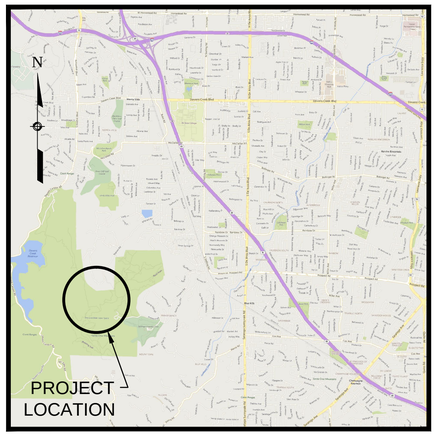
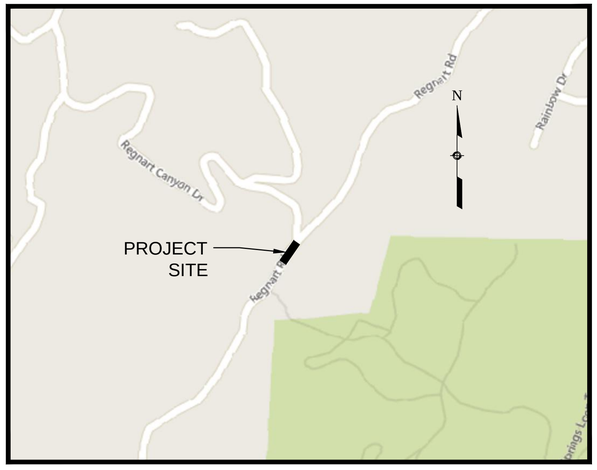
RETAINING WALL REPLACEMENT
REGNART ROAD

CUPERTINO, CALIFORNIA

PROJECT NO. 2017-12



LOCATION MAP



SITE MAP

SHEET INDEX

SHEET NO.	TITLE	DRAWING
1	TS01	TITLE SHEET
2	IP01	RETAINING WALL PLAN AND PROFILE
3	NT01	CONSTRUCTION NOTES AND DETAILS
4	S01	RETAINING WALL DETAILS
5	S02	STRUCTURAL SPECIAL PROVISIONS
6	EC01	CONSTRUCTION BEST MANAGEMENT PRACTICES

HORIZONTAL CONTROL

CP	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	1,934,312.45	6,107,888.25	100.00	2.5" BD IN WELL "CITY OF CUPERTINO"
100	1,934,507.91	6,107,988.28	97.79	2.5" BD IN WELL "CITY OF CUPERTINO"
107	1,934,582.73	6,108,031.78	100.45	SET HUB AND TACK

PROJECT BENCHMARK

PROJECT TEMPORARY BENCHMARK (TBM):

PT 2 = 100.00, 2.5" BD IN WELL WITH PUNCH "CITY OF CUPERTINO", ASSUMED ELEVATION.

DIRECTOR OF PUBLIC WORKS SIGNATURE

APPROVED BY: _____ 8/23/17

TIMM BORDEN — RCE 45512 — DATE
DIRECTOR OF PUBLIC WORKS

CALL BEFORE YOU DIG — UNDERGROUND SERVICE ALERT — CA: 811

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

HMH
1570 Oakland Road
San Jose, CA 95131
(408) 487-2200
HMHca.com

Land Use Entitlements
Land Planning
Landscape Architecture
Civil Engineering
Utility Design
Land Surveying
Stormwater Compliance

Date:	AUGUST 16, 2017
Scale:	NO SCALE
Designed:	LMG
Drawn:	BB
Checked:	JC
Proj. Engr:	LMG
File:	489304TS01.DWG

	REVISIONS	DESIGN BY	DESIGN DATE	CITY APPR.	APPR. DATE
△					

REGISTERED PROFESSIONAL ENGINEER — JON CACCIOTTI — No. 82825 — CIVIL — STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR

RETAINING WALL REPLACEMENT REGNART ROAD

CUPERTINO CALIFORNIA

FOR CITY OF CUPERTINO USE
PROJECT # _____

PUBLIC WORKS INSPECTOR:

VOICE MAIL:

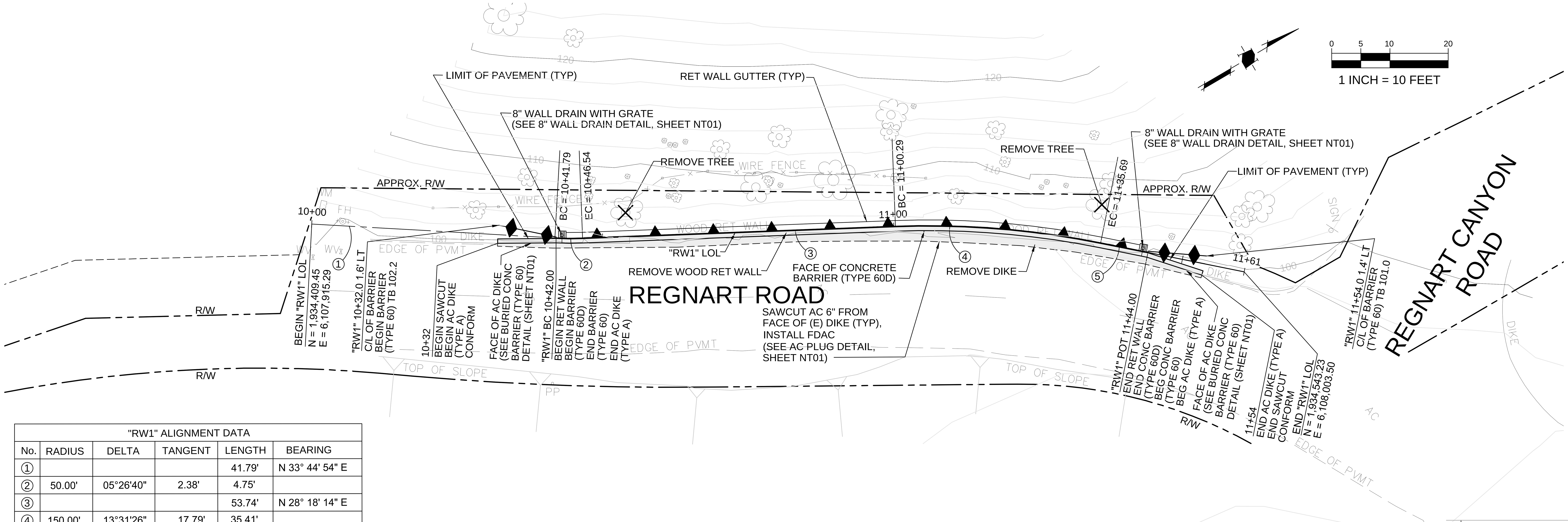
CITY OF CUPERTINO

TS01

SHEET 1 OF 6

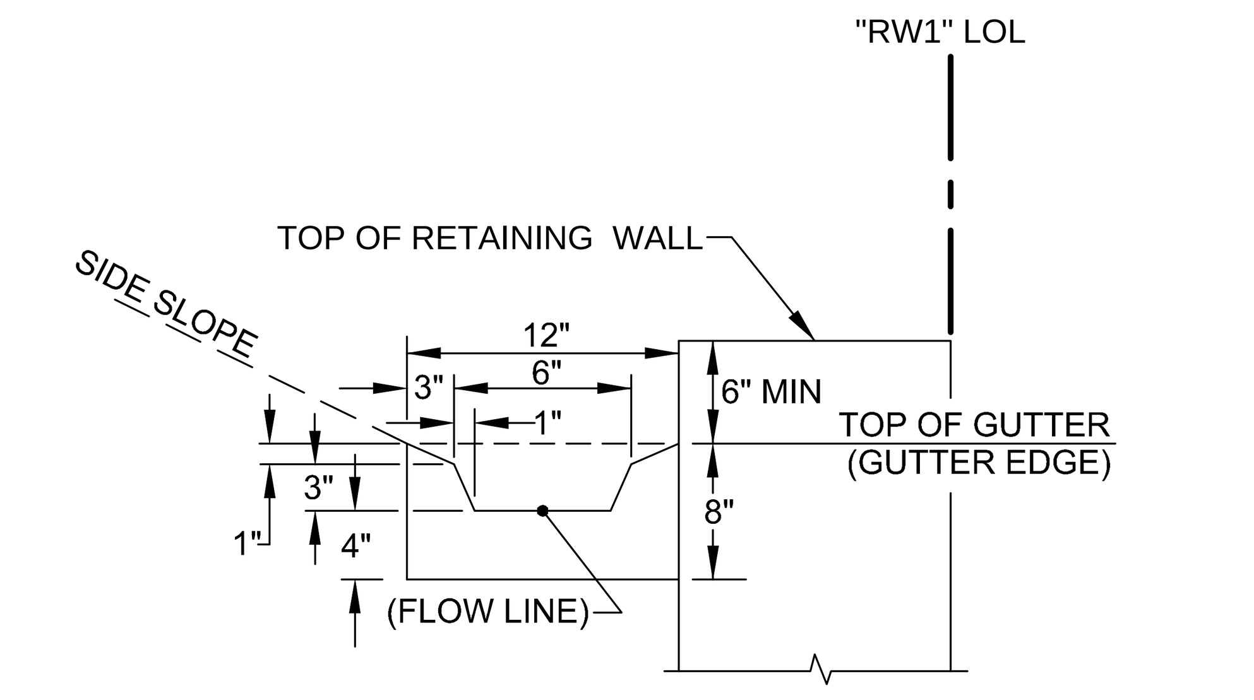
S:\PROJECTS\489300\489304 - REGNART RET WALL\PW\PLOT DRAWINGS\489304TS.DWG

MONTH YEAR

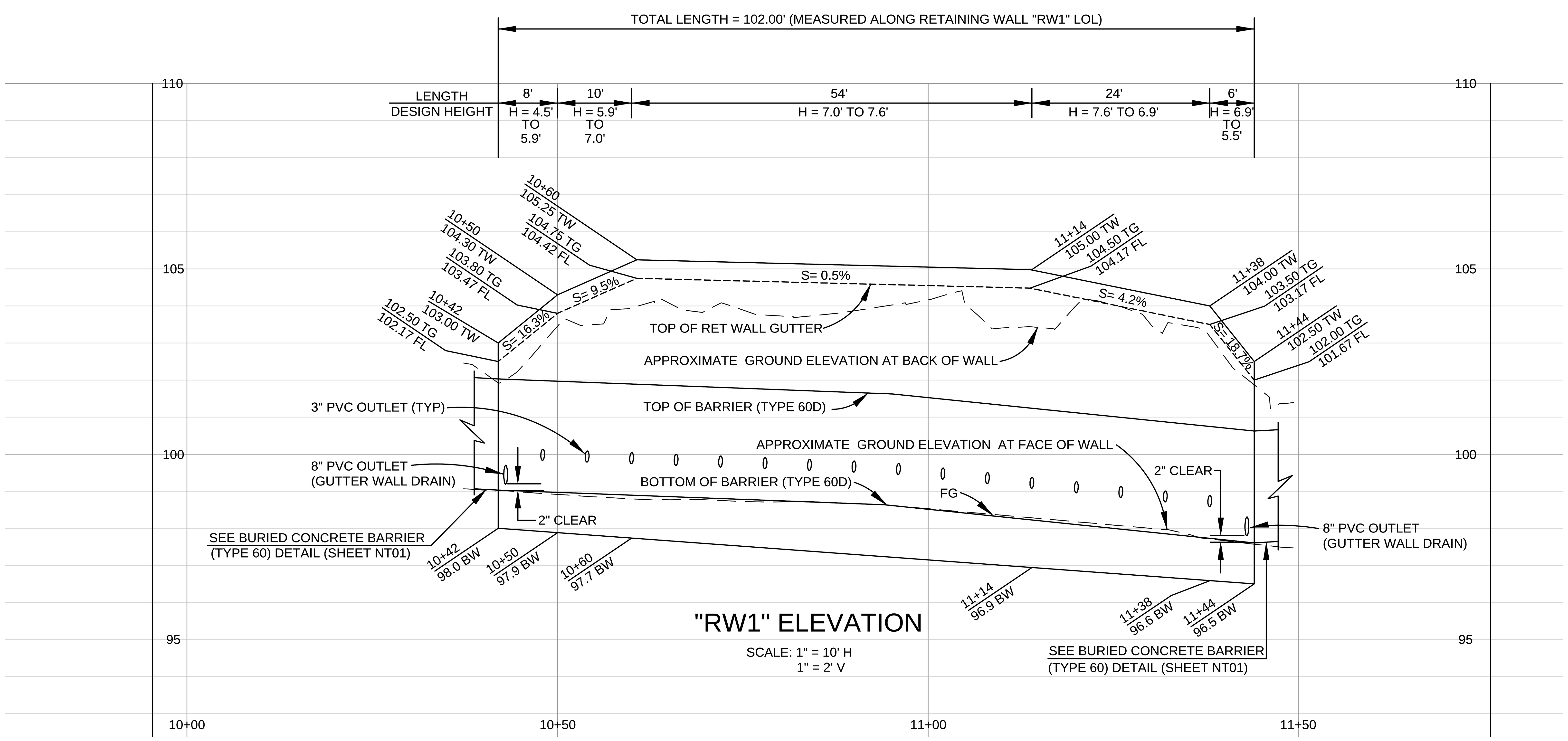


No.	RADIUS	DELTA	TANGENT	LENGTH	BEARING
①				41.79'	N 33° 44' 54" E
②	50.00'	05°26'40"	2.38'	4.75'	
③				53.74'	N 28° 18' 14" E
④	150.00'	13°31'26"	17.79'	35.41'	
⑤				25.41'	N 41° 49' 41" E

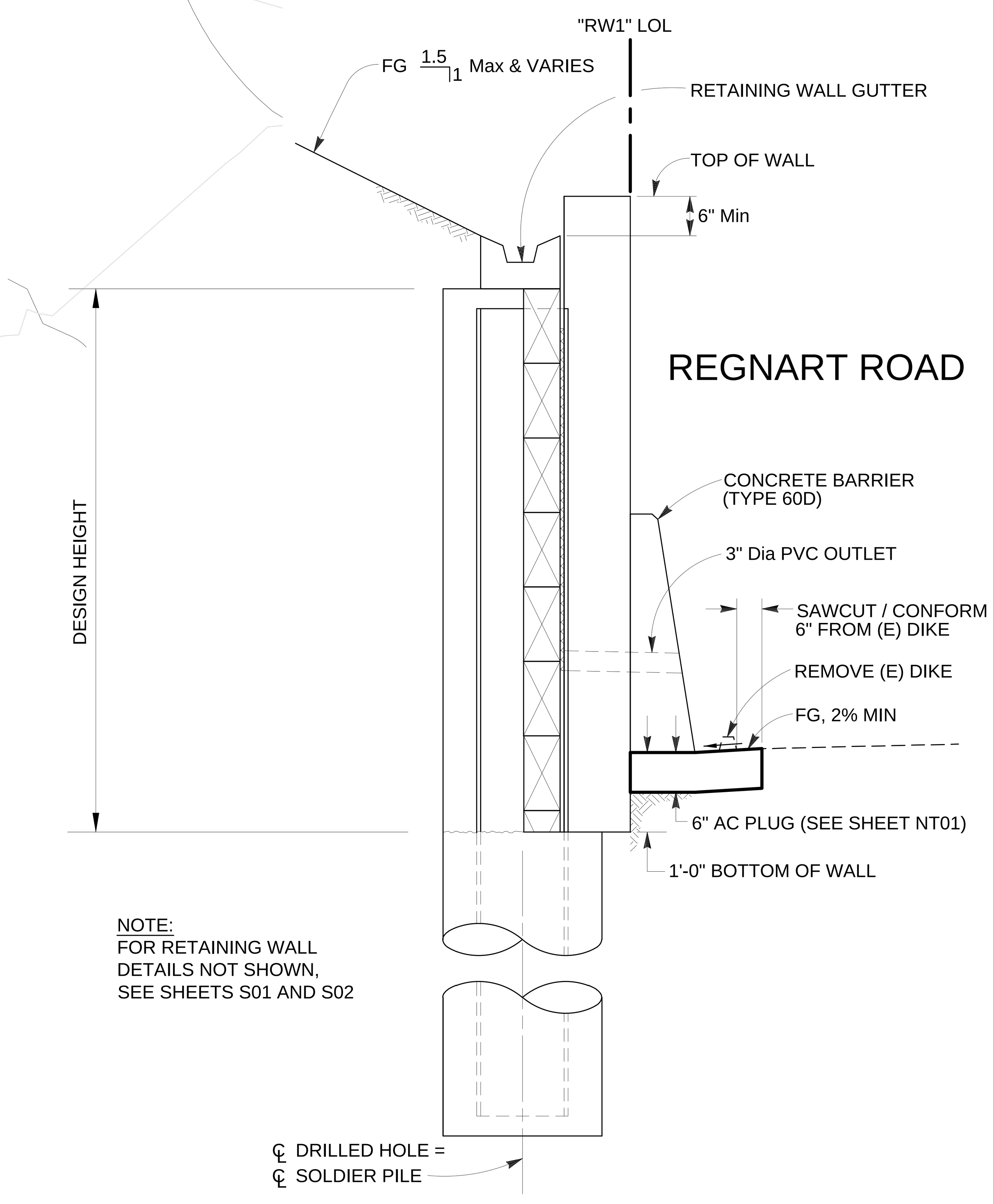
"RW1" ALIGNMENT DATA



RETAINING WALL GUTTER
NO SCALE



"RW1" ELEVATION
SCALE: 1" = 10' H
1" = 2' V



NOTE:
FOR RETAINING WALL DETAILS NOT SHOWN, SEE SHEETS S01 AND S02

TYPICAL RETAINING WALL SECTION
STA "RW1" 10+42.00 TO STA "RW1" 11+44.00
NO SCALE

CALL BEFORE YOU DIG
CA: 811

S:\PROJECTS\4893\00\489304 - REGNART RET WALL\PWPLOT DRAWINGS\489304IP01.DWG

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(408) 487-2200 HMHca.com
Land Use Entitlements
Land Planning
Landscape Architecture
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Date:	AUGUST 16, 2017
Scale:	1"=10' H, 1"=2' V
Designed:	LMG
Drawn:	BB
Checked:	JC
Proj. Engr:	LMG
File:	489304IP01.DWG

REVISIONS | DESIGN BY | DESIGN DATE | CITY APPR. | APPR. DATE

REGISTERED PROFESSIONAL ENGINEER JON CACCIOTTI No. 82825 CIVIL STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR

REGNART ROAD RETAINING WALL PLAN & PROFILE

CUPERTINO CALIFORNIA

FOR CITY OF CUPERTINO USE
PROJECT # __________
PUBLIC WORKS INSPECTOR:
VOICE MAIL:
PROJECT ENGINEER
NAME DATE

EST. 1955

CITY OF CUPERTINO

IP01

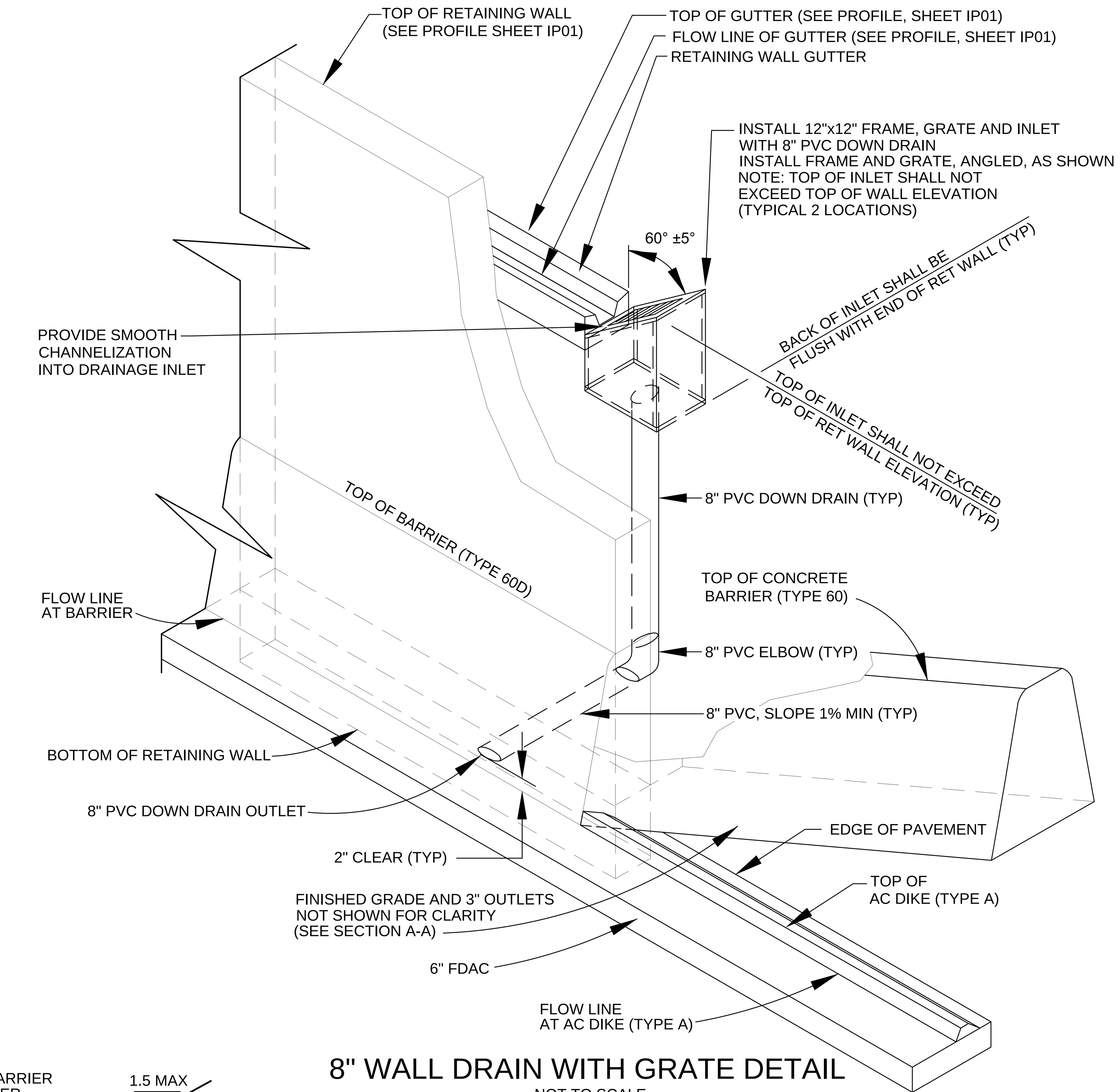
October 2016

LEGEND

	EXISTING	PROPOSED
CHAINLINK / BARBED WIRE FENCE	—x—x—x—	
OVERHEAD ELECTRIC OR COMMUNICATIONS	—OH—OH—	
PROPERTY LINE	——	
RIGHT OF WAY	— — —	— — —
SANITARY SEWER	—SS—SS—	
SAWCUT		- - - - - -
STORM DRAIN	—SD—SD—	
UNDERGROUND COMMUNICATIONS (TELE)	—T—T—	
UNDERGROUND COMMUNICATIONS (TV)	—TV—TV—	
UNDERGROUND ELECTRIC	—E—E—	
WATER	—W—W—	
WOOD RETAINING WALL		
ASPHALT CONCRETE (FDAC)		
DRAINAGE FLOW DIRECTION		
FIRE HYDRANT		
MONUMENT		
ROADSIDE SIGN		
SANITARY SEWER MANHOLE		
STORM DRAIN CURB INLET		
STORM DRAIN MANHOLE		
STREET LIGHT		
TREE		
UTILITY BOX		
UTILITY POLE		
VALVE		
WATER METER BOX		
RETAINING WALL (CONCRETE)		

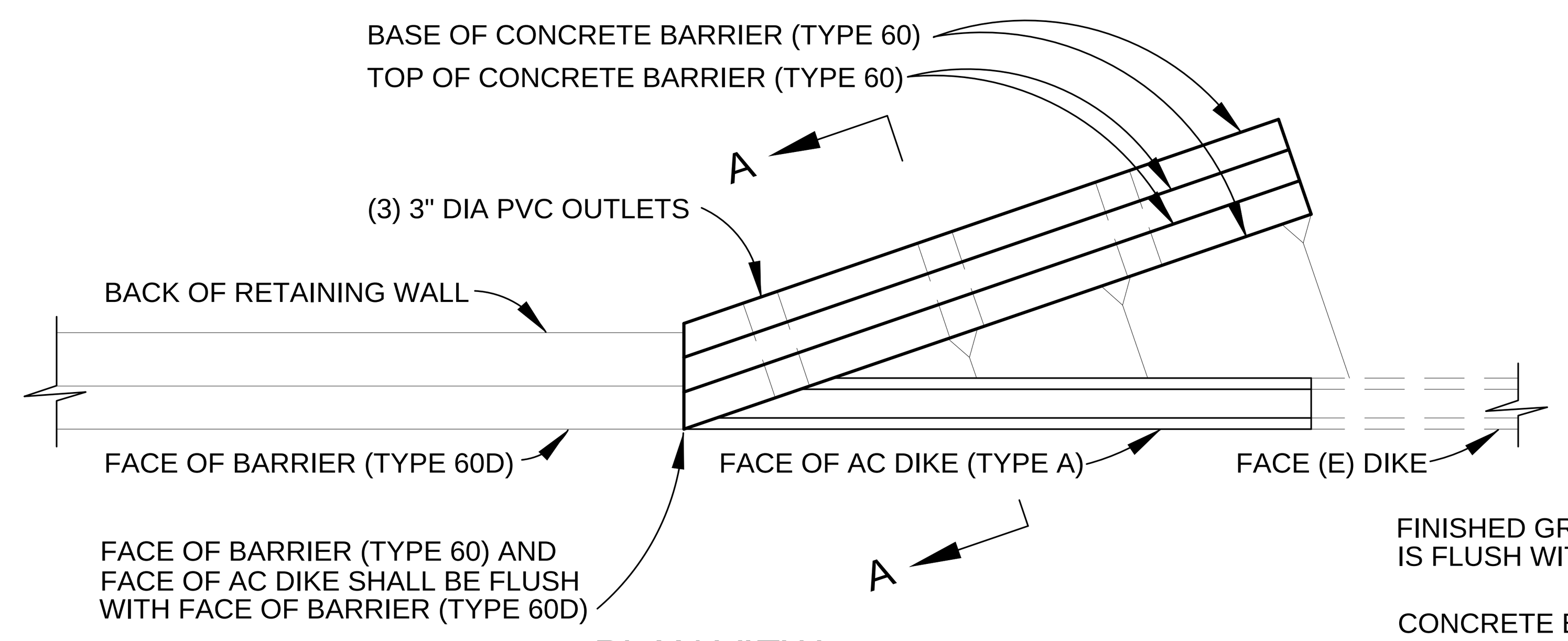
NOTES

1. All work shall be in accordance with the State of California Department of Transportation Standard Specifications and Standard Plans (latest edition, as amended unless otherwise noted) and City of Cupertino Standard Details. The Contractor shall perform the work described in the specification, as shown on the drawings, and to the satisfaction of the City Engineer.
2. It shall be the responsibility of the Contractor to ensure the approved plans or the latest revised plans are furnished to its subcontractors, and to ensure the latest approved plans are onsite at all times during construction.
3. The Contractor shall notify the City of Cupertino Public Works Inspector two (2) working days prior to requiring an inspection. Call (650) 333-0831 to schedule Public Works inspections.
4. Construction area traffic control devices shall be installed prior to beginning of work. Contractor shall secure approval of a traffic control plan from the city prior to work that affects traffic.
5. The Contractor shall locate underground facilities in the area of work. The Contractor shall contact Underground Service Alert (USA) at 811 two (2) working days in advance of any work for location of the underground facilities.
6. Storm drain lines installed as part of the work on these plans shall be cleared of all debris and obstructions prior to final acceptance.
7. Tree roots or foreign matter in existing right-of-way shall be removed to a depth of two (2) feet below subgrade and disposed of per Caltrans Standards. In the case of live tree roots from trees, Contractor shall contact the City for field observation and determination of removal.
8. Existing pavement that is removed or damaged by construction shall be replaced as required by the City Engineer.
9. Concrete for use in non structural concrete structures shall conform to California Department of Transportation Standard Specifications Section 90. Inlets and gutters shall contain 590 lbs. of cement per cubic yard and shall attain a minimum strength of 3,000 psi in 28 days.
10. New City standard street monuments and other permanent monuments disturbed during construction shall be replaced before acceptance of the improvements by the City Engineer. Attention is directed to Section 8771 of the California Business and Professions Code for the requirements concerning survey monuments. Existing survey monuments shall be located and referenced by or under the direction of a licensed land surveyor or qualified registered civil engineer prior to construction operations, and a corner record or record of survey shall be filed with the County Surveyor of the County of Santa Clara. Existing survey monuments shall be reset to finish grade, and a corner record or record of survey shall be filed with the County Surveyor of the County of Santa Clara prior to the recording of the certificate of completion for the project.
11. Construction survey stakes or marks (control stakes) to establish lines and grades shall be set by the Contractor's surveyor or qualified registered civil engineer.
12. Notify the City Inspector two (2) working days in advance of requiring services for checking field staking. Three (3) copies of the cut sheets shall be furnished to the City Inspector.
13. Contractor is responsible for dust control and ensuring the area adjacent to the work is left in a clean condition.
14. Contractor shall review City Detail 6-4 on tree protection prior to accomplishing any work or removing any trees.
15. Utilize Best Management Practices (BMP's), as required by the State Water Resources Control Board, for ANY activity, which disturbs the soil.
16. Contractor shall replace in full all paint markings and stripes affected by construction. Placement and removal of paint striping shall be in accordance with Caltrans 2010 Standard Specifications section 84-3 - Traffic Stripes and Pavement Markings and section 15-2.02C - Remove Traffic Stripe and Pavement Markings, respectively.
17. Tree removal shall remove the trunk and canopy of the existing tree to a distance of approximately 12" above existing ground. Removal shall be performed in a manner which preserves the root structure of the tree and surrounding vegetation.
18. Full depth asphaltic concrete shall be installed to a depth no less than 6" below finished grade. Asphaltic Concrete shall comply with Caltrans 2010 Standard Specifications Section 39.
19. Contractor shall install jute mesh in accordance with Caltrans 2010 Standard Specifications Sections 21-1.020(2) and 21-1.030, Caltrans 2010 Standard Plan H52, and per the manufacturer's recommendations on all exposed slopes.

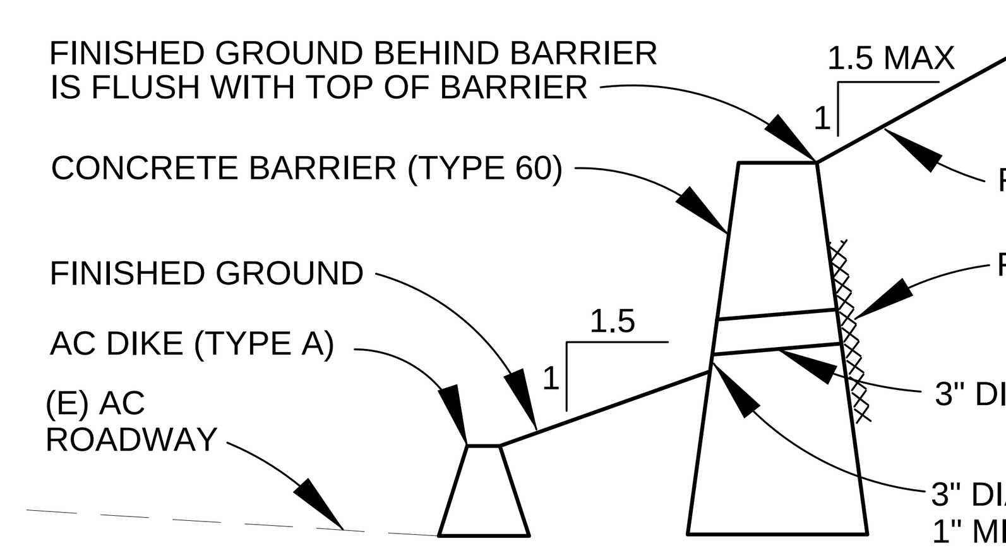


8" WALL DRAIN WITH GRATE DETAIL

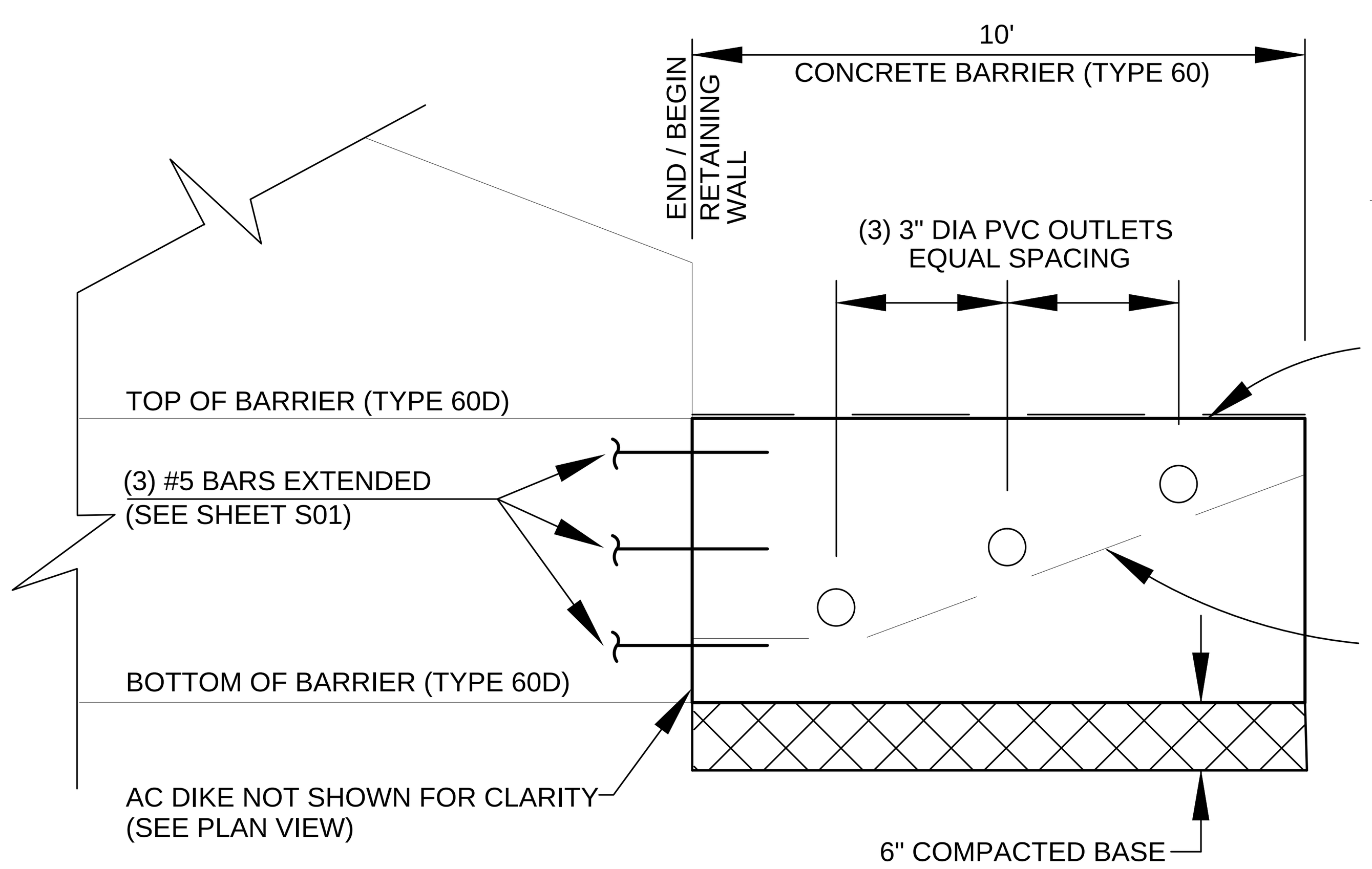
NOT TO SCALE



PLAN VIEW



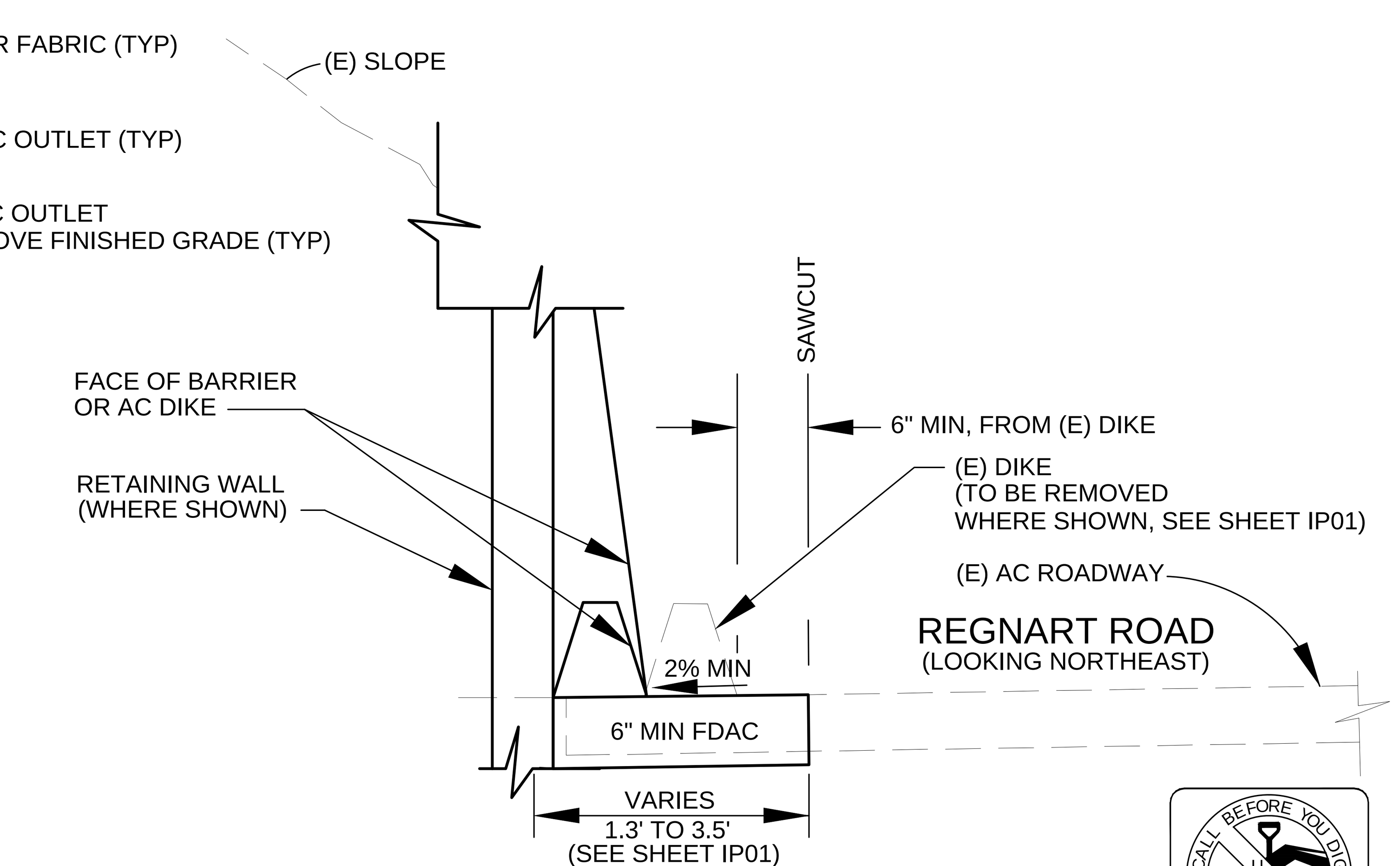
SECTION A-A



ELEVATION VIEW

BURIED CONCRETE BARRIER (TYPE 60) DETAIL

NOT TO SCALE



AC PLUG DETAIL

NOT TO SCALE

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE
APPROX	APPROXIMATE
HMA	HOT MIX ASPHALT PER CALTRANS STANDARD SPECIFICATIONS
AP	ANGLE POINT
AT&T	AMERICAN TELEPHONE & TELEGRAPH
BEG	BEGIN
BOC	BACK OF CURB
BW	BOTTOM OF WALL
C/L	CENTERLINE
CONC	CONCRETE
CONF	CONFORM
CP	CONTROL POINT
CSD	CUPERTINO SANITARY DISTRICT
DIA	DIAMETER
E	EAST
(E)	EXISTING
EXIST	EXISTING
FC	FACE OF CURB
FDAC	FULL DEPTH ASPHALTIC CONCRETE
FG	FINISHED GRADE
FL	FLOW LINE
GB	GRADE BREAK
H	HEIGHT
HMA	HOT MIX ASPHALT
HP	HIGH POINT
INV	INVERT
LOL	LAYOUT LINE
MOD	MODIFIED
N	NORTH
OG	ORIGINAL GROUND
PG&E	PACIFIC GAS & ELECTRIC
PCC	PORTLAND CEMENT CONCRETE
PVC	POLYVINYL CHLORIDE
RET	RETAINING WALL
R/W	RIGHT-OF-WAY
S	SOUTH
SD	STORM DRAIN
SJWC	SAN JOSE WATER COMPANY
STA	STATION
STD	STANDARD
TB	TOP OF BARRIER
TC	TOP OF CURB
TG	TOP OF GUTTER
TW	TOP OF WALL
TYP	TYPICAL
W	WEST

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Land Use Entitlements
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Civil Engineering
Utility Design
Land Surveying
Stormwater Compliance

Date:	AUGUST 16, 2017
Scale:	NTS
Designed:	LMG
Drawn:	BB
Checked:	JC
Proj. Engr:	LMG
File:	489304NT01.DWG

REVISIONS | DESIGN BY | DESIGN DATE | CITY APPR. | APPR. DATE

REGISTERED PROFESSIONAL ENGINEER JON CACCIOTTI No. 82825 CIVIL STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR

REGNART ROAD
CONSTRUCTION NOTES AND DETAILS

CUPERTINO CALIFORNIA

FOR CITY OF CUPERTINO USE
PROJECT # __________
PUBLIC WORKS INSPECTOR:
VOICE MAIL:
PROJECT ENGINEER
NAME DATE

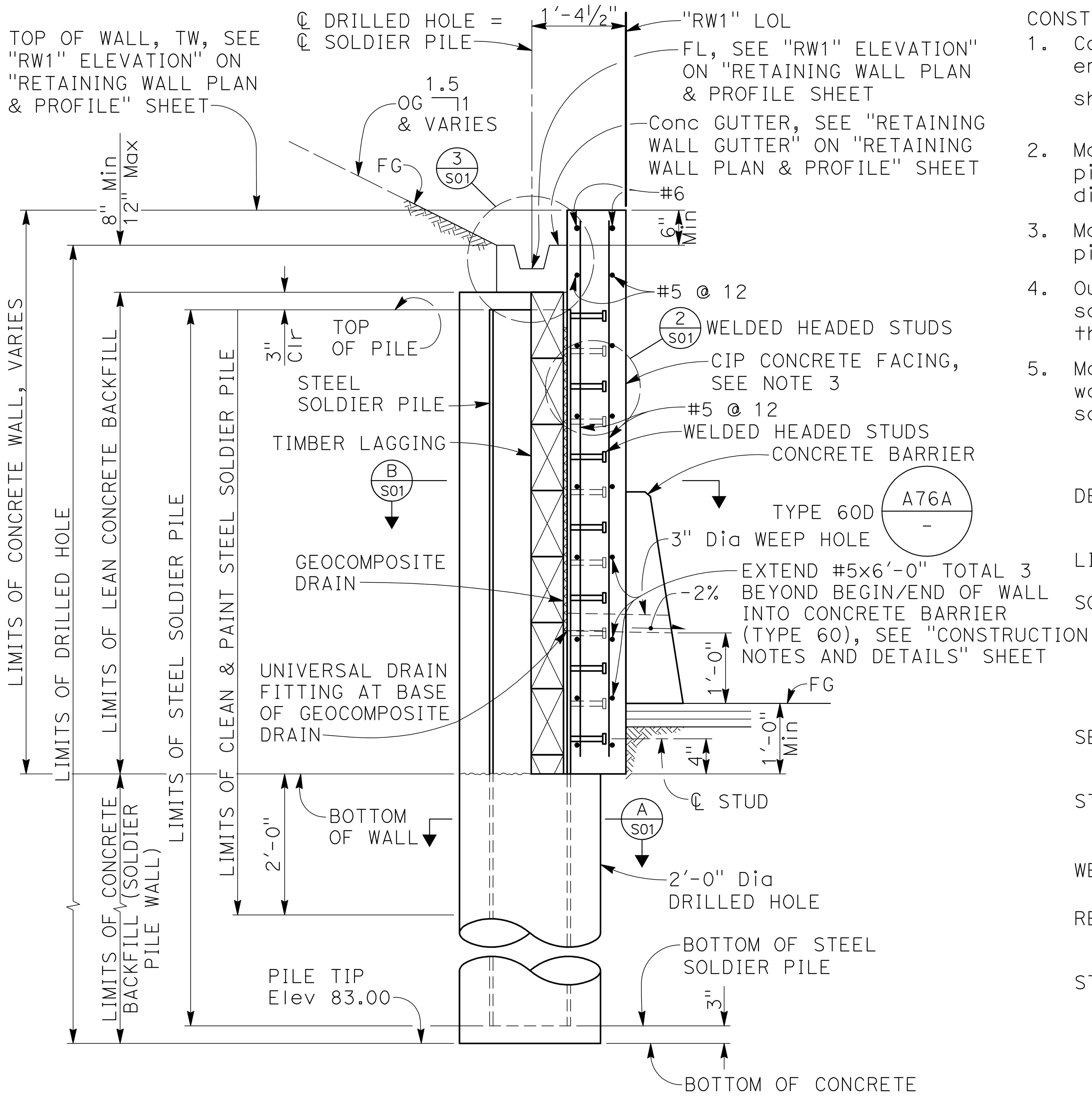
EST. 1955

CITY OF CUPERTINO

NT01

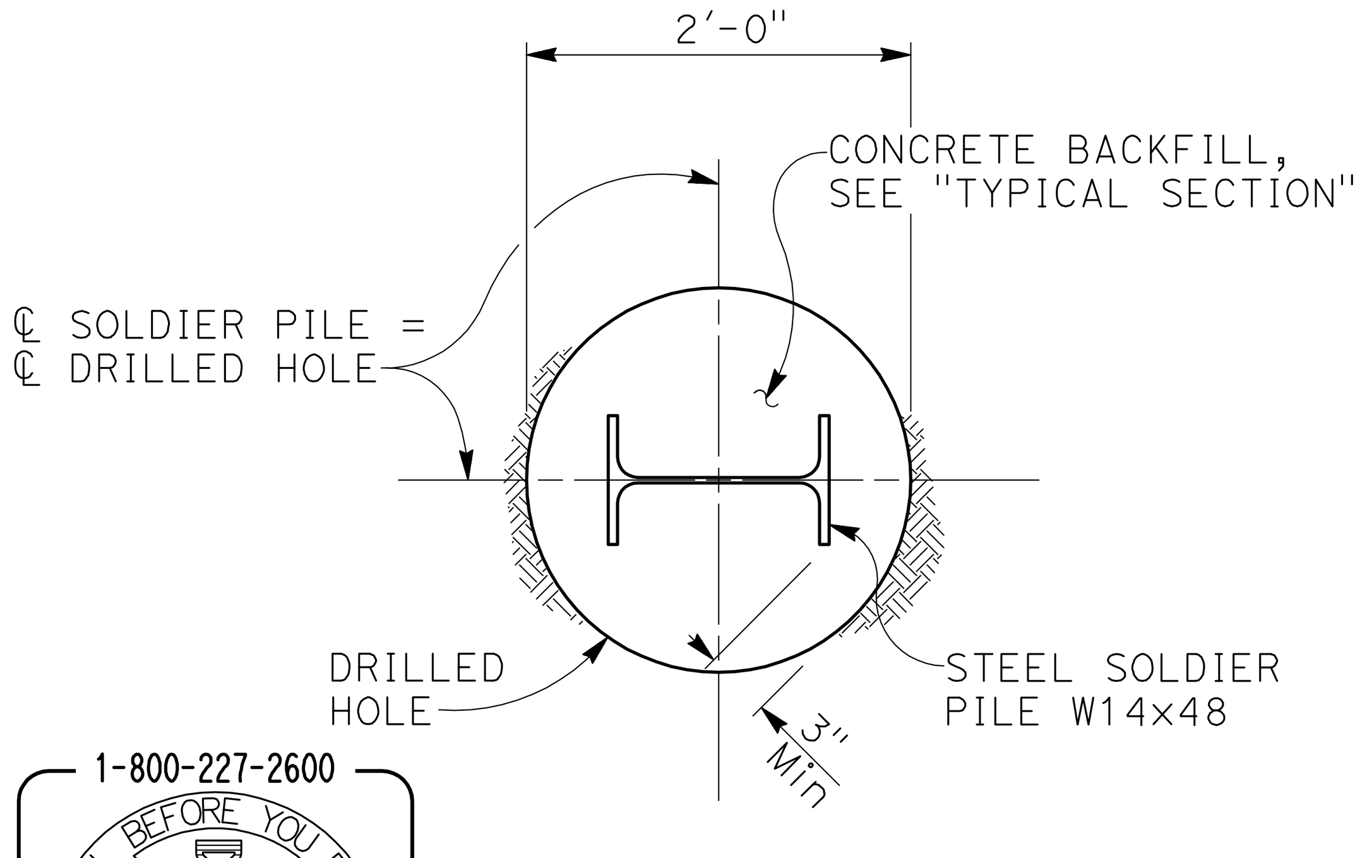
SHEET 3 OF 6

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.



TYPICAL SECTION

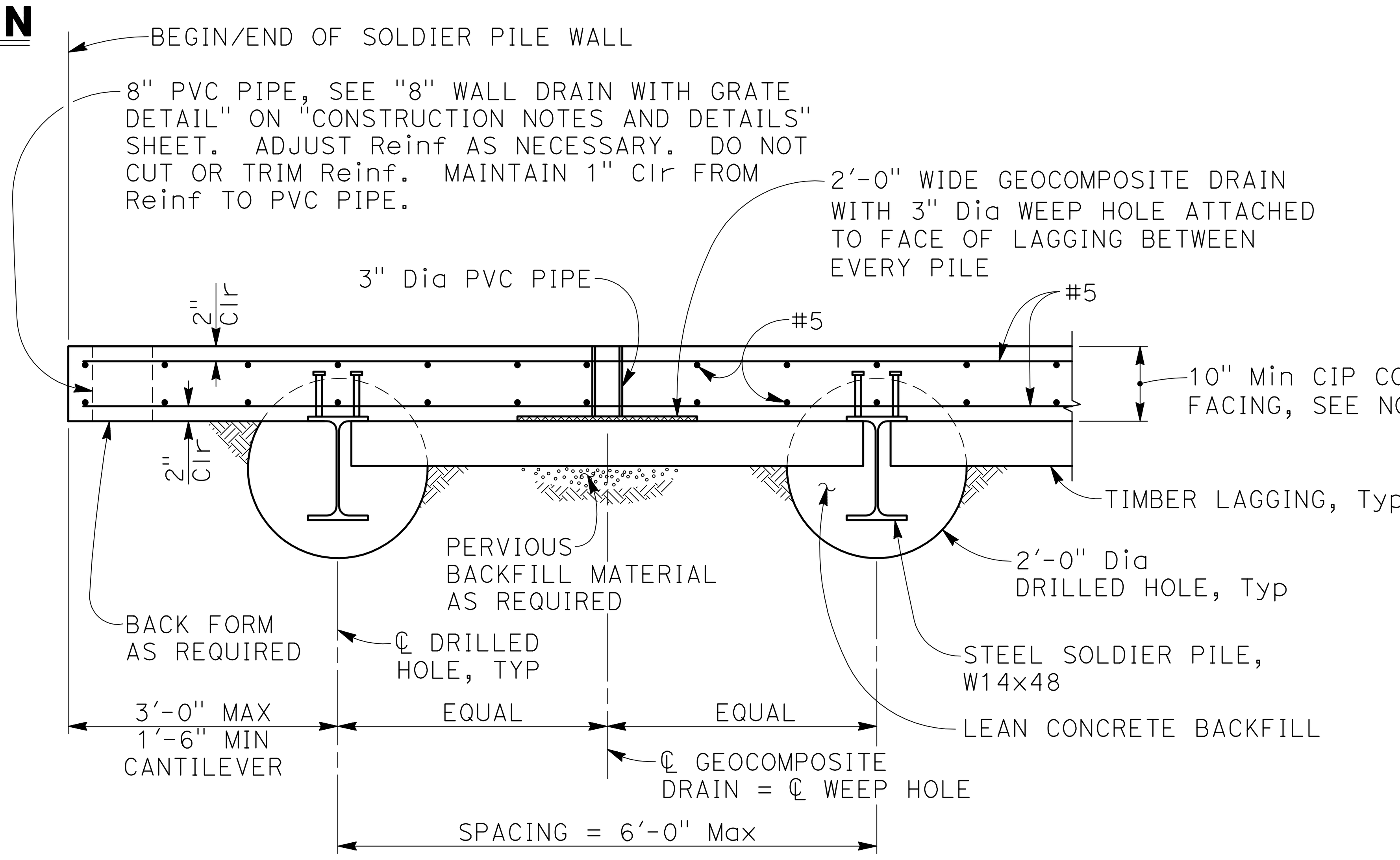
3/4" = 1'-0"



SECTION A

1" = 1'-0" (S01)

1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT 1-800-227-2600



SECTION B

3/4" = 1'-0" (S01)

CONSTRUCTION TOLERANCE NOTES:

1. Contractor must lay out drilled piers and soldier piles to ensure wall thickness is not less than minimum thickness shown per (B/S01).
2. Maximum horizontal tolerance in location of the soldier pile wall, including soldier pile, must be 2"± in any direction at existing ground level.
3. Maximum tolerance for horizontal rotation of the soldier pile must be ±5 degrees.
4. Out of plumb tolerance of the soldier pile wall, including soldier piles, must not exceed ±1.0 percent of the length of the soldier pile in any direction.
5. Maximum cumulative tolerance for Note 2 thru 4 from FG behind wall to bottom of CIP conc of soldier pile wall, including soldier pile must be limited to 3.5"±.

GENERAL NOTES

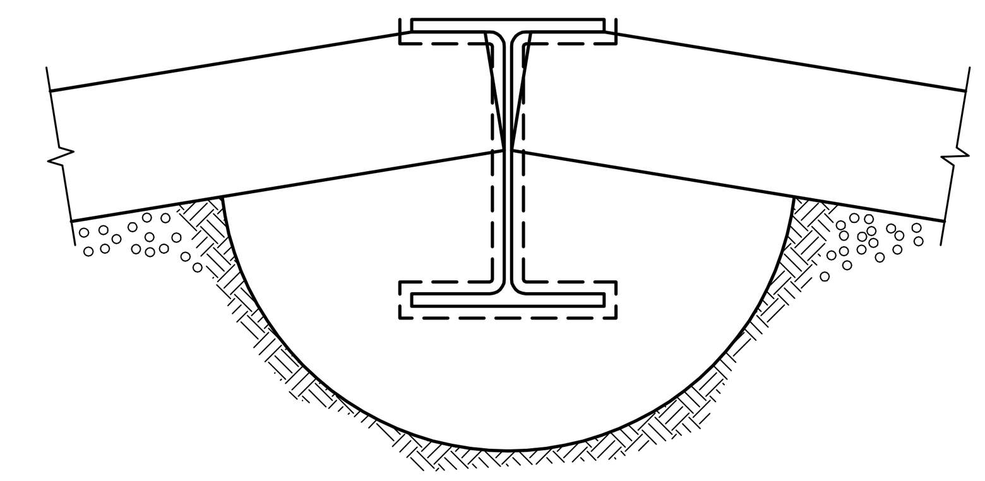
DESIGN:	AASHTO LRFD Bridge Design Specifications 6th Edition with California Amendments
LIVE LOAD:	No live load surcharge
SOIL PARAMETERS:	(For determination of Design Lateral Earth Pressures) Backfill soil weight = 125 lb³/ft Active Pressure coefficient, Ka1 = 0.65 (1.5H:1V backslope, retained soil) Active Pressure coefficient, Ka2 = 0.33 (below design grade) Passive Earth Pressure coefficient Kp = 5.0 (starting 1 ft below top of pavement)
SEISMIC PARAMETERS:	Incremental Seismic Active Earth Pressure Coefficient, $K_{AE\Delta}$ = 18 lb³/ft (triangular distribution)
STEEL SOLDIER PILES:	ASTM A572/A, ASTM 572M Grade 50 Min, or ASTM A36/36M OR ASTM A992
WELDED HEADED STUDS:	ASTM A108 TYPE B
REINFORCED CONCRETE WALL:	f'c = 3600 psi fy = 60 ksi
STRUCTURAL TIMBER:	Treated Douglas Fir, Grade No. 1 or better Timber to be full sawn

LAGGING NOTES:

1. Remove lean concrete as required to install lagging.
2. Lagging to be installed level with 2-16d hot-dipped galvanized common nail spacers, locate at 1/3 points between adjacent horizontal lagging.
3. Install lagging a minimum of 1'-0" below FG.
4. Install permeable backfill material between lagging and existing soil as required.
5. Lagging must be Pressure Treated Douglas Fir No. 1.
6. Lagging to be designed by Contractor.

NOTES:

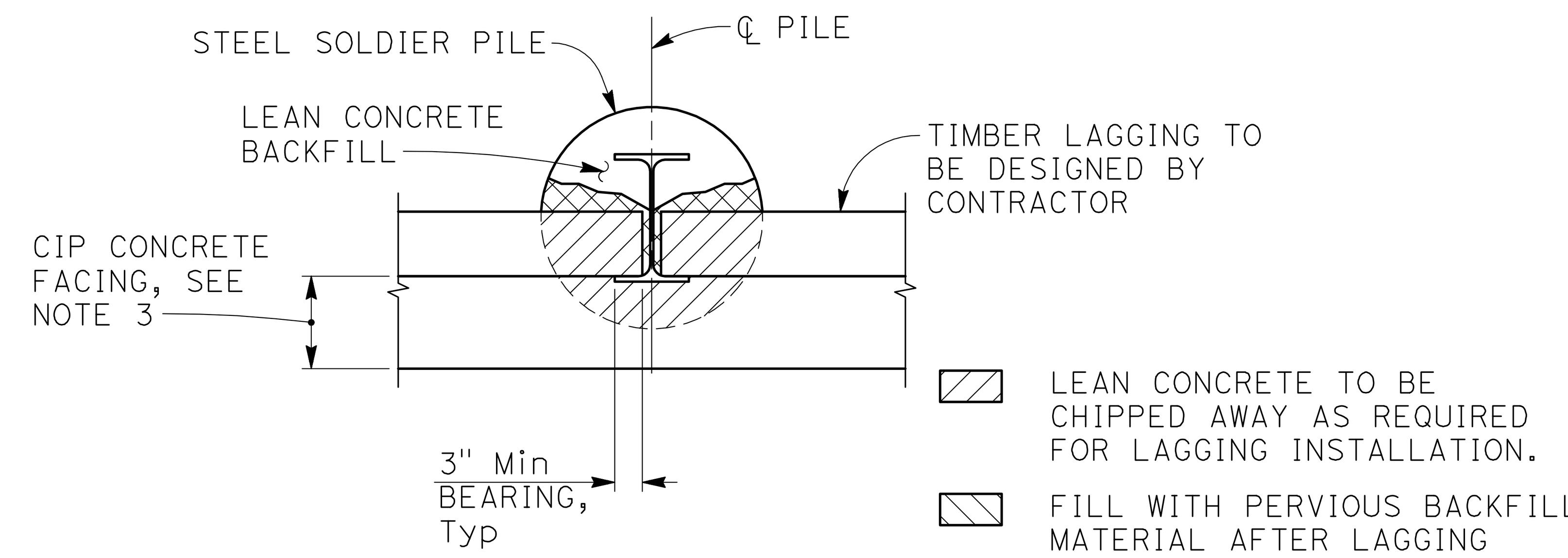
1. Contractor must verify all controlling dimensions prior to fabrication.
2. For Top of Wall, Bottom of Wall and Flowline elevations, see "RETAINING WALL PLAN & PROFILE" sheet.
3. No shotcrete permitted.



LEGEND:
----- LIMITS OF CLEAN AND PAINT SOLDIER PILE

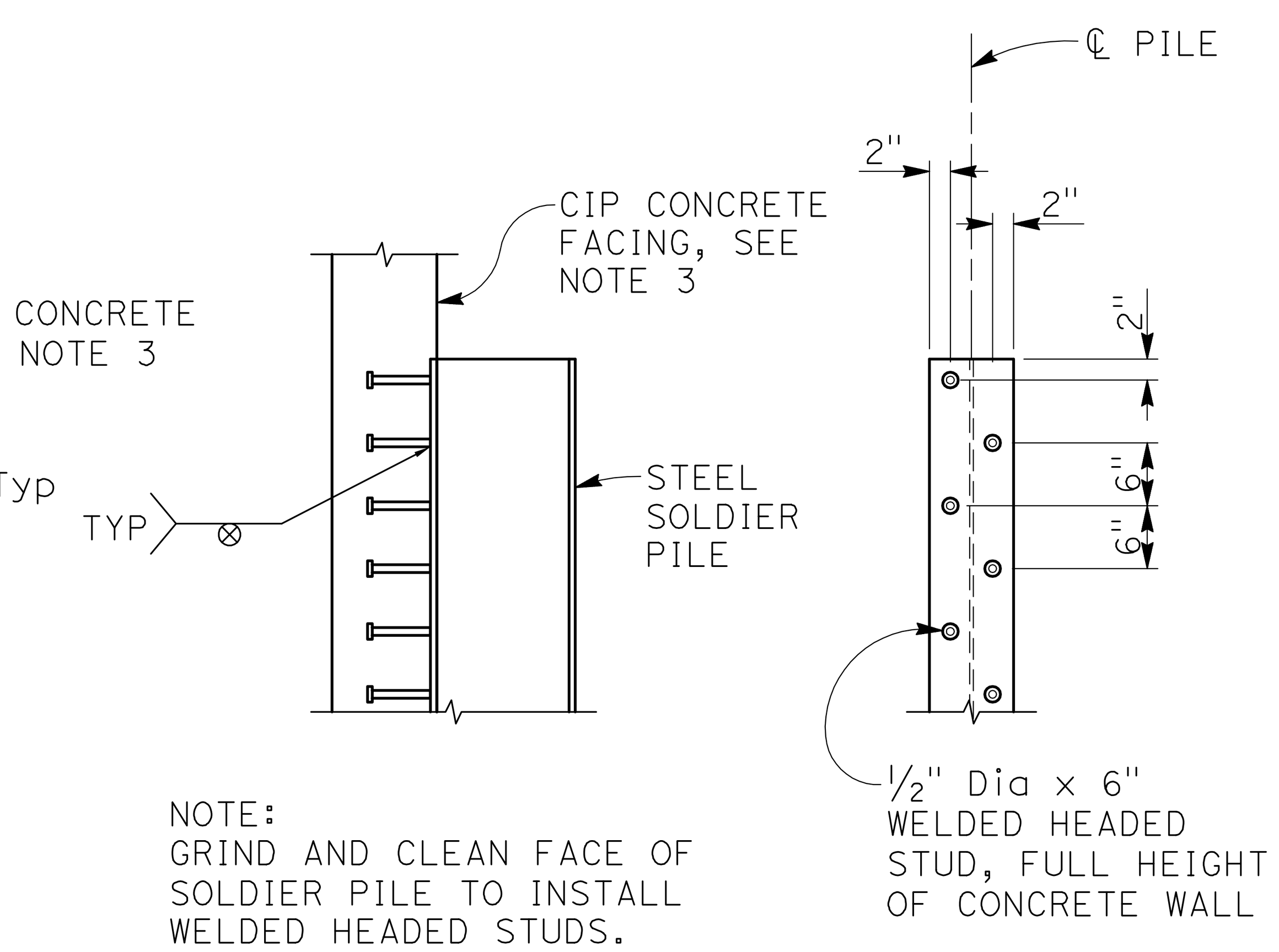
LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE

NO SCALE



LAGGING DETAIL

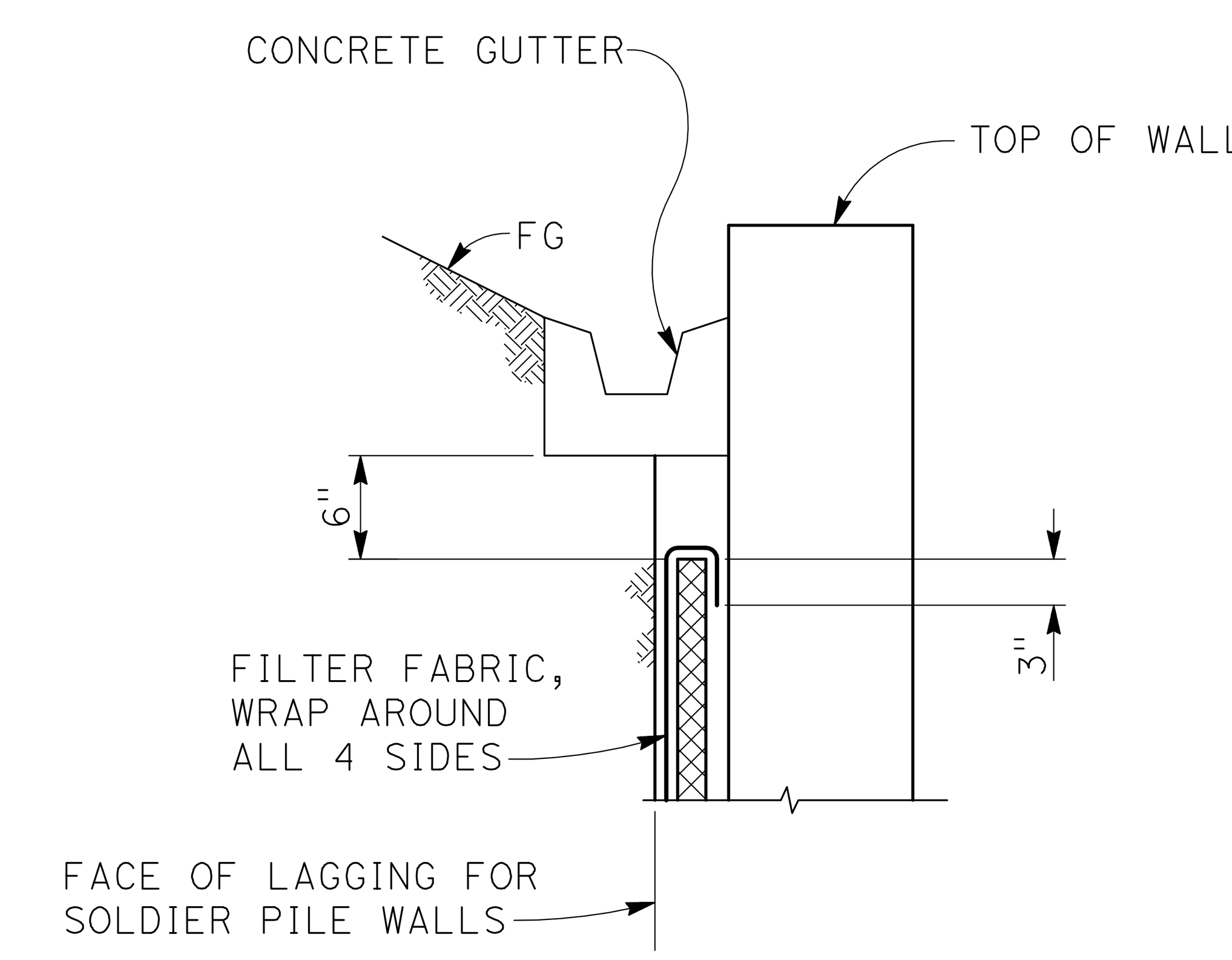
3/4" = 1'-0" (1/S01)



NOTE:
GRIND AND CLEAN FACE OF SOLDIER PILE TO INSTALL WELDED HEADED STUDS.

WELDED HEADED STUD DETAIL

3/4" = 1'-0" (2/S01)



DETAIL

NO SCALE (3/S01)

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
865 The Alameda
San Jose, California 95126
408-296-5515

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Land Use Entitlements
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Landscape Architecture
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Utility Design
Land Surveying
Stormwater Compliance
1570 Oakland Road San Jose, CA 95131 (408) 487-2200 HMHca.com

Date:	JULY 14, 2017
Scale:	AS SHOWN
Designed:	RKY
Drawn:	DM
Checked:	
Proj. Engr:	JAA
File:	

REVISIONS | DESIGN BY | DESIGN DATE | CITY APPR. | APPR. DATE

REGISTERED PROFESSIONAL ENGINEER JOHN A. ALCARAZ No. C81774 Exp. 6/30/19 CIVIL STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR

REGNART ROAD RETAINING WALL DETAILS

CUPERTINO CALIFORNIA

FOR CITY OF CUPERTINO USE
PROJECT # ________
PUBLIC WORKS INSPECTOR:
VOICE MAIL:
PROJECT ENGINEER
NAME DATE

EST. 1955

CITY OF CUPERTINO

S01

SHEET 4 OF 6

October 2016 (2017146S01) 2017146

2015 CALTRANS STANDARD PLANS

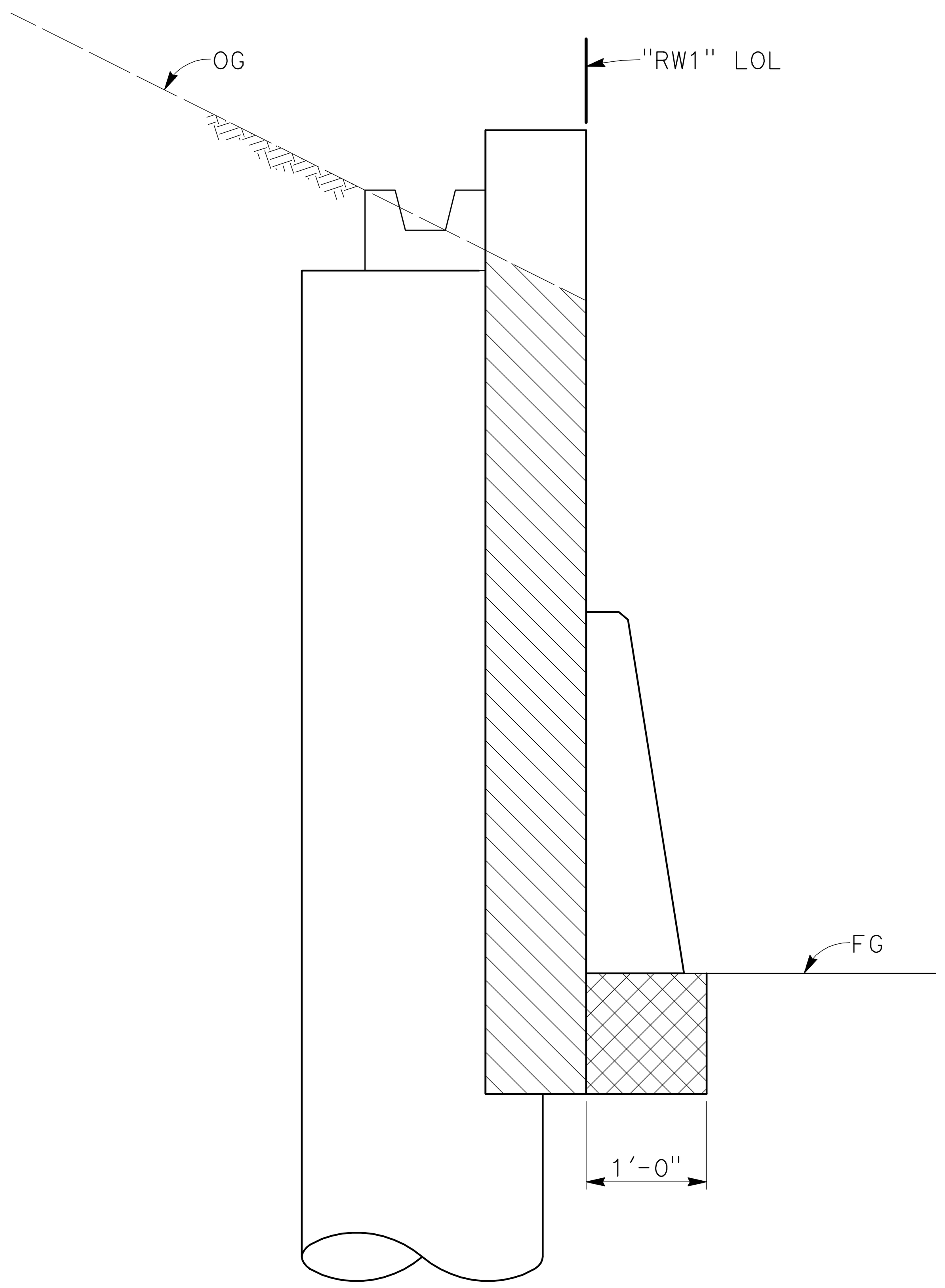
A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A76A	CONCRETE BARRIER TYPE 60

LEGEND

B0-5 — Indicates Caltrans Standard Plan sheet No.
5-10 — Indicates Detail No.

A — Indicates Section No.
S01 — Indicates sheet No. shown on

1 — Indicates Detail No.
S01 — Indicates sheet No. shown on



INDICATES LIMITS OF STRUCTURE BACKFILL (SOLDIER PILE WALL)
INDICATES LIMITS OF STRUCTURE EXCAVATION (SOLDIER PILE WALL)

LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL (SOLDIER PILE WALL)

NO SCALE

STRUCTURAL SPECIAL PROVISIONS

GENERAL

1. The work embraced herein must be done in accordance with the State of California Standard Specifications and Standard Plans dated 2015, including all Revised Caltrans Standard Specifications and Revised Caltrans Standard Plans at the date of bid opening, and in accordance with the following special provisions.

2. The Revised Caltrans Standard Specifications are available at the following website:
http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/SSPs/2015-SSPs/_rss/RSS_A03-03-17__2015.docx

3. The Revised Caltrans Standard Plans are available at the following website:
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-US-customary-units-new15.htm

4. Construction inspection of all structure construction operations and materials testing shall be provided by the Engineer, except as provided in these special provisions or the Standard Specifications.

5. Where applicable, if a reference is made in these special provisions or the Standard Specifications to the "Department", the reference shall mean the City.

6. Where applicable, if a reference is made in these special provisions or the Standard Specifications to the "State," the reference shall mean the Owner.

7. When a reference is made in these special provisions or the Standard Specifications to the "Laboratory", the reference shall mean the established laboratory of the Materials and Research Department of the Department of Transportation of the State of California, or laboratories authorized by the City to test materials and work involved in the contract.

8. In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

9. RECORD DRAWINGS
Contractor must provide and maintain an up-to-date complete "RECORD DRAWING" record on a separate set of construction plans which must show every change from the original drawings and specifications. This set of drawings must be kept on the site and used only as a record set.

   On or before the date of final inspection, you must deliver the corrected and completed "RECORD DRAWING" to the City.

10. EARTHWORK
Add to the end of Section 19-2.03A:
The Geotechnical Engineer of record must be on site during the first day of drilling operations.
Add to the end of Section 19-3.01A:
Structure backfill includes constructing the geocomposite drain system. The systems must comply with section 68-7.

11. STEEL SOLDIER PILING
Add to the end of Section 49-4.03B:
Hard drilling conditions should be anticipated for drilling into the very dense materials. Special tool or drilling equipment should be expected to drill into hard materials.
Caving conditions may be encountered in local sand pockets during pile excavation, which can require additional drilling and cleaning effort, and may require the use of temporary steel casing.
Add to the end of section 49-4.01:
Steel soldier pile includes clean & paint steel soldier pile.
Add to the end of Section 49-4:
49-4.05 Soldier Pile Wall Work Plan Submittal
Submit a work plan for constructing the soldier pile wall. Include procedures, details, and sequences for constructing the soldier pile wall and removing the existing retaining wall.

12. STRUCTURAL STEEL COATINGS
Add to section 59-2.01A(1):
Clean and paint the portions of the steel soldier pile as shown on the plans with a zinc coating system.
Replace Reserved in section 59-2.01A(3)(b) with:

    Submit proof of each required SSPC-QP certification as specified in section 8-1.04C. Required certifications are:
    1. SSPC-QP 1
    2. SSPC-QP 2, Category A
    3. AISC-420-10/SSPC-QP 3, enclosed shop

    Instead of submitting proof of the certification complying with SSPC-QP 1, you may submit documentation with the painting quality work plan showing compliance with the requirements in section 3 of SSPC-QP 1.

    Instead of submitting proof of the certification complying with SSPC-QP 2, Category A, you may submit documentation with the painting quality work plan showing compliance with the requirements in sections 4.2 through 4.4 of SSPC-QP 2, Category A.

    Instead of submitting proof of the certification complying with AISC-420-10/SSPC-QP 3, enclosed shop, you may submit documentation with the painting quality work plan showing compliance with the requirements in sections 5 through 18 of AISC-420-10/SSPC-QP 3.

13. EXISTING STRUCTURES
Add to the end of section 60-2.01A:
Timber retaining wall removal includes removal of soil between the new retaining wall and the existing timber retaining wall.

1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
1-800-227-2600

BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
865 The Alameda
San Jose, California 95126
408-296-5515

HMH
1570 Oakland Road
San Jose, CA 95131
(408) 487-2200
HMHca.com
Land Use Entitlements
Land Planning
Landscape Architecture
Civil Engineering
Utility Design
Land Surveying
Stormwater Compliance

Date:	JULY 14, 2017
Scale:	AS SHOWN
Designed:	RKY
Drawn:	DM
Checked:	
Proj. Engr:	JAA
File:	

	REVISIONS	DESIGN BY	DESIGN DATE	CITY APPR.	APPR. DATE

REGISTERED PROFESSIONAL ENGINEER
No. C61774
Exp. 6/30/19
CIVIL
STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR
REGNART ROAD
STRUCTURAL SPECIAL PROVISIONS
CUPERTINO CALIFORNIA

FOR CITY OF CUPERTINO USE
PROJECT # __________
PUBLIC WORKS INSPECTOR:
VOICE MAIL:
PROJECT ENGINEER
NAME DATE

EST. 1955
CITY OF CUPERTINO
S02

(2017146S02) 2017146

October 2016

In the Santa Clara Valley, storm drains flow directly to our local creeks, and on to San Francisco Bay, with no treatment.

Storm water pollution is a serious problem for wildlife dependent on our waterways and for the people who live near polluted streams or baylands.

Proper management of construction sites reduces pollution significantly.

This sheet summarizes the "Best Management Practices" (BMPs) for storm water pollution prevention.

ORDINANCE OF THE CITY OF CUPERTINO FOR STORM WATER POLLUTION PREVENTION & WATERCOURSE PROTECTION: Chapter 9.18

9.18.040 Discharge into the storm drain prohibited

It shall be unlawful to discharge, or cause, allow, or permit to be discharged into any storm drain or natural outlet or channel all waste, including but not restricted to, sewage, industrial wastes, petroleum products, coal tar or any refuse substance arising from the manufacture of gas from coal or petroleum, chemicals, detergents, solvents, paints, contaminated or chlorinated swimming pool water, pesticides, herbicides and fertilizers.

9.18.070 Accidental Discharge

All persons shall notify the Director of Public Works by telephone immediately upon accidentally discharging wastes to enable countermeasures to be taken by the City to minimize damage to storm drains and the receiving waters. This notification shall be followed, within ten (10) days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrences. Such notifications will not relieve persons of liability for violations of this chapter or for any fines imposed on the city on account thereof under Section 13350 of the California Water Code, or for violations of Section 5650 of California Fish and wildlife Code, or any other applicable provisions of State or Federal laws.

9.18.220 Violation*

Any person who violates any provision of this Chapter shall be guilty of a misdemeanor and upon conviction thereof shall be punished as provided in Chapter 1.12 of the City of Cupertino Municipal Code.

Chapter 1.12: General Penalty, Section 1.12.010, paragraph D, states*:

Unless otherwise specified by this code, an infraction is punishable by:

1. A fine not to exceed $100 for a first violation
2. A fine not to exceed $200 for a second violation
3. A fine not to exceed $500 for a third violation of the same chapter within one year.

9.18.240 Civil penalty for illicit discharges*

Any person who discharges pollutants, in violation of this Chapter, by the use of illicit connections shall be civilly liable to the City in a sum **not to exceed twenty-five thousand dollars per day per violation** for each day in which such violation occurs.

*Excerpts – For complete CODE language refer to the City of Cupertino Municipal Code.

Cupertino
Building Dept: 408-777-3228
Public Works Dept: 408-777-3354

Santa Clara County Recycling Hotline: 800-533-8414
www.reducewaste.org
www.recyclestuff.com
Small Business Hazardous Waste: 408-299-7300

Cupertino Sanitary Sewer Distr 408-253-7071

Santa Clara Valley Urban Runoff Pollution Prevention Prgm 800-794-2482

State Office of Emergency Services 1-800-852-7550 (24 hrs)

Report spills to 911

General Construction and Site Supervision

Storm Drain Pollution from Construction Activities

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter, or street have a direct impact on local creeks and the Bay.

As a contractor, or site supervisor, owner or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees.

General Principles

- ❑ Keep an **orderly site** and ensure good housekeeping practices are used.
- ❑ **Maintain equipment** properly.
- ❑ **Cover** materials when they are not in use.
- ❑ Keep materials **away from streets**, storm drains and drainage channels.
- ❑ Ensure **dust control** water doesn't leave site or discharge to storm drains.

Advance Planning To Prevent Pollution

- ❑ **Schedule excavation and grading activities for dry weather periods.** To reduce soil erosion, plant temporary vegetation or place other erosion controls before rain begins. Use the *Erosion and Sediment Control Manual*, available from the Regional Water Quality Control Board, as a reference.
- ❑ **Control the amount of runoff** crossing your site (especially during excavation!) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.
- ❑ **Train your employees and subcontractors.** The city can provide brochures about these issues for you to distribute to workers at your construction site. Inform your subcontractors about the stormwater requirements and their own responsibilities. Use *Blueprint for a Clean Bay*, a construction best management practices guide available at our Building Dept. counter.

Good Housekeeping Practices

- ❑ **Designate one area of the site** for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, bermed if necessary. Make major repairs off site.
- ❑ **To prevent off-site tracking of dirt,** provide entrances with stabilized aggregate surfaces. Or provide a tire wash area.
- ❑ **Keep materials out of the rain** – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
- ❑ **Keep pollutants off exposed surfaces.** Place trash cans and recycling receptacles around the site to minimize litter.
- ❑ **Clean up leaks, drips and other spills** immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces. Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- ❑ **Cover and maintain dumpsters.** Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. Never clean out a dumpster by hosing it down on the construction site.
- ❑ **Place portable toilets** away from storm drains. Make sure portable toilets are in good working order. Check frequently for leaks.

Materials/Waste Handling

- ❑ **Practice Source Reduction** -- minimize waste when you order materials. Estimate carefully.
- ❑ **Recycle excess materials**, whenever possible, such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires: www.reducewaste.org for info.
- ❑ **Dispose of all wastes properly.** Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Permits

- ❑ In addition to local grading and building permits, you will need to obtain coverage under the State's General Construction Activity Stormwater Permit if your construction **site's disturbed area totals 5 acres or more.** Information on the General Permit can be obtained from the Regional Water Quality Control Board. (This criteria will change to one acre as of Mar. 2003.)

Landscaping, Gardening, and Pool Maintenance

Landscaping/Garden Maintenance

- ❑ **Protect stockpiles** and landscaping materials **from wind and rain** by storing them under tarps or secured plastic sheeting.
- ❑ **Schedule** grading and excavation projects **during dry weather.**
- ❑ Use temporary **check dams or ditches** to divert runoff away from storm drains.
- ❑ **Protect storm drains with sandbags, gravel-filled bags, straw wattles,** or other sediment controls.
- ❑ **Re-vegetation** is an excellent form of erosion control for any site.
- ❑ **Store** pesticides, fertilizers, and other chemicals **indoors** or in a shed or storage cabinet.
- ❑ **Use pesticides sparingly**, according to instructions on the label. Rinse empty containers, and use rinsewater as product. Dispose of rinsed, empty containers in the trash. Dispose of unused pesticides as hazardous waste.
- ❑ In Cupertino, **residents** with curbside recycling can collect lawn, garden and tree trimmings in **yardwaste toters.** Yardwaste will be collected and composted by the city's contractors. Residents are encouraged to compost yardwaste on-site themselves. Or take yardwaste to a landfill where it will be composted.
- ❑ **Landscape contractors** should **take** clippings and pruning waste **to a landfill that composts yard waste** (BFI's Newby Island and Zanker Rd. landfill are the nearest).
- ❑ **Do not blow or rake leaves into the street.**

Storm Drain Pollution from Landscaping and Swimming Pool Maintenance

Many landscaping activities expose soils and increase the likelihood that earth and garden chemicals will run off into the storm drains during irrigation or when it rains.
Swimming pool water containing chlorine and copper-based algaecides should never be discharged to storm drains. These chemicals are toxic to aquatic life.

Pool/Fountain/Spa Maintenance

Draining pools or spas

When it's time to drain a pool, spa, or fountain, please be sure to call the Cupertino Sanitary District before you start for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Discharge flows should be kept to the low levels typically possible through a garden hose. Higher flow rates may be prohibited by local ordinance.

- ❑ **Never discharge pool or spa water to a street or storm drain; discharge to a sanitary sewer cleanout.**
- ❑ If possible, when emptying a pool or spa, let chlorine dissipate for a few days and then recycle/reuse water by **draining it gradually onto a landscaped area.**
- ❑ **Do not use copper-based algaecides.** Control algae with chlorine or other alternatives, such as sodium bromide.

Filter Cleaning

- ❑ **Never clean a filter in the street or near a storm drain.** Rinse cartridge and diatomaceous earth filters onto a dirt area, and spade filter residue into soil. Dispose of spent diatomaceous earth in the garbage.
- ❑ **If there is no suitable dirt area,** call Cupertino Sanitary for instructions on discharging filter backwash or rinsewater to the sanitary sewer.

Earth-Moving Activities

Storm Drain Pollution from Earth-Moving Activities

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains when handled improperly. Sediments in runoff can clog storm drains, smother aquatic life, and destroy habitats in creeks and the Bay. Effective erosion control practices reduce the amount of runoff crossing a site *and* slow the flow with check dams or roughened ground surfaces.

Practices During Construction

- ❑ Remove existing vegetation only when absolutely necessary. **Plant temporary vegetation for erosion control** on slopes or where construction is not immediately planned.
- ❑ **Protect downslope drainage courses, streams, and storm drains** with wattles, or temporary drainage swales. Use check dams or ditches to **divert runoff around excavations.** Refer to the Regional Water Quality Control Board's *Erosion and Sediment Control Field Manual* for proper erosion and sediment control measures.
- ❑ **Cover stockpiles** and excavated soil with secured tarps or plastic sheeting.

Dewatering Operations

Storm Drain Pollution From Dewatering Activities

Be sure to call your city's storm water inspector at 408-472-9907 before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, and sediment trap may be required. Reuse water for dust control, irrigation or another on-site purpose to the greatest extent possible.

Check for Sediment or Toxic Pollutants

- ❑ Check for odors, discoloration, or an oily sheen on groundwater.
- ❑ Ask your city inspector whether the groundwater must be tested by a certified laboratory.
- ❑ Depending on the test results, you may be allowed to discharge pumped groundwater to the storm drain OR you may be required to discharge to the sanitary sewer or collect and haul the water off-site for treatment and disposal at an appropriate treatment facility.
- ❑ When discharging to a storm drain, protect the inlet using a barrier of burlap bags filled with drain rock, or cover inlet with filter fabric anchored under the grate.
- ❑ Contact Cupertino Sanitary District at 253-7071 prior to discharging to the sanitary sewer.

Heavy Equipment Operation

Stormwater Pollution from Heavy Equipment on Construction Sites

Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze or other fluids on the construction site are common sources of storm drain pollution. Prevent spills and leaks by isolating equipment from runoff channels, and by watching for leaks and other maintenance problems. Remove construction equipment from the site as soon as possible.

Site Planning and Preventive Vehicle Maintenance

- ❑ **Designate one area** of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. Contain the area with berms, sand bags, or other barriers.
- ❑ **Maintain all vehicles** and heavy equipment. Inspect frequently for and repair leaks.
- ❑ **Perform** major **maintenance**, repair jobs, and vehicle and equipment washing **off-site,** where clean up is easier.
- ❑ If you must drain and replace motor oil, radiator coolant, or other fluids on site, **use drip pans or drop cloths to catch drips and spills.** Collect all spent fluids, store in separate containers, and properly dispose as hazardous waste (recycle whenever possible).
- ❑ **Do not use diesel oil to lubricate** equipment parts, or clean equipment. Use only water for any onsite cleaning.
- ❑ **Cover exposed fifth wheel hitches** and other oily or greasy equipment during rain events.

Spill Cleanup

- ❑ **Clean up spills immediately.**
- ❑ **Never hose down** "dirty" pavement or impermeable surfaces where fluids have spilled. **Use dry cleanup methods** (absorbent materials, cat litter, and/or rags) whenever possible and properly dispose of absorbent materials.
- ❑ **Sweep up** spilled dry materials immediately. Never attempt to "wash them away" with water, or bury them.
- ❑ **Use as little water as possible** for dust control. Ensure water used doesn't leave silt or discharge to storm drains.
- ❑ **Clean up spills on dirt areas** by digging up and properly disposing of contaminated soil.
- ❑ **Call 911 for significant spills**
- ❑ If the spill poses a **significant hazard** to human health and safety, property or the environment, you must also **report it** to the State Office of Emergency Services.

The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

Painting and Application of Solvents and Adhesives

Storm Drain Pollution from Paints, Solvents, and Adhesives

All paints, solvents, and adhesives contain chemicals that are harmful to wildlife in local creeks, San Francisco Bay, and the Pacific Ocean. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. Paint material and wastes, adhesives and cleaning fluids should be recycled when possible, or disposed of properly to prevent these materials from flowing into storm drains and watercourses.

Handling Paint Products

- ❑ **Keep all liquid paint products and wastes away from the gutter, street, and storm drains.**

Painting Cleanup

- ❑ **Never clean brushes or rinse paint containers into a street, gutter, storm drain, French drain, or creek.**
- ❑ For **water-based paints**, paint out brushes to the extent possible, and rinse into an inside sink drain that goes to the sanitary sewer.
- ❑ For **oil-based paints**, paint out brushes to the extent possible and clean with thinner or solvent. Filter and reuse thinners and solvents, where possible. Dispose of excess liquids and residue as hazardous waste.
- ❑ When thoroughly dry, empty paint cans, used brushes, rags, and drop cloths may be **disposed of as garbage.**

Paint Removal

- ❑ **Paint chips and dust from non-hazardous dry stripping and sand blasting** may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ **Chemical paint stripping residue,** and chips and dust from **marine paints, or paints containing lead, mercury or tributyl tin** must be disposed of as hazardous wastes. Lead based paint removal requires a state-certified contractor.
- ❑ When stripping or cleaning **building exteriors** with high-pressure water, block storm drains. **Direct washwater onto a dirt area** and spade into soil. Or, check with Cupertino Sanitary District to find out if you can mop or vacuum the washwater and **dispose of it in a sanitary sewer drain.** Sampling of the washwater may be required.
- ❑ **Washwater from painted buildings constructed before 1978** can contain high amounts of **Lead,** even if paint chips are not present. Before you begin stripping paint or cleaning pre-1978 building exteriors with water under high pressure, test paint for lead by taking paint scrapings to a local laboratory. (See Yellow Pages for a state-certified laboratory.)
- ❑ If there is **loose paint** on the building, or if the **paint tests positive for lead,** block storm drains. Check with Cupertino Sanitary District to determine whether you may discharge water to the sanitary sewer, or if you must send it offsite for disposal as hazardous waste.

Paint Disposal, Return or Donation

- ❑ **Dispose of** unwanted liquid paint, thinners, solvents, glues, and cleaning fluids **as hazardous waste** (call the Small Business Hazardous Waste Prgm: 299-7300).
- ❑ Or **Return** to supplier. (Unopened cans of paint may be able to be returned. Check with the vendor regarding its "buy-back" policy.)
- ❑ **Donate** excess paint (call 299-7300 to donate).

Roadwork and Paving

General Business Practices

- ❑ Develop and implement **erosion/sediment control plans** for roadway embankments.
- ❑ Schedule excavation and grading work during **dry weather.**
- ❑ Check for and **repair leaking equipment.**
- ❑ Perform **major equipment repairs** at designated areas in your maintenance yard, where cleanup is easier. Avoid performing equipment repairs at construction sites.
- ❑ When **refueling** or when vehicle/equipment maintenance must be done on site, designate a location away from storm drains and creeks.
- ❑ **Do not use diesel oil to lubricate** equipment parts or clean equipment.
- ❑ **Recycle** used oil, concrete, broken asphalt, etc. whenever possible, or dispose of properly. (www.recyclestuff.com for list of recycling companies.)

Asphalt/Concrete Removal

- ❑ Avoid creating excess **dust** when breaking asphalt or concrete.
- ❑ After breaking up old pavement, be sure to **remove all chunks and pieces.** Make sure broken pavement does not come in contact with rainfall or runoff.
- ❑ When making **saw cuts**, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.
- ❑ Sweep, **never hose down streets** to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquor in storm drains.

Storm Drain Pollution from Roadwork

Road paving, surfacing, and pavement removal happen right in the street, where there are numerous opportunities for asphalt, saw-cut slurry, or excavated material to illegally enter storm drains. Extra planning is required to store and dispose of materials properly and guard against pollution of storm drains, creeks, and the Bay.

During Construction

- ❑ **Avoid paving and seal coating in wet weather,** or when rain is forecast, to prevent fresh materials from contacting stormwater runoff.
- ❑ **Cover and seal catch basins and manholes** when applying seal coat, slurry seal, fog seal, or similar materials.
- ❑ **Protect drainage ways** by using earth dikes, sand bags, or other controls to divert or trap and filter runoff.
- ❑ Never wash excess material from **exposed-aggregate concrete** or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.
- ❑ **Cover stockpiles** (asphalt, sand, etc.) and other construction materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.
- ❑ Park **paving machines** over drip pans or absorbent material (cloth, rags, etc.) to catch drips when not in use.
- ❑ **Clean up all spills and leaks** using "dry" methods (with absorbent materials and/or rags), or dig up, remove, and properly dispose of contaminated soil.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. ???
- ❑ Avoid over-application by **water trucks** for dust control.

Fresh Concrete and Mortar Application

Storm Drain Pollution from Fresh Concrete and Mortar Applications

Fresh concrete and cement-related mortars that wash into lakes, streams, or estuaries are toxic to fish and the aquatic environment. Disposing of these materials to the storm drains or creeks can block storm drains, causes serious problems, and is prohibited by law.

General Business Practices

- ❑ Wash out concrete mixers only in designated **washout areas** in your yard, away from storm drains and waterways, where the water will flow into a temporary waste pit in a dirt area. Let water percolate through soil and dispose of settled, hardened concrete as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse.
- ❑ **Wash out chutes** onto dirt areas that do not flow to streets or drains.
- ❑ **Always store both dry and wet materials under cover,** protected from rainfall and runoff and away from storm drains or waterways. Protect dry materials from wind.
- ❑ **Secure bags of cement** after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- ❑ **Do not use diesel fuel as a lubricant** on concrete forms, tools, or trailers.

During Construction

- ❑ **Don't mix up more** fresh concrete or cement than you will use in a two-hour period.
- ❑ Set up and **operate small mixers on tarps** or heavy plastic drop cloths.
- ❑ When cleaning up after driveway or sidewalk construction, **wash fines onto dirt areas,** not down the driveway or into the street or storm drain.
- ❑ **Protect** applications of fresh concrete and mortar **from rainfall** and runoff until the material has dried.
- ❑ Wash down **exposed aggregate concrete** only when the washwater can (1) flow onto a dirt area, (2) drain onto a bermed surface from which it can be pumped and disposed of properly, or (3) be vacuumed from a catchment created by blocking a storm drain inlet. If necessary, divert runoff with temporary berms. Make sure runoff does not reach gutters or storm drains.
- ❑ When breaking up pavement, be sure to pick up all the pieces and **dispose of properly.** Recycle large chunks of broken concrete. See www.reducewaste.org for info on recyclers.
- ❑ **Never bury** waste material. Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- ❑ Never dispose of **washout** into the street, storm drains, drainage ditches, or streams.

Small Business Hazardous Waste Disposal Prgm

Businesses that generate less than 27 gallons or 220 pounds of hazardous waste per month are eligible to use this program.

Call 408-299-7300 for a quote.

CITY OF CUPERTINO

Santa Clara Valley *Urban Runoff* Pollution Prevention Program

UPDATED JANUARY 2011

APPROVED BY:
TIMM BORDEN, RCE 45512 12/31/12
DIRECTOR OF PUBLIC WORKS
1/26/2011 DATE

CONSTRUCTION BEST MANAGEMENT PRACTICES

CITY OF CUPERTINO
DEPARTMENT OF PUBLIC WORKS

SHEET: EC01
OF 6 SHEETS 6
FILE: 489304EC01.DWG

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