

LEGEND:

- AC ASPHALT CONCRETE
- BC BUILDING CORNER
- BW BACK OF WALK
- CB CATCH BASIN
- CMP CORRUGATED METAL PIPE
- CO CLEAN OUT
- CRN CROWN
- DW DRIVEWAY
- EC EDGE OF CONCRETE
- EM ELECTRIC METER
- EP EDGE OF PAVEMENT
- FCOR FENCE CORNER
- FD FOUND
- FF FINISHED FLOOR
- FL FLOW LINE
- FH FIRE HYDRANT
- FW FRONT OF WALK
- G GROUND
- GC GARAGE CORNER
- GF GARAGE FACE/FRONT
- GFC GROUND AT FENCE
- GM GAS METER
- HCR HANDICAP RAMP
- INV INVERT
- IP IRON PIPE
- JP JOINT POLE
- LG LIP OF GUTTER
- O/H OVERHEAD
- PC PROPERTY CORNER
- RW RETAINING WALL
- SL STREET LIGHT
- SSCO SANITARY SEWER CLEANOUT
- SSMH SANITARY SEWER MANHOLE
- SDMH STORM DRAIN MANHOLE
- TBC TOP BACK ROLLED CURB
- TC TOP OF CURB
- TOB TOP OF BANK
- TOE TOE OF BANK
- TP TOP OF PAVEMENT
- TRC TOP OF ROLLED CURB
- TW TOP OF WALL
- U/G UNDERGROUND
- VCP VITRIFIED CLAY PIPE
- WV WATER VALVE
- WM WATER METER BOX
- CTV- CABLE TELEVISION LINE
- E- ELECTRICAL LINE
- G- GAS LINE
- SS- SANITARY SEWER LINE
- SD- STORM DRAIN LINE
- T- TELEPHONE LINE
- W- WATER LINE

BASIS OF BEARINGS:

THE BEARING, N46°16'00"W, OF THE MONUMENT LINE OF ARBOR AVENUE, AS SHOWN ON THAT CERTAIN MAP FILED IN THE OFFICE OF THE RECORDER OF SANTA CLARA COUNTY, STATE OF CALIFORNIA, IN BOOK 877 OF MAPS AT PAGE 48, WAS USED AS THE BASIS OF BEARINGS SHOWN ON THIS MAP.

BASIS OF ELEVATION:

TBM ELEV=100.00 (ASSUMED)

UTILITY NOTE:

UNDERGROUND UTILITIES, SHOWN PER SURFACE EVIDENCE AND RECORD MAPS, MAY BE DIFFERENT THAN AS SHOWN. BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT (USA) 1-800-642-2444.

NOTE:

1. MEASUREMENT OF BUILDING LINE IS TO THE FACE OF STUCCO OR SIDING

AVERAGE SLOPE:

CONTOUR	L (FT)	CONTOUR	L (FT)
101	52.5	107	59.0
102	74.0	108	65.8
103	93.9	109	74.7
104	80.5	110	76.0
105	72.9	111	85.9
106	66.7	112	96.8

TOTAL CONTOUR LIN 898.7
 CONTOUR INTERVAL 1
 LOT AREA (SF) 13,000
 LOT AREA (ACRE) 0.298
 AVERAGE SLOPE = 6.9%

WANG RESIDENCE

1464 ARBOR AVENUE
 LOS ALTOS, CA
 APN: 331-10-067



2625 MIDDLEFIELD RD #658
 PALO ALTO, CA 94306
 TEL: (650) 823-6466
 FAX: (650) 887-1294

LICENSE STAMPS AND SIGNATURE



ISSUED

No.	Description	Date

DATE: JUNE 20, 2022
 SCALE: 1"=10'
 DRAWN: BG
 JOB: 10078

TOPOGRAPHIC SURVEY

SHEET NO.

C.0

GRADING AND DRAINAGE NOTES:

- CONTRACTOR TO VERIFY ALL CONTROLLING DIMENSIONS WITH ARCHITECTURAL PLANS AND SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS. THEY SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING. VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE STARTING CONSTRUCTION. ANY SITE WORK THAT DEVIATES FROM WHAT IS SHOWN ON THE PLANS SHALL HAVE THE ENGINEER'S APPROVAL PRIOR TO PROCEEDING WITH THE DEVIATING WORK ITEM. CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT" (800) 642-2444 PRIOR TO EXCAVATION.
- THE SITE SHALL BE FINE GRADED TO PROVIDE A MINIMUM OF 5% ACROSS VEGETATED OR DIRT AREA AND 2% ACROSS HARDSCAPED AREA, AWAY FROM THE BUILDING PERIMETER. EXISTING DRAINAGE COMING FROM ADJACENT PROPERTIES SHALL BE MAINTAINED. IN NO CASE SHALL THE FINAL GRADING INCREASE SHEET FLOW ONTO ADJACENT PROPERTIES.
- UNLESS SHOWN ON THE PLAN OTHERWISE, HOUSE AND GARAGE MUST HAVE DOWN SPOUTS THAT ARE DIRECTED TO SPLASH BLOCKS (2 FEET LONG) THAT DEFLECT THE WATER AWAY FROM BUILDING FOUNDATION BY SURFACE DRAINAGE. ALL DOWNSPOUT AND GUTTER SHALL BE GALV. SHEET METAL.
- CONTRACTOR SHALL OBTAIN A STREET WORK PERMIT FROM PUBLIC WORKS ENGINEERING FOR ANY PROPOSED CONSTRUCTION WHICH WILL IMPACT THE USE OF THE SIDEWALK, STREET AND ALLEY OR ON THE PROPERTY IN WHICH THE CITY HOLDS AN INTEREST.
- ANY CONSTRUCTION WITHIN THE CITY RIGHT-OF-WAY MUST HAVE AN APPROVED PERMIT FOR CONSTRUCTION IN THE PUBLIC STREET PRIOR TO COMMENCEMENT OF THIS WORK. THE PERFORMANCE OF THIS WORK IS NOT AUTHORIZED BY THE BUILDING PERMIT ISSUANCE BUT SHOWN ON THE BUILDING PERMIT FOR INFORMATION ONLY.
- IF GROUNDWATER OR RUNOFF WATER IS ENCOUNTERED AND REQUIRES REMOVAL FROM THE EXCAVATION AREA, ALL EXCAVATION AND/OR BUILDING ACTIVITIES MUST IMMEDIATELY STOP. THE PLAN FOR THE DEWATERING OF THE EXCAVATION MUST BE DESIGNED AND SUBMITTED FOR APPROVAL TO THE PUBLIC WORKS-ENGINEERING DIVISION. ONCE APPROVAL OF THE PLAN DESIGN HAS BEEN RECEIVED, IMPLEMENTATION OF THE PLAN IS REQUIRED PRIOR TO THE COMMENCEMENT OF THE EXCAVATION AND/OR BUILDING ACTIVITIES.

AB	AGGREGATE BASE	GB	GRADE BREAK
AC	ASPHALT CONCRETE	GM	GAS METER
AD	AREA DRAIN	GR	GRATE ELEVATION
BW	BOTTOM OF WALL	HP	HIGH POINT
CB	CATCH BASIN	INV	INVERT ELEVATION
CIP	CAST IRON PIPE	JT	JOINT TRENCH
CL	CENTER LINE	JP	JOINT POLE
CONC	CONCRETE	LD	LANDSCAPE DRAIN
CS	CRAWL SPACE ELEV.	LF	LINEAR FEET
DD	DECK DRAIN	(N)	NEW
DIP	DUCT IRON PIPE	RM	RIM ELEVATION
DS	DOWNSPOUT	S	SLOPE
DWY	DRIVEWAY	SD	STORM DRAIN LINE
(E)	EXISTING	SDCO	STORM DRAIN CLEANOUT
EG	EXISTING GRADING	SDFM	STORM DRAIN FORCED MAIN
EM	ELECTRICAL METER	SS	SANITARY SEWER
EP	EDGE OF PAVEMENT	SSCO	SANITARY SEWER CLEANOUT
FF	FINISH FLOOR ELEVATION	TW	TOP OF WALL ELEVATION
FG	FINISHED GROUND ELEV.	TYP	TYPICAL
FP	FINISHED PAVEMENT	W	DOMESTIC WATER LINE
FS	FINISH SURFACE ELEV.	WM	WATER METER

—SS—	SANITARY SEWER	—SL—	STREET LIGHT
—E—	ELECTRIC	—IRR—	IRRIGATION
—TV—	TV/CABLE TV	—X—	FENCE
—FS—	FIRE SERVICE	—JT—	JOINT TRENCH
—W—	DOMESTIC WATER	—O/H—	OVERHEAD WIRES
—T—	TELEPHONE	×16.07	(E) SPOT ELEVATION
—G—	NATURAL GAS	×16.07	(N) SPOT ELEVATION
—FM—	FORCE MAIN		

LEGEND 4

EARTHWORK QUANTITIES:

CUT(OUTSIDE BLDG FOOTPRINT)	20 C.Y.
CUT(INSIDE BLDG FOOTPRINT)	210 C.Y.
FILL	25 C.Y.
BALANCE	205 C.Y.

EARTHWORK QUANTITIES SHOWN ARE FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL PERFORM THEIR OWN EARTHWORK QUANTITY CALCULATION AND USE THEIR CALCULATION FOR BIDDING AND COST ESTIMATING PURPOSES.

KEY NOTES

- FLOW REDUCTION BOX, SEE DETAIL 4/C.4
- POP-UP, SEE DRAINAGE FEATURE TABLE FOR RIM AND INV ELEV, SEE DETAIL 5/C.4
- NEW DRIVEWAY WITH VALLEY GUTTER PER COUNTY STANDARD. SEE 6/C.4
- PERF. DRAIN PIPE AROUND RETAINING WALL SEE STRUCTURAL PLAN FOR DRAIN PIPE PLACEMENT. CONNECT TO POP-UPS

RETAINING WALL TABLE

LOCATION	TOP OF WALL	BOTTOM OF WALL
RW01	101.5	101.0
RW02	103.4	101.2
RW03	107.0	102.2
RW04	103.5	102.9
RW05	103.5	102.9
RW06	107.0	106.9
RW07	107.0	103.6
RW08	101.4	100.9
RW09	103.4	101.2
RW10	103.4	101.2
RW11	106.3	102.2
RW12	107.5	106.8
RW13	109.2	108.4
RW14	112.0	108.6
RW15	112.0	108.6
RW16	112.0	111.0
RW17	112.0	111.0
RW17	111.0	109.0

DRAINAGE FEATURE TABLE

FEATURE	RIM	INV
POP-UP1	101.5	99.5
POP-UP2	100.8	98.8
POP-UP3	104.5	102.5

GENERAL NOTES 2

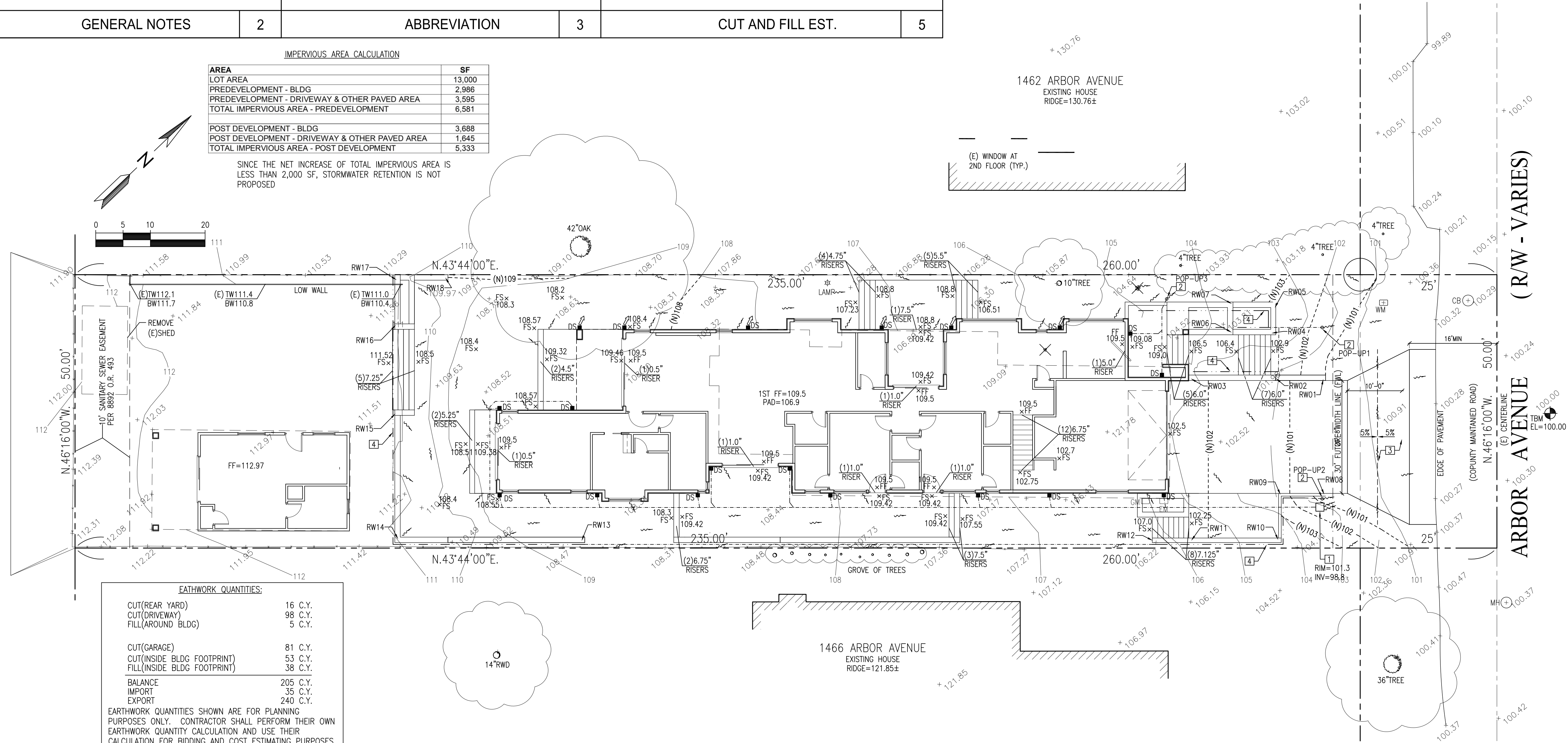
ABBREVIATION 3

CUT AND FILL EST. 5

IMPERVIOUS AREA CALCULATION

AREA	SF
LOT AREA	13,000
PREDEVELOPMENT - BLDG	2,986
PREDEVELOPMENT - DRIVEWAY & OTHER PAVED AREA	3,595
TOTAL IMPERVIOUS AREA - PREDEVELOPMENT	6,581
POST DEVELOPMENT - BLDG	3,688
POST DEVELOPMENT - DRIVEWAY & OTHER PAVED AREA	1,645
TOTAL IMPERVIOUS AREA - POST DEVELOPMENT	5,333

SINCE THE NET INCREASE OF TOTAL IMPERVIOUS AREA IS LESS THAN 2,000 SF, STORMWATER RETENTION IS NOT PROPOSED



EARTHWORK QUANTITIES:

CUT(REAR YARD)	16 C.Y.
CUT(DRIVEWAY)	98 C.Y.
FILL(AROUND BLDG)	5 C.Y.
CUT(GARAGE)	81 C.Y.
CUT(INSIDE BLDG FOOTPRINT)	53 C.Y.
FILL(INSIDE BLDG FOOTPRINT)	38 C.Y.
BALANCE	205 C.Y.
IMPORT	35 C.Y.
EXPORT	240 C.Y.

EARTHWORK QUANTITIES SHOWN ARE FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL PERFORM THEIR OWN EARTHWORK QUANTITY CALCULATION AND USE THEIR CALCULATION FOR BIDDING AND COST ESTIMATING PURPOSES.

WANG RESIDENCE

1464 ARBOR AVENUE
LOS ALTOS, CA
APN: 331-10-067

W E C & ASSOCIATES

2625 MIDDLEFIELD RD #658
PALO ALTO, CA 94306
TEL: (650) 823-6466
FAX: (650) 887-1294

LICENSE STAMPS AND SIGNATURE



ISSUED

No.	Description	Date

DATE: AUG 21, 2023
SCALE: AS SHOWN
DRAWN: J
JOB: 10078

SHEET TITLE:
GRADING & DRAINAGE AND ROW IMPROVEMENT PLAN

SHEET NO.

C.1

UTILITY NOTES:

1. CONTRACTOR SHALL PREPARE AN ACCURATE COMPOSITE UTILITY PLAN THAT TAKES INTO ACCOUNT THE ACTUAL LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL VERIFY (POTHOLE IF NECESSARY) SIZE, MATERIAL, LOCATION AND DEPTH OF ALL GRAVITY SYSTEMS THAT ARE TO BE CONNECTED TO OR CROSSED PRIOR TO THE TRENCHING OR INSTALLATION. ALL WORK FOR GRAVITY SYSTEMS SHALL BEGIN AT THE 1' DOWNSTREAM CONNECTION POINT. ALL DIRECTION CHANGES SHALL BE MADE WITH A WYE CONNECTION. ELBOWS AND TEE SHOULD BE AVOIDED.

2. CLEANOUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS.

3. A MINIMUM OF SIX (6) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN CROSSING UTILITY PIPES, EXCEPT THAT THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER AND SANITARY SEWER PIPELINES SHALL BE 12 INCHES AND ALL NEW WATER PIPES SHALL BE TYPICALLY INSTALLED TO CROSS ABOVE/OVER EXISTING SANITARY SEWER PIPELINES.

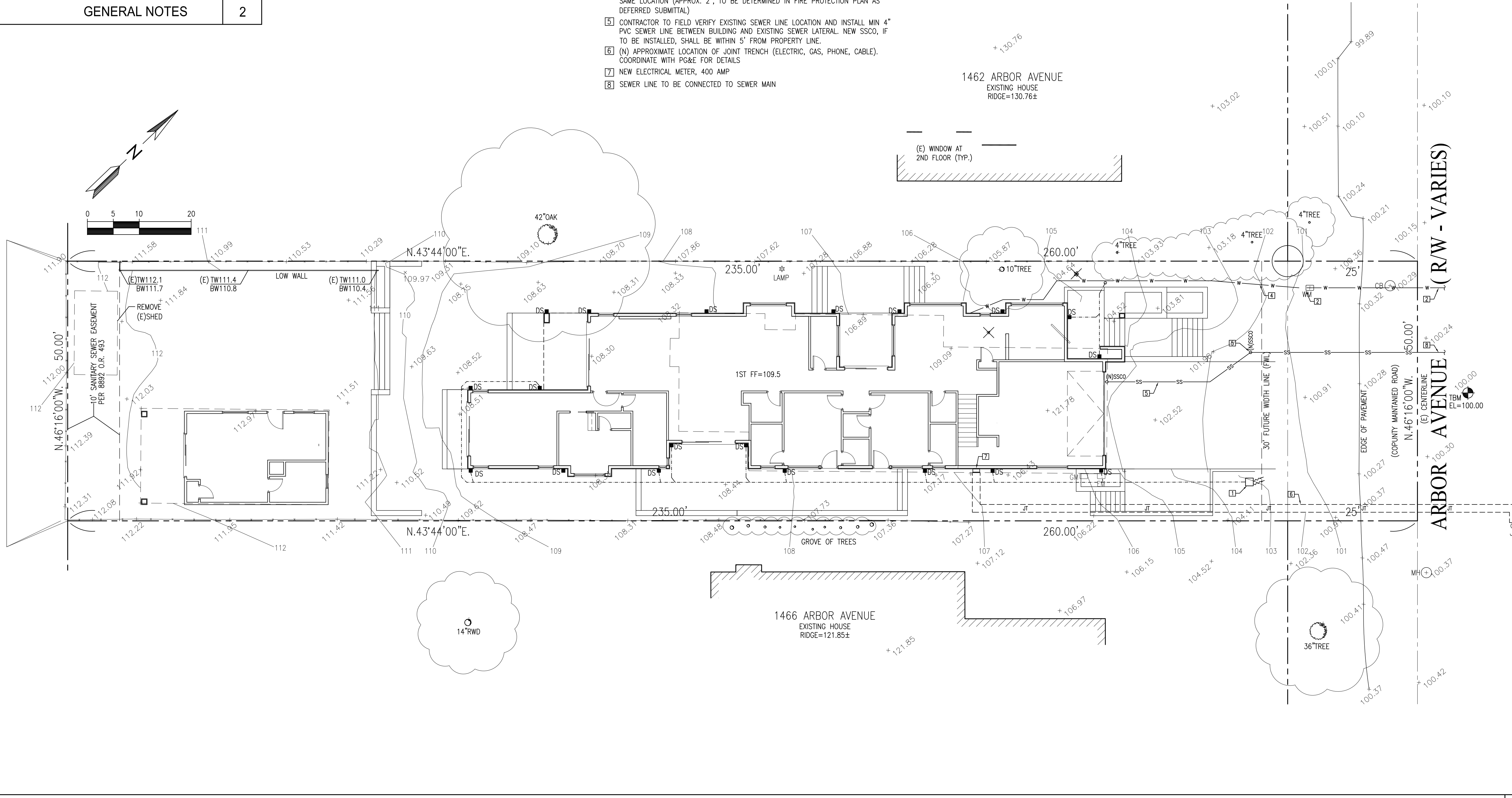
4. A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND ANY EXISTING UTILITIES SHALL BE FIVE (5) FEET, EXCEPT THAT THE MINIMUM HORIZONTAL SEPARATION FOR WATER AND SANITARY SEWER PIPELINES SHALL BE 10 FEET MINIMUM, UNLESS OTHERWISE NOTED. A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND JOINT TRENCH SHALL BE 5 FEET.

GENERAL NOTES

2

KEY NOTES

- 1 STORM DRAIN LINE, SEE C.1
- 2 EXISTING WATER LINE TO BE DISCONNECTED AND PLUGGED AT THE MAIN. INSTALL NEW WATER LINE AT APPROX. SAME LOCATION, APPROX. 2" (TO BE DETERMINED IN FIRE PROTECTION PLAN AS DEFERRED SUBMITTAL)
- 3 EXISTING WM TO BE UPGRADED (APPROX 1", TO BE DETERMINED IN FIRE PROTECTION PLAN AS DEFERRED SUBMITTAL).
- 4 EXISTING WATER LINE TO BE REMOVED. INSTALL NEW WATER LINE AT APPROX. THE SAME LOCATION (APPROX. 2", TO BE DETERMINED IN FIRE PROTECTION PLAN AS DEFERRED SUBMITTAL)
- 5 CONTRACTOR TO FIELD VERIFY EXISTING SEWER LINE LOCATION AND INSTALL MIN 4" PVC SEWER LINE BETWEEN BUILDING AND EXISTING SEWER LATERAL. NEW SSCO, IF TO BE INSTALLED, SHALL BE WITHIN 5' FROM PROPERTY LINE.
- 6 (N) APPROXIMATE LOCATION OF JOINT TRENCH (ELECTRIC, GAS, PHONE, CABLE). COORDINATE WITH PG&E FOR DETAILS
- 7 NEW ELECTRICAL METER, 400 AMP
- 8 SEWER LINE TO BE CONNECTED TO SEWER MAIN



WANG RESIDENCE

1464 ARBOR AVENUE
LOS ALTOS, CA
APN: 331-10-067



2625 MIDDLEFIELD RD #658
PALO ALTO, CA 94306
TEL: (650) 823-6466
FAX: (650) 887-1294

LICENSE STAMPS AND SIGNATURE



ISSUED

No.	Description	Date

DATE: AUG 21, 2023
SCALE: AS SHOWN
DRAWN: J
JOB: 10078

SHEET TITLE:

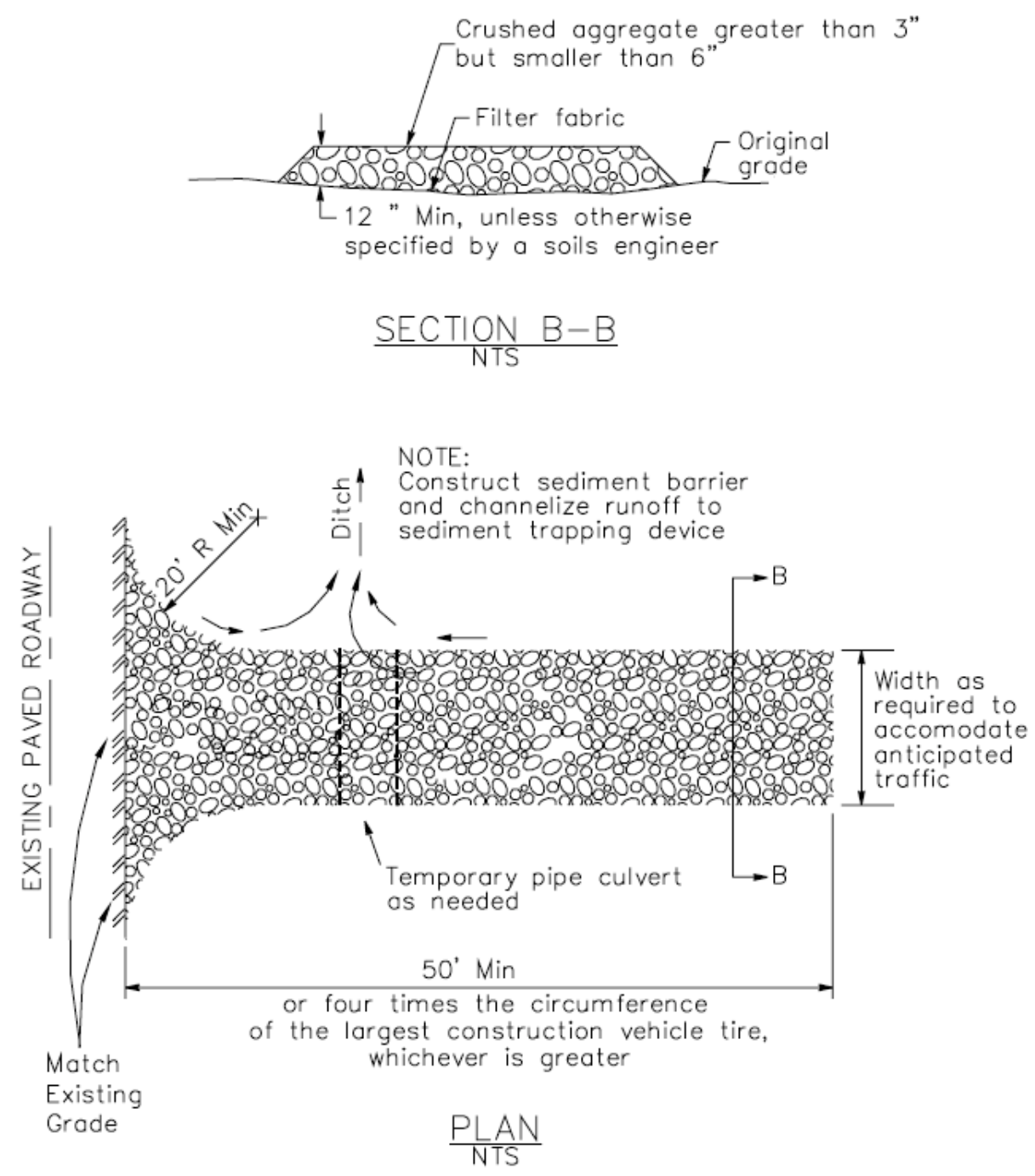
UTILITY COORDINATION PLAN

SHEET NO.

C.3

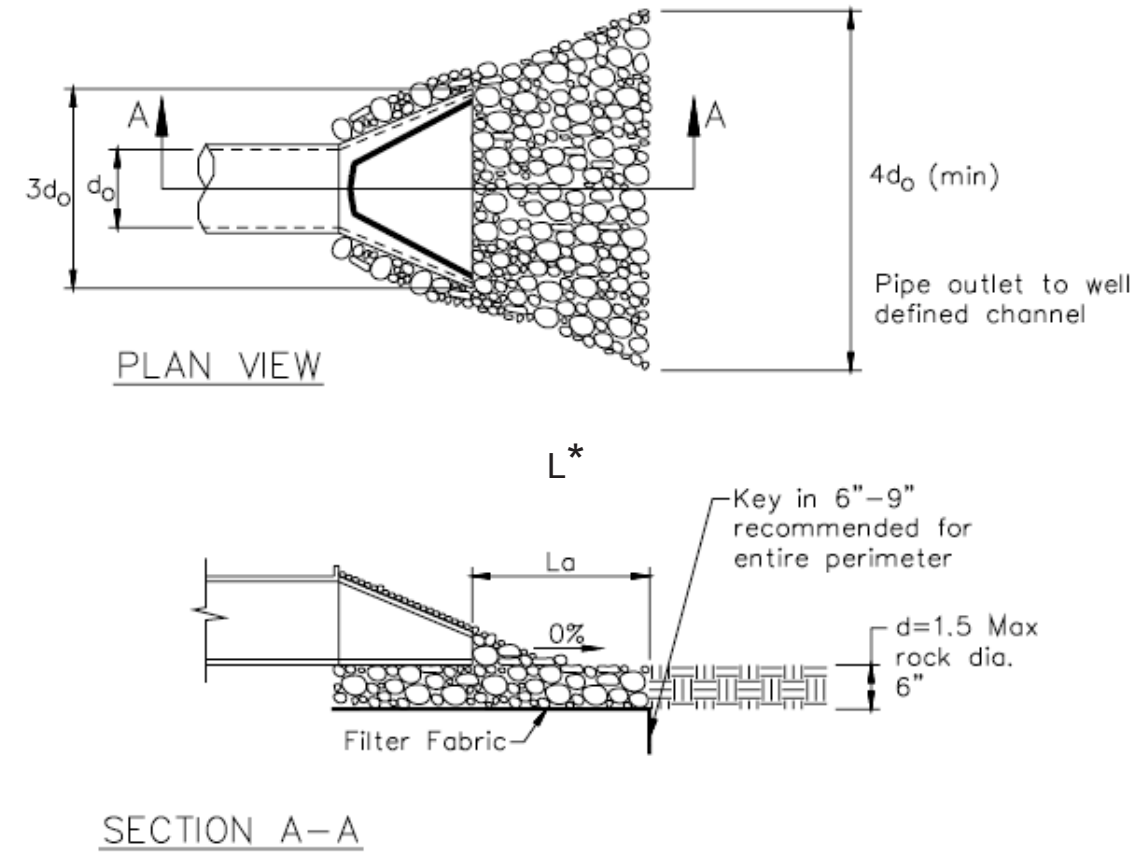
3 Stabilized Construction Entrance/Exit

CASQA Detail TC-1



4 Velocity Dissipation Devices

CASQA Detail EC-10

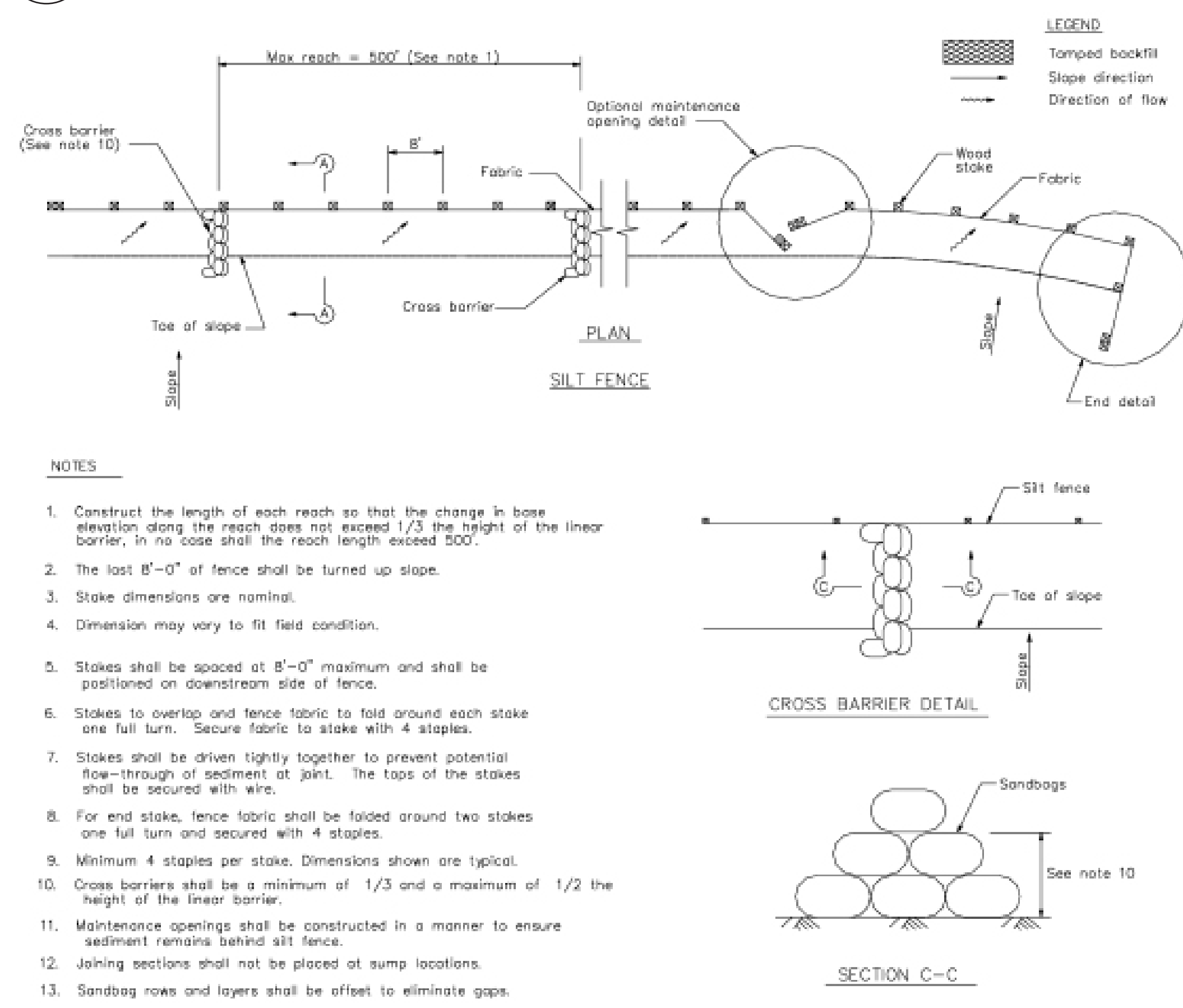


* Length per ABAG Design Standards

Source for Graphics: California Stormwater BMP Handbook, California Stormwater Quality Association, January 2003. Available from www.cabmphandbooks.com.

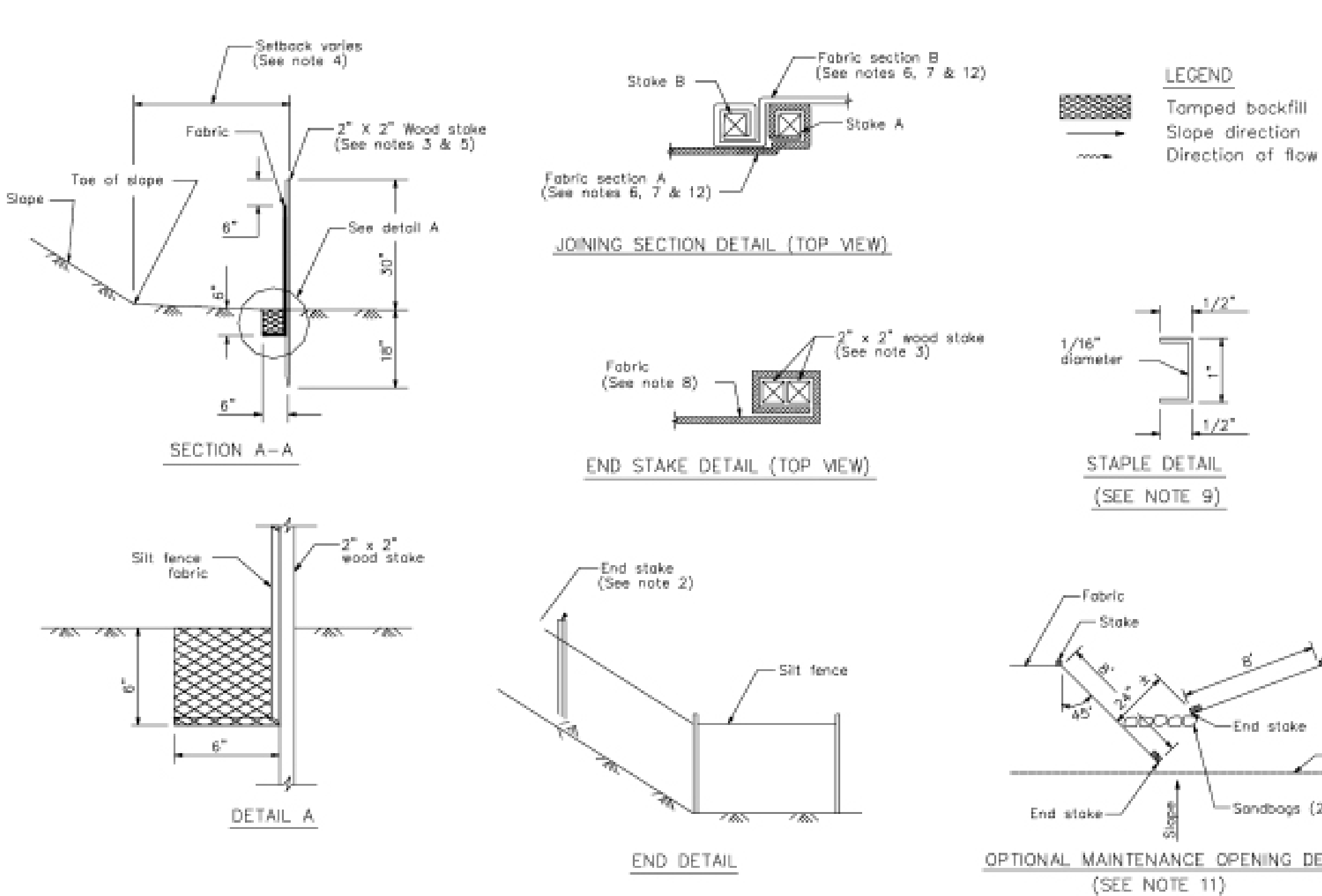
1 Silt Fence

CASQA Detail SE-1



2 Silt Fence

CASQA Detail SE-1



STANDARD BEST MANAGEMENT PRACTICE NOTES

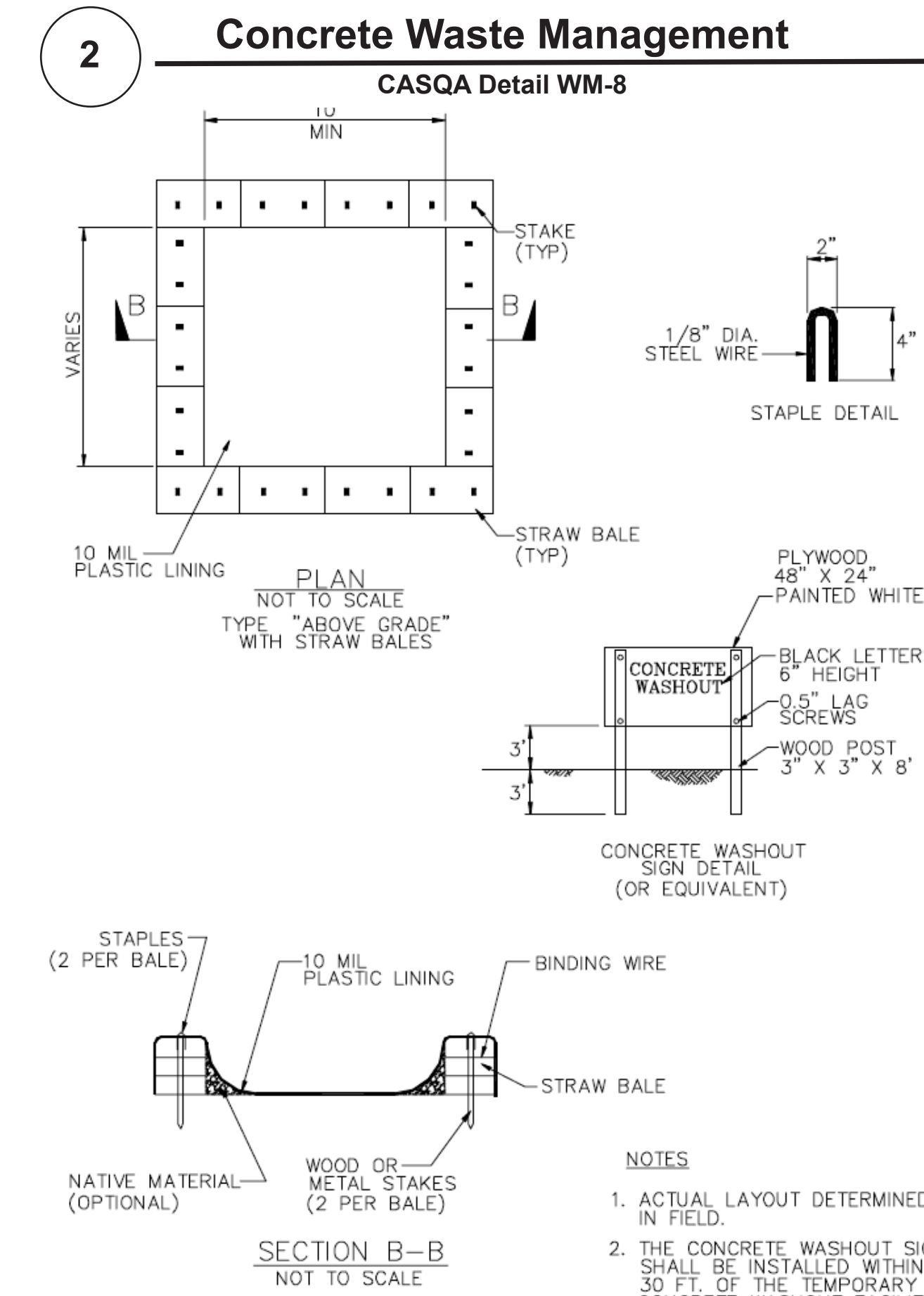
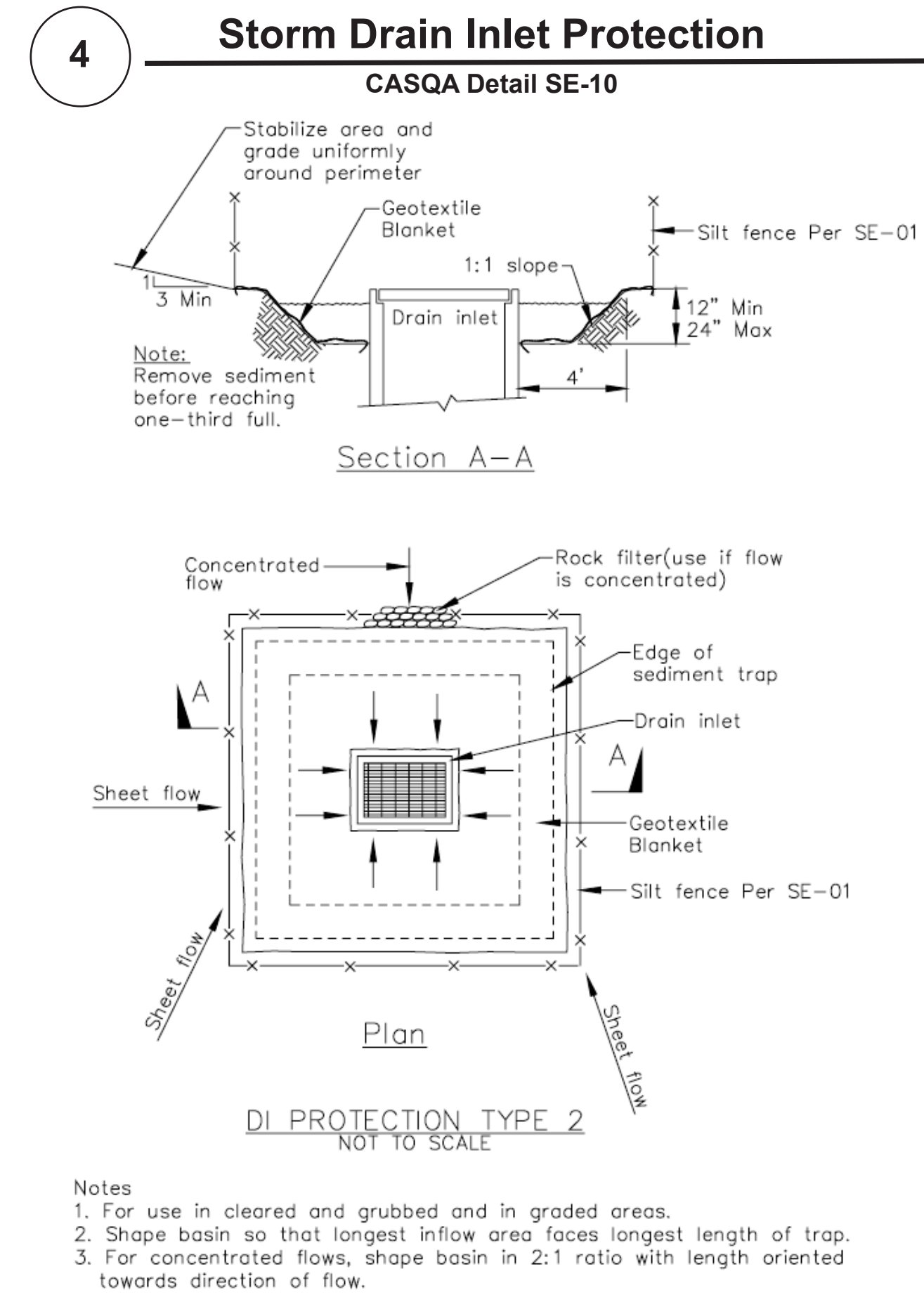
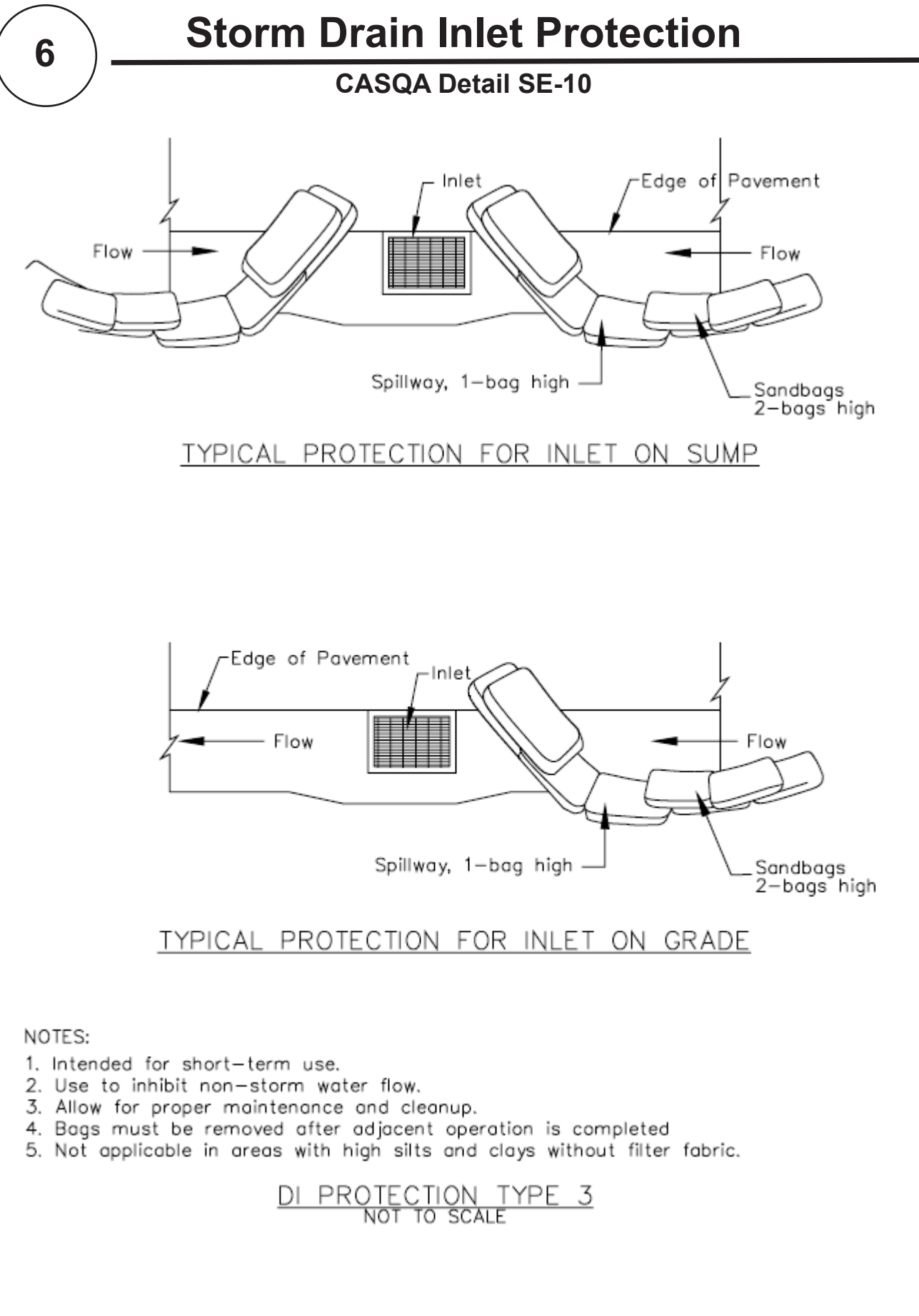
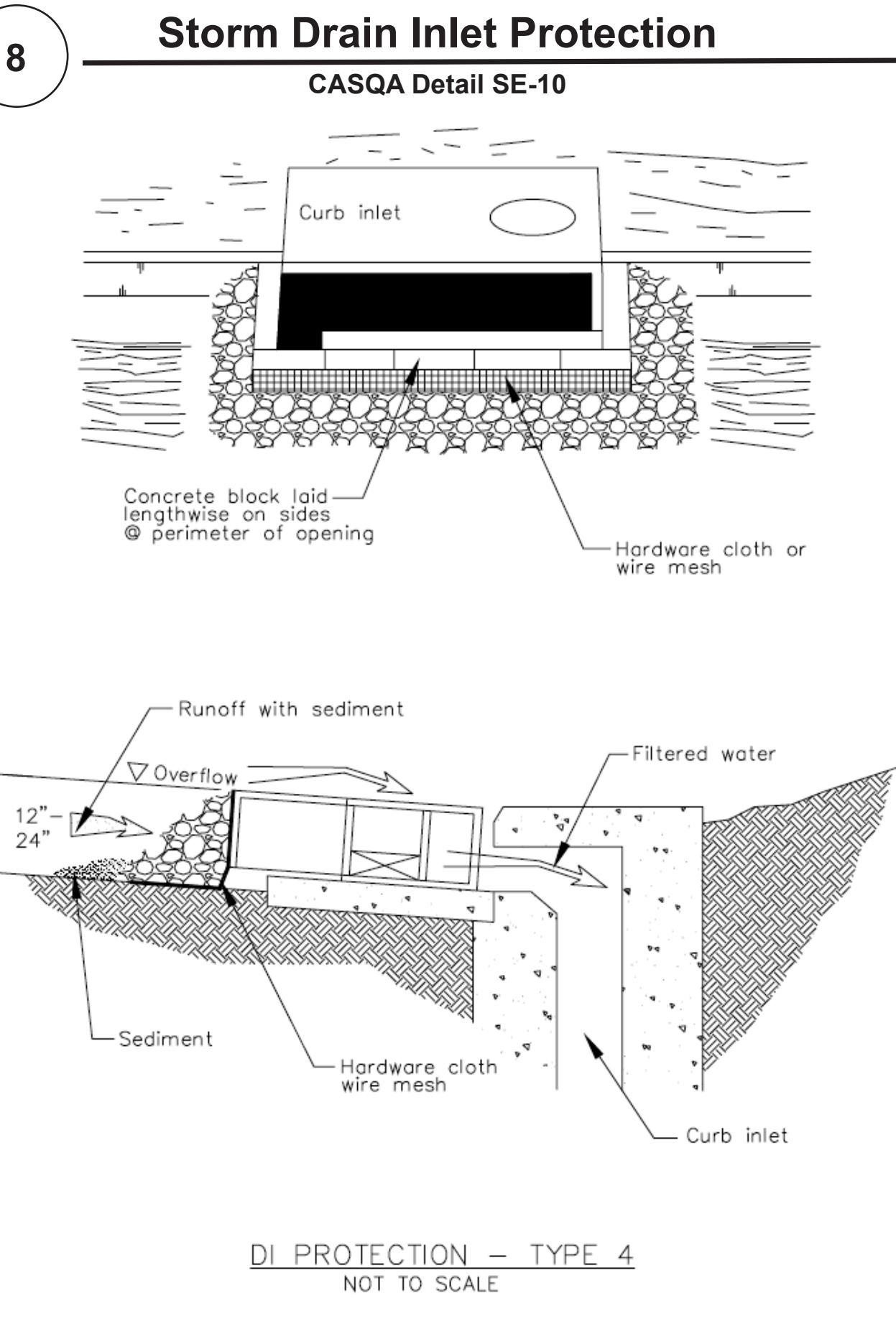
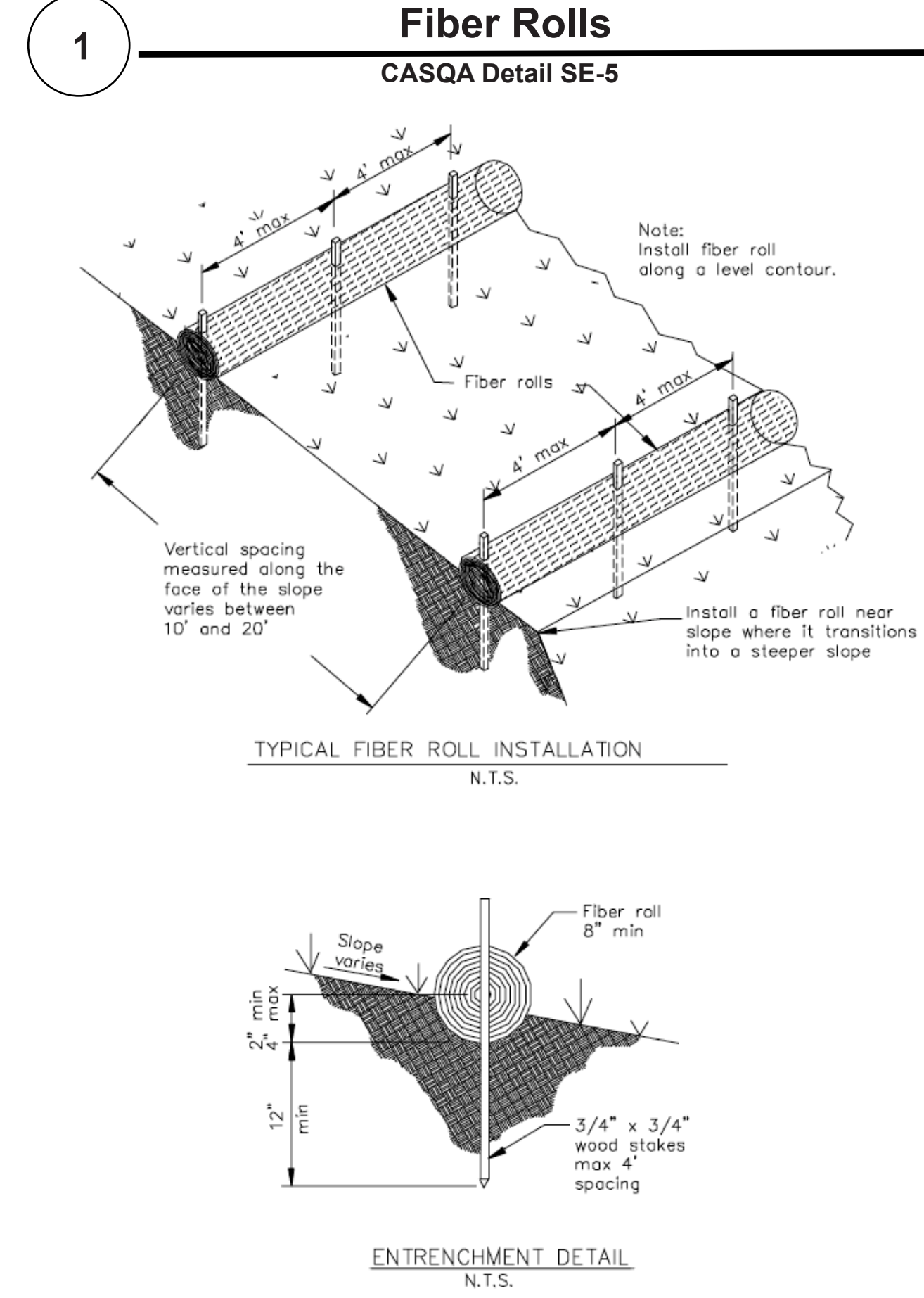
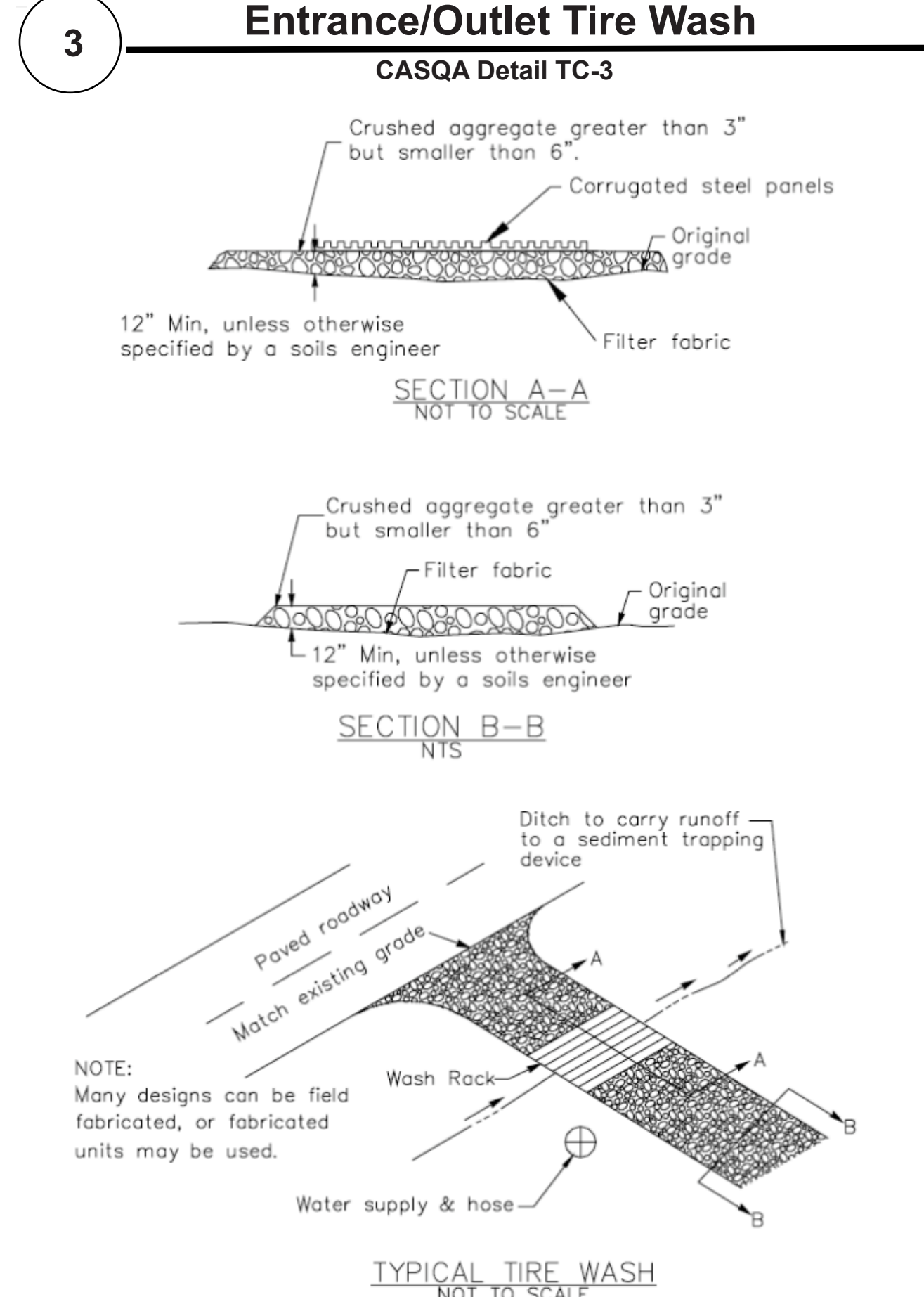
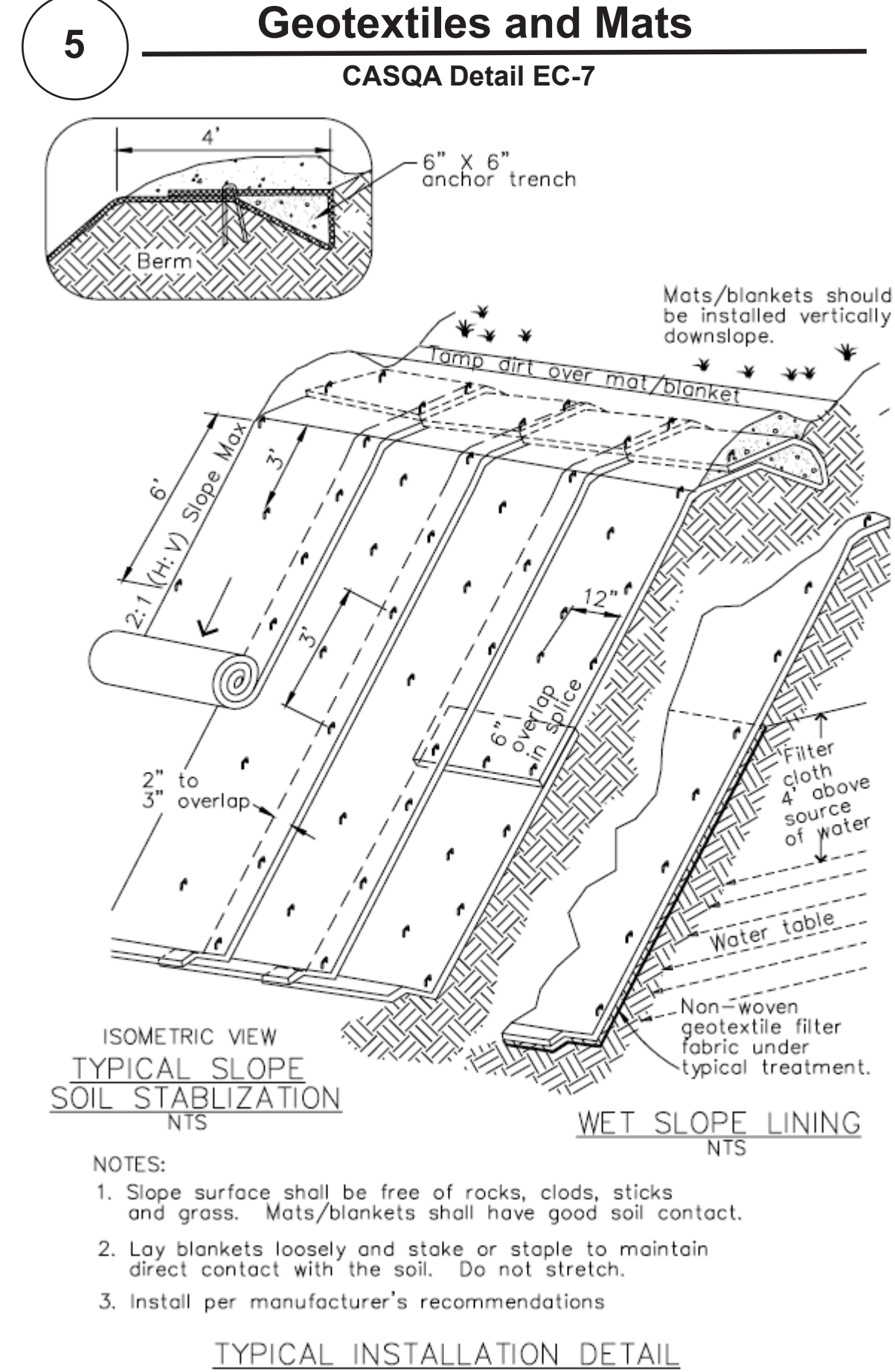
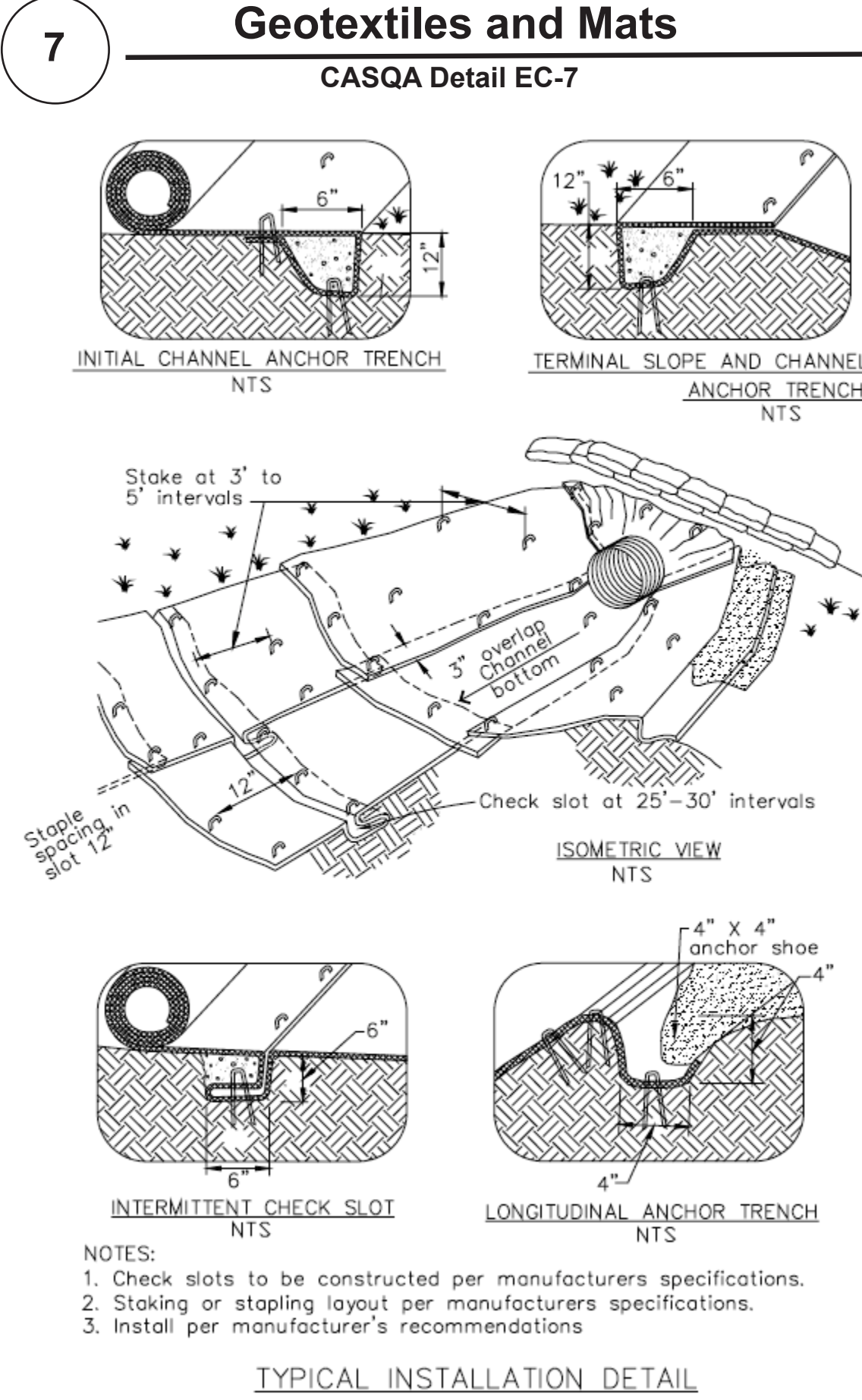
- Solid and Demolition Waste Management:** Provide designated waste collection areas and containers on site away from streets, gutters, storm drains, and waterways, and arrange for regular disposal. Waste containers must be watertight and covered at all times except when waste is deposited. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C3) or latest.
- Hazardous Waste Management:** Provide proper handling and disposal of hazardous wastes by a licensed hazardous waste material hauler. Hazardous wastes shall be stored and properly labeled in sealed containers constructed of suitable materials. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-5 to C-6) or latest.
- Spill Prevention and Control:** Provide proper storage areas for liquid and solid materials, including chemicals and hazardous substances, away from streets, gutters, storm drains, and waterways. Spill control materials must be kept on site where readily accessible. Spills must be cleaned up immediately and contaminated soil disposed properly. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-7 to C-8, C-13 to C-14) or latest.
- Vehicle and Construction Equipment Service and Storage:** An area shall be designated for the maintenance, where on-site maintenance is required, and storage of equipment that is protected from stormwater run-on and runoff. Measures shall be provided to capture any waste oils, lubricants, or other potential pollutants and these wastes shall be properly disposed of off site. Fueling and major maintenance/repair, and washing shall be conducted off-site whenever feasible. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C9) or latest.
- Material Delivery, Handling and Storage:** In general, materials should not be stockpiled on site. Where temporary stockpiles are necessary and approved by the County, they shall be covered with secured plastic sheeting or tarp and located in designated areas near construction entrances and away from drainage paths and waterways. Barriers shall be provided around storage areas where materials are potentially in contact with runoff. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-11 to C-12) or latest.
- Handling and Disposal of Concrete and Cement:** When concrete trucks and equipment are washed on-site, concrete wastewater shall be contained in designated containers or in a temporary lined and watertight pit where wasted concrete can harden for later removal. If possible have concrete contractor remove concrete wash water from site. In no case shall fresh concrete be washed into the road right-of-way. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-15 to C-16) or latest.
- Pavement Construction Management:** Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent run-on and runoff pollution and properly disposing of wastes. Avoid paving in the wet season and reschedule paving when rain is in the forecast. Residue from saw-cutting shall be vacuumed for proper disposal. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or latest.
- Contaminated Soil and Water Management:** Inspections to identify contaminated soils should occur prior to construction and at regular intervals during construction. Remediating contaminated soil should occur promptly after identification and be specific to the contaminant identified, which may include hazardous waste removal. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-19 to C-20) or latest.
- Sanitary/Septic Water Management:** Temporary sanitary facilities should be located away from drainage paths, waterways, and traffic areas. Only licensed sanitary and septic waste haulers should be used. Secondary containment should be provided for all sanitary facilities. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C-21) or latest.
- Inspection & Maintenance:** Areas of material and equipment storage sites and temporary sanitary facilities must be inspected weekly. Problem areas shall be identified and appropriate additional and/or alternative control measures implemented immediately, within 24 hours of the problem being identified.

STANDARD EROSION CONTROL NOTES

- Sediment Control Management:**
 - Tracking Prevention & Clean Up:** Activities shall be organized and measures taken as needed to prevent or minimize tracking of soil onto the public street system. A gravel or proprietary device construction entrance/exit is required for all sites. Clean up of tracked material shall be provided by means of a street sweeper prior to an approaching rain event, or at least once at the end of each workday that material is tracked, or, more frequently as determined by the County Inspector. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-31 to B-33) or latest.
 - Storm Drain Inlet and Catch Basin Inlet Protection:** All inlets within the vicinity of the project and within the project limits shall be protected with gravel bags placed around inlets or other inlet protection. At locations where exposed soils are present, staked fiber rolls or staked silt fences can be used. Inlet filters are not allowed due to clogging and subsequent flooding. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-49 to B-51) or latest.
 - Storm Water Runoff:** No storm water runoff shall be allowed to drain in to the existing and/or proposed underground storm drain system or other above ground watercourses until appropriate erosion control measures are fully installed.
 - Dust Control:** The contractor shall provide dust control in graded areas as required by providing wet suppression or chemical stabilization of exposed soils, providing for rapid clean up of sediments deposited on paved roads, furnishing construction road entrances and vehicle wash down areas, and limiting the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.
 - Stockpiling:** Excavated soils shall not be placed in streets or on paved areas. Borrow and temporary stockpiles shall be protected with appropriate erosion control measures (tarps, straw bales, silt fences, etc.) to ensure silt does not leave the site or enter the storm drain system or neighboring watercourse.
- Erosion Control:** During the rainy season, all disturbed areas must include an effective combination of erosion and sediment control. It is required that temporary erosion control measures are applied to all disturbed soil areas prior to a rain event. During the non-rainy season, erosion control measures must be applied sufficient to control wind erosion at the site.
- Inspection & Maintenance:** Disturbed areas of the Project's site, locations where vehicles enter or exit the site, and all erosion and sediment controls that are identified as part of the Erosion Control Plans must be inspected by the Contractor before, during, and after storm events, and at least weekly during seasonal wet periods. Problem areas shall be identified and appropriate additional and/or alternative control measures implemented immediately, within 24 hours of the problem being identified.
- Project Completion:** Prior to project completion and signoff by the County Inspector, all disturbed areas shall be reseeded, planted, or landscaped to minimize the potential for erosion on the subject site.
- It shall be the Owner's/Contractor's responsibility to maintain control of the entire construction operation and to keep the entire site in compliance with the erosion control plan.
- Erosion and sediment control best management practices shall be operable year round or until vegetation is fully established on landscaped surfaces.

Project Information





Source for Graphics: California Stormwater BMP Handbook, California Stormwater Quality Association, January 2003. Available from www.cabmphandbooks.com.

Project Information



**Notes for Figure 6H-6—Typical Application 6
Shoulder Work with Minor Encroachment**

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

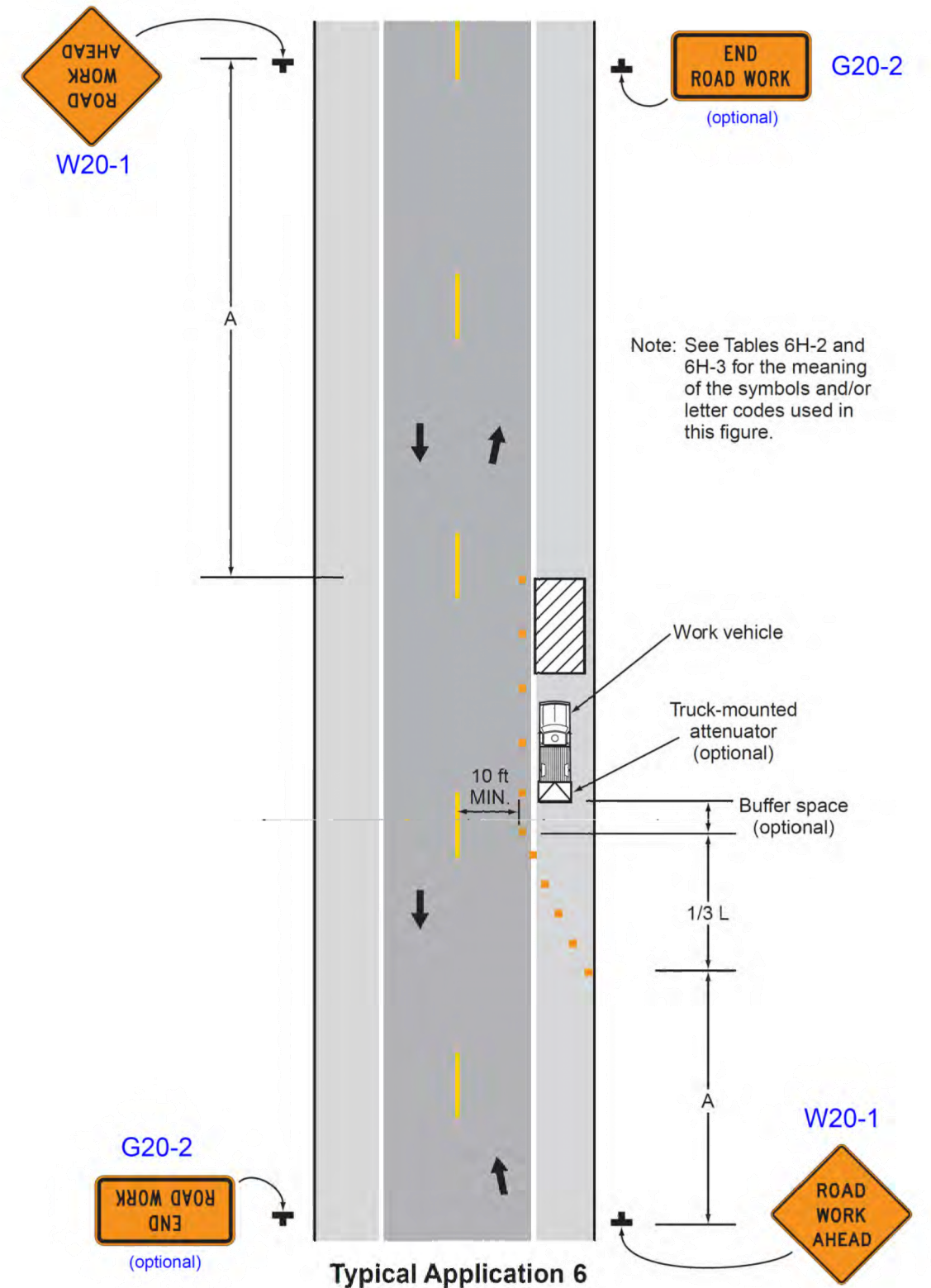
Standard:

11. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.
12. Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.
13. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Guidance:

14. All advance warning signs should be placed so that the path of travel for bicycles is not blocked, while maintaining visibility for road users.
15. When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, the Bicycle Warning (W11-1) sign and the SHARE THE ROAD (W16-1P) plaque should be used to advise motorists of the presence of bicyclists in the travel way lanes.
16. Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, speed reduction countermeasures should be used to reduce traffic speeds in the TTC zone. Refer to Sections 6C.01 and 6D.03.
17. Except for short durations and mobile operations, when a highway shoulder is occupied and bicyclists would be sharing a lane with vehicular traffic, as a result of the TTC zone, before narrowing the outside lane other measures such as widening the outside shoulder to allow bicyclists and motor vehicles to travel side by side through the TTC zone should be considered.
18. If traffic volumes make it feasible, the two left lanes should be merged into one lane to avoid using the shoulder as a traveled way lane and allowing continued use for emergency purposes and bicycle travel.
19. When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project (see Section 6G.02) and the roadway width is inadequate for allowing bicyclists and motor vehicles to travel side by side, a separate path should be considered for bicyclists.

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



						COUNTY OF SANTA CLARA ROADS AND AIRPORTS DEPARTMENT				STANDARD TRAFFIC CONTROL PLANS - LOCAL SHOULDER WORK				DRAWING No. TCP	
						DESIGNED: 5-2015 DRAWN: 5-2015 CHECKED: 5-2015	SUBMITTED: _____ APPROVED: _____				WORK ORDER No. XX ADVERTISEMENT DATE: _____		CONTRACT No. _____ FILE No. _____		SHIT No. _____ Scale _____
NO.	REVISIONS	BY	DATE	APP'D											