solid	2,736		LF	\$ -	\$ -
Striping - Crosswalk (2' x 8' Bar)	5		EA	\$ -	\$ -
Striping - Stop Bar	8		LF	\$ -	\$ -
Striping - Road Markings	12		EA	\$ -	\$ -
<u>CONCRETE</u>					
Mobilizaton	1		EA	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Remove Curb & Gutter	50		LF	\$ -	\$ -
Remove Sidewalk	30		SY	\$ -	\$ -
Curb & Gutter - Mountable w/ 2' Pan (price includes subgrade prep)	1,771		LF	\$ -	\$ -
Curb & Gutter - Mountable w/ 1' Pan (price includes subgrade prep)	922		LF	\$ -	\$ -
Crosspan	1		LS	\$ -	\$ -
Curb Chase	32		LF	\$ -	\$ -
6' Concrete Sidewalk (6" thick) (price includes cutting to subgrade & subgrade prep)	771		LF	\$ -	\$ -
10' Gravel Trail (6" thick) (price includes cutting to subgrade & subgrade prep)	271		SY	\$ -	\$ -
Handicap Ramps and Respective Landings	9		EA	\$ -	\$ -
Fence (Relocated Smoking Area)	140		LF	\$ -	\$ -

<u>WATER</u>					
Mobilization, Overhead and General Conditions	1		LS	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Connect to Existing Water Infrastructure	2		EA	\$ -	\$ -
Water Service 2"	3		EA	\$ -	\$ -
PVC Pipe (C900) 2"	86		LF	\$ -	\$ -
PVC Pipe (C900) 8"	226		LF	\$ -	\$ -
Bend 2"	2		EA	\$ -	\$ -
Bend 8"			EA	\$ -	\$ -
Bend 12"			EA	\$ -	\$ -
Valve 2"	1		EA	\$ -	\$ -
Valve 8"	2		EA	\$ -	\$ -
Tee 2"x2"	3		EA	\$ -	\$ -
Tee 8"x8"	1		EA	\$ -	\$ -
Tee 8"x6"	1		EA	\$ -	\$ -
Cross 8"x8"			EA	\$ -	\$ -
2" Plug with Blow-Off	1		EA	\$ -	\$ -
8" Plug with Blow-Off	1		EA	\$ -	\$ -
Blow-off 8"			EA	\$ -	\$ -
Reducer 8"x6"			EA	\$ -	\$ -
Air Release Manhole and Vent Pipe			EA	\$ -	\$ -
8" Blow off assembly			EA	\$ -	\$ -
Hydrant Assembly (Includes Tee, Valve, & DIP)	1		EA	\$ -	\$ -
<u>SANITARY SEWER</u>					
Mobilization, Overhead and General Conditions	1		LS	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Connect to Existing Sanitary Main	1		EA	\$ -	\$ -
Sanitary Service 4"			EA	\$ -	\$ -
Manhole 4'	1		EA	\$ -	\$ -
Manhole 5'			EA	\$ -	\$ -
4" Sanitary Clean Out	5		EA	\$ -	\$ -
PVC Pipe 6"	303		LF	\$ -	\$ -
PVC Pipe 8"			LF	\$ -	\$ -
<u>STORM SEWER</u>					
Mobilization, Overhead and General Conditions	1		LS	\$ -	\$ -
Permits	1		LS	\$ -	\$ -
Connect to Existing Storm			EA	\$ -	\$ -
RCP Pipe 15"			LF	\$ -	\$ -
RCP Pipe 18"	277		LF	\$ -	\$ -
RCP Pipe 24"	32		LF	\$ -	\$ -
RCP Pipe 30"			LF	\$ -	\$ -
Manhole 4' Diameter			EA	\$ -	\$ -
Manhole 5' Diameter	2		EA	\$ -	\$ -
Manhole 6' Diameter			EA	\$ -	\$ -
Inlet Type R - 5'			EA	\$ -	\$ -
Inlet Type R - 10'	1		EA	\$ -	\$ -
Inlet Type R - 15'	1		EA	\$ -	\$ -
Inlet Type C	1		EA	\$ -	\$ -
Inlet Type D			EA	\$ -	\$ -
FES 15"			EA	\$ -	\$ -
FES 18"	3		EA	\$ -	\$ -
FES 24"			EA	\$ -	\$ -
FES 30"			EA	\$ -	\$ -
Forebay (30 SY)	1		EA	\$ -	\$ -
Forebay (70 SY)			EA	\$ -	\$ -
Outlet Structure	1		EA	\$ -	\$ -
Spillway Cutoff Wall	45		LF	\$ -	\$ -
Concrete Trickle Channel (3' Wide) (6" Thick)	114		LF	\$ -	\$ -
Riprap (Type VL)			SY	\$ -	\$ -
Riprap (Type M)	112		SY	\$ -	\$ -
Riprap (Type H)			SY	\$ -	\$ -

GRADING, EROSION, & SEDIMENT CONTROL					
Check Dam			LF	\$ -	\$ -
Compost Blanket			SF	\$ -	\$ -
Compost Filler Berm			LF	\$ -	\$ -
Concrete Washout Area	1		EA	\$ -	\$ -
Construction Fence			LF	\$ -	\$ -
Construction Markers	878		LF	\$ -	\$ -
Dewatering			EA	\$ -	\$ -
Diversion Ditch			LF	\$ -	\$ -
Erosion Control Blanket	394		SY	\$ -	\$ -
Inlet Protection	40		LF	\$ -	\$ -
Reinforced Check Dam			LF	\$ -	\$ -
Reinforced Rock Berm	4		LF	\$ -	\$ -
RRB for Culvert Protection	31		LF	\$ -	\$ -
Sediment Basin	4		AC	\$ -	\$ -
Sediment Control Log	425		LF	\$ -	\$ -
Sediment Trap			EA	\$ -	\$ -
Seeding and Mulching	1		AC	\$ -	\$ -
Silt Fence	1,252		LF	\$ -	\$ -
Silt Fence (Vertical)			LF	\$ -	\$ -
Stabilized Staging Area	553		SY	\$ -	\$ -
Surface Roughening	2.7		AC	\$ -	\$ -
Temporary Slope Drain			LF	\$ -	\$ -
Temporary Stream Crossing			EA	\$ -	\$ -
Terracing				\$ -	\$ -
Vehicle Tracking Control	1		EA	\$ -	\$ -
VTC with Wheel Wash			EA	\$ -	\$ -
Temporary Batch Plant Restoration			AC	\$ -	\$ -
Other: Curb Sock			LF	\$ -	\$ -
Sub-Total					\$ -
SHPIP Wrap Insurance	1		LS	2.5%	
GRAND TOTAL					\$ -

NOTES:

1. Using Onsite Materials - (Estimate Total Qtys) - Provide the amount of credit per CY to use our onsite material.
2. Contractor is responsible for all construction water.
3. SHPIP WRAP INSURANCE INCLUDED @ 2.5%
4. Identify any discrepancies between Engineers Quantities vs Contractor Quantities
5. Identify any missed bid line items as an Alternative Line Item
6. Grading 100% Complete.