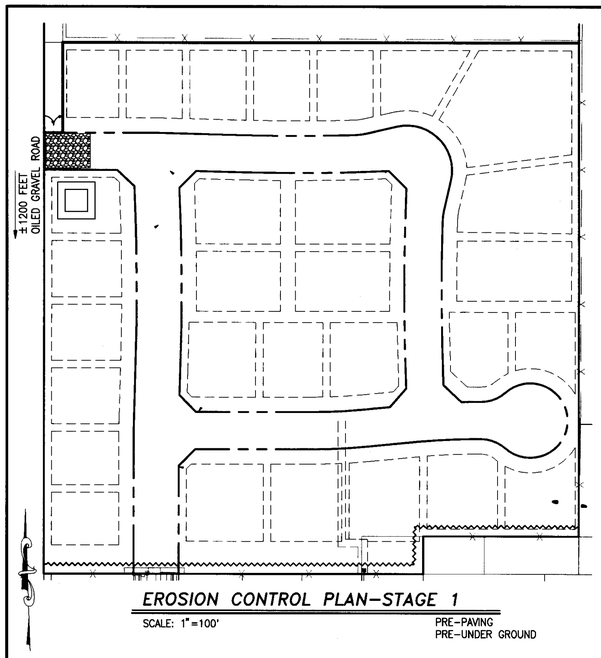
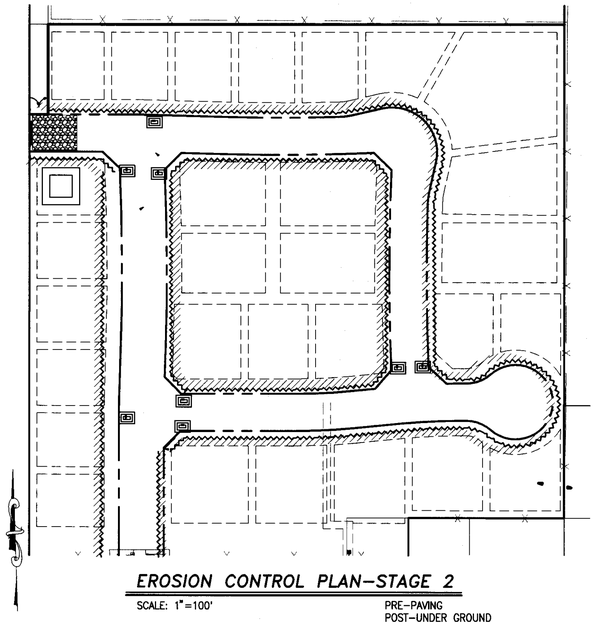


EROSION CONTROL PLAN–STAGE 1

SCALE: 1"=100'

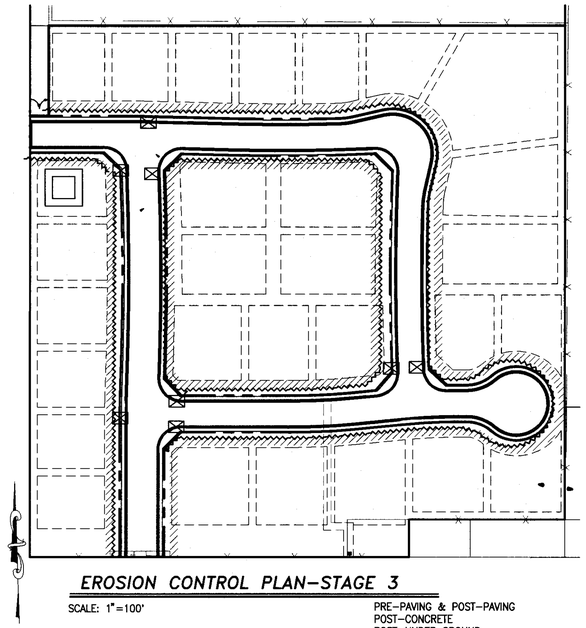
PRE–PAVING
PRE–UNDER GROUND



EROSION CONTROL PLAN–STAGE 2

SCALE: 1"=100'

PRE–PAVING
POST–UNDER GROUND



EROSION CONTROL PLAN–STAGE 3

SCALE: 1"=100'

PRE–PAVING & POST–PAVING
POST–CONCRETE
POST–UNDER GROUND

EROSION CONTROL GENERAL NOTES

1. PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL OFFSETS. THE SITE IS DYNAMIC AND CHANGES ON A DAILY BASIS, CHANGES SHOULD BE MADE ACCORDING TO EXISTING CONDITIONS. BECAUSE IT IS IMPOSSIBLE TO PREDICT ALL POSSIBLE SITUATIONS, CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES TO ENSURE QUALITY CONTROL.

2. THE CONTRACTOR SHALL REVIEW THE CURRENT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PROVIDED BY THE OWNER. IT IS THE CONTRACTORS SOLE RESPONSIBILITY FOR CONDUCTING HIS/HER OPERATIONS IN ADHERENCE TO THE SWPPP A COPY OF THE SWPPP SHALL BE KEPT ON SITE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR ANY FINES, DELAYS, AND/OR DAMAGES RESULTING FROM ANY STATE WATER QUALITY CONTROL BOARD SANCTIONS CAUSED BY THE OPERATION OF THE CONTRACTOR OR HIS/HER SUBCONTRACTORS.

3. THE FOLLOWING PLANS ARE ACCURATE FOR EROSION CONTROL PURPOSES ONLY. THE CONTRACTOR SHALL FOLLOW THESE PLANS UNLESS FIELD CONDITIONS DICTATE MODIFICATION. IF MODIFICATION IS NECESSARY, A SWPPP AMENDMENT MUST BE DONE. THIS MAY REQUIRE MODIFICATION TO THESE DRAWINGS AND ENGINEER CONCURRENCE.

4. INSPECT AND REPAIR FILTERS AFTER EACH STORM EVENT. REMOVE SEDIMENT WHEN 1/2 OF THE FILTER DEPTH HAS BEEN FILLED. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA TRIBUTARY TO A SEDIMENT BASIN OR OTHER FILTERING MEASURE. SEDIMENT AND GRAVEL SHALL BE IMMEDIATELY REMOVED FROM PAVEMENT OF ROAD.

5. PERIMETER PROTECTION–ALL UNCOMPLETED SIDEWALK, CURB & GUTTER AREAS AND THE FIRST TWENTY FIVE FEET (FROM BACK OF SIDEWALK) OF ROADSIDE LOT PERIMETERS OF FINISHED PADS ARE TO BE PROTECTED WITH AN APPLICATION OF BLOWN STRAW AND ORGANIC BINDER.

ITEM	LB/ACRE
STRAW	4,000
ORGANIC BINDER	200

6. SLOPE PROTECTION–ALL SLOPES OVER 3:1 SHALL BE DESIGNATED TO BE PROTECTED WITH AN APPLICATION OF A TRIPLE STEP PROCESS. INSTALL MATERIALS IN THE FOLLOWING MANNER AND RATE:

	ITEM	LB/ACRE
STEP 1:	HYDRO MULCH	
	PAPER MULCH	1,500
	EROSION MIX SEED	75
	SANTA CRUZ MIX AVAILABLE THROUGH HORIZON (916)492–1000 OR APPROVED EQUAL.	
	FERTILIZER (16–20–0)	400
	ORGANIC BINDER	150
STEP 2:	BLOWN STRAW	
	STRAW/WHEAT OR RICE STRAW	3,000
STEP 3:	HYDRO–TACK	
	PAPER MULCH	500
	ORGANIC BINDER	150

7. ALTERNATE INLET PROTECTION SHALL BE USED ON ROADS OPEN TO THE PUBLIC IF ANY HAZARDOUS MATERIALS OR WASTES WHICH HAVE BEEN TREATED, STORED, DISPOSED, SPILLED, OR LEAKED IN SIGNIFICANT QUANTITIES ONTO THE CONSTRUCTION SITE, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE THEM FROM THE SITE AND DISPOSE OF PROPERLY.

8. CHLORINATED OR DECHLORINATED WATER SHALL NOT BE DISCHARGED INTO THE STORM DRAIN SYSTEM. THE CONTRACTOR MAY DISPOSE THIS WATER INTO THE SANITARY SEWER SYSTEM UPON APPROVAL BY THE GOVERNING AGENCY.

9. THE CONTRACTOR SHALL KEEP MAINTENANCE, INSPECTION, AND REPAIR PROCEDURES TO ENSURE THAT ALL GRADED SURFACES, WALLS, BERMS, DRAINAGE STRUCTURES, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER CONTROLS ARE MAINTAINED IN GOOD AND EFFECTIVE CONDITION AND ARE PROMPTLY REPAIRED OR RESTORED WHEN NECESSARY. ANY DEWATERING WATER SHALL NOT BE DISCHARGED DIRECTLY INTO THE STORM WATER SYSTEM, AND SHALL NOT BE DISCHARGED INTO THE SEWER SYSTEM.

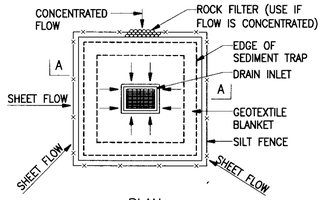
10. ALL DEWATERING WATER MUST BE CHANNELED THROUGH AN APPROVED SEDIMENT BARRIER PRIOR TO THE WATER ENTERING THE STORM SYSTEM.

11. PAVEMENT CLEANING– FLUSHING OF STREETS/ PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED UNLESS PROPER SEDIMENT CONTROLS ARE USED. PREFERABLY, AREAS REQUIRING CLEANING SHOULD BE SWEPT.

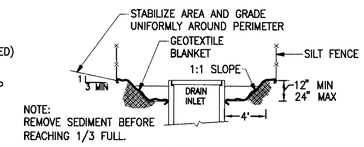
12. ALL INLETS AND CATCH BASINS SHALL BE STENCILED WITH THE APPROPRIATE AGENCY SPECIFIC "NO DUMPING – DRAINS TO RIVER".

13. ANY CONSTRUCTION ACTIVITY THAT RESULTS IN THE DISTURBANCE OF AT LEAST ONE ACRE OF SOIL SHALL REQUIRE A STATE NPDES CONSTRUCTION PERMIT.

14. ALL CONSTRUCTION TRAFFIC ENTERING PAVED ROADWAY SHALL CROSS THE STABILIZED CONSTRUCTION ENTRANCE.



PLAN



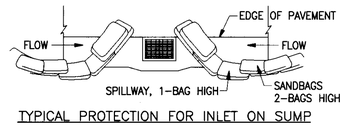
NOTE:
REMOVE SEDIMENT BEFORE REACHING 1/3 FULL.

SECTION A–A

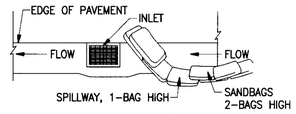
NOTES:
1. FOR USE IN CLEARED AND GRUBBED AND IN GRADED AREAS.
2. SHAPE BASIN SO THAT LONGEST INFLOW AREA FACES LONGEST LENGTH OF TRAP.
3. FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATION WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.

DI PROTECTION–TYPE 2 SE–10

NO SCALE



TYPICAL PROTECTION FOR INLET ON SUMP



TYPICAL PROTECTION FOR INLET ON GRADE

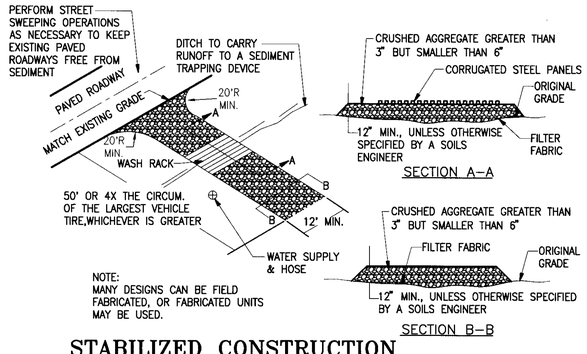
NOTES:
1. INTENDED FOR SHORT–TERM USE.
2. USE TO INHIBIT NON–STORM WATER FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRIC.

DI PROTECTION–TYPE 3 SE–10

NO SCALE

EROSION CONTROL LEGEND

SYMBOL	DESCRIPTION
~~	FIBER ROLLED WATTLE SE–5
	UNCOMPLETED DRAIN INLET PROTECTION TYPE 2 SE–10
	DRAIN INLET PROTECTION TYPE 3 SE–10
	STRAW WITH BINDER
	STABILIZED CONSTRUCTION ENTRANCE TC–(1)(3)
	CONCRETE WASHOUT WM–8



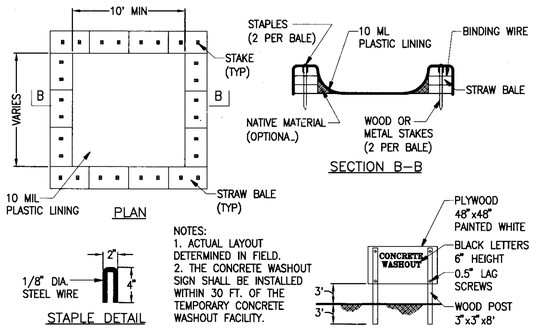
NOTE:
MANY DESIGNS CAN BE FIELD FABRICATED, OR FABRICATED UNITS MAY BE USED.

SECTION A–A

SECTION B–B

STABILIZED CONSTRUCTION ENTRANCE/OUTLET TIRE WASH TC–(1)(3)

NO SCALE



PLAN

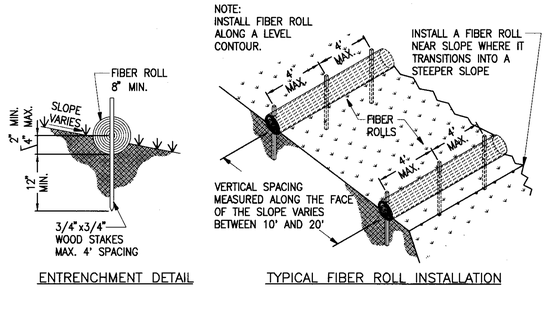
SECTION B–B

STAPLE DETAIL

NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT WM–8

NO SCALE



ENTRENCHMENT DETAIL

TYPICAL FIBER ROLL INSTALLATION

FIBER ROLLS SE–5

NO SCALE

BENCH MARK:

PER U.S.G.S. B.M. 19–8 1907–45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/05
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: _____

CA: 800–227–2600
CALL BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
NV: 800–227–2600

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

EROSION CONTROL PLAN

PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943–2021 • Fax: 209 942–0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

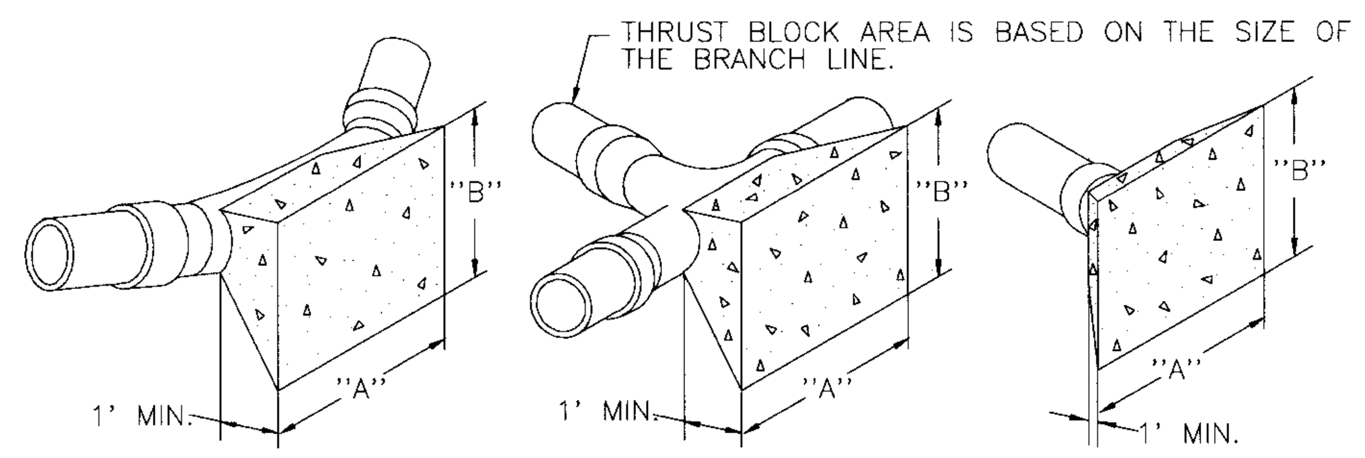
DRAWN BY:	DJA
SCALE:	AS SHOWN
SHEET	C–15 OF 15
JOB NO.	04251
DRAWING FILE NO.	G–

F:\Docs\04251\civil\SF SITE IMPROVMENTS\04251–C15–EROSION.dwg 08/22/06

CONCRETE CURB, GUTTER AND SIDEWALK CONSTRUCTION NOTES

1. CURB, GUTTER AND SIDEWALK CONSTRUCTION SHALL CONFORM TO SECTION 73, STANDARD SPECIFICATIONS, CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), EXCEPT AS MODIFIED HEREIN.
2. REFERENCE IS MADE TO THE LOCAL AGENCIES STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS RELATING TO THE CONSTRUCTION OF CONCRETE CURB, GUTTER, & SIDEWALK.
3. SUBGRADE FOR CURB, GUTTER, SIDEWALK AND DRIVEWAYS SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% TO A DEPTH OF 6". WHERE THE SUBGRADE "R" VALUE IS LESS THAN 50, PLACE 4" MINIMUM OF AGGREGATE SUBBASE CLASS IV UNDER THE CONCRETE SECTIONS AND COMPACT TO A MINIMUM OF 90%.
4. ALL RADII FOR ROUNDING EDGES SHALL BE 3/4" UNLESS NOTED.
5. CONCRETE SHALL BE CLASS B, PER CALTRANS SECTION 90.
6. EXPANSION JOINTS AND WEAKENED PLANE JOINTS SHALL BE INSTALLED AS INDICATED ON THE PLANS OR STANDARD DETAILS.
7. CURB, GUTTER AND SIDEWALK SHALL HAVE A LIGHT BROOM FINISH; CURB AND GUTTER PARALLEL TO THE FLOW LINE, SIDEWALKS PERPENDICULAR THE FLOWLINE.
8. DEPRESS A 2" HIGH LETTER "W" OR "S" 1/4" DEEP INTO THE TOP OF THE CURB TO IDENTIFY SERVICE LOCATIONS.
9. DURING CONSTRUCTION OF GUTTERS, WATER SHALL BE USED TO INSURE PROPER DRAINAGE ALONG THE FLOWLINE.

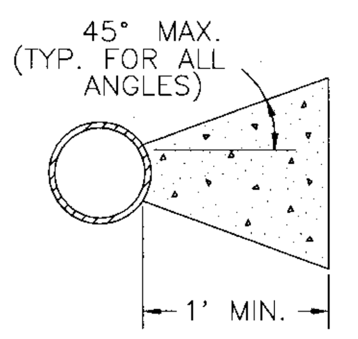
REVISION	DATE	COUNTY WIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		CONCRETE CURB, GUTTER AND SIDEWALK CONSTRUCTION STANDARDS	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS — DATE IMPROVEMENT STANDARD NO. CW-C1



TYPICAL THRUST BLOCK
BEND

TYPICAL THRUST BLOCK
TEE OUTLET

TYPICAL THRUST BLOCK
DEAD END



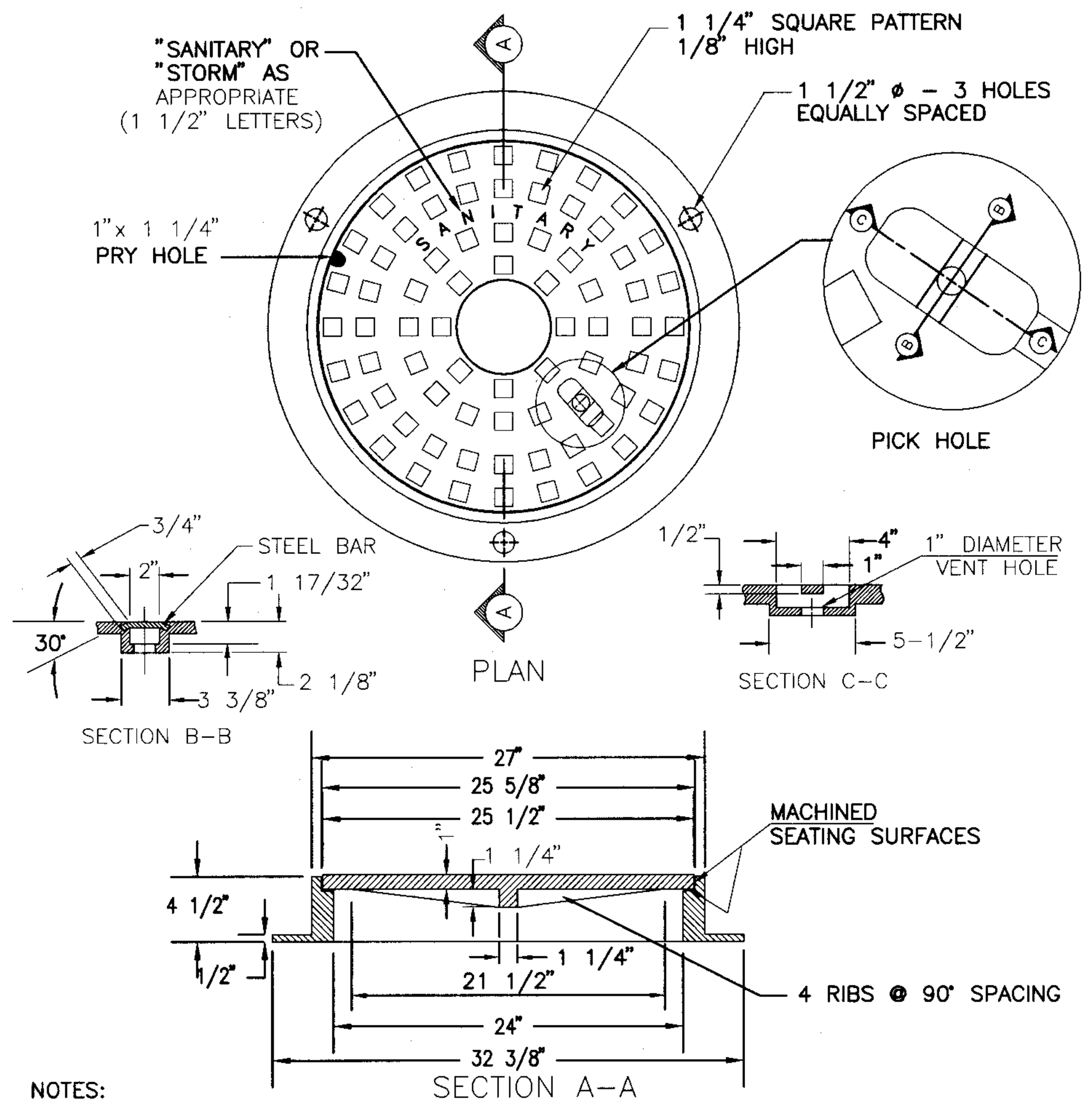
TYPICAL SECTION THRU THRUST BLOCK

THRUST BLOCK AREA REQUIRED		
FITTINGS	ALLOWABLE SOIL BEARING 1000 LBS. PER SQ. FT.	
6" LINE OR SMALLER	"A"	"B"
22 1/2°	1'-6"	1'-6"
45°	2'-0"	2'-0"
90°	3'-0"	2'-6"
TEE OUTLET	2'-6"	2'-0"
DEAD END	2'-6"	2'-0"
8" LINE		
22 1/2°	2'-0"	2'-0"
45°	3'-0"	2'-6"
90°	4'-0"	3'-0"
TEE OUTLET	3'-0"	3'-0"
DEAD END	3'-0"	3'-0"
10" LINE		
22 1/2°	3'-0"	2'-0"
45°	3'-6"	3'-0"
90°	5'-0"	4'-0"
TEE OUTLET	4'-0"	3'-6"
DEAD END	4'-0"	3'-6"
12" LINE		
22 1/2°	3'-0"	3'-0"
45°	4'-0"	4'-0"
90°	7'-0"	4'-0"
TEE OUTLET	5'-0"	4'-0"
DEAD END	5'-0"	4'-0"

NOTES:

1. ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. RESTRAINT SYSTEM FOR VERTICAL PIPE BENDS SHALL BE APPROVED BY THE AGENCY.
3. THRUST RESTRAINT SYSTEMS FOR PIPES LARGER THAN 12" SHALL BE DESIGNED ON A CASE BY CASE BASIS AND SHALL BE APPROVED BY THE AGENCY.
4. CONCRETE SHALL BE CLASS B.

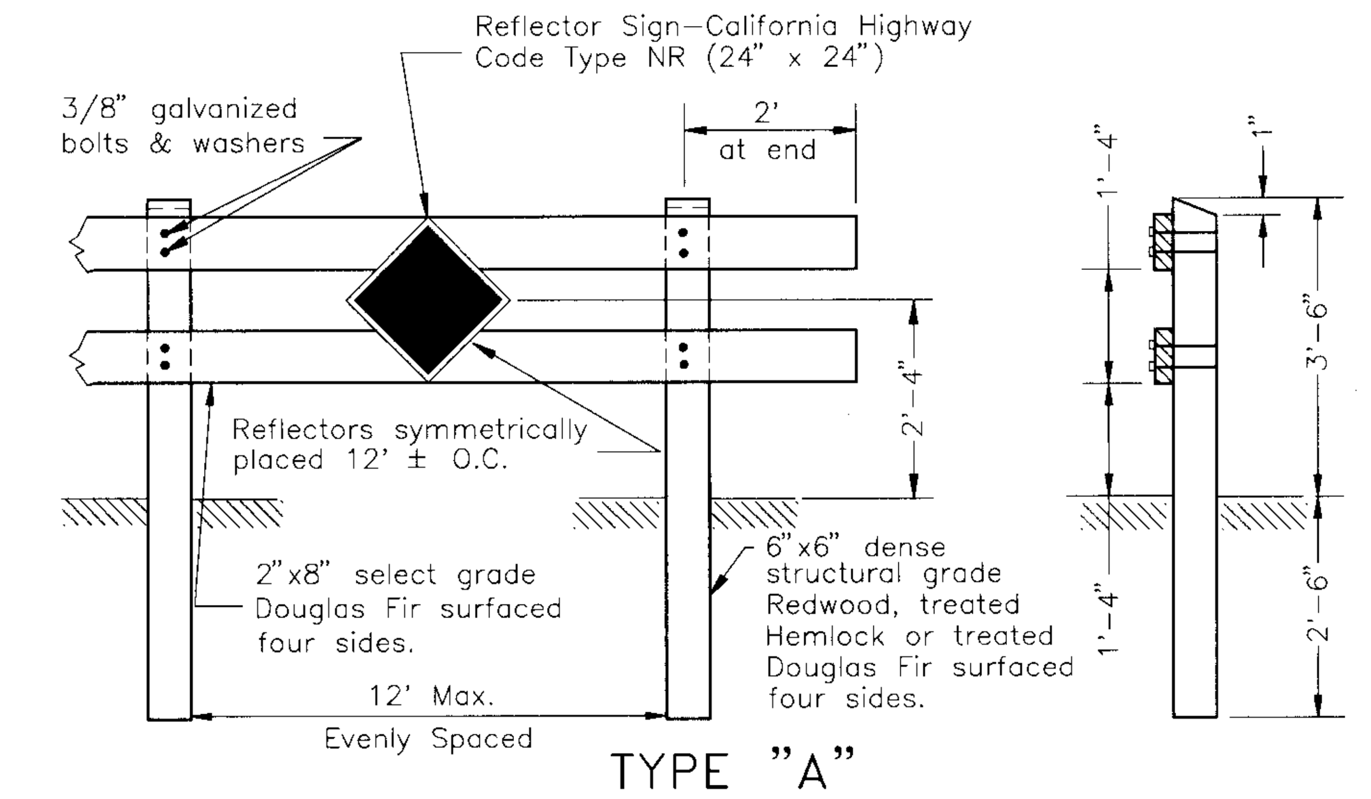
REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		THRUST BLOCK CHART	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS — DATE JUNE 1997 IMPROVEMENT STANDARD NO.



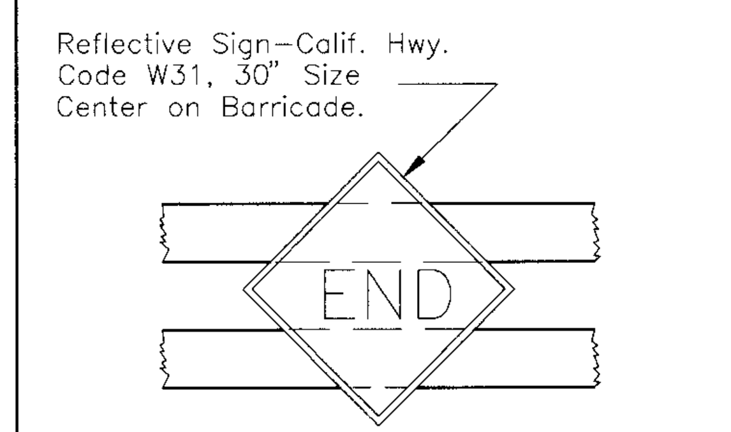
NOTES:

1. FRAME AND COVER SHALL BE MANUFACTURED OF CAST IRON CONFORMING TO ASTM A-48-CLASS 30
2. FRAME AND COVER SHALL BE HS20-44 RATED.
3. FRAME SHALL WEIGH 140 LBS. MINIMUM; COVER SHALL WEIGH 130 LBS. MINIMUM.
4. FRAME AND COVER SHALL BE COATED WITH BITUMINOUS MATERIAL CONFORMING TO A.W.W.A. C203.
5. COUNTRY OF ORIGIN AND MANUFACTURER SHALL BE CAST INTO FRAME AND COVER.

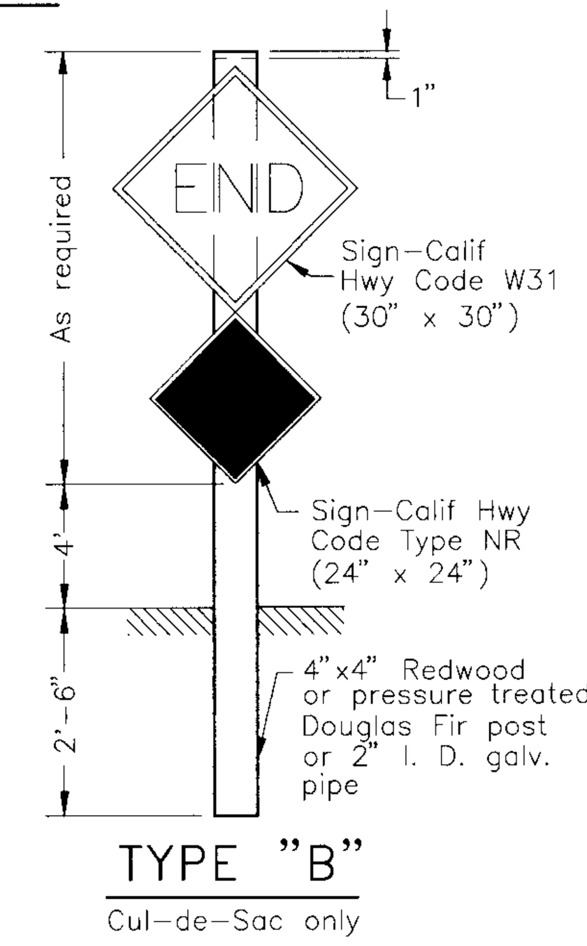
REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		MAINTENANCE HOLE FRAME AND COVER	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS — DATE IMPROVEMENT STANDARD NO. CW-M3



TYPE "A"



CENTER REFLECTOR FOR TYPE "A" BARRICADE



TYPE "B"
Cul-de-Sac only

NOTES:

1. Barricades to be as wide as street R/W
2. Barricades to be painted white using 2 coats of "Exterior Alkyd Resin Hi-Gloss Enamel" over a compatible primer.

No.	Revised	By	BARRICADES FOR TERMINATING STREETS	Approved by
1	Feb. 1996	PD		Director of Public Works
Drawn by	JLD			
Checked by			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date JUNE 1997
Scale	NONE			Drawing No. R-24

SU 4107

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER — PAUL J. SCHNEIDER — No. 62498 — CIVIL — STATE OF CALIFORNIA

DATE SIGNED:

CA: 800-227-2600
NV: 800-227-2600

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

DETAILS

PREPARED IN THE OFFICE OF:

SIEGFRIED ENGINEERING, INC.

- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

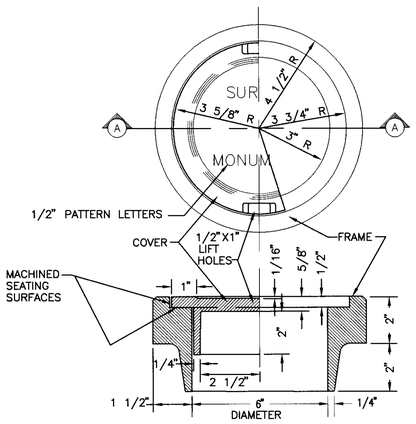
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: NTS
SHEET C-14 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVMENTS\04251-C14-DETAILS.dwg 08/22/06



SECTION A–A

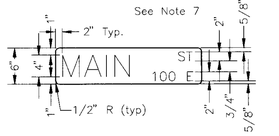
NOTES:

1. FRAME AND COVER SHALL BE MANUFACTURED OF CAST IRON CONFORMING TO ASTM A–48–CLASS 30.
2. FRAME AND COVER SHALL BE HS20–44 RATED.
3. FRAME SHALL WEIGH APPROX. 22 LBS. COVER SHALL WEIGH APPROX. 7 LBS.
4. FRAME AND COVER SHALL BE COATED WITH BITUMINOUS MATERIAL CONFORMING TO A.W.W.A. C203.
5. COUNTRY OF ORIGIN AND MANUFACTURER SHALL BE CAST INTO FRAME AND COVER.

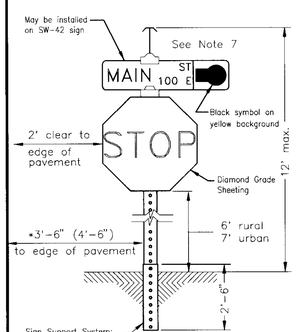
REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED
		SURVEY MONUMENT FRAME & COVER	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE
			IMPROVEMENT STANDARD NO. CW–M1

NOTES:

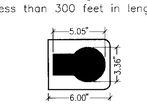
1. One street sign is required at each intersection.
2. Block numbers are to be acquired from the San Joaquin County Community Developement Department.
3. See improvement plans for location of traffic control devices.
4. The length of the street sign varies due to the length of the street name.
5. See Standard Drawing No. R–23 for proposed sidewalk sign locations.
6. Stop signs shall be 30" for urban areas and for internal subdivision streets; 36" for rural areas and for streets which intersect County roadways, also to be preceded by a W17, 36" stop ahead sign with appropriate pavement markings.
7. Use the following for terminal streets less than 300 feet in length:

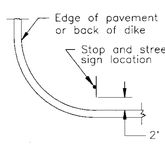


TYPICAL STREET SIGN



TYPICAL STOP AND STREET SIGN INSTALLATION





STOP AND STREET SIGN LOCATION DETAIL

* In URBAN Locations
  3'–6" or more to face of post
  In RURAL Locations
  4'–6" or more to face of post

No.	Revised	By
1	April 1997	TL
2	November 2003	DBS
3	February 2004	DBS

Drawn by	JLD	STANDARD STREET SIGN DETAILS	Approved by
Checked by		COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Director of Public Works
Scale	NONE		Date JUNE 1997
			Drawing No. R–25

BENCH MARK:

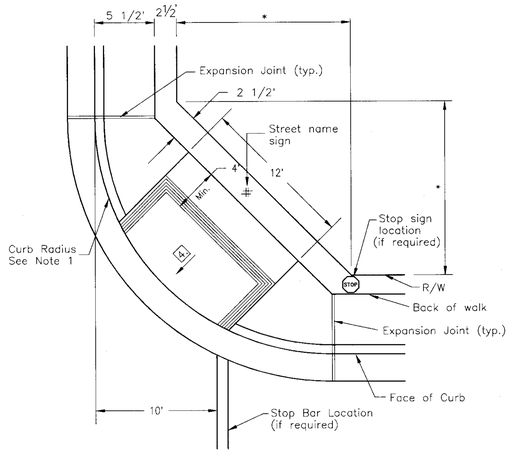
PER U.S.G.S. B.M. 19–8 1907–45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER PAUL J. SCHNEIDER No. 62498 Expires 9/30/05 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 8-22-06

5U 4108

* 20' for intersection of 50' R/W and 60' R/W streets 30' for intersection of 50' R/W or 60' R/W streets, with 84' R/W and 110' R/W arterials

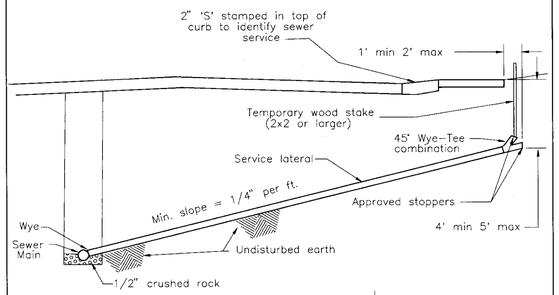


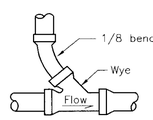
Notes:

1. Curb radius shall be 30' for intersection of 50' R/W and 60' R/W streets and 40' for intersection of 50' R/W or 60' R/W with 84' R/W or 110' R/W arterials.
2. Catch basins, sign posts, utility poles or other obstructions are not to be located within the wheelchair path area.
3. See Standard Drawing No. CW–7, R–10, 11, 25 for curb, gutter & sidewalk, handicap ramp and sign details.
4. S=1:12 max., 1:15 min.
5. All curb ramps shall conform wth cal trans standard plan rsp a88a.

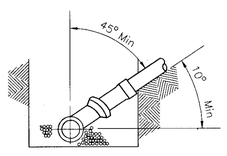
No.	Revised	By
1	Feb. 1996	PD

Drawn by	JLD	LOCAL CURB RETURN	Approved by
Checked by		COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Director of Public Works
Scale	NONE		Date JUNE 1997
			Drawing No. R–23





WYE DETAIL



PROFILE DETAIL

NOTES:

1. All services shall be 4" inside diameter or as shown on plan.
2. Contractor shall use the most appropriate type connection (alternates on sht. 2) for the particular situation.
3. See standard plan for required cleanouts & boxes.

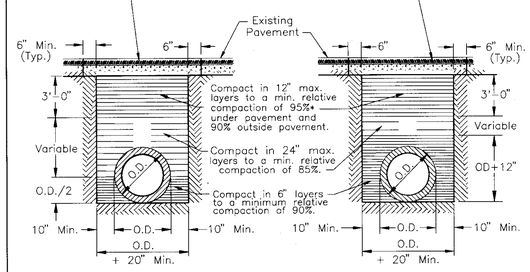
Sheet 1 of 2

No.	Revised	By

Drawn by	JLD	SEWER SERVICE LATERAL	Approved by
Checked by		COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Director of Public Works
Scale	NONE		Date SEPT. 1991
			Drawing No. S – 7A

CA: 800–227–2600
CALIFORNIA UNDERGROUND UTILITIES PROTECTION SERVICE INC.
NV: 800–227–2600

Backfill with materials equal to or better than the existing pavement and base in quality. New pavement shall be 1" thicker than existing pavement, minimum of 0.25 feet. New base shall be 1" thicker than existing base, minimum of 0.5 feet.



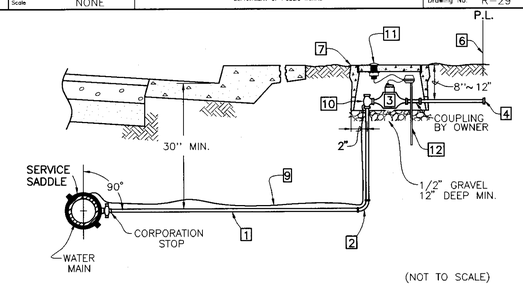
RIGID CONDUIT FLEXIBLE CONDUIT

NOTES:

1. Relative compaction of materials shall be tested in accordance with the State of California, Dept. of Transportation Testing Manuals, test method No. California 216 or 231.
2. All existing pavement shall be neatly cut to line prior to trench excavation.
3. Jetting or ponding will be permitted within the street Right of Way with a 3 year bond.
4. When shown by soil composition and compactability, ninety percent (90%) compaction may be used, when approved by the Director of Public Works.
5. Special bedding requirements may be shown on the plans or specified in special provisions.
6. Shoulders shall be as shown on the plans or specified in the special provisions but in no case shall the shoulder be less than three feet wide as measured from the edge of pavement.

No.	Revised	By
1	Feb. 1996	PD

Drawn by	JLD	TYPICAL TRENCH BACKFILL	Approved by
Checked by		COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Director of Public Works
Scale	NONE		Date JUNE 1997
			Drawing No. R–29

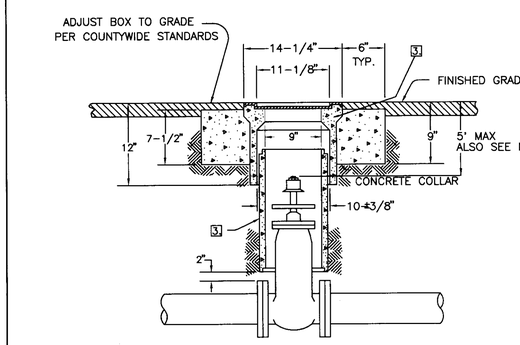


(NOT TO SCALE)

NOTES:

1. 1" DIA. MIN. LINE TO EACH LOT.
2. SERVICE PIPE TO BE CONTINUOUS (NO JOINTS) BETWEEN MAIN AND ANGLE METER STOP. 90° COMP. x COMP. ELL., "JAMES JONES" J–2610 W/J–2806 INSERTS MAY BE USED WHERE APPROVED BY AGENCY.
3. METERS SHALL BE AS SPECIFIED BY AGENCY. METERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. AGENCIES MAY ELECT TO PROVIDE THE METER AS PART OF THE CONNECTION FEE.
4. GATE VALVE IS REQUIRED PRIOR TO ANY POINT OF CONNECTION.
5. THE LOCATION OF THE SERVICE SADDLE SHALL BE A MIN. OF 24" FROM ANOTHER SERVICE SADDLE, BELL, SPIGOT, OR OTHER FITTING.
6. METER BOX MAY BE PLACED ADJACENT TO PROPERTY OR EASEMENT LINE WITH PRIOR APPROVAL OF THE AGENCY.
7. TOUCH READ METER BOX PER AGENCY REQUIREMENTS. (ALL BOXES LOCATED IN DRIVEWAY AREAS TO HAVE TRAFFIC COVERS.)
8. APPURTENANCES PER AGENCY REQUIREMENTS.
9. LOCATOR WIRE REQUIRED BY AGENCY.
10. BALL ANGLE METER STOP WITH LOCK LUG. (AFTER FLUSHING SERVICE, INSTALL LOCK SUPPLIED BY AGENCY)
11. TOUCH READ PAD PER AGENCY REQUIREMENTS. (PROVIDE AT LEAST 4 FEET OF WIRE.)
12. REMOTE READ TRANSCEIVER PER AGENCY REQUIREMENTS. SUPPORTED BY 1/2" SCH. 80 CONDUIT (24" MIN.) (PROVIDE 1" CLEARANCE BELOW LID)

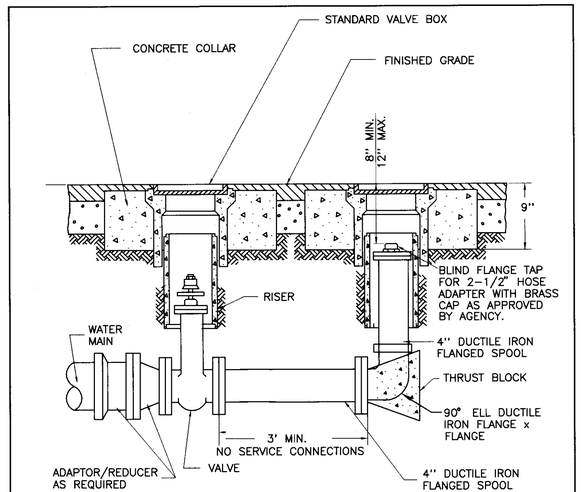
REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
No. 1 By CC	JUNE 2005	WATER SERVICE INSTALLATION	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE
			IMPROVEMENT STANDARD NO.



NOTES:

1. VALVE BOX AND LID SHALL BE CHRISTY NO. G5 OR AS APPROVED BY THE AGENCY.
2. ALL LIDS SHALL HAVE MACHINED SEATING SURFACES.
3. VALVE BOX RISERS SHALL BE AS MANUFACTURED FOR THE VALVE BOX SUPPLIED. VALVE BOX RISER TO BE ONE CONTINUOUS PIECE AND CENTERED ON VALVE. SHOULD BE RISER OR 8" ø, CLASS 100 PVC. SEE NOTE 5.
4. FOR BLOWOFF INSTALLATION, REFER TO DRAWING NO. CW–W6.
5. ALTERNATIVE VALVE BOX AND RISERS MAY BE USED WHERE APPROVED BY THE AGENCY.
6. CONCRETE COLLAR NOT REQUIRED WHEN VALVE BOX IS LOCATED IN CONCRETE SIDEWALK AREA.
7. VALVE STEM EXTENSIONS MAY BE USED TO COMPLY WITH 5' MAX. DISTANCE FROM GRADE TO NUT.
8. TRACE WIRE MAY BE USED WHERE APPROVED BY AGENCY.

REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	
		VALVE BOX DETAILS	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE JUNE 1997
			IMPROVEMENT STANDARD NO. CW–W5



NOTE:

BLOW–OFF MAY BE USED WHERE APPROVED BY AGENCY.

REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		BLOW–OFF	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE JUNE 1997
			IMPROVEMENT STANDARD NO. CW–W6

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

DETAILS

PREPARED IN THE OFFICE OF:

SIEGFRIED ENGINEERING, INC.

- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

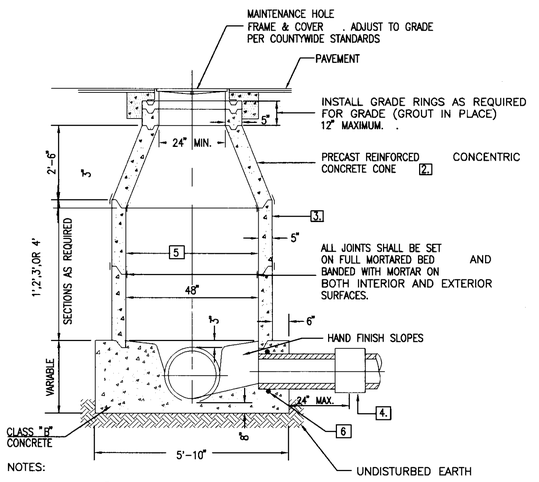
4045 Coronado Avenue • Stockton, CA 95204
209 943–2021 • Fax: 209 942–0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: 1"=40'
SHEET C–13 OF 15
JOB NO. 04251
DRAWING FILE NO. G–

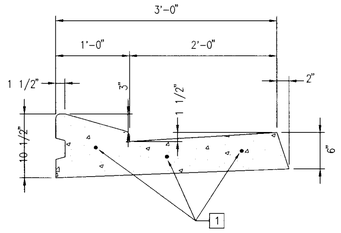
08/22/06
P:\Dwgs\04251\civil\OFF SITE IMPROVEMENTS\04251–C13–DETAILS.dwg



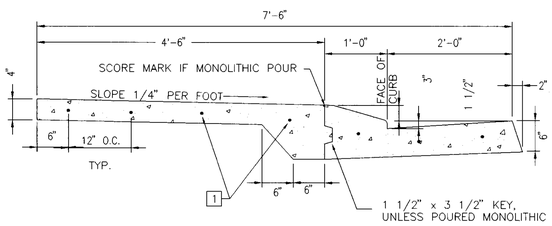
NOTES:

1. FOR PIPES 33" DIAMETER AND SMALLER.
2. ECCENTRIC REINFORCED CONCRETE CONE MAY BE USED ON APPROVAL OF AGENCY
3. PRECAST REINFORCED CONCRETE MAINTENANCE HOLE UNIT SHALL CONFORM TO A.S.T.M. C-478
4. CONSTRUCT FLEXIBLE PIPE JOINT AT 2 FEET MAXIMUM FROM BASE OF MAINTENANCE HOLE FOR RIGID PIPE. (EXCEPT CAST-IN-PLACE).
5. INTERIOR COATING WHERE REQUIRED BY AGENCY.
6. RUBBER RING WATERSTOP OR ADAPTER REQUIRED FOR PVC PIPE INSTALLATIONS.
7. FOR UNPAVED AREAS LEAVE MAINTENANCE HOLE ABOVE GROUND AS REQUIRED BY AGENCY

REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		TYPE I MAINTENANCE HOLE	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE
			IMPROVEMENT STANDARD NO. CW-S7



ROLL TYPE CURB & GUTTER



ROLL TYPE CURB, GUTTER & SIDEWALK

1 5/8" x 24" LONG STEEL DOWELS, GREASED AND WRAPPED ONE SIDE THROUGH ALL EXPANSION AND COLD JOINTS.

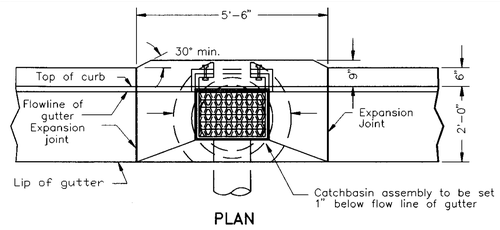
REVISION	DATE	COUNTY WIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		ROLL CURB, GUTTER & SIDEWALK	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE
			IMPROVEMENT STANDARD NO. CW-C6

BENCH MARK:

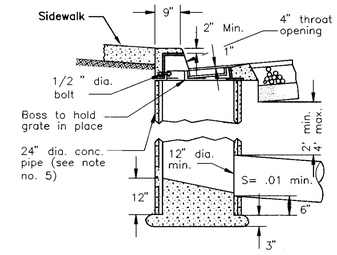
PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER PAUL J. SCHNEIDER No. 62498 Expires 9/30/05 CIVIL STATE OF CALIFORNIA

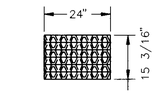
DATE SIGNED: 6-30-05



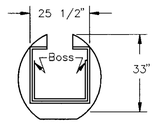
PLAN



SECTION



GRATE

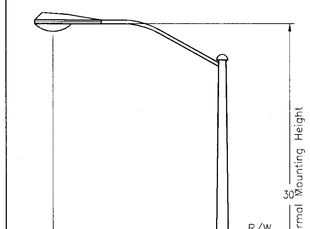


PLAN OF FRAME

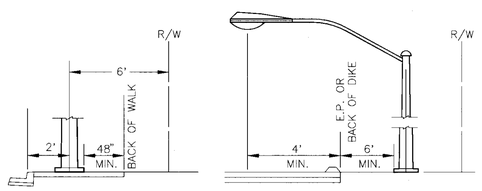
NOTES:

1. All exposed steel shall be dipped with 2 coats of coal tar pitch heated to a minimum of 180° or galvanized.
2. Grate, frame and side inlet shall conform to South Bay Foundry A-645 frame with either A-390 rivited or A-390-M fabricated steel grate.
3. Grate shall be chained to frame.
4. Grate shall be depressed 1" below gutter profile grade.
5. 24" pipe barrel shall be class II R.C.P., or class 2 or 3 non-reinforced concrete pipe.

No.	Revised	By	TYPE 1 CURB INLET CATCHBASIN	Approved by Director of Public Works
Drawn by JLD			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date SEPT. 1991
Checked by				Drawing No. D - 13
Scale NONE				



LOCAL RESIDENTIAL AND COLLECTOR RESIDENTIAL



LOCAL COMMERCIAL AND INDUSTRIAL

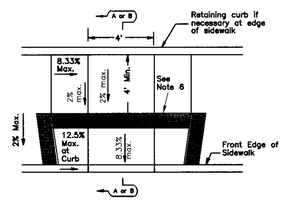
RURAL ROADS

NOTES:

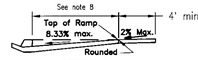
1. All street lighting and appurtenances shall conform to P.G.&E. Standards and Specifications.
2. Street light locations at intersections shall be approved by S.J. Co. Department of Public Works.
3. Street lights shall be energized prior to County acceptance of the improvements.

No.	Revised	By	STREET LIGHTING POLES AND SYMBOLS	Approved by Director of Public Works
1	JUNE 1997	TL		
Drawn by JLD			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date JUNE 1997
Checked by				Drawing No. R - 32
Scale NONE				

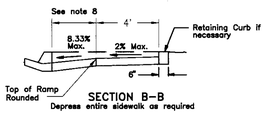
CA: 800-227-2600 CALL BEFORE YOU DIG UNDERGROUND SERVICE ALERT NV: 800-227-2600



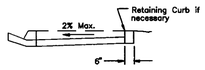
CASE A



SECTION A-A



SECTION B-B
Depress entire sidewalk as required



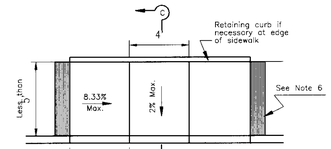
SECTION C-C

NOTES:

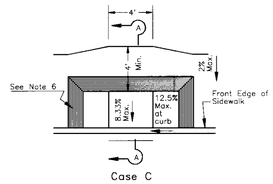
1. If distance from curb to back of sidewalk is too short to accomodate ramp and 4' platform, the sidewalk may be depressed longitudinally as in Case A or B, or may be widened as in Case C.
2. If sidewalk is less than 5' wide, the full width of the sidewalk shall be depressed as shown in Case B.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown on the plan to accomodate wheelchairs.
4. If located on a curve the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'.
5. Sidewalk and ramp thickness shall be 4" min.
6. The ramp shall have a 12" wide border with 1/4" grooves approximately 3/4" o.c. See grooving detail. The surface of ramp shall have a transverse broomed surface texture rougher than the surrounding sidewalk except when located in center
7. Ramp side slope varies uniformly from a maximum of up to 12.5% at curb to confirm with longitudinal sidewalk slope adjacent to top of the ramp, except in Case B.
8. 6' for 4 1/2" curb height and 2% sloping sidewalk. For 6" curb height use 8' ramp or Case B.
9. Ramp Slopes : 1:12 max. (8.33%) 1:15 min. (6.67%)

Sheet 1 of 2

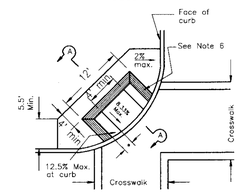
No.	Revised	By	HANDICAP RAMP	Approved by Director of Public Works
Drawn by JLD			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date JUNE 1997
Checked by				Drawing No. R - 10a
Scale NONE				



Case B
(Sidewalk less than 5' wide)



Case C



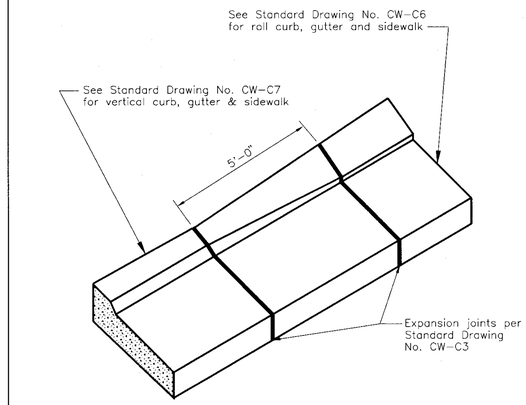
Case D

NOTE:
ALL CURB RAMPS SHALL CONFORM WITH CALTRANS STANDARD PLAN RSP A88A.

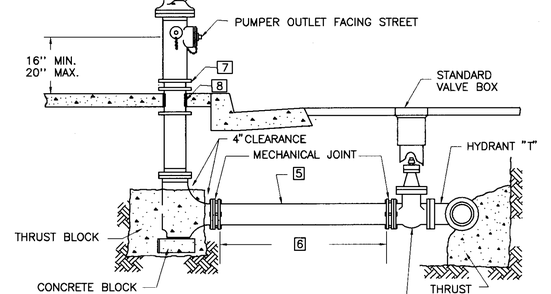
* 3' min. for 4 1/2" curb
4' min. for 6" curb

Sheet 2 of 2

No.	Revised	By	HANDICAP RAMP	Approved by Director of Public Works
Drawn by JLD			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date JUNE 1997
Checked by				Drawing No. R - 10b
Scale None				



No.	Revised	By	CURB TRANSITION DETAIL	Approved by Director of Public Works
1	Feb. 1996	PD		
Drawn by JLD			COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS	Date JUNE 1997
Checked by				Drawing No. R - 9
Scale NONE				



SECTION

NOTES:

1. HYDRANT MODEL TO BE APPROVED BY AGENCY.
2. SEE STANDARDS FOR LOCATION OF HYDRANT.
3. HYDRANTS SHALL BE CLEAN AND FREE OF CONCRETE.
4. HYDRANTS SHALL BE PAINTED YELLOW, IN ACCORDANCE WITH AGENCY STANDARDS.
5. 6" DIA. PVC PIPE (AWWA C-900 WITH CIP EQUIVALENT O.D.)
6. FIRE HYDRANT LATERALS GREATER THAN 100 LF, SHALL HAVE A GATE VALVE INSTALLED NEAR THE FIRE HYDRANT AS APPROVED BY THE AGENCY.
7. BREAK AWAY SPOOL WITH HOLLOW BREAK-OFF BOLTS WITH NUT ON BOTTOM AT CONNECTION TO HYDRANT.
8. EXPANSION JOINT MATERIAL WHERE HYDRANT IS PLACED IN CONCRETE.

REVISION	DATE	COUNTYWIDE IMPROVEMENT STANDARDS COUNTY OF SAN JOAQUIN	APPROVED BY
		FIRE HYDRANT ASSEMBLY	SAN JOAQUIN COUNTY DIRECTOR OF PUBLIC WORKS DATE JUNE 1997
			IMPROVEMENT STANDARD NO. CW-W18

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

DETAILS

PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

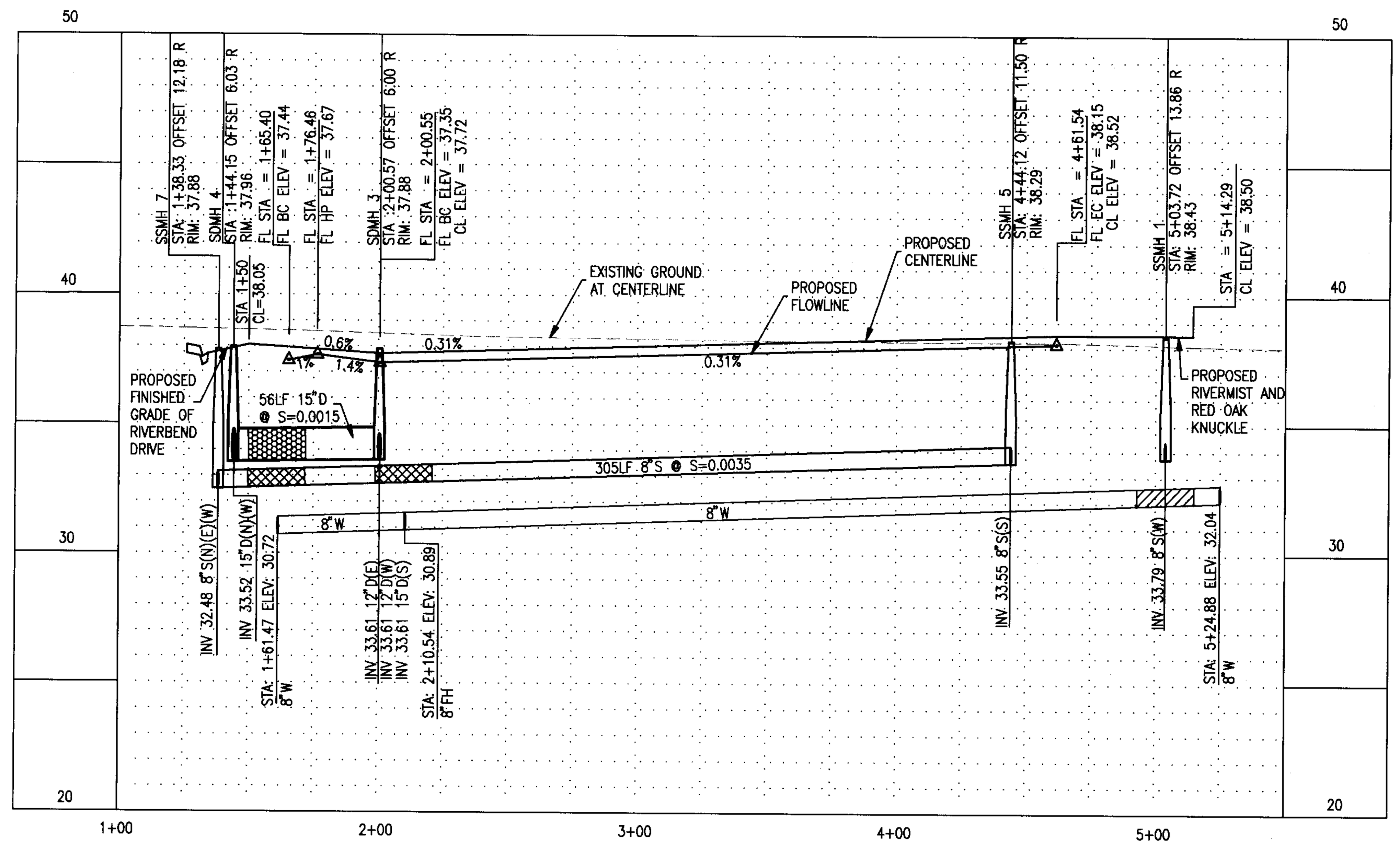
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

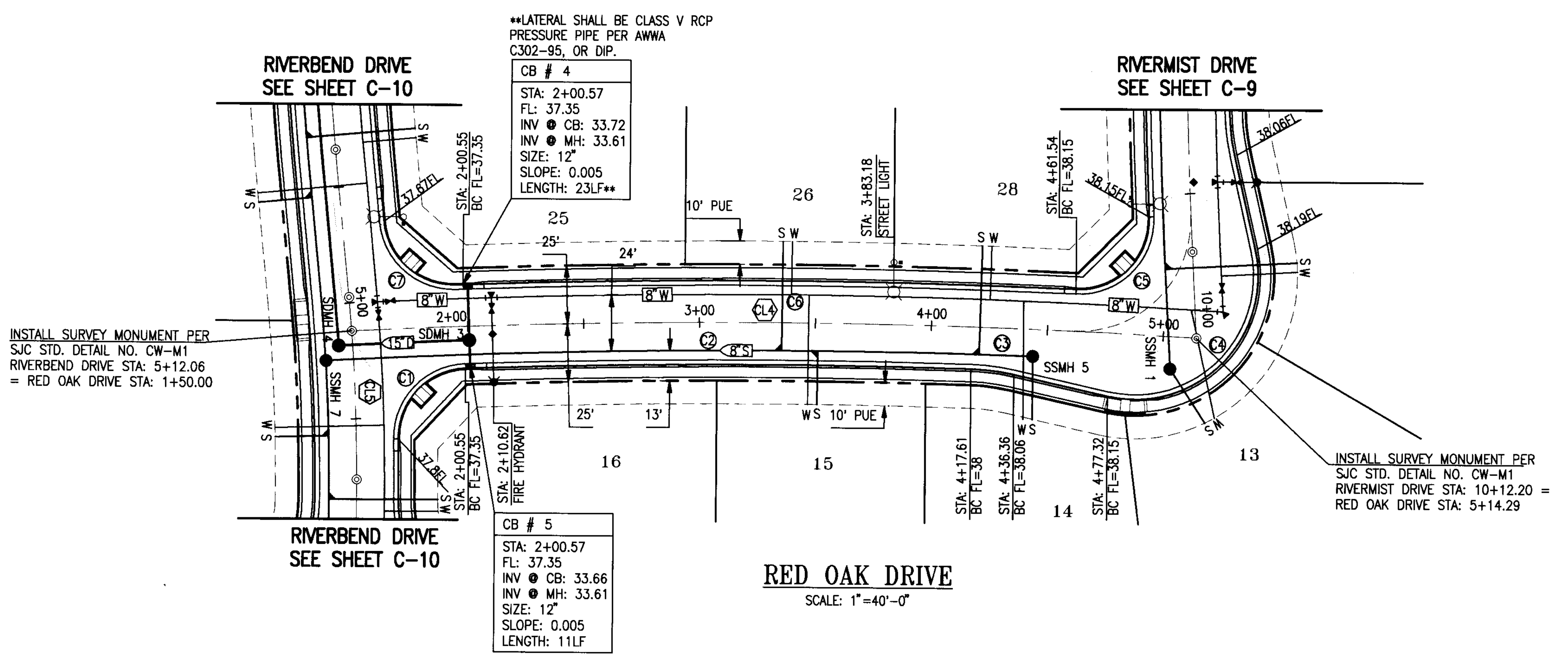
DRAWN BY: DJA
SCALE: NTS
SHEET C-12 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\Docs\0425\cvl\SITE IMPROVEMENTS\0425-C12-DETAILS.dwg 08/22/06



PROFILE

SCALE: HORIZONTAL 1"=40'-0"
VERTICAL 1"=4'-0"



RED OAK DRIVE

SCALE: 1"=40'-0"

LEGEND

- PROPOSED AC PAVEMENT
- BLUE REFLECTIVE MARKER TO BE PLACED 1' FROM CENTERLINE TOWARDS THE FIRE HYDRANT.
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR HDPE WITH FUSION WELDED JOINTS PER AWWA C906-99, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING

CENTERLINE CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
CL4	3241.95'	6°26'18"	364.29'
CL5	800.00'	5°38'16"	78.72'

FACE OF CURB CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
C1	30.00'	88°59'21"	46.59'
C2	3223.95'	3°52'18"	217.86'
C3	97.00'	11°04'40"	18.75'
C4	53.00'	115°28'56"	106.82'
C5	30.00'	95°03'48"	49.78'
C6	3259.95'	4°42'12"	267.61'
C7	30.00'	86°40'32"	45.38'

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER · PAUL J. SCHNEIDER · No. 62498 · CIVIL · STATE OF CALIFORNIA

DATE SIGNED: 9-1-06

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

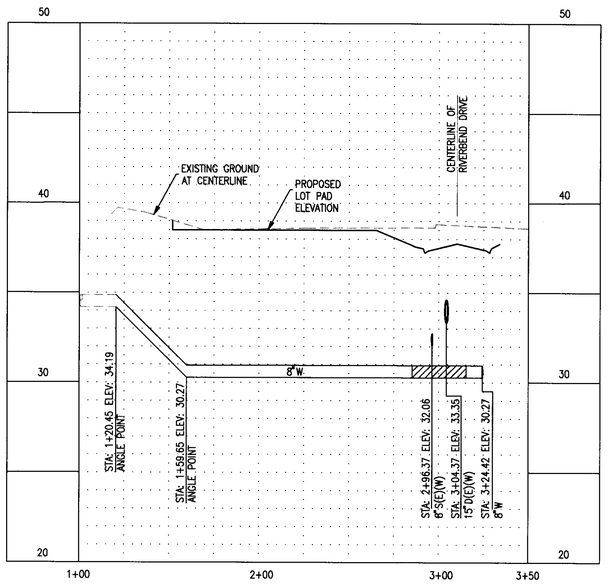
PLAN & PROFILE RED OAK DRIVE STA: 1+00 TO 5+50

PREPARED IN THE OFFICE OF:
- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

SIEGFRIED ENGINEERING, INC.
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

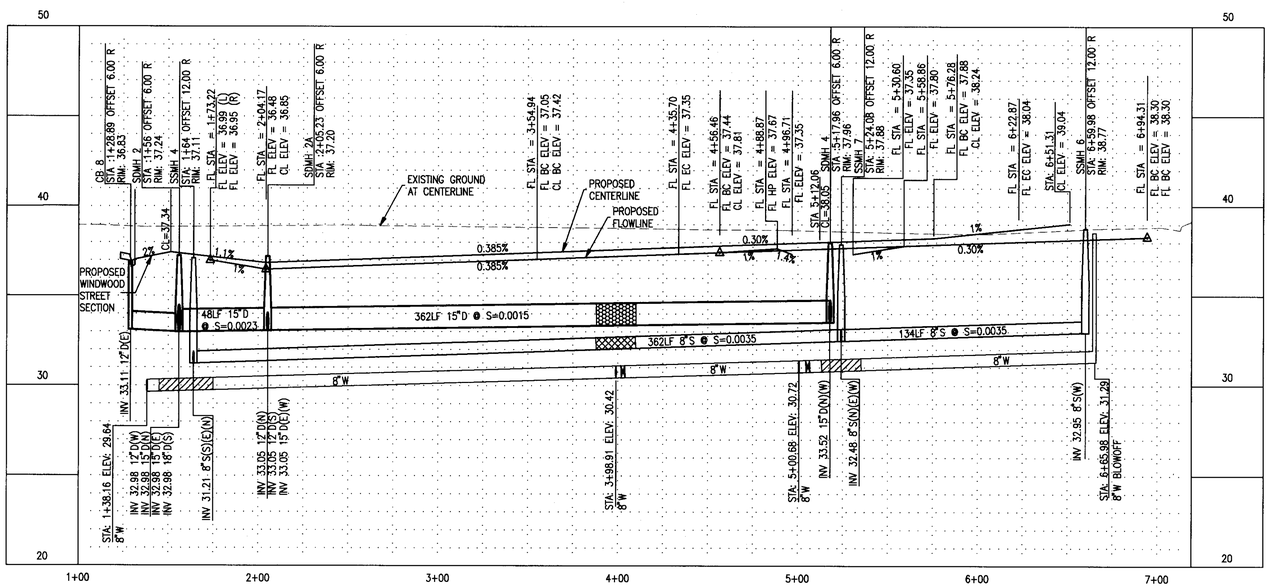
DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007
DESIGN ENGINEER

DRAWN BY: DJA
SCALE: 1"=40'
SHEET C-11 OF 15
JOB NO. 04251
DRAWING FILE NO. G-



PROFILE

SCALE: HORIZONTAL 1"=40'-0"
VERTICAL 1"=4'-0"

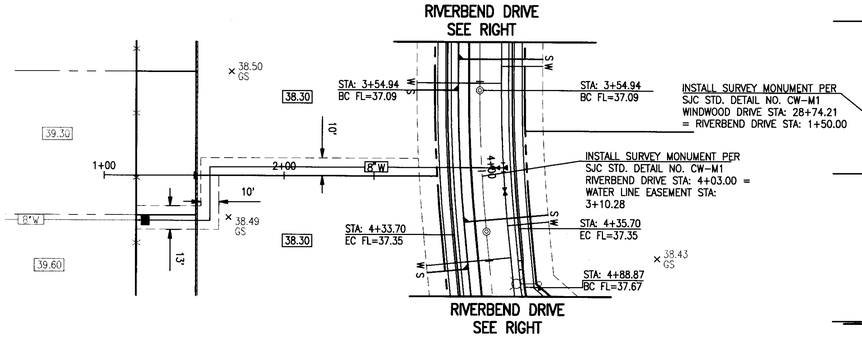


PROFILE

SCALE: HORIZONTAL 1"=40'-0"
VERTICAL 1"=4'-0"

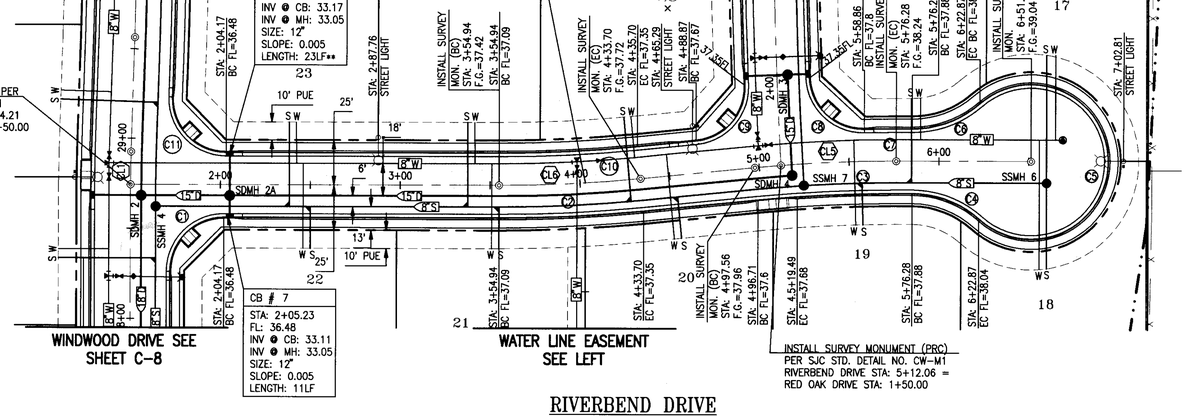
LEGEND

- PROPOSED AC PAVEMENT
- ◆ BLUE REFLECTIVE MARKER TO BE PLACED 1' FROM CENTERLINE TOWARDS THE FIRE HYDRANT.
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR HDPE WITH FUSION WELDED JOINTS PER AWWA C906-99, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING



WATER LINE EASEMENT

SCALE: 1"=40'-0"



RIVERBEND DRIVE

SCALE: 1"=40'-0"

CENTERLINE CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH
CL1	600.00'	1°44'50"	18.30'
CL5	800.00'	5°38'16"	78.72'
CL6	800.00'	5°38'27"	78.76'

FACE OF CURB CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH
C1	30.00'	90°00'11"	47.13'
C2	818.00'	5°38'27"	80.53'
C3	782.00'	5°38'16"	76.95'
C4	57.00'	41°24'35"	41.20'
C5	43.00'	262°49'09"	197.24'
C6	57.00'	41°24'35"	41.20'
C7	818.00'	1°14'50"	17.81'
C8	30.00'	88°59'21"	46.59'
C9	30.00'	86°40'32"	45.38'
C10	782.00'	5°38'27"	76.99'
C11	30.00'	91°44'39"	48.04'

SU 4111

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER PAUL J. SCHNEIDER No. 62498 Expires 9/30/08 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 9-18-06

CA: 800-227-2600 NV: 800-227-2600

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

PLAN & PROFILE RIVERBEND DR. STA: 1+00 TO 7+00 & WATER LINE EASEMENT STA: 1+00 TO 3+50

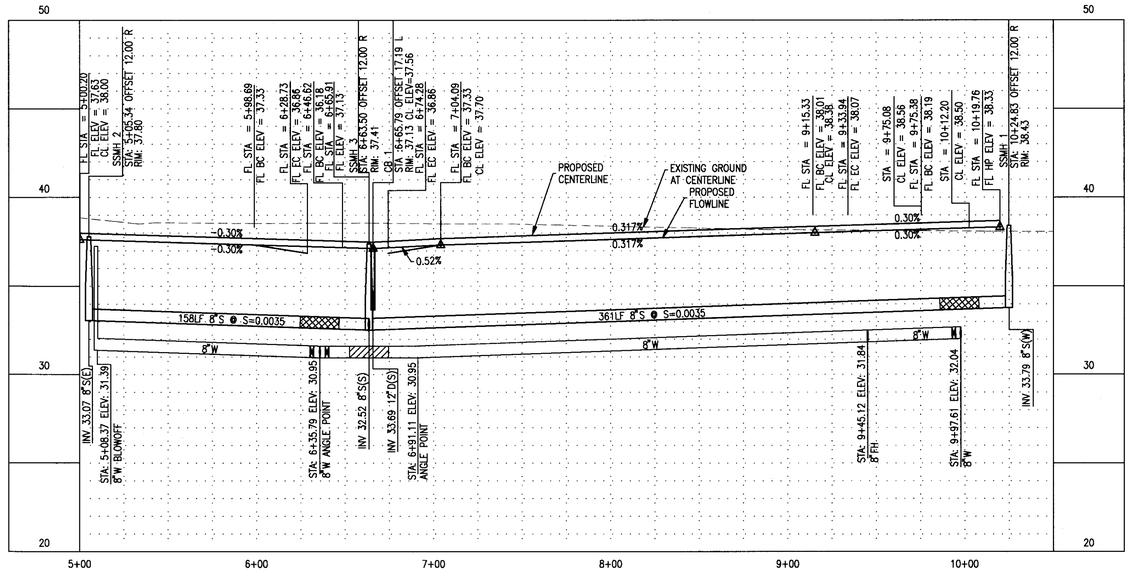
PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY:	DJA
SCALE:	1" 40'
SHEET	C-10 OF 15
JOB NO.	04251
DRAWING FILE NO.	G-

F:\Jobs\04251\civil\OFF SITE IMPROVMENTS\04251-C10-PROD-RIVERBEND.dwg 09/18/06



PROFILE

SCALE: HORIZONTAL 1"=40'-0"
VERTICAL 1"=4'-0"

LEGEND

- PROPOSED AC PAVEMENT
- BLUE REFLECTIVE MARKER TO BE PLACED 1' FROM CENTERLINE TOWARDS THE FIRE HYDRANT.
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR HDPE WITH FUSION WELDED JOINTS PER AWWA C906-99, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING

CENTERLINE CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
CL3	2600.00'	4°30'23"	204.49'

FACE OF CURB CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
C1	30.00'	90°21'58"	47.41'
C2	30.00'	93°47'20"	49.11'
C3	2618.00'	4°09'31"	190.02'
C4	30.00'	95°03'48"	49.78'
C5	53.00'	115°28'56"	106.82'
C6	97.00'	11°05'12"	18.77'
C7	2582.00'	3°11'23"	143.74'

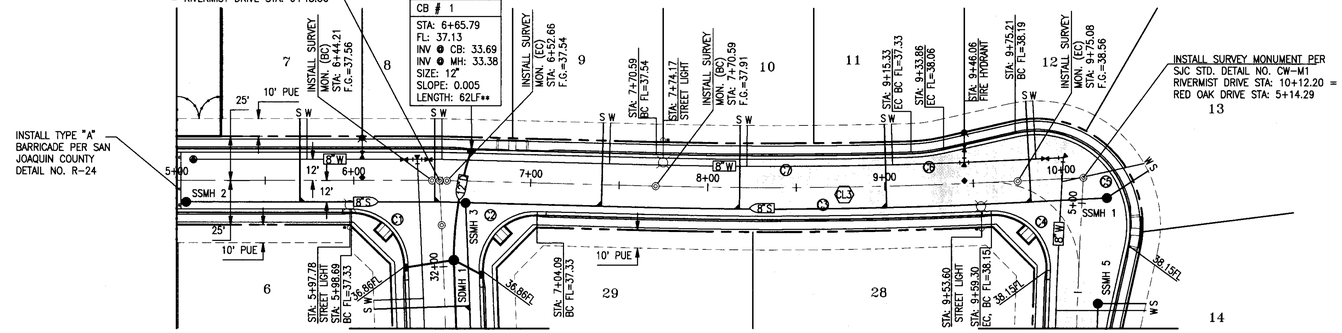
INSTALL SURVEY MONUMENT (BC) PER SJC STD. DETAIL NO. CW-M1 WINDWOOD DRIVE STA: 32+48.38 = RIVERMIST DRIVE STA: 6+48.50

**LATERAL SHALL BE CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP.

CB # 1
STA: 6+65.79
FL: 37.13
INV @ CB: 33.69
INV @ MH: 33.38
SIZE: 12"
SLOPE: 0.005
LENGTH: 62LF**

INSTALL TYPE "A" BARRICADE PER SAN JOAQUIN COUNTY DETAIL NO. R-24

INSTALL SURVEY MONUMENT PER SJC STD. DETAIL NO. CW-M1 RIVERMIST DRIVE STA: 10+12.20 = RED OAK DRIVE STA: 5+14.29



WINDWOOD DRIVE SEE SHEET C-8

RIVERMIST DRIVE

SCALE: 1"=40'-0"

RED OAK DRIVE SEE SHEET C-11

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER PAUL J. SCHNEIDER No. 62498 Expires 9/30/08 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 9-19-06

CA: 800-227-2600
NV: 800-227-2600

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

PLAN & PROFILE RIVERMIST DR. STA: 5+00 TO 10+50

PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

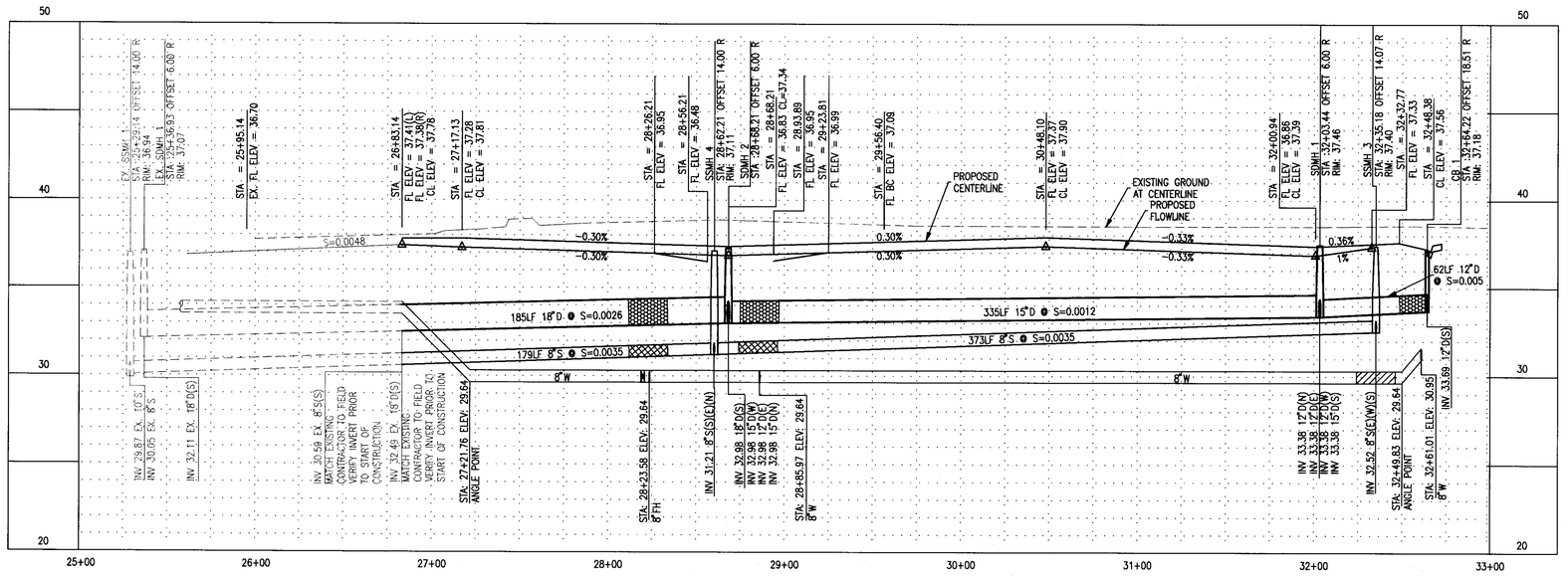
DESIGN ENGINEER

DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: 1"=40'
SHEET C-9 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVMENTS\04251-C09-PP02-RIVERMIST.dwg 9/5/06

SU 4112



PROFILE

SCALE: HORIZONTAL 1"=40'-0"
VERTICAL 1"=4'-0"

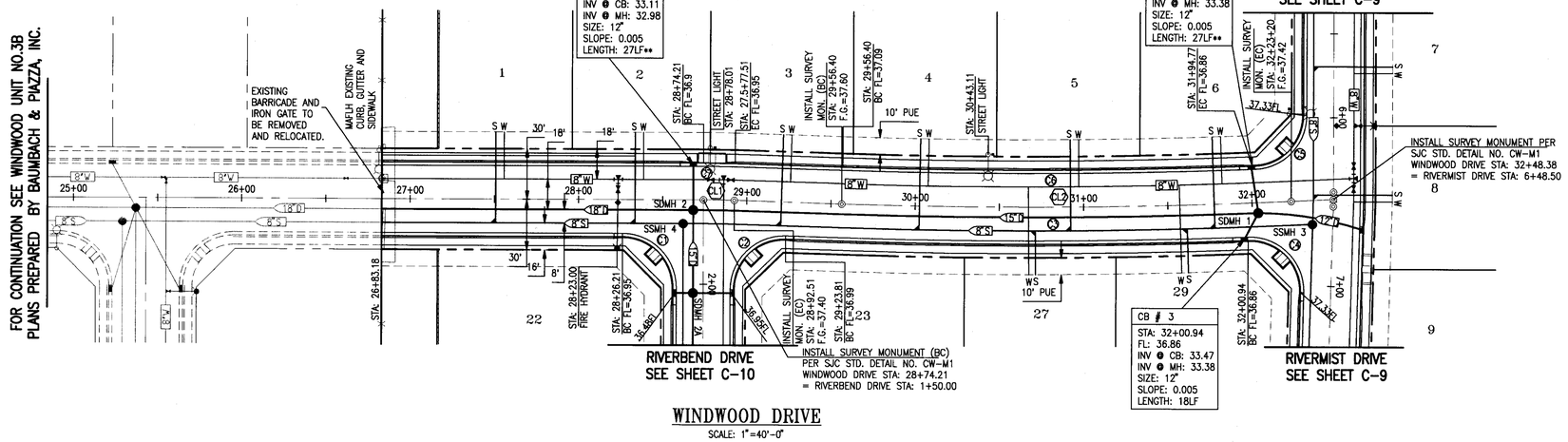
**LATERAL SHALL BE CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP.

CB # 8
STA: 28+68.21
FL: 36.83
INV @ CB: 33.11
INV @ MH: 32.98
SIZE: 12"
SLOPE: 0.005
LENGTH: 27LF**

**LATERAL SHALL BE CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP.

CB # 2
STA: 31+94.77
FL: 36.86
INV @ CB: 33.52
INV @ MH: 33.38
SIZE: 12"
SLOPE: 0.005
LENGTH: 27LF**

CB # 3
STA: 32+00.94
FL: 36.86
INV @ CB: 33.47
INV @ MH: 33.38
SIZE: 12"
SLOPE: 0.005
LENGTH: 18LF



WINDWOOD DRIVE

SCALE: 1"=40'-0"

CENTERLINE CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
CL1	600.00'	1°44'50"	18.30'
CL2	3400.00'	4°29'46"	266.80'

FACE OF CURB CURVE TABLE			
CURVE	RADIUS	DELTA	LENGTH
C1	30.00'	90°00'11"	47.13'
C2	30.00'	91°44'39"	48.04'
C3	3422.00'	4°03'03"	241.93'
C4	30.00'	93°47'20"	49.11'
C5	30.00	90°21'58"	47.41'
C6	3377.49'	4°07'17"	242.96'
C7	622.00'	1°44'50"	18.97'

LEGEND

- PROPOSED AC PAVEMENT
- BLUE REFLECTIVE MARKER TO BE PLACED 1' FROM CENTERLINE TOWARDS THE FIRE HYDRANT.
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS 200 PVC (DR14 PER AWWA C900), OR HDPE WITH FUSION WELDED JOINTS PER AWWA C906-99, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING
- 22' CLASS V RCP PRESSURE PIPE PER AWWA C302-95, OR DIP WITH NO JOINTS 11' EITHER SIDE OF CROSSING

SU 4113

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/06
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 9-18-06

CA: 800-227-2600
CALL BEFORE YOU DIG
NV: 800-227-2600

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

PLAN & PROFILE WINDWOOD DRIVE STA: 25+00 TO 33+00

PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

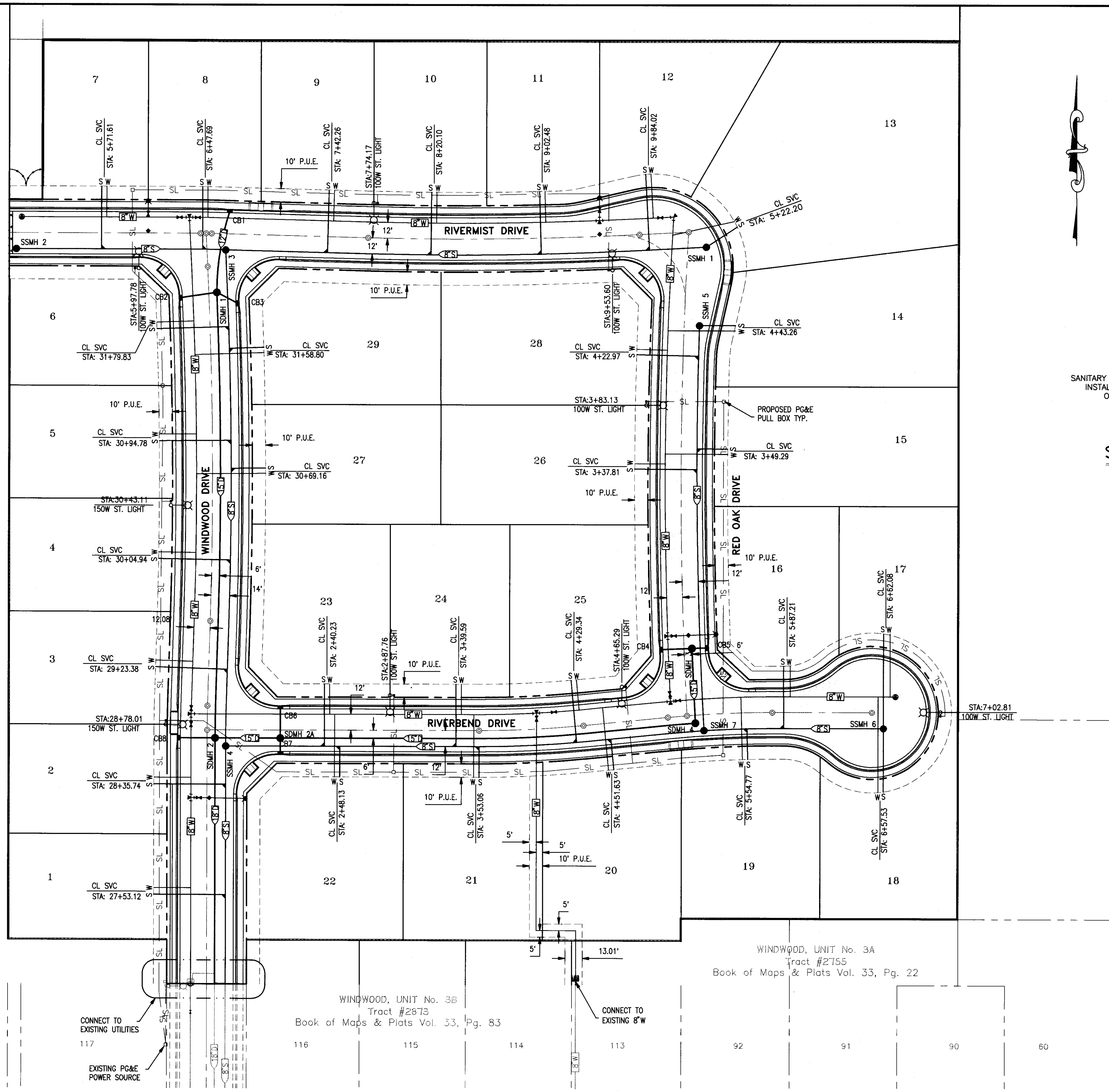
DESIGN ENGINEER

DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

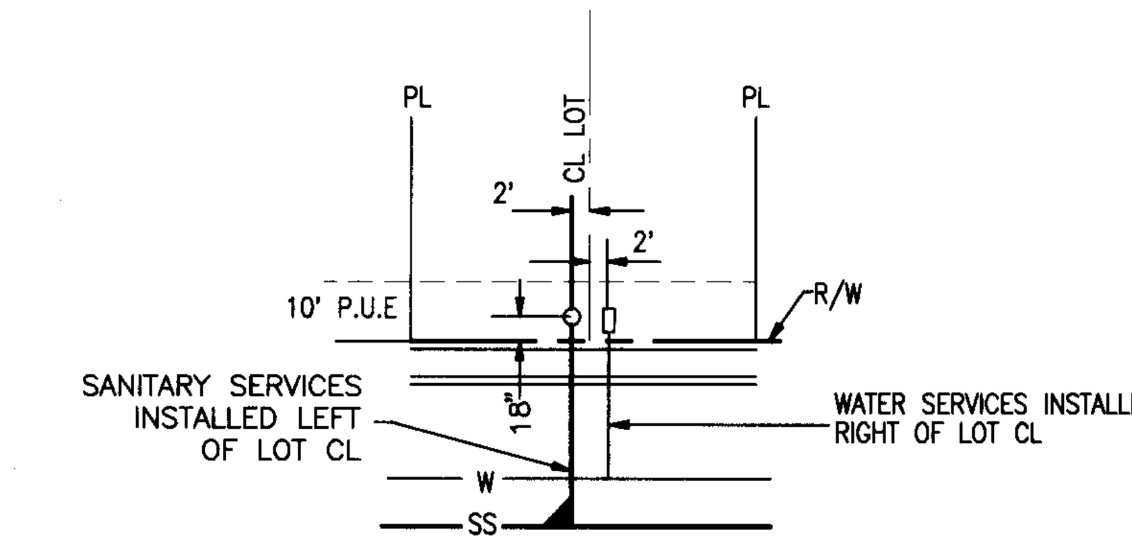
DRAWN BY: DJA
SCALE: 1"=40'
SHEET C-8 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04csd\04251\civil\SITE IMPROVEMENTS\04251-CDB-PP01-WINDWOOD.dwg 9/6/06

SU 4114



NOTE: (TYP. ALL LOTS)
1. UNLESS OTHERWISE NOTED, SERVICES TO BE AT CENTER OF LOTS.
2. SERVICES MINIMUM OF 3 FEET APART ON MAIN LINE & MINIMUM OF 3 FEET FROM VALVES.
3. ALL WATER SERVICES SHALL BE UPSTREAM OF FH VALVE IN CUL-DE-SAC.
4. WATER SERVICE SHALL INCLUDE METER AND METER BOX PER DETAIL SHEET 10
5. SEWER SERVICE SHALL BE STUBBED AND CAPPED AT R/W (NO CLEANOUT)
6. SIDEWALK SHALL BE STAMPED W OR S IF SERVICE FALL WITHIN THE SIDEWALK.



TYPICAL UTILITY SERVICE LOCATION SCHEMATIC

NOT TO SCALE

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45. LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE. ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 5-19-06

CA: 800-227-2600
NV: 800-227-2600

NOTE:

PLACE TEMPORARY CERTIFIED BACK FLOW PREVENTION DEVICE BETWEEN NEW AND EXISTING WATERLINES DURING CONSTRUCTION.

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

COMPOSITE UTILITY PLAN

PREPARED IN THE OFFICE OF:

SIEGFRIED ENGINEERING, INC.

- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

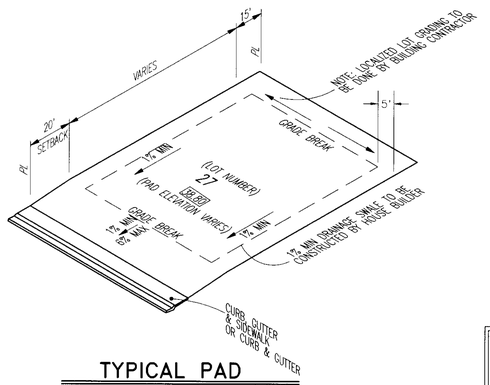
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: 1"=40'
SHEET C-7 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

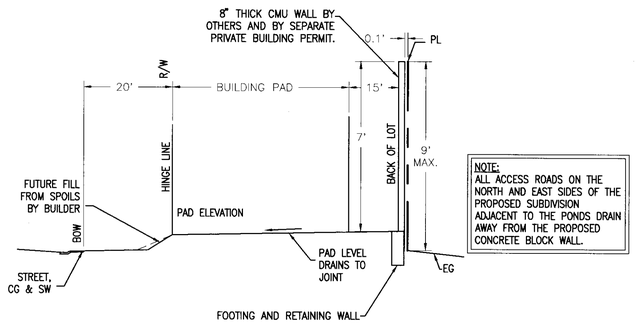
F:\04cad\04251\civil\OFF SITE IMPROVMENTS\04251-C07-UTILITY.dwg 09/18/06



TYPICAL PAD

NTS

NOTE:
BLOCK NUMBERS SHALL BE OBTAINED FROM C.C.D. WHEN AVAILABLE AND ADDED TO THE PLANS PRIOR TO "AS-BUILTS" BEING ACCEPTED BY THE COUNTY.



TYPICAL LOT CROSS-SECTION

NTS

NOTE:
ALL ACCESS ROADS ON THE NORTH AND EAST SIDES OF THE PROPOSED SUBDIVISION ADJACENT TO THE PONDS DRAIN AWAY FROM THE PROPOSED CONCRETE BLOCK WALL.

GRADING NOTE:

1.) ALL GRADING SHALL COMPLY WITH 2001 C.B.C CHAPTER 18 AND APPENDIX CHAPTER 33.

2.) NO SLOPE SHALL BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL.

3.) REFER TO GEOTECHNICAL INVESTIGATION REPORT BY ANDERSON ASSOC.. DATED MAY 8, 1991 – JOB NO. 59118 TO DETERMINE LOT GRADING, SITE PREPARATION, COMPACTION REQUIREMENTS AND FOUNDATION RECOMMENDATIONS.

4.) FINAL BUILDING PAD AND LOCAL APPURTENANT WORK FOR EACH LOT, INCLUDING BUT NOT LIMITED TO SLOPE WORK, COMPACTION AND MINOR FILL WORK WILL BE DONE AT TIME OF BUILDING PERMIT APPLICATION PROCESS.

5.) ALL FINISHED FLOOR ELEVATIONS SHALL BE 40 FEET MINIMUM FOR STRUCTURES LYING WITHIN THE 100-YEAR FLOOD ZONE (ZONE AH)

NOTE:

CONTRACTOR SHALL SUBMIT STRUCTURAL PLANS, CALCULATIONS AND DETAILS OF MASONRY WALL TO SAN JOAQUIN COUNTY BUILDING DEPARTMENT FOR APPROVAL AND SUBSEQUENT INSPECTION PRIOR TO CONSTRUCTION. APPLICABLE FEES WILL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.

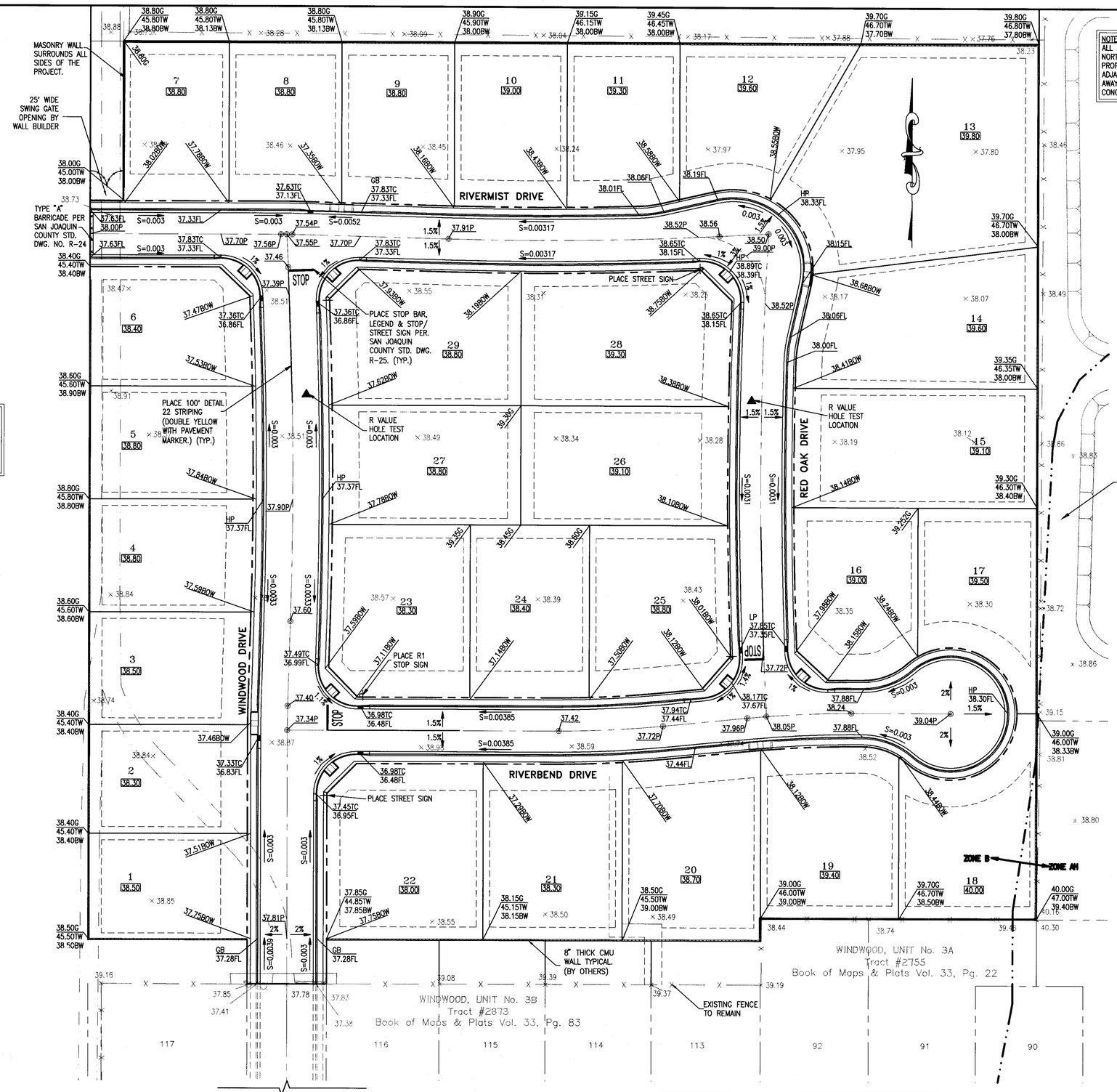
BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/08
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 9-14-06

CA: 800-227-2600
CALIFORNIA UNDERGROUND UTILITY NOTIFICATION CENTER
NV: 800-227-2600



NOTE:

PRIOR TO ORDERING STREET SIGNS BLOCK NUMBERS MUST BE OBTAINED FROM C.D.D.

REVISIONS	NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

COMPOSITE GRADING, STRIPING & SIGNING PLAN

PREPARED IN THE OFFICE OF:
SIEGFRIED ENGINEERING, INC.
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214
DESIGN ENGINEER

DATE: 09/18/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY:	DJA
SCALE:	1"=40'
SHEET	C-6 OF 15
JOB NO.	04251
DRAWING FILE NO.	G-

F:\Docs\04251\civil\SHT SITE IMPROVEMENTS\04251-COMP-GRADING.dwg 09/18/06

SJ 4115

ALL RUBBER GASKET, PUSH-ON, MECHANICAL AND FLANGED JOINT FITTINGS FOR CAST IRON OR DUCTILE IRON WATER PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI A21.10 (AWWA C110).

UNLESS OTHERWISE SPECIFIED, THE INTERNAL SURFACES OF CAST IRON AND DUCTILE IRON WATER PIPE AND FITTINGS SHALL BE LINED WITH A UNIFORM THICKNESS OF CEMENT MORTAR THEN SEALED WITH A BITUMINOUS COATING IN ACCORDANCE WITH ANSI A21.4 (AWWA C104). THE OUTSIDE SURFACES OF CAST IRON AND DUCTILE IRON PIPE AND FITTINGS FOR GENERAL USE SHALL BE COATED WITH A BITUMINOUS COATING ONE (1) NIL (0.0254MM) THICK IN ACCORDANCE WITH ANSI A21.6 OR ANSI A21.51.

1. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE FURNISHED IN THE CLASSES, SIZES, AND GRADES DESIGNATED ON THE PLANS AND SPECIAL PROVISIONS.

POLYVINYL CHLORIDE PIPE SHALL MEET THE REQUIREMENTS OF AWWA C-900 "POLYVINYL CHLORIDE (PVC) PRESSURE PIPE." PIPE SIZES SHALL BE FOUR INCHES (4") THROUGH TWELVE INCHES (12") ONLY – AWWA CLASS 150 MINIMUM. ALL CLASS 150 PIPE SHALL MEET THE REQUIREMENTS OF DR 18 AND CLASS 200 PIPE SHALL MEET THE REQUIREMENTS OF DR 14 WITH CAST IRON O.D.

ALL PIPE SHALL BE SUITABLE FOR USE AS A PRESSURE CONDUIT. PROVISIONS SHALL BE MADE FOR EXPANSION AND CONTRACTION AT EACH JOINT WITH AN "O" RING ELASTOMERIC GASKET SEAL MEETING THE REQUIREMENTS OR ASTM D-1869 AND F-477. SOLVENT WELDED JOINTS WILL NOT BE PERMITTED. THE BELL SECTION SHALL BE DESIGNED TO BE AT LEAST AS STRONG AS THE PIPE WALL.

FITTING FOR PVC PIPE SHALL BE CAST IRON ONLY.

2. WHEN SPECIAL CONSTRUCTION OF THE WATER MAIN IS REQUIRED FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS OR STORM DRAINS AS SET FORTH IN SECTION 64630 OF TITLE 22 OF THE CALIFORNIA ADMINISTRATIVE CODE, ALTERNATE PIPE SHALL CONSIST OF THE FOLLOWING:

1. DUCTILE IRON PIPE PER AWWA C151;

2. WELDED STEEL PIPE PER AWWA C200, 1/4-INCH THICK AND LINED AND WRAPPED PER AWWA C203;

3. CLASS 200 PVC PIPE PER AWWA C900;

4. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA C300, C301 OR C303.

INSTALLATION AND CLEARANCES FOR WATER MAIN CROSSINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 64630 OF TITLE 22, CALIFORNIA ADMINISTRATIVE CODE AND THESE PLANS AND SPECIAL PROVISIONS.

VALVES. THIS SPECIFICATION INCLUDES FOUR INCH (4") THROUGH TWELVE INCH (12") DIAMETER VALVES OF ALL KINDS FOR BURIED SERVICE IN A DOMESTIC WATER SYSTEM.

GATE VALVES SHALL BE DOUBLE DISC TYPE WITH PARALLEL SEATS AND NONRISING STEMS, MEETING OR EXCEEDING THE LATEST REVISIONS OF AWWA C500 WITH A DESIGN WORKING PRESSURE OF 200.0 PSI. VALVE DISC SEATS SHALL BE GRADE 1 BRONZE.

RESILIENT SEATED GATE VALVES CONFORMING TO AWWA SPECIFICATIONS C509-80 ARE ACCEPTABLE AND ARE REQUIRED FOR FIRE HYDRANT INSTALLATIONS.

BUTTERFLY VALVES SHALL MEET OR EXCEED THE LATEST REVISIONS OF AWWA C504 WITH A DESIGN WORKING PRESSURE OF 150.0 PSI. OPERATORS FOR BUTTERFLY VALVES TWENTY INCHES (20") AND SMALLER SHALL BE CLASS 150; LARGER OPERATORS WILL BE AS SPECIFIED IN THE SPECIAL PROVISIONS AND DESIGNED FOR ACTUAL LINE CONDITIONS AS COVERED IN AWWA C504, APPENDIX A.

VALVE ENDS SHALL BE MECHANICAL JOINT OR FLANGED IN ACCORDANCE WITH AWWA C500 UNLESS OTHERWISE SPECIFIED.

VALVES FOR USE WITH FLANGED PIPE SHALL BE CAST WITH CLASS 125 FLANGES, DIMENSIONS AND DRILLING SHALL CONFORM TO ASA B16.L. FLANGE BOLT HOLES SHALL BE SPOT FACED IF FLANGE FILLETS INTERFERE WITH BOLT HEADS AND NUTS.

CHECK VALVES ON PUMP DISCHARGE SHALL BE OUTSIDE ARM WITH COUNTER WEIGHT AND SPRING CONTROL.

THE INLET FLANGE FOR TAPPING GATE VALVES SHALL BE PROVIDED WITH CLASS 125 FLANGE FOR ATTACHING TO TAPPING SLEEVE. THE FLANGE SHALL HAVE A MACHINED PROJECTION COMPATIBLE WITH A MACHINED RECESS IN THE TAPPING SLEEVE. THE OUTLET OF THE VALVE SHALL BE PROVIDED WITH A FLANGE FOR TAPPING MACHINE MOUNTING. TAPPING SLEEVES SHALL BE MECHANICAL JOINT AND FLANGE UNLESS DEVIATION IS PERMITTED BY THE COUNTY.

ALL STEM SEALS, GATE VALVES AND BUTTERFLY VALVES, SHALL BE "O" RINGS ONLY.

WRENCH NUTS SHALL BE MADE OF TOP GRADE CAST IRON, FITTING THE TOP OF THE VALVE STEM AND SECURED BY NUT OR KEY. WRENCH NUTS SHALL BE ONE AND FIFTEEN-SIXTEENTHS INCH (1-15/16") SQUARE AT THE TOP AND TWO INCHES (2") SQUARE AT THE BOTTOM.

VALVES REQUIRING OPERATING WRENCHES EXCEEDING SIX FEET (6') IN LENGTH SHALL HAVE EXTENSION AND GUIDES INSTALLED IN VALVE BOXES.

THE OPEN DIRECTION SHALL BE LEFT (COUNTERCLOCKWISE) AND THE CLOSED DIRECTION RIGHT (CLOCKWISE).

CAST IRON FITTINGS. CAST IRON FITTINGS SHALL BE CLASS D FITTINGS CONFORMING TO ASTM DESIGNATION 126 AND SHALL BE 150 POUNDS. ALL VALVES AND FITTINGS SHALL BE FLANGED.

VALVE BOXES. VALVE BOXES AND COVERS SHALL CONFORM TO SAN JOAQUIN COUNTY STANDARD DRAWINGS.

GASKETS. GASKETS FOR FLANGED JOINTS SHALL BE FULL-CIRCLE ONE-SIXTEENTH INCH (1/16") COMPOSITION GASKETS.

THRUST BLOCKS. THRUST BLOCKS SHALL BE INSTALLED AT ALL BENDS AND FITTINGS AND SHALL CONFORM TO SAN JOAQUIN COUNTY STANDARD DRAWINGS. CONCRETE FOR THRUST BLOCKS SHALL BE CLASS B IN ACCORDANCE WITH SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS.

FIRE HYDRANTS. FIRE HYDRANTS SHALL CONFORM TO THE REQUIREMENTS OF THE FIRE DEPARTMENT OF THE COUNTY OF SAN JOAQUIN AS SHOWN ON THE STANDARD DRAWINGS AND THE FOLLOWING:

A. ALL HYDRANTS SHALL COMPLY WITH AWWA C502, LATEST REVISION.

B. ALL OPERATING VALVES SHALL BE LOCATED BELOW GRADE AND PROTECTED BY "BREAK-OFF" FEATURES SO THAT NO WATER FLOWS IF HYDRANT IS KNOCKED OFF.

C. HYDRANT MAIN VALVE SEAT SHALL BE A MINIMUM FIVE AND ONE-QUARTER INCHES (5-1/4").

D. HYDRANT VALVE SHALL BE MOLDED NONSWELLING RUBBER.

E. HYDRANT MAIN VALVE SEAT SHALL BE THREADED INTO A BRONZE TO BRONZE SUBSEAT.

;F. HYDRANT BURY SHALL BE THIRTY-SIX INCHES (36") FROM CONNECTION TO GROUND FLANGE. MATERIALS TO EXTEND THE LENGTH OF BURY MUST BE READILY AVAILABLE.

SERVICE LINES. SERVICE LINES UP TO AND INCLUDING METER CONNECTION SHALL BE AS DETAILED IN SAN JOAQUIN COUNTY STANDARD DRAWINGS, AS APPLICABLE FOR THE SERVICE INTENDED AND WITH THE AWWA STANDARD C800, EXCEPT AS HEREINAFTER MODIFIED OR AS MODIFIED BY THE PLANS AND THESE SPECIAL CONDITIONS.

1. TYPE OF SERVICE LINE PIPE SHALL BE LIMITED TO THE FOLLOWING:

A. COPPER WATER TUBE, TYPE K OR ASTM B-88.

B. ULTRA HIGH MOLECULAR WEIGHT (UHMW) P.E. 3406, P.E. 3408, CS 255-63, POLYETHYLENE AS MANUFACTURED BY DRISCOPIPE, ORANGEBURG OR AN APPROVED EQUAL IN ONE INCH (1") IRON PIPE SIZES ONLY. PLASTIC PIPE LARGER THAN ONE AND ONE-QUARTER INCH (1-1/4") AND UP TO AND INCLUDING TWO INCH (2") IRON PIPE SIZES SHALL BE PB 2110 POLYBUTYLENE. CONNECTION OF PLASTIC PIPE SHALL BE MADE USING MUELLER 110 COMPRESSION CONNECTIONS OR APPROVED EQUAL.

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/05
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 8-22-06

WATER METERS. ALL METERS MUST EQUAL OR EXCEED THE AMERICAN WATER WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR COLD WATER DISPLACEMENT, TYPE A, AWWA C700-77, OR LATEST EDITION.

1. GENERAL

METERS SHALL BE THE LATEST MODELS, MUST HAVE BEEN CATALOGUED FOR MORE THAN FOUR (4) YEARS, AND MUST BE MANUFACTURED BY A COMPANY WITH A MINIMUM OF TEN (10) YEARS EXPERIENCE IN THE MANUFACTURE OF WATER METERS.

SERIAL NUMBERS SHALL BE CLEARLY AND PERMANENTLY IMPRINTED ON THE DIAL LID OR BODY.

ALL METERS SHALL BE OF THE POSITIVE DISPLACEMENT NUTATING AND OSCILLATING TYPE. METERS SHALL BE FURNISHED WITHOUT COUPLINGS OR COMPANION FLANGES.

METER BODY SHALL BE BRONZE, SPLIT CASE DESIGN, AND SHALL BE JOINED TOGETHER BY NOT FEWER THAN FOUR (4) BOLTS. BOLTS AND WASHERS SHALL BE BRONZE OR STAINLESS STEEL.

REGISTER CHAMBER SHALL BE BRONZE, STAINLESS STEEL OR PLASTIC MATERIAL. PROVIDED THAT, IF PLASTIC MATERIAL, THE REGISTER CHAMBER SHALL BE PROTECTED BY A BRASS OR COPPER LINER HERMETICALLY SEALED TO PREVENT INCURSION OF MOISTURE AND DIRT. LENS SHALL BE GLASS SEALED TO LINER. REGISTER CHAMBER SHALL CONTAIN A DESICCATING CAPSULE.

ALL PARTS SHALL BE DESIGNED SO THAT THEY ARE INTERCHANGEABLE WITH COMPARABLE SIZE METERS OF THE SAME MAKE.

METERS MAY BE TESTED UPON DELIVERY AND SHALL REGISTER IN ACCORDANCE WITH AWWA SPECIFICATIONS. ANY METER NOT MEETING THESE SPECIFICATIONS WILL BE SUBJECT TO REJECTION.

METERS FURNISHED UNDER THESE SPECIFICATIONS SHALL BE GUARANTEED TO OPERATE UNDER A WORKING WATER PRESSURE OF ONE HUNDRED-FIFTY (150) POUNDS PER SQUARE INCH WITHOUT LEAKAGE OR DAMAGE TO ANY PART.

DIAL SHALL BE STRAIGHT READING, WITH THE LAST ZERO SHOWN IN WHITE ON BLACK, AND THE PRECEDING NUMERAL OR ODOMETER WHEEL WHITE ON BLACK, AND ALL OTHER PRECEDING ODOMETER WHEELS SHOW NUMERALS IN BLACK ON WHITE. METERS SHALL READ IN GALLONS.

LENS SHALL BE OF HEAVY GLASS MATERIAL AND SHALL WITHSTAND THE EFFECT OF A TWO (2) OUNCE STEEL BALL DROPPED FROM A HEIGHT OF TEN FEET (10').

ALL PARTS OF THE REGISTERS SHALL BE MADE OF NONFERROUS OR CORROSION-RESISTANT MATERIALS.

2. CHAMBERS AND DISCS

METERS EQUIPPED WITH DISCS OF THE FLAT TYPE SHALL BE PROVIDED WITH THRUST ROLLERS MADE OF HARD ROLLED PHOSPHOR BRONZE OR EQUALLY SUITABLE MATERIAL. THE THRUST ROLLER SHAFT SHALL BE SOLIDLY ATTACHED TO THE THRUST ROLLER HEAD, AND ROTATE FREELY IN THE DISC PLATE. IN THE ONE AND ONE-HALF INCH (1 1/2") AND TWO INCH (2") METERS, ONLY THE PART OF THE ROLLER PROTRUDING FROM THE DISC PLATE SHALL BE HARD RUBBER MOUNTED.

3. ORIGINAL METER WEAR AND TEAR ALLOWANCE

MAGNETIC DRIVE, GEAR TRAIN AND DIAL SHALL BE GUARANTEED FOR A PERIOD OF TEN (10) YEARS. SHOULD FAILURE OCCUR FOR ANY CAUSE, VANDALISM AND ABUSE EXCEPTED, DURING THE PERIOD OF THE GUARANTEE, THE COMPLETE UNIT SHALL BE REPLACED BY THE SUPPLIER AT NO COST TO THE WATER PURVEYOR.

4. MEASURING CHAMBER

MEASURING CHAMBER SHALL BE GUARANTEED FOR A PERIOD OF EIGHT (8) YEARS. CHAMBER SHALL BE DESIGNED TO ALLOW PASSAGE OF SAND GRAINS OF NOT GREATER SIZE THAN 50 MESH ASTM, WITHOUT CAUSING STOPPAGE OR CAUSING INCORRECT READING OF MORE THAN ONE-HALF PERCENT (.5%) PER YEAR TESTED AT FLOWS OF FIVE (5) GPM.

5. MEASURING CHAMBER TOLERANCE ALLOWANCE

AN ALLOWANCE OF ONE-HALF PERCENT (.5%) LOSS OF ACCURACY PER YEAR FOR WEAR AND TEAR DEPRECIATION WILL BE ALLOWED. IF STATED TOLERANCES ARE EXCEEDED AT ANY TIME WITHIN THE PERIOD OF GUARANTEE, THE SUPPLIER SHALL REPLACE THE ENTIRE MEASURING CHAMBER, CASE AND COMPLETE DISC AT NO COST TO THE WATER PURVEYOR.

THE COUNTY MAY REMOVE METER ON OR BEFORE ROUTINE MAINTENANCE CHANGE AND WILL TEST METER ON TEST BENCH PRIOR TO ANY REPAIRS TO DETERMINE ACCURACY AND CONDITION OF METER. SHOULD REMOVED METER NOT PERFORM WITHIN THE PERMITTED TOLERANCES, SUCH METER SHALL BE AGAIN TESTED IN THE PRESENCE OF SUPPLIERS REPRESENTATIVE, DISMANTLED IN HIS PRESENCE, AND CAUSE OF FAILURE DETERMINED TO SATISFACTION OF BOTH THE WATER PURVEYOR AND THE SUPPLIER.

UNLESS OTHERWISE SPECIFICALLY NOTED, WATER METERS SHALL BE PURCHASED BY DEVELOPER AND DELIVERED TO UTILITIES MAINTENANCE DIVISION.

FOR METERS LARGER THAN TWO INCHES (2"), IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE COUNTY OF SAN JOAQUIN PRIOR TO INSTALLATION OF METER BOXES TO ASCERTAIN THE DIMENSIONS OF THE METERS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SET METER BOX AND SERVICE FITTINGS IN SUCH A MANNER THAT METER CAN EASILY BE DROPPED IN PLACE.

AIR RELIEF VALVE. THIS WORK SHALL CONSIST OF INSTALLING AIR RELIEF VALVES ON THE WATER MAINS AND SHALL INCLUDE THE INSTALLATION OF THE WATER MAIN SADDLE TAP, PIPING TO THE RELIEF VALVE, VALVE HOUSING ASSEMBLY AND ALL NECESSARY FIXTURES, FITTINGS AND EQUIPMENT TO PROVIDE AIR RELIEF VALVES COMPLETE AND IN PLACE AS SHOWN ON THE PLANS AND AS SPECIFIED IN THESE SPECIAL PROVISIONS.

AIR RELIEF VALVE SHALL BE A UNIVERSAL TYPE AIR AND VACUUM AND PRESSURE RELIEF AIR VALVE, CRISPIN MODEL NO. U10, OR APPROVED EQUAL.

INSTALLATION--THE CONTRACTOR SHALL, UNLESS SPECIFIED OTHERWISE, FURNISH ALL MATERIAL, EQUIPMENT, TOOLS, AND LABOR NECESSARY TO DO THE WORK REQUIRED, AND UNLOAD, HAUL AND DISTRIBUTE ALL PIPE, CASTINGS, FITTINGS, VALVES, HYDRANTS AND ACCESSORIES. THE CONTRACTOR SHALL ALSO REMOVE PAVEMENT AS STIPULATED; EXCAVATE TRENCHES AND PITS TO THE REQUIRED DIMENSIONS; EXCAVATE BELL HOLES; CONSTRUCT AND MAINTAIN ALL BRIDGES FOR TRAFFIC CONTROL SHEET, BRACE, AND SUPPORT AND ADJOINING GROUND OR STRUCTURES WHERE NECESSARY; HANDLE ALL DRAINAGE OR GROUND WATER; PROVIDE BARRICADES, GUARDS, AND WARNING LIGHTS; LAY AND TEST THE PIPE, CASTINGS, FITTINGS, VALVES, HYDRANTS, AND ACCESSORIES; BACKFILL AND CONSOLIDATE THE TRENCHES AND PITS; RESTORE THE ROADWAY SURFACE UNLESS OTHERWISE STIPULATED; REMOVE SURPLUS EXCAVATED MATERIAL; CLEAN THE SITE OF THE WORK; AND MAINTAIN THE STREET OR OTHER SURFACE OVER THE TRENCHES AS SPECIFIED.

WATER MAINS. THE PIPE SHALL BE HANDLED WITH CARE AT ALL TIMES AND IN A MANNER THAT MEETS THE APPROVAL OF THE ENGINEER. EXTREME CARE SHALL BE EXERCISED IN THE USE OF ANY MECHANICAL DEVICES USED IN LAYING THE PIPE TO AVOID SCARRING OR OTHER DAMAGE.

THE COUNTY SHALL BE THE JUDGE OF WHETHER A PIPE IS SERIOUSLY DAMAGED AND ANY PIPE SO CLASSIFIED SHALL BE PERMANENTLY REMOVED FROM THE SITE OF THE WORK.

THE INSIDE OF ALL PIPES AND COUPLINGS SHALL BE FREE FROM DIRT, GREASE, OR OTHER DELETERIOUS MATERIALS. THE OPEN ENDS OF ALL PIPE PREVIOUSLY LAID SHALL BE ADEQUATELY PLUGGED WATER TIGHT WHENEVER PIPE LAYING OPERATIONS ARE SUSPENDED AT THE END OF EACH WORK DAY, OR FOR ANY OTHER REASON.

SELECT MATERIAL SHALL BE PLACED AND THOROUGHLY COMPACTED ACROSS THE BOTTOM OF THE TRENCH TO PROVIDE FULL SUPPORT OF ALL THE PIPE. BELLS AND/OR COUPLINGS SHALL HAVE SOIL REMOVED TO PROVIDE A UNIFORM BEARING.

ALL CONNECTIONS TO EXISTING LINES SHALL BE MADE WITH FLANGED FITTINGS WITH ISOLATION PLATES. CONNECTION DETAILS SHALL BE SUBJECT TO APPROVAL BY THE COUNTY.

WATER SERVICES. THIS WORK SHALL CONSIST OF INSTALLING WATER SERVICE CONNECTIONS CONSISTING OF WATER MAIN SADDLE TAPS, SERVICE LINES, METER BOXES, METERS AND ALL NECESSARY FIXTURES AND FITTING TO PROVIDE WATER SERVICE CONNECTIONS AS SHOWN ON THE PLANS AND AS SPECIFIED IN THESE SPECIAL PROVISIONS.

EXCAVATION AND BACKFILL. EXCAVATION AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19C, "EARTHWORK (STRUCTURE EXCAVATION AND BACKFILL)," OF THESE SPECIAL PROVISIONS.

CA: 800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
NV: 800-227-2600

EXCAVATION AND BACKFILL. EXCAVATION AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19C, "EARTHWORK (STRUCTURE EXCAVATION AND BACKFILL)," OF THESE SPECIAL PROVISIONS.

THE PIPE SHALL BE LAID IN A TRENCH EXCAVATED TO THE LINES AND GRADES DESIGNATED BY THE ENGINEER. THE BOTTOM OF THE TRENCH SHALL BE GRADED AND PREPARED TO PROVIDE A FIRM AND UNIFORM BEARING THROUGHOUT THE ENTIRE LENGTH OF THE PIPE BARREL.

SUITABLE EXCAVATION SHALL BE MADE TO RECEIVE THE BELL OF THE PIPE AND THE JOINT SHALL NOT BEAR UPON THE BOTTOM OF THE TRENCH. ALL ADJUSTMENT TO LINE AND GRADE SHALL BE MADE BY SCRAPING AWAY OR FILLING IN WITH SAND, GRAVEL, OR GRANULAR MATERIAL UNDER THE BODY OF THE PIPE, AND NOT BY WEDGING OR BLOCKING.

TRENCHES SHALL NOT BE LEFT OPEN FARTHER THAN THREE HUNDRED FEET (300') IN ADVANCE OF PIPE LAYING OPERATIONS OR TWO HUNDRED FEET (200') TO THE REAR THEREOF, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

THE EXCAVATION SHALL BE SUPPORTED SO THAT IT WILL BE SAFE AND THAT THE GROUND ALONGSIDE THE EXCAVATION WILL NOT SLIDE OR SETTLE, AND ALL EXISTING IMPROVEMENTS, EITHER ON PUBLIC OR PRIVATE PROPERTY, WILL BE FULLY PROTECTED FROM DAMAGE.

ALL SUPPORTS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AND SHALL BE WITHDRAWN IN A MANNER THAT WILL PREVENT THE CAVING OF THE SIDES OF THE EXCAVATION. ALL OPENINGS CAUSED BY THE REMOVAL OF SUPPORTS SHALL BE FILLED WITH SUITABLE MATERIAL PROPERLY COMPACTED.

BACKFILL MATERIALS SHALL BE PLACED ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY TO PREVENT ANY UNDUE STRAIN ON THE PIPE.

COMPACTING EQUIPMENT OR METHODS THAT MAY DAMAGE THE PIPE OR CAUSE EXCESSIVE DISPLACEMENT SHALL NOT BE USED.

ALL PIPE DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER.

TRENCH RESURFACING. TRENCHES IN EXISTING STREETS SHALL BE RESURFACED WITH THE TYPE AND THICKNESS OF BASES, SURFACING OR PAVEMENT SHOWN ON THE PLANS AND/OR STANDARD DRAWING.

THE CONTRACTOR SHALL PROCEED IMMEDIATELY TO RESURFACE ANY PART OF ANY EXCAVATION UPON NOTICE FROM THE COUNTY WITHOUT WAITING FOR COMPLETION OF THE FULL LENGTH OF LINE.

TESTING. THE TEST FOR HYDROSTATIC PRESSURE SHALL COMMENCE NO SOONER THAN SEVEN (7) DAYS AFTER THE LAST CONCRETE THRUST BLOCK HAS BEEN CAST WITH STANDARD CEMENT OR AT LEAST AFTER THIRTY-SIX (36) HOURS WITH HIGH EARLY STRENGTH CEMENT, AND AFTER BACKFILLING AND COMPACTING THE TRENCH TO THE PLANE UPON WHICH THE ASPHALT CONCRETE SURFACING IS TO BE PLACED. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO ENSURE THAT THE PIPE FITTINGS, COUPLINGS, VALVES, AND OTHER APPURTENANCES ARE NOT DISPLACED DURING THE TEST. TWENTY-FOUR (24) HOURS PRIOR TO THE TIME OF THE TEST, THE SECTIONS OF PIPE TO BE TESTED SHALL BE FILLED WITH WATER, AND CARE SHALL BE EXERCISED TO ASSURE REMOVAL OF ALL AIR FROM THE PIPE. AFTER THE TWENTY-FOUR (24) HOUR PERIOD, THE COMPLETED PIPE SECTIONS TO BE TESTED SHALL BE SUBJECTED TO A HYDROSTATIC TEST PRESSURE OF ONE HUNDRED FIFTY (150) POUNDS PER SQUARE INCH FOR TWO (2) HOURS. DURING THIS PERIOD THE TEST PRESSURE SHALL BE MAINTAINED AND THE AMOUNT OF MAKE-UP WATER MEASURED. THE LEAKAGE RATE FOR THIS TEST SHALL NOT EXCEED 0.01 GALLONS FOR EACH INCH OF DIAMETER FOR EACH PIPE JOINT IN THE SECTION BEING TESTED.

ANY LEAKS, FAILURES, OR IMPERFECT CONSTRUCTION REVEALED DURING THE TEST PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE. THE CONTRACTOR SHALL REPAIR ALL DEFECTS, FILL AND RECOMPACT THE TRENCH AND RETEST THE SECTION OF LINE UNTIL SATISFACTORY RESULTS ARE OBTAINED.

INTERRUPTION OF SERVICE. NO VALVE OR OTHER CONTROL ON AN EXISTING SYSTEM SHALL BE OPERATED FOR ANY PURPOSE BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH [1* AND SAN JOAQUIN COUNTY PUBLIC WORKS TO OPERATE ANY VALVE, HYDRANT, BLOWOFF OR CURB STOP. THE CONTRACTOR SHALL GIVE A MINIMUM OF TWENTY-FOUR (24) HOURS NOTICE PRIOR TO THE TIME OF PROPOSED INTERRUPTION. INTERRUPTIONS OF SERVICE SHALL NOT EXCEED FOUR (4) HOURS.

DISINFECTING WATER MAINS--THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, TOOLS AND LABOR NECESSARY TO DO THE WORK REQUIRED TO DISINFECT THE NEW WATER MAINS AS SPECIFIED IN THESE SPECIAL PROVISIONS AND AS DIRECTED BY THE COUNTY. THE INTERIOR OF ALL PIPE, FITTINGS, AND OTHER ACCESSORIES SHALL BE KEPT AS FREE AS POSSIBLE FROM DIRT, FOREIGN MATERIAL AND BACTERIA AT ALL TIMES. DURING PIPE LAYING OPERATIONS, WHEN BACTERIAL CONTAMINATION OF INTERIOR PIPE SURFACES IS OBVIOUS OR SUSPECTED BY THE DIRECTOR, HE MAY ORDER SAID SURFACES TO BE SWABBED WITH AN APPROVED BACTERICIDAL SOLUTION.

DISINFECTION OF NEW WATER MAINS SHALL BE ACCOMPLISHED BY USING EITHER METHOD NO. 1 OR METHOD NO. 2 AS SPECIFIED IN THESE SPECIAL PROVISIONS.

ISOLATION OF NEW MAINS. ALL NEW WATER LINES SHALL BE COMPLETELY ISOLATED FROM ALL EXISTING MAINS UNTIL THEY HAVE BEEN TESTED AND DISINFECTED TO THE SATISFACTION OF THE DIRECTOR. NEW MAINS MAY BE FILLED FROM EXISTING MAINS, BUT ONLY WHEN USING AN APPROVED TEMPORARY TAP ASSEMBLY. THE TEMPORARY TAP SHALL CONSIST OF A SHUT OFF VALVE AND A STATE DEPARTMENT OF HEALTH SERVICES APPROVED REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. CONNECTION DETAILS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL PRIOR TO INSTALLATION.

* ADD NAME OF CSA OR MAINTENANCE DISTRICT

WHEN THE NEW MAIN IS PROPERLY DISINFECTED AND THE ISOLATION DAM IS REMOVED FROM CONNECTION FLANGE OR OTHER TYPE CONNECTION IS MADE, EXTREME CARE SHALL BE EXERCISED TO PREVENT THE ENTRY OF CONTAMINATION. CONNECTION FITTINGS SHALL BE THOROUGHLY SWABBED WITH AN APPROVED BACTERICIDE IMMEDIATELY PRIOR TO THEIR INSTALLATION.

FLUSH THE MAINS THOROUGHLY AT THE END OF THE CONTACT PERIOD. THE ORTHOTOLIDINE TEST SHALL SHOW NO MORE CHLORINE IN THE WATER LEAVING THE MAIN THAN IN THE WATER ENTERING THE MAIN.

THE CONTRACTOR SHALL COLLECT A SAMPLE FOR BACTERIOLOGICAL EXAMINATION IN A STERILE BOTTLE PROVIDED BY THE LABORATORY. ON THE LABEL, GIVE DATE, ADDRESS, AND THE NAME OR NUMBER FOR THE PROJECT. WHERE POSSIBLE THE SAMPLE SHOULD BE TAKEN FROM A SERVICE LOCATED NEAR THE END OF THE CHLORINATION SECTION, OTHERWISE, IT MAY BE TAKEN THROUGH THE SAME BLOWOFF USED FOR FLUSHING THE HEAVILY CHLORINATED WATER OUT OF THE MAIN SO THAT THE BLOWOFF IS STERILIZED.

IF THE BACTERIOLOGICAL TESTS ARE UNSATISFACTORY, THE MAIN SHALL BE RESTERILZED USING METHOD NO. 2, AND THE STERILIZATION REPEATED, IF NECESSARY, UNTIL SATISFACTORY RESULTS ARE OBTAINED.

1. METHOD NO. 1 – H.T.H. TABLET METHOD. THIS METHOD IS PREFERRED FOR SHORT JOBS AND FOR SMALL DIAMETER PIPE OF ANY KIND. IT CANNOT BE USED WHERE TRENCH WATER HAS ENTERED THE MAIN. THE MAIN CANNOT BE FLUSHED PRIOR TO STERILIZATION, SO THE METHOD REQUIRES THAT THE PIPE BE KEPT CLEAN DURING INSTALLATION.

USING PERMATEX NO. 1 AS AN ADHESIVE, FASTEN THE REQUIRED NUMBER OF TABLETS (SEE TABLE I) TO THE INSIDE TOP OF EACH LENGTH OF PIPE. THE TABLETS MAY BE FASTENED TO THE PIPE BEFORE IT IS PLACED IN THE TRENCH PROVIDING THE TOP OF THE PIPE IS MARKED TO ENSURE THAT THE TABLETS ARE ON THE TOP OF THE PIPE AFTER INSTALLATION.

WHEN USING DRESSER OR SIMILAR COUPLINGS, AN ADDITIONAL TABLET SHALL BE CRUSHED AND PLACED IN THE ANNULAR SPACE BETWEEN THE COUPLING AND THE PIPE. FILL THE PIPE VERY SLOWLY AND PROCEED AS OUTLINED UNDER GENERAL INSTRUCTIONS OF THE MANUFACTURER.

METHOD NO. 2 – H.T.H. SOLUTION WITH HAND PUMP METHOD. THIS METHOD IS GENERAL IN SCOPE AND MUST BE USED WHEN IT IS NECESSARY TO RECHLORINATE AN EXISTING MAIN. WHEN THIS METHOD IS USED ON A MAIN COUPLED WITH DRESSER OR SIMILAR COUPLINGS, A PINCH OF H.T.H. POWDER SHALL BE PLACED IN EACH COUPLING AS THE MAIN IS LAID. EQUIPMENT REQUIRED INCLUDES AN ORDINARY HAND TEST PUMP, SOLUTION HOSE, AND A FIVE (5) GALLON CAN TO CONTAIN THE CHLORINE SOLUTION.

A COMPACT AND CONVENIENT ASSEMBLY CAN BE MADE BY MOUNTING THE SOLUTION CAN AND THE PUMP ON A SUITABLE BOARD WITH A PIPE CONNECTION FROM THE TANK ON THE SUCTION SIDE OF THE PUMP.

H.T.H. COMES AS A POWDER WHICH MUST BE DISSOLVED IN WATER. STRONG CHLORINE SOLUTIONS SHOULD BE HANDLED WITH CARE ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

MAKE UP CHLORINE SOLUTION ACCORDING TO TABLE II. THE QUANTITY REQUIRED IS ESTIMATED FROM TABLE II. AN EXCESS VOLUME SHOULD BE PREPARED SO AS NOT TO EMPTY THE CONTAINER BEFORE THE JOB IS COMPLETE.

CONNECT PUMP TO MAIN. USE A CORPORATION COCK FOR THIS PURPOSE AND MAKE CONNECTION AT OR AHEAD OF THE INLET END OF THE NEW LINE.

AFTER FINISHING APPLICATION OF CHLORINE, CLOSE VALVE OR BLOWOFF. DISCONNECT AND FLUSH PUMP THOROUGHLY WITH FRESH WATER.

IF THE ABOVE PROCEDURE HAS TO BE VARIED BECAUSE OF SOME UNUSUAL CONDITION, IT WILL BE NECESSARY ONLY TO REGULATE THE PUMP, CONTROL THE WATER FLOW, OR ADJUST THE STRENGTH OF THE CHLORINE SOLUTION TO GIVE A DOSE OF AT LEAST FIFTY (50) PPM.

TABLE I

NUMBER OF TABLETS REQUIRED FOR MAIN STERILIZATION

Length of Section	Diameter of Pipe 2"	4"	6"	8"	10"	12"
13' or Less	1	1	2	2	3	5
18'	1	1	2	3	5	6
20'	1	1	2	3	5	7
30'	1	2	3	5	7	10
40'	1	2	4	6	9	14

TABLE II

CHLORINE SOLUTION STRENGTH
HAND PUMP METHOD OF MAIN CHLORINATION

Amount of chemical in 5 Gallons of Solution

Discharge Rate GPM	H.T.H.
10	0.25 lbs.
20	0.50 lbs.
35	0.75 lbs.
50	1.00 lbs.
75	1.50 lbs.
100	2.00 lbs.

OOSE A SUITABLE DISCHARGE RATE AND DETERMINE THE TIME REQUIRED TO APPLY THE CHLORINE FROM TABLE III. COMPARE THE GALLONS OF SOLUTION REQUIRED BY DIVIDING THIS TIME BY THREE (3).

USE THE ABOVE TABLE TO DETERMINE THE STRENGTH OF SOLUTION REQUIRED. EXAMPLE: IF THE ESTIMATE TIME FROM TABLE III IS THIRTY-FIVE (35) MINUTES, 11-2/3 GALLONS WILL BE REQUIRED; AND IF THE DISCHARGE RATE IS FIFTY (50) GPM, THE SOLUTION SHOULD CONTAIN ONE (1) POUND OF H.T.H. IN FIVE (5) GALLONS. PREPARE FIFTEEN (15) GALLONS OF SOLUTION SO AS TO BE SURE OF HAVING AN ADEQUATE AMOUNT.

OPERATE THE HAND PUMP AT A RATE OF FIVE (5) GALLONS IN FIFTEEN (15) MINUTES, OR ONE (1) GALLON IN THREE (3) MINUTES.

TABLE III

Time in Minutes to Apply Chlorine to 100 Feet of Pipe

Discharge Rate GPM	2"	4"	6"	8"	10"	12"
10	2	7	15	26	41	59
20		3	7	13	20	29
35		2	4	8	12	17
50			3	5	8	12
75			2	4	6	8
100				3	4	6

THE ABOVE TABLE IS USED TO ESTIMATE THE TIME REQUIRED TO APPLY CHLORINE. FOR EXAMPLE: SEVEN HUNDRED FEET (700') OF EIGHT INCH (8") MAIN CAN BE FILLED WITH CHLORINE SOLUTION IN THIRTY-FIVE (35) MINUTES WITH A DISCHARGE RATE OF FIFTY (50) GPM.

REDUCED PRESSURE BACKFLOW PREVENTER--THE REDUCED PRESSURE BACKFLOW PREVENTER SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF TWO (2) SEPARATE SPRING LOADED CHECK VALVES AND A DIFFERENTIAL RELIEF VALVE. THESE DEVICES SHALL AUTOMATICALLY REDUCE THE PRESSURE IN THE "ZONE" BETWEEN THE CHECK VALVES.

BOTH CHECK VALVES AND THE DIFFERENTIAL RELIEF VALVE SHALL BE CONSTRUCTED SO THAT THEY MAY BE SERVICED WITHOUT REMOVING THE DEVICE FROM THE LINE. THE DEVICES SHALL BE RATED TO 175.0 PSI WORKING PRESSURE.

THE REDUCED PRESSURE BACKFLOW PREVENTER SHALL BE AWWA OR USC APPROVED AND SHALL BE INSTALLED SO THAT FLOODING WOULD NOT CAUSE THE RELIEF VALVE TO BECOME SUBMERGED. IT SHALL BE INSTALLED A MINIMUM OF TWELVE INCHES (12") ABOVE GRADE.

SECTION 81

MONUMENTS--MONUMENTS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 81, "MONUMENTS," OF THE STANDARD SPECIFICATIONS, STANDARD DRAWINGS AND THESE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PLACE PROTECTIVE MONUMENT FRAMES AND COVERS AT THE LOCATIONS SHOWN ON THE PLANS. THE LOCATION OF THE MONUMENT FRAMES AND COVERS SHALL BE ESTABLISHED BY THE ENGINEER.

SECTION 84

TRAFFIC STRIPES AND PAVEMENT MARKINGS--TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 84, "TRAFFIC STRIPES AND PAVEMENT MARKINGS," OF THE STANDARD SPECIFICATIONS.

SECTION 86

STREET LIGHTS--STREET LIGHTS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 86, "SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS," OF THE STANDARD SPECIFICATIONS, THE SAN JOAQUIN COUNTY IMPROVEMENT STANDARDS AND STANDARD DRAWINGS.

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

GENERAL NOTES AND SPECIFICATIONS

PREPARED IN THE OFFICE OF:

SIEGFRIED ENGINEERING, INC.

- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: AS SHOWN
SHEET C-5 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVMENTS\04251-C05-NOTES.dwg 08/22/06

PORTLAND CEMENT USED IN THE PRODUCTION OF CONCRETE PRODUCTS SET FORTH IN THIS SECTION SHALL CONFORM TO THE PROVISIONS IN SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS.

CEMENT MORTAR SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

PRIOR TO CAULKING VITRIFIED CLAY PIPE WITH CEMENT MORTAR, NOT MORE THAN ONE-THIRD THE ANNULAR SPACE SHALL FIRST BE CAULKED WITH JUTE PRE-DIPPED IN CEMENT SLURRY.

HOT-POURED COMPOUNDS AND PRIMERS CONSISTING OF BITUMINOUS OR COAL TAR PRODUCTS, AND USED FOR CAULKING BELL AND SPIGOT TYPE VITRIFIED CLAY PIPE, SHALL BE OF THE TYPE RECOMMENDED BY THE PIPE MANUFACTURER FOR THE PURPOSE INTENDED.

THE PRIMER SHALL BE APPLIED TO THE SPIGOT AND INSIDE OF THE BELL AT LEAST TWENTY-FOUR (24) HOURS BEFORE THE JOINTS ARE POURED. THE SURFACES SHALL BE DRY BEFORE APPLYING THE PRIMER.

THE JOINTS OF VITRIFIED CLAY PIPE SHALL BE CAULKED WITH DRY JUTE PRIOR TO POURING THE HOT COMPOUNDS. THE COMPOUND SHALL BE HEATED TO THE TEMPERATURE RECOMMENDED BY THE MANUFACTURER.

FLEXIBLE COMPRESSION JOINTS IN VITRIFIED CLAY PIPE AND RESILIENT JOINT MATERIALS TO BE USED THEREIN SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION: C 425.

RUBBER GASKETED JOINTS SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

MISCELLANEOUS IRON AND STEEL ITEMS SHALL CONFORM TO THE PROVISIONS IN SECTION 75, "MISCELLANEOUS METAL," OF THE STANDARD SPECIFICATIONS.

REINFORCEMENT SHALL CONFORM TO THE PROVISIONS IN SECTION 52, "REINFORCEMENT," OF THE STANDARD SPECIFICATIONS.

CONCRETE SHALL CONFORM TO THE PROVISIONS IN SECTION 51, "CONCRETE STRUCTURES," AND SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS. CONCRETE FOR SEWER STRUCTURES SHALL BE CLASS A UNLESS OTHERWISE SHOWN ON THE PLANS.

INSTALLATION

EXCAVATION AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19 ALTERNATE C, "EARTHWORK (STRUCTURE EXCAVATION AND BACKFILL)," OF THESE SPECIAL PROVISIONS.

THE PIPE SHALL BE LAID IN A TRENCH EXCAVATED TO THE LINES AND GRADES DESIGNATED BY THE ENGINEER. THE BOTTOM OF THE TRENCH SHALL BE GRADED AND PREPARED TO PROVIDE A FIRM AND UNIFORM BEARING THROUGHOUT THE ENTIRE LENGTH OF THE PIPE BARREL.

SUITABLE EXCAVATION SHALL BE MADE TO RECEIVE THE BELL OF THE PIPE AND THE JOINT SHALL NOT BEAR UPON THE BOTTOM OF THE TRENCH. ALL ADJUSTMENT TO LINE AND GRADE SHALL BE MADE BY SCRAPING AWAY OR FILLING IN WITH SAND, GRAVEL, OR GRANULAR MATERIAL UNDER THE BODY OF THE PIPE, AND NOT BY WEDGING OR BLOCKING.

TRENCHES SHALL NOT BE LEFT OPEN FARTHER THAN THREE HUNDRED FEET (300') IN ADVANCE OF PIPE LAYING OPERATIONS OR TWO HUNDRED FEET (200') TO THE REAR THEREOF, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

THE EXCAVATION SHALL BE SUPPORTED SO THAT IT WILL BE SAFE AND THAT THE GROUND ALONGSIDE THE EXCAVATION WILL NOT SLIDE OR SETTLE, AND ALL EXISTING IMPROVEMENTS, EITHER ON PUBLIC OR PRIVATE PROPERTY, WILL BE FULLY PROTECTED FROM DAMAGE.

ALL SUPPORTS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AND SHALL BE WITHDRAWN IN A MANNER THAT WILL PREVENT THE CAVING OF THE SIDES OF THE EXCAVATION. ALL OPENINGS CAUSED BY THE REMOVAL OF SUPPORTS SHALL BE FILLED WITH SUITABLE MATERIAL PROPERLY COMPACTED.

BACKFILL OF PIPE TRENCHES MAY BE PLACED WHILE THE JOINT MORTAR IS STILL PLASTIC. SHOULD THE JOINT MORTAR BECOME SET BEFORE THE BACKFILL IS PLACED, BACKFILLING THE PIPE TRENCHES SHALL NOT BE COMMENCED WITHIN SIXTEEN (16) HOURS OF JOINTING THE PIPE SECTIONS.

PIPE SHALL BE PROTECTED DURING HANDLING AGAINST IMPACT SHOCKS AND FREE FALL.

WHEN THE NEW FACILITIES INTERFERE WITH THE EXISTING FLOW OF SEWAGE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY BYPASS FACILITIES AT HIS EXPENSE.

THE PIPE SHALL BE LAID WITHOUT BREAK UPGRADE FROM STRUCTURE TO STRUCTURE, WITH BELL END UPGRADE FOR BELL AND SPIGOT PIPE, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

SEWER PIPE SHALL BE CONNECTED TO EXISTING FACILITIES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

WHENEVER THE WORK CEASES FOR ANY REASON, THE END OF THE PIPE SHALL BE SECURELY CLOSED WITH A TIGHT FITTING PLUG OR COVER.

WHENEVER EXISTING PIPES ARE TO BE CUT OR ABANDONED, THE OPEN ENDS OF SAID PIPES SHALL BE SECURELY CLOSED BY A TIGHT FITTING PLUG OR WALL OF CONCRETE NOT LESS THAN 0.5 FOOT THICK.

ALL JOINTS SHALL BE CAREFULLY CLEANED ON THE INSIDE.

STOPPERS FOR PIPES AND BRANCHES LEFT UNCONNECTED SHALL BE MADE OF THE SAME MATERIAL AS THE PIPE, OR OF RESILIENT JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION: C 425. AFTER PLACING THE STOPPER, IT SHALL BE COVERED WITH A LAYER OF SEALANT. THE SEALANT SHALL BE SUFFICIENTLY FLUID TO ENSURE FREE FLOW AROUND THE STOPPER.

WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, SEWER PIPE SHALL BE ENCASED IN CONCRETE, REINFORCED WITH CONCRETE, OR BACKFILLED WITH CONCRETE, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

CONCRETE FOR PIPE ENCASEMENT, PIPE REINFORCEMENT, AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 90-10, "MINOR CONCRETE," OF THE STANDARD SPECIFICATIONS, EXCEPT THAT THE MINOR CONCRETE SHALL CONTAIN NOT LESS THAN FOUR HUNDRED-SEVENTY (470) POUNDS OF CEMENT PER CUBIC YARD.

ALL CONCRETE SHALL BE CURED FOR A PERIOD OF NOT LESS THAN TEN (10) DAYS AFTER BEING PLACED AND SHALL BE PROTECTED FROM DAMAGE.

NEW MANHOLES, DROP INLET CONNECTIONS, LAMPHOLES, SERVICE LATERALS, SERVICE CLEANOUTS, TERMINAL CLEANOUT STRUCTURES, AND PIPE CHIMNEYS FOR SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS, AS SPECIFIED IN THESE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.

PRECAST CONCRETE PIPE MANHOLES SHALL CONFORM TO THE PROVISIONS IN SECTION 70, "MISCELLANEOUS FACILITIES," OF THE STANDARD SPECIFICATIONS, EXCEPT FOR MEASUREMENT AND PAYMENT.

WHEN THE MANHOLE IS LOCATED IN THE PAVEMENT AREA, IT SHALL NOT BE CONSTRUCTED TO FINAL GRADE UNTIL THE PAVEMENT HAS BEEN COMPLETED.

THE INSIDE BOTTOMS OF EXISTING MANHOLES, WHERE NEW CONNECTIONS ARE MADE, AND OF NEW MANHOLES SHALL BE SHAPED TO PROVIDE CHANNELS CONFORMING TO THE SIZE AND SHAPE OF THE LOWER PORTION OF THE INLETS AND OUTLETS OF THE MANHOLES. THE CHANNELS SHALL VARY UNIFORMLY IN SIZE AND SHAPE FROM INLET TO OUTLET.

NO PIPE SHALL PROJECT MORE THAN 0.17 FOOT INTO A MANHOLE AND IN NO CASE SHALL THE BELL OF A PIPE BE BUILT INTO THE WALL OF A MANHOLE OR STRUCTURE.

MANHOLE COATING

ALL NEW MANHOLES, AS DEFINED BELOW, DOWNSTREAM FROM HYDROGEN SULFIDE PRODUCING STRUCTURES, TO THE POINT OF CONNECTION INTO THE EXISTING: SYSTEM, SHALL RECEIVE A PROTECTIVE COATING. IN ADDITION, ANY EXISTING MANHOLES DOWNSTREAM FROM NEW HYDROGEN SULFIDE PRODUCING SEWER SYSTEMS THAT THE ENGINEER DETERMINES MAY BE AFFECTED BY NEW SEWER SYSTEMS SHALL BE COATED. AT A MINIMUM, ALL SANITARY SEWER MANHOLES DOWNSTREAM FROM ALL PUMP STATIONS, DROP MANHOLES, AND MANHOLE PUMPING STATIONS SHALL BE COATED. ALL MANHOLES USED FOR MANHOLE PUMPING STATIONS SHALL BE COATED. ALL MANHOLES CONSTRUCTED ON SEWER LINES TWENTY-FOUR INCHES (24") AND LARGER, AND ANY OTHER STRUCTURE WHERE THE ENGINEER DETERMINES THAT HYDROGEN SULFIDE GAS MAY BE A PROBLEM, SHALL BE COATED.

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/05
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 8-22-06

THE COATING MATERIAL SHALL HAVE A MINIMUM POT LIFE OF THIRTY-FIVE (35) MINUTES AT 70° F AND A DRYING TIME (ASTM D-L640) OF FOUR (4) HOURS. THE FLASH POINT OF THE INDIVIDUAL COMPONENTS AND THE FLUID MIXTURE SHALL BE A MINIMUM OF 220° F (COC). THE COATING MATERIAL SHALL HAVE A LOW TEMPERATURE TOTAL CURE CAPABILITY OF 40° F, MINIMUM.

THE CURED COATING MATERIAL SHALL HAVE SUFFICIENT ABRASION RESISTANCE TO EXHIBIT A WEIGHT LOSS OF LESS THAN NINETY-TWO (92) MG WHEN MEASURED IN ACCORDANCE WITH ASTM D-4060. ADHESION (ASTM D-454L) SHALL BE 400.0 PSI, MINIMUM, WITH A DIRECT IMPACT RESISTANCE (ASTM D-2794) OF EIGHTEEN INCH-POUNDS (18"-LBS). THE CURED COATING SHALL BE CAPABLE OF REPAIR AT ANY TIME DURING ITS LIFE.

THE COATING SHALL BE RESISTANT TO ATTACK FROM THE FOLLOWING: OXIDIZING AGENTS SUCH AS BLEACHES, SULFURIC, ACETIC, HYDROCHLORIC, PHOSPHORIC, NITRIC, CHROMIC, OLEIC, AND STEARIC ACIDS; SODIUM AND CALCIUM HYDROXIDIES, AMMONIUM, SODIUM, CALCIUM, MAGNESIUM, AND FERRIC CHLORIDES; FERRIC SULFATE, PETROLEUM OILS AND GREASES, VEGETABLE AND ANIMAL OILS, FATS, GREASES, SOAPS, AND DETERGENTS. THE COATING SHALL BE IMPERMEABLE TO SEWAGE GASES AND LIQUIDS AND SHALL NOT BE CONDUCIVE TO BACTERIAL OR FUNGAL GROWTH.

SURFACES TO BE COATED SHALL BE CLEANED OF ALL DIRT, DUST, CORROSION, LOOSE CONCRETE, GREASE, OILS AND FOREIGN MATTER. SURFACE SHALL BE ABRASIVE TREATED TO ACHIEVE A FINISH CONFORMING TO ASTM D-4259. SURFACES SHALL BE DRY PRIOR TO RECEIVING COATINGS.

PRECAST CONCRETE PIPE SECTIONS SHALL BE CORED FOR THE INSTALLATION OF PIPE AND OTHER PENETRATIONS PRIOR TO BEING COATED. COATING SHALL EXTEND TO THE OUTSIDE EDGE OF ALL HOLES AND JOINTS.

THE EPOXY MATERIAL SHALL BE APPLIED BY HIGH PRESSURE AIRLESS SPRAY EQUIPMENT. THE COATING SHALL BE APPLIED USING CROSS SPRAY METHODS TO ELIMINATE PINHOLING AND SHADOWING. THE EPOXY PRIMER SHALL BE APPLIED TO ACHIEVE AN INITIAL THICKNESS OF THREE (3) TO SIX (6) MIL. THE EPOXY COATING MATERIAL SHALL BE APPLIED IN A SINGLE COAT MULTIPLE PASS APPLICATION TO ACHIEVE A DRY FILM THICKNESS OF SIXTY (60) MIL, MINIMUM.

ALL COATING OPERATIONS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER. ALL COATING WORK DONE IN THE ABSENCE OF THE ENGINEER IS SUBJECT TO REJECTION UNLESS SPECIFICALLY APPROVED, IN WRITING, BY THE ENGINEER PRIOR TO THE WORK BEING PERFORMED. THE ENGINEER SHALL HAVE ACCESS TO THE CONSTRUCTION SITE AND THOSE AREAS INVOLVED WITH THE PERFORMANCE OF THE COATING WORK. ALL APPLICABLE SAFETY EQUIPMENT AND SUITABLE RESPIRATORS SHALL BE USED DURING COATING OPERATIONS AS RECOMMENDED BY THE MANUFACTURER AND THE MATERIAL SAFETY DATA SHEETS.

THE COATING SHALL BE FREE OF ALL BLISTERS, PINHOLES, HOLIDAYS AND DISCONTINUITIES. THE FINISHED COATING SHALL BE TESTED FOR PINHOLES AND DISCONTINUITIES USING A HIGH-VOLTAGE SPARK TESTER. ALL TESTING SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER. THE TESTING SHALL BE PERFORMED AT A MINIMUM VOLTAGE OF 125 VOLTS PER MIL OF DRY FILM THICKNESS. THE CONTRACTOR SHALL VERIFY THE PROPER OPERATION OF THE TESTING EQUIPMENT AS PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO SPARK TESTING. SPARK TESTER SHALL BE TINKER-RASOR AP-W, OR APPROVED EQUAL.

ALL AREAS REQUIRED TO BE REPAIRED AS DETERMINED BY TESTING AND INSPECTION, SHALL BE FIRST SPOT SCARIFIED AND THEN SPOT RECOATED AS PER MANUFACTURER'S RECOMMENDATIONS.

TESTING AND INSPECTION

PRIOR TO PERFORMING TESTS, THE PIPE INSTALLATION SHALL BE THOROUGHLY CLEANED. CLEANING SHALL BE PERFORMED BY THE CONTRACTOR BY MEANS OF AN INFLATABLE RUBBER BALL. THE BALL SHALL BE OF A SIZE THAT WILL INFLATE TO FIT SNUGLY INTO THE PIPE TO BE TESTED. THE BALL SHALL BE CONTROLLED WITH A TAG LINE. THE BALL SHALL BE PLACED IN THE LAST LAMPHOLE OR MAINTENANCE HOLE ON THE PIPE TO BE CLEANED, AND WATER SHALL BE INTRODUCED BEHIND IT. THE BALL SHALL PASS THROUGH THE PIPE WITH ONLY THE PRESSURE OF THE WATER IMPELLING IT. ALL DEBRIS FLUSHED OUT AHEAD OF THE BALL SHALL BE REMOVED AT THE FIRST MAINTENANCE HOLE WHERE ITS PRESENCE IS NOTED. IN THE EVENT CEMENT OR WEDGED DEBRIS OR A DAMAGED PIPE SHALL STOP THE BALL, THE CONTRACTOR SHALL REMOVE THE OBSTRUCTION.

FOLLOWING THE PLACEMENT AND COMPACTION OF BACKFILL AND PRIOR TO PLACEMENT OF PERMANENT PAVEMENT, THE CONTRACTORS SHALL PERFORM A DEFLECTION TEST ON THE PIPE. IF THE PIPE SHOULD FAIL THE DEFLECTION TEST, THE CONTRACTOR SHALL UNCOVER THE PIPE AND MAKE ADJUSTMENTS IN THE BEDDING AND/OR BACKFILL CONDITIONS THAT WILL BE NECESSARY TO ACHIEVE A PASSING TEST. THE TRENCH SHALL BE BACKFILLED AND STREET SUBGRADE SHALL BE RECOMPACTED AND THE PIPE RETESTED. ANY CORRECTIVE MEASURES FOUND NECESSARY TO MEET THE DEFLECTION REQUIREMENTS, INCLUDING RECOMPACTION AND REGRADING OF THE STREET SUBGRADE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SANITARY SEWER PIPE.

THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT NEEDED TO COMPLETE THIS TEST. THE COST FOR THE DEFLECTION TEST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SANITARY SEWER PIPE. DEFLECTION TEST SHALL BE CONDUCTED AFTER THE PLACEMENT AND DENSIFICATION OF BACKFILL.

THE CONTRACTOR SHALL FURNISH PROPERLY SIZED MANDRELS FOR SIZE AND TYPE OF PIPE INSTALLED. CERTIFICATION OF PROPER SIZE SHALL BE REQUIRED AND MANDREL IDENTIFIED IN A MANNER TO IDENTIFY WITH CERTIFICATION.

FOR ABS PIPE--ALL MAINLINE PIPE SHALL BE CLEANED AND THEN MANDRELLED TO MEASURE FOR OBSTRUCTIONS (DEFLECTION, JOINT OFFSETS, LATERAL INTRUSIONS, ETC.). A RIGID MANDREL WITH A CIRCULAR CROSS-SECTION HAVING A DIAMETER AT LEAST NINETY-SIX PERCENT (96%) OF THE SPECIFIED AVERAGE INSIDE DIAMETER SHALL BE PULLED THROUGH THE PIPE. THE METHOD OF MEASURING THE DEFLECTION SHALL BE APPROVED BY THE ENGINEER. ANY PIPE THROUGH WHICH THE MANDREL WILL NOT PASS SHALL BE SAID TO HAVE FAILED AND WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

FOR HDPE PIPE--MAXIMUM LONG-TERM DEFLECTION FOR HDPE PIPE SHALL BE NO MORE THAN FIVE PERCENT (5%). LONG-TERM DEFLECTION SHALL BE CALCULATED AS THE SHORT-TERM DEFLECTION MULTIPLIED BY A DEFLECTION LAG FACTOR BASED UPON THE AVERAGE INSIDE DIAMETER OF THE PIPE. IN NO CASE SHALL A DEFLECTION LAG FACTOR OF LESS THAN 1.5 BE ACCEPTED. SHORT-TERM DEFLECTION SHALL BE MEASURED WITH A MANDREL NO SOONER THAN THIRTY (30) DAYS FOLLOWING INSTALLATION. MANDREL DEFLECTION TESTS MAY BE REQUIRED DURING INSTALLATION TO HAVE AN ODD NUMBER OF LEGS TOTALING NO LESS THAN NINE (9). PIPE SECTIONS NOT MEETING THE DEFLECTION REQUIREMENTS SHALL BE EXCAVATED, REINSTALLED, AND SUBJECT TO AN ADDITIONAL THIRTY (30) DAY DEFLECTION TEST.

FOR PVC PIPE--THE FOLLOWING TABLE LISTS MINIMUM PIPE I.D. DEFLECTIONS: I.E., O.D. OF MANDREL:

TABLE OF ALLOWABLE DEFLECTIONS FOR PVC PIPE

PIPE SIZE & TYPE	BASE I.D.	MIN. ALLOWABLE I.D.
4" PVC	3.966	3.66
6" PVC	5.742	5.36
8" PVC	7.665	7.18
10" PVC	9.563	8.98
12" PVC	11.361	10.69
15" PVC	13.898	13.08

AT HIS OPTION, THE ENGINEER MAY REQUIRE A SAMPLE OF TEN PERCENT (10%) OF THE LATERALS RANDOMLY SELECTED BY THE INSPECTORS SHALL ALSO BE TESTED FOR DEFLECTION. IF DIFFICULTY IS ENCOUNTERED IN PASSING THE MANDREL TEST, THE INSPECTOR MAY DIRECT THAT A LARGER SAMPLE OF LATERALS BE TESTED UP TO INCLUDING ONE-HUNDRED PERCENT (100%) OF ALL LATERALS.

AT THE CONTRACTOR'S EXPENSE, ALL LOCATIONS WITH DEFLECTION GREATER THAN ALLOWABLE SHALL BE EXCAVATED, REPAIRED OR REPLACED, BACKFILLED AND RETESTED.

ANY CORRECTIVE WORK PROPOSED SHALL BE APPROVED BY THE ENGINEER. NO VIBRATING RE-ROUNDED DEVICES SHALL BE ALLOWED TO CORRECT PIPE DEFLECTIONS.

IN ADDITION TO THE DEFLECTION REQUIREMENTS, THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO PROVIDE VIDEO INSPECTION OF ALL MAIN LINE SEWER PIPES. THE VIDEO LOG SHALL BE RECORDED USING VHS FORMAT AND SHALL INCLUDE AN ON-SCREEN COUNTER INDICATING THE POSITION OF THE CAMERA, IN FEET, WITH RESPECT TO THE LENGTH OR STATIONING OF THE SEWER MAIN BEING TELEVISED. THE COUNTY SHALL BE PROVIDED WITH TWO (2) COPIES OF THE COMPLETED VIDEO LOG.

THE VIDEO SHALL BE PERFORMED FOLLOWING THE PLACEMENT AND DENSIFICATION OF BACKFILL, BUT PRIOR TO THE PLACEMENT OF PAVING. ANY DEFECTIVE PIPE OR CONDITIONS DISCOVERED BY TELEVISING SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE. ANY CORRECTIVE WORK PROPOSED SHALL FIRST BE APPROVED BY THE ENGINEER.

CA: 800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
NV: 800-227-2600

DEFECTIVE WORK SHALL CONSIST OF THE FOLLOWING: CRACKS OR BREAKS IN THE PIPE; JOINTS OFFSET BY MORE THAN 3/8 INCH OR 1 PERCENT OF THE INSIDE DIAMETER, WHICHEVER IS GREATER; PROTRUDING, DEFORMED OR FOLDED GASKETS; STANDING WATER AT A DEPTH GREATER THAN 0.01 FOOT PER INCH OF DIAMETER (BASED ON A LOSS OF PIPE AREA OF 6.8 PERCENT).

THE COUNTY MAY ALSO TELEVISE THE SEWER MAINS PRIOR TO THE EXPIRATION OF THE ONE (1) YEAR WARRANTY PERIOD. IF A DEFECTIVE CONDITION IS UNACCOUNTABLY FOUND, IT SHALL BE PRESUMED TO BE CAUSED BY DEFECTIVE WORKMANSHIP OR MATERIALS. THE CONTRACTOR SHALL BE NOTIFIED AND SHALL CORRECT THE WORK IN A MANNER APPROVED BY THE ENGINEER.

FULL COMPENSATION FOR FURNISHING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS FOR PROVIDING VIDEO INSPECTION OF THE SEWER PIPES SHALL BE CONSIDERED AS BEING INCLUDED IN THE CONTRACT UNIT COSTS BID FOR THE VARIOUS SIZES OF SEWER PIPE INSTALLED AND NO ADDITIONAL COMPENSATION SHALL BE MADE THEREFOR.

WHEN DESIGNATED ON THE PLANS, SEWERS SHALL BE TESTED BY THE CONTRACTOR FOR WATERTIGHTNESS. EACH SECTION OF SEWER SHALL BE TESTED BETWEEN SUCCESSIVE MAINTENANCE HOLES BY CLOSING THE LOWER END OF THE SEWER TO BE TESTED AND INLET SEWER OF THE UPPER MAINTENANCE HOLE WITH STOPPERS. THE PIPE AND MAINTENANCE HOLE SHALL BE FILLED WITH WATER TO A POINT FOUR FEET (4') (1.22M) ABOVE THE INVERT OF THE SEWER AT THE CENTER OF THE UPPER MAINTENANCE HOLE; OR IF GROUND WATER IS PRESENT, FOUR FEET (4') (1.22M) ABOVE THE AVERAGE ADJACENT GROUND WATER LEVEL.

THE ALLOWABLE LEAKAGE WILL BE COMPUTED BY THE FORMULAE:

$E = 0.0001\ LD\sqrt{H}$ FOR MORTARED JOINTS.

$E = 0.00002\ LD\sqrt{H}$ FOR ALL OTHER JOINTS.

WHERE:

L IS LENGTH OF SEWER AND HOUSE CONNECTIONS TESTED, IN FEET.

E IS THE ALLOWABLE LEAKAGE IN GALLONS PER MINUTE OF SEWER TESTED.

D IS THE INTERNAL DIAMETER OF THE PIPE, IN INCHES.

H IS THE DIFFERENCE IN ELEVATION, IN FEET, BETWEEN THE WATER SURFACE IN THE UPPER MAINTENANCE HOLE AND THE INVERT OF THE PIPE AT THE LOWER MAINTENANCE HOLE; OR IF GROUNDWATER IS PRESENT ABOVE THE INVERT OF THE PIPE IN THE LOWER MAINTENANCE HOLE, THE DIFFERENCE IN ELEVATION BETWEEN THE WATER SURFACE IN THE UPPER MAINTENANCE HOLE AND THE GROUNDWATER AT THE LOWER MAINTENANCE HOLE.

HOWEVER, THE MAXIMUM SHALL NOT EXCEED TWO HUNDRED (200) GALLONS PER INCH OF INTERNAL DIAMETER PER MILE PER DAY.

THE CONTRACTOR SHALL, AT HIS EXPENSE, FURNISH ALL WATER, MATERIALS AND LABOR FOR MAKING THE REQUIRED TEST. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER.

WHERE THE LEAKAGE OF THE SEWER EXCEEDS THE ABOVE AMOUNT, IT SHALL BE CORRECTED IMMEDIATELY AND THE AMOUNT OF LEAKAGE REDUCED TO A QUANTITY WITHIN THE SPECIFIED AMOUNT. IN ANY CASE, THE CONTRACTOR SHALL STOP ANY INDIVIDUAL LEAKS WHICH MAY BE OBSERVED.

AIR PRESSURE TEST

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT AND LABOR FOR MAKING AN AIR TEST. AIR TEST EQUIPMENT SHALL BE APPROVED BY THE DIRECTOR PRIOR TO THE BEGINNING OF THE TEST.

EACH SECTION OF SEWER SHALL BE TESTED BETWEEN SUCCESSIVE MAINTENANCE HOLES BY PLUGGING AND BRACING ALL OPENINGS IN THE MAIN SEWER LINE AND THE UPPER ENDS OF ALL SEWER CONNECTIONS. PRIOR TO ANY AIR PRESSURE TESTING, ALL PIPE PLUGS SHALL BE CHECKED WITH A SOAP SOLUTION TO DETECT ANY AIR LEAKAGE. IF ANY LEAKS ARE FOUND, THE AIR PRESSURE SHALL BE RELEASED, THE LEAKS ELIMINATED AND THE TEST PROCEDURE STARTED OVER AGAIN.

THE FINAL LEAKAGE TEST OF THE SEWER MAIN LINE AND BRANCHING SEWER CONNECTIONS SHALL BE CONDUCTED IN THE PRESENCE OF THE DIRECTOR OR HIS REPRESENTATIVE IN THE FOLLOWING MANNER:

1. CLEAN PIPE TO BE TESTED BY PROPELLING SNUG FITTING INFLATED RUBBER BALL THROUGH THE PIPE WITH WATER.

2. PLUG ALL PIPE OUTLETS WITH SUITABLE TEST PLUGS. BRACE EACH PLUG SECURELY.

3. IF THE PIPE TO BE TESTED IS SUBMERGED IN GROUND WATER, INSERT A PIPE PROBE BY BORING, OR JETTING, INTO THE BACKFILL MATERIAL ADJACENT TO THE CENTER OF THE PIPE AND DETERMINE THE PRESSURE IN THE PROBE WHEN AIR PASSES SLOWLY THROUGH IT. THIS IS THE BACK PRESSURE DUE TO GROUND WATER SUBMERGENCE OVER THE END OF THE PROBE. ALL GAUGE PRESSURES IN THE TEST SHOULD BE INCREASED BY THIS AMOUNT.

4. ADD AIR SLOWLY TO THE PORTION OF THE PIPE INSTALLATION UNDER TEST UNTIL THE INTERNAL AIR PRESSURE IS RAISED TO 4.0 PSIG.

5. AFTER AN INTERNAL PRESSURE OF 4.0 PSIG IS OBTAINED, ALLOW AT LEAST TWO (2) MINUTES FOR AIR TEMPERATURE TO STABILIZE, ADDING ONLY THE AMOUNT OF AIR REQUIRED TO MAINTAIN PRESSURE.

6. WHEN PRESSURE DECREASES TO 3.5 PSIG, START STOP WATCH.

6A. THE FOLLOWING APPLIES TO ALL PIPES OTHER THAN PVC AND ABS (SEE 6B):

DETERMINE THE TIME IN SECONDS THAT IS REQUIRED FOR THE INTERNAL AIR PRESSURE TO REACH 2.5 PSIG. MINIMUM PERMISSIBLE PRESSURE HOLDING TIMES ARE INDICATED BY THE FOLLOWING FORMULA AND TABLE IN SECONDS:

$$T = \frac{K(D)}{G}$$

WHERE T = MINIMUM REQUIRED TIME IN SECONDS

K = CONSTANT 0.022

D = NOMINAL PIPE DIAMETER IN INCHES

G = ALLOWABLE AIR LOSS RATE PER UNIT AREA, 0.003 CU. FT./MIN./SQ. FT. OF INTERNAL/SURFACE AREA

MINIMUM HOLDING TIME IN SECONDS REQUIRED FOR PRESSURE TO DROP FROM 3 1/2 TO 2 1/2 PSIG

PIPE DIAMETER

PIPE DIAMETER

LENGTH OF LINE IN FEET	4"	6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	39"
25	4	10	18	28	40	62	89	121	158	200	248	299	356	418
50	9	20	35	55	79	124	178	243	317	401	495	599	713	837
75	13	30	53	83	119	186	267	364	475	601	743	898	1020	1105
100	18	40	70	110	158	248	256	485	634	765	851	935		
125	22	50	88	138	198	309	446	595	680					
150	26	59	106	165	238	371	510							
175	31	69	123	193	277	425								
200	35	79	141	220	317									
225	40	89	158	248	340									
250	44	99	176	275										
275	48	109	194	283										
300	53	119	211											
350	62	139	227											
400	70	158												
450	79	170												
500	88													
550	97													
600	106													
650	113	170	227	283	340	425	510	595	680	765	851	935	1020	1105

NOTES: (1) TO BE USED WHEN TESTING ONE DIAMETER ONLY.

(2) THE ABOVE AIR PRESSURE TEST PROCEDURE IS BASED ON ASTM C828. ANY SPECIAL SITUATIONS OR CONDITIONS SHALL CONFORM TO THIS ASTM STANDARD.

6A. FOR PVC AND ABS LINES, THE FOLLOWING TABLE LISTS THE MINIMUM TIMES ALLOWED FOR A PRESSURE DROP FROM 3.5 PSI TO 3.0 PSI IN EXCESS OF THE GROUND WATER PRESSURE AT THE TOP OF THE PIPE.

1 Pipe Dia (in)	2 Min Time (min sec)	3 Lgth for Min Time (ft)	4 Time for Lngr Lgth (sec)	Specification time for Length (L) shown (min:sec) 100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	1:53	597	.190L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	.427L	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	298	.760L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54
12	5:40	199	1.709L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
15	7:05	159	2.671L	7:05	7:05	7:05	11:08	13:21	15:35	17:48	20:02

SAFETY NOTE:

THE AIR TEST MAY BE DANGEROUS IF, BECAUSE OF IGNORANCE OR CARELESSNESS, A LINE IS IMPROPERLY PREPARED. IT IS EXTREMELY IMPORTANT THAT THE VARIOUS PLUGS BE INSTALLED AND BRACED IN SUCH A WAY AS TO PREVENT BLOW OUTS. INASMUCH AS A FORCE OF TWO HUNDRED-FIFTY (250) LBS. IS EXERTED ON AN EIGHT INCH (8") PLUG BY AN INTERNAL PIPE PRESSURE OF 5.0 PSI, IT SHOULD BE REALIZED THAT SUDDEN EXPULSION OF A POORLY INSTALLED PLUG OR OF A PLUG THAT IS PARTIALLY DEFLATED BEFORE THE PIPE PRESSURE IS RELEASED CAN BE DANGEROUS.

AS A SAFETY PRECAUTION, PRESSURIZING EQUIPMENT SHOULD INCLUDE A REGULATOR SET AT PERHAPS 10.0 PSI TO AVOID OVER-PRESSURIZING AND DAMAGING AN OTHERWISE ACCEPTABLE LINE. NO ONE SHALL BE ALLOWED IN THE MAINTENANCE HOLES DURING TESTING.

IF THE TIME LAPSE IS LESS THAN THAT SHOWN IN THE TABLE, THE CONTRACTOR SHALL MAKE THE NECESSARY CORRECTIONS TO REDUCE THE LEAKAGE TO ACCEPTABLE LIMITS.

SECTION 73

ALTERNATE A

CONCRETE CURBS AND SIDEWALKS--CONCRETE CURBS AND SIDEWALKS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 73, "CONCRETE CURBS AND SIDEWALKS," OF THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS AND THESE SPECIAL PROVISIONS.

"HANDICAP RAMP" SHALL BE CONSIDERED THE SAME AS "CURB RAMP" IN THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

IN LIEU OF THE REQUIREMENTS OF SECTION 73-1.05, "CURB CONSTRUCTION," OF THE STANDARD SPECIFICATIONS; WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT INTERVALS SHOWN ON THE STANDARD DRAWINGS.

WHERE CURB AND GUTTER ONLY IS CONSTRUCTED, DRIVEWAYS SHALL BE PLACED MONOLITHICALLY WITH THE CURB AND GUTTER OR SHALL CONFORM TO ONE OF THE FOLLOWING ALTERNATIVES:

(A) DOWELS (FIVE-EIGHTHS INCH [5/8"] DIAMETER BY TWENTY-FOUR INCHES [24"] LONG) SPACED AT FOUR FOOT (4') INTERVALS.

(B) KEYWAY CONSTRUCTED AS SHOWN ON STANDARD DRAWINGS OR TWO INCHES (2") IN HEIGHT AND ONE INCH (1") IN DEPTH MINIMUM.

A UNIFORM COLOR SHALL BE MAINTAINED BY THE ADDITION OF ONE POUND OF LAMP BLACK PER CUBIC YARD OF CONCRETE FOR CURB, GUTTER AND SIDEWALK CONSTRUCTION.

WALKWAY AND DRIVEWAY APPROACHES PROVIDING ACCESS TO PRIVATE PROPERTY THAT ARE CONSTRUCTED BEHIND NEW SIDEWALK SHALL BE COLORED AND TEXTURED AS REQUIRED TO MATCH THE EXISTING FACILITY.

ALL CONCRETE GUTTERS SHALL BE WATER TESTED FOR DRAINAGE BEFORE ACCEPTANCE. THE MAXIMUM DEVIATION FROM A TRUE GRADE SHALL NOT RESULT IN PONDING WATER FOR A DEPTH EXCEEDING 0.02 FOOT.

GROUND AREA TO BE USED FOR LANDSCAPING PURPOSES, WHICH HAS BEEN EXCAVATED OR IS BELOW FINISHED GRADE SHALL BE BACKFILLED WITH SELECTED MATERIAL OR IMPORTED TOPSOIL FREE OF STONES CONFORMING TO THE PROVISIONS OF SECTION 20-2.01, "TOPSOIL," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE SHOWN ON THE PLANS.

SECTION 76

DOMESTIC WATER FACILITIES--THIS WORK CONSISTS OF FURNISHING AND INSTALLING PRESSURE WATER PIPE, CONTROL VALVES, THRUST BLOCKS, FIRE HYDRANT TEES, FIRE HYDRANTS AND SERVICE LINES, ALL AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND AS SPECIFIED IN THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

MATERIALS--IN ACCORDANCE WITH SECTION 6-1.07, "CERTIFICATES OF COMPLIANCE," OF THE STANDARD SPECIFICATIONS, A CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED WITH ALL MATERIALS LISTED HEREIN. ALL PIPES AND FITTINGS (EXCEPT VALVES) SHALL HAVE A MINIMUM WORKING PRESSURE OF ONE HUNDRED-FIFTY (150) POUNDS PER SQUARE INCH (PSI) AND CONFORM TO THESE SPECIAL PROVISIONS.

ALTERNATIVE PIPE. ALTERNATIVE WATER PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 62, "ALTERNATIVE CULVERTS," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS. ALTERNATIVE WATER PIPE WILL BE DESIGNATED BY TYPE ON THE PLANS AND IN THE ENGINEER'S ESTIMATE. THE EQUIVALENT KINDS OF PIPE WILL BE SHOWN ON THE PLANS FOR EACH TYPE. THE KIND OF PIPE TO BE INSTALLED SHALL BE AT THE OPTION OF THE CONTRACTOR.

THE KINDS OF PIPE FOR ALTERNATIVE WATER PIPE SHALL CONFORM TO THE FOLLOWING PROVISIONS:

1. CAST IRON AND DUCTILE IRON PIPE FOR WATER SHALL BE FURNISHED IN THE SIZES, CLASSES, GRADES OR NOMINAL THICKNESSES, AND JOINT TYPES DESIGNATED ON THE PLANS OR IN THE SPECIAL PROVISIONS.

CAST IRON PIPE SHALL COMPLY WITH ANSI A2L.6 (AWWA C106) FOR PIPE CAST IN METAL MOLDS OR ANSI A21.8 (AWWA C108) FOR PIPE CAST IN SAND LINED MOLDS.

DUCTILE IRON PIPE SHALL COMPLY WITH ANSI A21.51 (AWWA C151).

CAST AND DUCTILE IRON PIPE JOINTS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS FOR THE TYPES SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS:

TYPE OF JOINT	SPECIFICATION
RUBBER GASKET PUSH-ON JOINT	ANSI A21.11 (AWWA C111)
MECHANICAL JOINT	ANSI A21.11 (AWWA C111)
FLANGED JOINT	ANSI B16.1, B16.2 AND A21.10 (AWWA C110)
FLANGED JOINT (THREADED FLANGES)	ANSI B2.1

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

GENERAL NOTES AND SPECIFICATIONS

PREPARED IN THE OFFICE OF:
- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

SIEGFRIED ENGINEERING, INC.

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: AS SHOWN
SHEET C-4 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVMENTS\04251-C04-NOTES.dwg 08/22/06

THE DUMPING OF MATERIAL IN A WINDROW, IN ACCORDANCE WITH SECTION 39-6.01, "GENERAL REQUIREMENTS," OF THE STANDARD SPECIFICATIONS, SHALL BE LIMITED TO SEVEN HUNDRED-FIFTY FEET (750') IN ADVANCE OF THE PAVING MACHINE.

THE SIXTH PARAGRAPH IN SECTION 39-6.01, "GENERAL REQUIREMENTS," OF THE STANDARD SPECIFICATIONS, SHALL BE AMENDED BY DELETING THE SECOND FOOTNOTE, WHICH READS, "AT THE OPTION OF THE CONTRACTOR, [0.25' OVERLAY] MAY BE PLACED IN ONE (1) LAYER 0.25' THICK."

THE TENTH PARAGRAPH OF SECTION 39-6.03, "COMPACTING," OF THE STANDARD SPECIFICATIONS, ALLOWING THE USE OF "ALTERNATIVE COMPACTING EQUIPMENT" SHALL BE DELETED.

UNLESS OTHERWISE SHOWN ON THE PLANS, ASPHALT PAVER EQUIPMENT USED TO PLACE ASPHALT CONCRETE SHALL BE EQUIPPED WITH FULL AUTOMATIC SCREED AND GRADE SENSING CONTROLS WHICH SHALL CONTROL THE LONGITUDINAL GRADE AND TRANSVERSE SLOPE OF THE SCREED. THE CONTROLS SHALL BE ACTUATED BY GRADE AND SLOPE REFERENCES. CORRECTIONS ON ACCOUNT OF DEVIATIONS FROM THE REFERENCES SHALL BE AUTOMATIC. GUIDES AND REFERENCES REQUIRED TO CONTROL THE LONGITUDINAL GRADE AND TRANSVERSE SLOPES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

SHOULD THE CONTRACTOR ELECT TO USE A SKI DEVICE FOR LONGITUDINAL CONTROL, THE MINIMUM LENGTH OF THE DEVICE SHALL BE THIRTY FEET (30'). THE DEVICE SHALL BE A RIGID UNIT MOUNTED ON MULTIPLE SUPPORTS. EACH SUPPORT SHALL ACT INDEPENDENTLY OF OTHERS AND THE FINISHED GRADE SHALL NOT BE AFFECTED BY THE ACTION OF A SINGLE SUPPORT.

WHEN ASPHALT CONCRETE GUTTERS ARE DESIGNATED ON THE PLANS, A STRINGLINE OR WIRE GRADE REFERENCE SHALL BE REQUIRED TO CONTROL LONGITUDINAL GRADE OF THE GUTTER. THE GUTTER SHALL BE WATER TESTED BEFORE ACCEPTANCE. THE MAXIMUM DEVIATION FROM A TRUE GRADE SHALL NOT RESULT IN PONDING WATER FOR DEPTH EXCEEDING 0.04 FOOT.

SURFACING OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER THAT, AT THE END OF EACH DAY'S WORK, THE DISTANCE BETWEEN THE ENDS OF ADJACENT SURFACED LANES SHALL NOT BE GREATER THAN CAN BE COMPLETED IN THE FOLLOWING DAY OF NORMAL SURFACING OPERATIONS.

PORTABLE DELINEATORS IN CONFORMANCE WITH SECTION 12-3.04, "PORTABLE DELINEATORS," OF THE STANDARD SPECIFICATIONS SHALL BE FURNISHED AND PLACED AT A MAXIMUM SPACING OF 300 FEET ON TANGENTS AND ONE HUNDRED FEET (100') ON CURVES ALONG ANY EDGE OF NEW SURFACING WHICH HAS A DROP OFF OF MORE THAN 0.10 FOOT. DELINEATORS SHALL BE STAGGERED WHEN REQUIRED ON BOTH SIDES OF TRAFFIC.

EXISTING PAVEMENT MARKERS SHALL BE REMOVED AND DISPOSED OF, UNLESS OTHERWISE SHOWN ON THE PLANS.

DURING THE REMOVAL OF CERAMIC TYPE PAVEMENT MARKERS, SCREENS, OR OTHER PROTECTIVE DEVICES SHALL BE FURNISHED TO CONTAIN ANY FRAGMENTS AS PROVIDED FOR IN SECTION 7-1.09, "PUBLIC SAFETY," OF THE STANDARD SPECIFICATIONS.

SECTION 39

ALTERNATE B

ASPHALT CONCRETE BASE--ASPHALT CONCRETE BASE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 39, "ASPHALT CONCRETE," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ASPHALT CONCRETE BASE SHALL BE TYPE "B".

AGGREGATE FOR THREE-FOURTHS INCH (3/4") MAXIMUM MEDIUM GRADATION ASPHALT CONCRETE MAY BE USED IN LIEU OF AGGREGATE FOR ASPHALT CONCRETE BASE.

THE AMOUNT OF ASPHALT BINDER TO BE MIXED WITH THE AGGREGATE SHALL BE BETWEEN FIVE PERCENT (5%) AND SEVEN PERCENT (7%) BY WEIGHT OF THE DRY AGGREGATE. THE EXACT AMOUNT OF ASPHALT BINDER TO BE MIXED WITH THE AGGREGATE WILL BE DETERMINED BY THE ENGINEER OR DIRECTOR. THE AR VISCOSITY GRADE OF THE ASPHALT BINDER SHALL BE FOUR THOUSAND (4,000) UNLESS OTHERWISE SHOWN ON THE PLANS. THE PROVISIONS OF PARAGRAPHS 5 THROUGH 8 OF SECTION 39-3.03, "PROPORTIONING," OF THE STANDARD SPECIFICATIONS, SHALL NOT APPLY TO THIS PROJECT.

WHEN THE ASPHALT CONCRETE BASE IS TO BE PRODUCED IN A BATCH PLANT, THE ASPHALT CONCRETE BASE SHALL BE PROPORTIONED AND MIXED BY THE AUTOMATIC METHOD.

WHEN ASPHALT CONCRETE BASE IS TO BE PLACED ON EXISTING SURFACING, THE ENTIRE SURFACE SHALL BE CLEANED BY SCRAPING WITH A METAL EDGE OF NOT LESS THAN FIVE FEET (5') IN LENGTH AND ALL THE LOOSE MATERIAL REMOVED.

PAINT BINDER (TACK COAT) SHALL BE APPLIED AT A RATE OF APPROXIMATELY 0.05 GALLON PER SQUARE YARD, UNLESS OTHERWISE SHOWN ON THE PLANS.

THE ASPHALT CONCRETE BASE SHALL BE SPREAD WITH EQUIPMENT THAT WILL PROVIDE A UNIFORM LAYER. EQUIPMENT WHICH REQUIRES DRIFTING, SPOTTING OR OTHERWISE SHIFTING THE MATERIAL OR WHICH CAUSES SEGREGATION OF THE MATERIAL SHALL NOT BE USED.

ASPHALT CONCRETE BASE SHALL BE PLACED IN LAYERS NOT TO EXCEED 0.5 FOOT IN COMPACTED THICKNESS. THE LAYER PLACED ON THE BASEMENT MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 0.3 FOOT AFTER COMPACTION, UNLESS OTHERWISE DESIGNATED ON THE PLANS.

THE FINAL COURSE OF ASPHALT BASE CORRESPONDING WITH THE PROPOSED TRAFFIC LANES SHALL BE PLACED WITH AN ASPHALT PAVER TO THE GRADE ESTABLISHED BY THE ENGINEER, UNLESS OTHERWISE DESIGNATED ON THE PLANS.

IN ADDITION TO THE ROLLING REQUIREMENTS OF SECTION 39-6.03, "COMPACTING," OF THE STANDARD SPECIFICATIONS, THE MATERIAL SHALL BE ROLLED UNTIL IT REACHES A MINIMUM OF NINETY-FIVE PERCENT (95%) RELATIVE COMPACTION, BASED ON STABILOMETER BRIQUET DENSITY.

BEFORE PLACING ASPHALT CONCRETE SURFACING, THE TEMPERATURE OF THE ASPHALT CONCRETE BASE SHALL BE NO HIGHER THAN 150° F.

THE FINISHED SURFACE OF ASPHALT CONCRETE BASE SHALL NOT VARY MORE THAN 0.05 FOOT ABOVE OR BELOW THE GRADE ESTABLISHED BY THE ENGINEER AFTER THE MATERIAL HAS REACHED A TEMPERATURE OF 150° F.

SECTION 39

ALTERNATE E

LIQUID ASPHALT (PRIME COAT)--LIQUID ASPHALT (PRIME COAT) SHALL CONFORM TO THE REQUIREMENTS IN SECTIONS 39, "ASPHALT CONCRETE," AND 93, "LIQUID ASPHALTS," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

LIQUID ASPHALT SHALL BE GRADE SC-70 OR SC-250 AND SHALL BE APPLIED AT THE APPROXIMATE TOTAL RATE OF 0.25 GALLON PER SQUARE YARD IN ONE APPLICATION. THE GRADE AND EXACT RATE OF APPLICATION WILL BE DETERMINED BY THE ENGINEER AND THE DIRECTOR.

LIQUID ASPHALT SHALL NOT BE APPLIED WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 50° F.

AT LOCATIONS WHERE PUBLIC TRAFFIC IS BEING ROUTED OVER THE ROADBED TO BE TREATED, THE PRIME COAT SHALL NOT BE APPLIED TO MORE THAN ONE-HALF THE WIDTH OF THE TRAVELED WAY AT A TIME, AND THE REMAINING WIDTH SHALL BE KEPT FREE OF OBSTRUCTIONS AND OPEN FOR USE BY PUBLIC TRAFFIC UNTIL THE TREATMENT FIRST APPLIED IS READY FOR USE BY PUBLIC TRAFFIC.

LIQUID ASPHALT SHALL NOT BE APPLIED UNTIL A MINIMUM OF TWENTY-FOUR (24) HOURS AFTER THE COUNTY HAS ACCEPTED THE AGGREGATE BASE FOR SURFACE TOLERANCES AND COMPACTION REQUIREMENTS.

SECTION 56

STREET SIGNS--ATTENTION IS DIRECTED TO SECTION 56, "SIGNS," OF THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS AND THESE SPECIAL PROVISIONS.

A. MATERIALS

THE VARIOUS MATERIALS OR FABRICATIONS THEREOF SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. STREET SIGNS SHALL HAVE A HORIZONTAL DIMENSION OF TWENTY-FOUR INCHES (24"), THIRTY INCHES (30") OR THIRTY-SIX INCHES (36") AND A VERTICAL DIMENSION OF SIX INCHES (6").

2. STREET SIGNS SHALL BE COMPLETELY REFLECTORIZED ON A DOUBLE FACE FLAT BLADE SIGN.

3. STREET SIGN SHALL BE ANODIZED ALUMINUM WITH A THICKNESS OF 0.080 INCHES.

4. THE LEGEND FOR STREET SIGNS SHALL BE WHITE LETTERS ON A GREEN BACKGROUND.

5. STREET SIGN POSTS SHALL BE LONG ENOUGH TO PROVIDE A MINIMUM HEIGHT OF SEVEN FEET (7') FROM THE BASE OF THE POST TO THE BOTTOM OF THE LOWER SIGN, AN OVERALL MAXIMUM HEIGHT OF TEN FEET (10') AND THIRTY INCHES (30") EMBEDMENT IN THE GROUND.

6. POSTS SHALL BE GALVANIZED STEEL PIPE, EXTRA STRONG AND TWO INCHES (2") NOMINAL DIAMETER.

B. INSTALLATION

THE INSTALLATION OF STREET SIGNS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. POSTS SHALL BE DRIVEN OR SET INTO THE GROUND TO A DEPTH OF THIRTY INCHES (30") AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND DIRECTOR.

2. THE BOTTOM TEN INCHES (10") OF THE POSTS SHALL BE FLATTENED TO PREVENT THEM FROM TURNING IN THE GROUND.

C. BLOCK NUMBERS

1. DEVELOPER SHALL OBTAIN BLOCK NUMBERS FROM THE SAN JOAQUIN COUNTY DEVELOPMENT DEPARTMENT.

BLOCK NUMBERS SHALL BE SHOWN ON THE IMPROVEMENT PLANS.

SECTION 71

ALTERNATE A

STORM DRAINS--THIS WORK SHALL CONSIST OF LAYING STORM DRAIN PIPE AND CONSTRUCTING DRAINAGE STRUCTURES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND AS SPECIFIED IN THESE SPECIAL PROVISIONS.

MATERIALS

ALTERNATIVE DRAIN PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 62, "ALTERNATIVE CULVERTS," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS. ALTERNATIVE DRAIN PIPE WILL BE DESIGNATED BY TYPE ON THE PLANS AND IN THE ENGINEER'S ESTIMATE. THE EQUIVALENT KINDS OF PIPE WILL BE SHOWN ON THE PLANS FOR EACH TYPE. THE KIND OF PIPE TO BE INSTALLED SHALL BE AT THE OPTION OF THE CONTRACTOR.

THE KINDS OF PIPE FOR ALTERNATIVE DRAIN PIPE SHALL CONFORM TO THE FOLLOWING PROVISIONS:

1. REINFORCED CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 65, "REINFORCED CONCRETE PIPE," OF THE STANDARD SPECIFICATIONS.

2. BITUMINOUS LINED AND UNLINED CORRUGATED STEEL PIPE SHALL CONFORM TO THE PROVISIONS IN SECTION 66, "CORRUGATED METAL PIPE," OF THE STANDARD SPECIFICATIONS.

3. PLASTIC PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 64, "PLASTIC PIPE," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS. PLASTIC PIPE SHALL BE SMOOTH INTERIOR WALL TYPE.

4. POLYVINYL CHLORIDE (PVC) DRAIN PIPE SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D3034 (SDR 35). COUPLINGS AND JOINTS SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D3212.

PORTLAND CEMENT USED IN THE PRODUCTION OF CONCRETE PRODUCTS SET FORTH IN THESE SPECIAL PROVISIONS SHALL CONFORM TO THE PROVISIONS IN SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS.

CEMENT MORTAR SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

RUBBER GASKETED JOINTS SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

JOINTS SHALL BE REQUIRED TO MEET THE WATERTIGHTNESS REQUIREMENTS OF SECTION 61-1.02, "PERFORMANCE REQUIREMENTS FOR CULVERT AND DRAINAGE PIPE JOINTS," OF THE STANDARD SPECIFICATIONS.

MISCELLANEOUS IRON AND STEEL ITEMS SHALL CONFORM TO THE PROVISIONS IN SECTION 75, "MISCELLANEOUS METAL," OF THE STANDARD SPECIFICATIONS.

REINFORCEMENT SHALL CONFORM TO THE PROVISIONS IN SECTION 52, "REINFORCEMENT," OF THE STANDARD SPECIFICATIONS.

CONCRETE SHALL CONFORM TO THE PROVISIONS IN SECTION 51, "CONCRETE STRUCTURES," AND SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS. CONCRETE FOR STORM DRAIN STRUCTURES SHALL BE CLASS A UNLESS OTHERWISE SHOWN ON THE PLANS.

INSTALLATION

EXCAVATION AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19C, "EARTHWORK (STRUCTURE EXCAVATION AND BACKFILL)," OF THESE SPECIAL PROVISIONS.

THE PIPE SHALL BE LAID IN A TRENCH EXCAVATED TO THE LINES AND GRADES DESIGNATED BY THE ENGINEER. THE BOTTOM OF THE TRENCH SHALL BE GRADED AND PREPARED TO PROVIDE A FIRM AND UNIFORM BEARING THROUGHOUT THE ENTIRE LENGTH OF THE PIPE BARREL.

SUITABLE EXCAVATION SHALL BE MADE TO RECEIVE THE BELL OF THE PIPE AND THE JOINT SHALL NOT BEAR UPON THE BOTTOM OF THE TRENCH. ALL ADJUSTMENT TO LINE AND GRADE SHALL BE MADE BY SCRAPING AWAY OR FILLING IN WITH SAND, GRAVEL, OR GRANULAR MATERIAL UNDER THE BODY OF THE PIPE, AND NOT BY WEDGING OR BLOCKING.

TRENCHES SHALL NOT BE LEFT OPEN FARTHER THAN THREE HUNDRED FEET (300') IN ADVANCE OF PIPE LAYING OPERATIONS OR TWO HUNDRED FEET (200') TO THE REAR THEREOF, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

THE EXCAVATION SHALL BE SUPPORTED SO THAT IT WILL BE SAFE AND THAT THE GROUND ALONGSIDE THE EXCAVATION WILL NOT SLIDE OR SETTLE, AND ALL EXISTING IMPROVEMENTS, EITHER ON PUBLIC OR PRIVATE PROPERTY, WILL BE FULLY PROTECTED FROM DAMAGE.

ALL SUPPORTS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AND SHALL BE WITHDRAWN IN A MANNER THAT WILL PREVENT THE CAVING OF THE SIDES OF THE EXCAVATION. ALL OPENINGS CAUSED BY THE REMOVAL OF SUPPORTS SHALL BE FILLED WITH SUITABLE MATERIAL PROPERLY COMPACTED.

BACKFILL OR PIPE TRENCHES MAY BE PLACED WHILE THE JOINT MORTAR IS STILL PLASTIC. SHOULD THE JOINT MORTAR BECOME SET BEFORE THE BACKFILL IS PLACED, BACKFILLING THE PIPE TRENCHES SHALL NOT BE COMMENCED WITHIN SIXTEEN (16) HOURS OF JOINTING THE PIPE SECTIONS.

PIPE SHALL BE PROTECTED DURING HANDLING AGAINST IMPACT SHOCKS AND FREE FALL.

THE PIPE SHALL BE LAID WITHOUT BREAK UPGRADE FROM STRUCTURE TO STRUCTURE, WITH BELL END UPGRADE FOR BELL AND SPIGOT PIPE, UNLESS OTHERWISE PERMITTED BY THE ENGINEER WITH DIRECTOR'S APPROVAL.

DRAIN PIPE SHALL BE CONNECTED TO EXISTING FACILITIES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER WITH DIRECTOR'S APPROVAL.

WHENEVER THE WORK CEASES FOR ANY REASON, THE END OF THE PIPE SHALL BE SECURELY CLOSED WITH A TIGHT FITTING PLUG OR COVER.

WHENEVER EXISTING PIPES ARE TO BE CUT OR ABANDONED, THE OPEN ENDS OF SAID PIPES SHALL BE SECURELY CLOSED BY A TIGHT FITTING PLUG OR WALL OF CONCRETE NOT LESS THAN 0.5 FOOT THICK.

ALL JOINTS SHALL BE CAREFULLY CLEANED ON THE INSIDE.

STOPPERS FOR PIPES AND BRANCHES LEFT UNCONNECTED SHALL BE MADE OF THE SAME MATERIAL AS THE PIPE OR OF RESILIENT JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION: C425. AFTER PLACING THE STOPPER, IT SHALL BE COVERED WITH A LAYER OF SEALANT. THE SEALANT SHALL BE SUFFICIENTLY FLUID TO ENSURE FREE FLOW AROUND THE STOPPER.

WHERE SHOWN ON THE PLANS OR DIRECTED BY THE DIRECTOR, DRAIN PIPE SHALL BE ENCASED IN CONCRETE, REINFORCED WITH CONCRETE, OR BACKFILLED WITH CONCRETE, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

CONCRETE FOR PIPE ENCASEMENT, PIPE REINFORCEMENT, AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 90-10, "MINOR CONCRETE," OF THE STANDARD SPECIFICATIONS, EXCEPT THAT THE MINOR CONCRETE SHALL CONTAIN NOT LESS THAN FOUR HUNDRED-SEVENTY (470) POUNDS OF CEMENT PER CUBIC YARD.

NEW MANHOLES AND STORM DRAIN INLETS FOR STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS, AS SPECIFIED IN THESE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.

PRECAST CONCRETE PIPE MANHOLES SHALL CONFORM TO THE PROVISIONS IN SECTION 70, "MISCELLANEOUS FACILITIES," OF THE STANDARD SPECIFICATIONS.

WHEN THE MANHOLE IS LOCATED IN THE PAVEMENT AREA, IT SHALL NOT BE CONSTRUCTED TO FINAL GRADE UNTIL THE PAVEMENT HAS BEEN COMPLETED.

NO PIPE SHALL PROJECT MORE THAN 0.17 FOOT INTO A MANHOLE AND IN NO CASE SHALL THE HELL OF A PIPE BE BUILT INTO THE WALL OF A MANHOLE OR STRUCTURE.

ALL CONCRETE SHALL BE CURED FOR A PERIOD OF NOT LESS THAN TEN (10) DAYS AFTER BEING PLACED AND SHALL BE PROTECTED FROM DAMAGE.

STORM DRAIN WORK PERFORMED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS WILL BE DESIGNATED IN THE CONTRACT ITEM BY SIZE, TYPE, THICKNESS, QUALITY, OR WHATEVER INFORMATION IS NECESSARY FOR IDENTIFICATION.

SECTION 71

ALTERNATE B

SANITARY SEWERS--THIS WORK SHALL CONSIST OF LAYING SANITARY SEWER PIPE AND CONSTRUCTING SEWER STRUCTURES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS, AS SPECIFIED IN THESE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.

MATERIALS

ALTERNATIVE SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 62, "ALTERNATIVE CULVERTS," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS. ALTERNATIVE SEWER PIPE WILL BE DESIGNATED BY TYPE ON THE PLANS AND IN THE ENGINEER'S ESTIMATE. THE EQUIVALENT KINDS OF PIPE WILL BE SHOWN ON THE PLANS FOR EACH TYPE. THE KIND OF PIPE TO BE INSTALLED SHALL BE AT THE OPTION OF THE CONTRACTOR.

THE KINDS OF PIPE FOR ALTERNATIVE SEWER PIPE SHALL CONFORM TO THE FOLLOWING PROVISIONS:

1. REINFORCED CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 65, "REINFORCED CONCRETE PIPE," OF THE STANDARD SPECIFICATIONS.

THE FULL THREE HUNDRED AND SIXTY DEGREES (360°) OF THE INTERIOR CIRCUMFERENCE OF ALL REINFORCED CONCRETE PIPE SHALL BE SEALED AND PROTECTED WITH A POLYVINYL CHLORIDE RESIN LINING. COPOLYMER RESINS WILL NOT BE PERMITTED.

THE PLASTIC LINER SHALL BE IMPERMEABLE TO SEWAGE GASES AND LIQUIDS AND SHALL NOT BE CONDUCIVE TO BACTERIAL OR FUNGUS GROWTH. THE LINING SHALL BE IMPACT RESISTANT, FLEXIBLE, AND SHALL HAVE AN ELONGATION SUFFICIENT TO BRIDGE UP TO 1/8-INCH SETTLING CRACKS, WHICH MAY TAKE PLACE IN THE PIPE OR IN THE JOINT AFTER INSTALLATION, WITHOUT DAMAGE TO THE LINING.

THE LINING SHALL BE OF A TYPE THAT IS PERMANENTLY AND PHYSICALLY EMBEDDED INTO THE CONCRETE PIPE WALL BY THE T-LOCK MECHANISM AND SHALL NOT RELY ON AN ADHESIVE BOND BETWEEN THE LINING AND PIPE WALL.

THE LINING AT ALL PIPE JOINTS, AND AT ALL JOINTS BETWEEN INDIVIDUAL SHEETS OR SECTIONS OF LINES, SHALL BE CONTINUOUSLY HEAT WELDED BY THE USE OF WELDING STRIPS OF THE SAME KIND AND EQUIVALENT THICKNESS OF THE MATERIAL AS THE LINES.

THE CONTRACTOR SHALL SUBMIT FOR THE DEPUTY'S CONSIDERATION WRITTEN INFORMATION AS TO THE TYPE, SIZE, WORKMANSHIP AND OTHER SPECIFICATIONS FOR THE PLASTIC LINER HE PROPOSES TO USE ON ANY INSTALLATION. APPROVAL OF THIS SUBMISSION BY THE DEPUTY SHALL BE OBTAINED PRIOR TO ANY MATERIAL BEING DELIVERED TO THE JOB SITE.

2. VITRIFIED CLAY SEWER PIPE SHALL CONFORM TO THE SPECIFICATIONS FOR EXTRA STRENGTH PIPE OF AASHTO DESIGNATION: M 65, EXCEPT THAT PLAIN END PIPE OTHERWISE COMPLYING IN ALL RESPECTS WITH THE SAID SPECIFICATION MAY BE USED.

THE REQUIREMENTS IN THE SPECIFICATION FOR SCORING OF THE ENDS OF THE PIPE, FOR THE SHAPE OF THE SOCKET, AND FOR THE MINIMUM DIMENSIONS FOR THE INSIDE DIAMETER OF THE SOCKET MAY BE WAIVED WITH THE APPROVAL OF THE ENGINEER WHEN SUCH WAIVER IS CONDUCIVE TO THE PROPER APPLICATION OF THE JOINT TO BE USED.

THE ENDS OF THE PIPE SHALL BE SO FORMED THAT, WHEN THE PIPES ARE LAID TOGETHER AND JOINED, THE PIPE WILL FORM A CONTINUOUS LINE WITH A SMOOTH INTERIOR SURFACE.

AT THE OPTION OF THE CONTRACTOR, CLAY SEWER PIPE SHALL CONFORM EITHER TO THE ABSORPTION REQUIREMENTS OF AASHTO DESIGNATION: M 65, OR TO THE PERMEABILITY REQUIREMENTS AS SPECIFIED AND AS DETERMINED BY CALIFORNIA TEST 672.

3. POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D3034 (SDR 35). COUPLINGS AND JOINTS SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D3212.

4. ACRYLONITRILE - BUTADIENE - STYRENE (ABS) PIPE SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D275L-80, WITH MINIMUM WALL THICKNESS DETERMINED BY SDR 35 FOR FOUR INCH (4") AND SIX INCH (6") DIAMETER PIPE SIZES.

EIGHT INCH (8") THROUGH FIFTEEN INCH (15") DIAMETER PIPE SIZES SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: D2680-80 WITH TYPE OR OR TYPE SC JOINTS.

5. HIGH DENSITY POLYETHYLENE (HDPE) PIPE - PIPE AND FITTINGS SHALL BE MADE OF HIGH DENSITY, HIGH MOLECULAR WEIGHT, TYPE III, CLASS C, CATEGORY 5, GRADE P34 POLYETHYLENE MEETING THE REQUIREMENTS OF ASTM D1248 AND ASTM F894 UNLESS SPECIFIED OTHERWISE HEREIN. WALL CONFIGURATIONS AND THICKNESSES SHALL MEET THE DEFLECTION REQUIREMENTS OF THIS SECTION. CRUSHING AND BUCKLING STRENGTHS SHALL EXCEED THAT REQUIRED FROM THE LOADS ANTICIPATED. PIPE SELECTION AND DEFLECTION DESIGN SHALL ALSO BE BASED UPON A PIPE STIFFNESS NOT LESS THAN 20 PSI AND A MODULUS OF SOIL REACTION NO GREATER THAN ONE THOUSAND-FOUR HUNDRED (1400). PIPE STIFFNESS SHALL BE TESTED PRIOR TO INSTALLATION IN ACCORDANCE WITH ASTM D2412 WITH A FIVE PERCENT (5%) DEFLECTION AT A RATE OF ONE-HALF INCH (1/2") PER MINUTE.

6. CAST IRON PIPE AND FITTINGS SHALL CONFORM TO THE SPECIFICATIONS OF ASTM DESIGNATION: A 74, OR OF CAST IRON SOIL PIPE INSTITUTE STANDARD NO. 301.

WHEN JOINTS ARE CAULKED WITH LEAD AND PACKING, THE LEAD SHALL BE PIG LEAD CONTAINING NOT LESS THAN NINETY-NINE AND ONE-HALF PERCENT (99-1/2%) METALLIC LEAD.

PACKING SHALL CONSIST OF LONG FIBERS OF BEST QUALITY JUTE OR HEMP, WOVEN INTO STRANDS OF PROPER LENGTH, AND KEPT CLEAN. A PACKING CONSISTING OF A BRAIDED JACKET AND HAVING A JUTE CORE MAY BE USED IN LIEU OF JUTE PACKING.

IN PREPARING THE PIPE FOR CAULKING, THE PIPES SHALL BE SEATED AND BUTTED AND THE PACKING DRIVEN TIGHTLY TO THE BASE OF THE SOCKET SO AS TO ENTIRELY ENCIRCLE THE PIPE F OR ONE-QUARTER THE DEPTH OF THE SOCKET, IN ORDER TO PREVENT JOINT COMPOUND FLOWING THROUGH INTO THE PIPE.

PORTLAND CEMENT USED IN THE PRODUCTION OF CONCRETE PRODUCTS SET FORTH IN THIS SECTION SHALL CONFORM TO THE PROVISIONS IN SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS.

CEMENT MORTAR SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

PRIOR TO CAULKING VITRIFIED CLAY PIPE WITH CEMENT MORTAR, NOT MORE THAN ONE-THIRD THE ANNULAR SPACE SHALL FIRST BE CAULKED WITH JUTE PRE-DIPPED IN CEMENT SLURRY.

HOT-POURED COMPOUNDS AND PRIMERS CONSISTING OF BITUMINOUS OR COAL TAR PRODUCTS, AND USED FOR CAULKING BELL AND SPIGOT TYPE VITRIFIED CLAY PIPE, SHALL BE OF THE TYPE RECOMMENDED BY THE PIPE MANUFACTURER FOR THE PURPOSE INTENDED.

THE PRIMER SHALL BE APPLIED TO THE SPIGOT AND INSIDE OF THE BELL AT LEAST TWENTY-FOUR (24) HOURS BEFORE THE JOINTS ARE POURED. THE SURFACES SHALL BE DRY BEFORE APPLYING THE PRIMER.

THE JOINTS OF VITRIFIED CLAY PIPE SHALL BE CAULKED WITH DRY JUTE PRIOR TO POURING THE HOT COMPOUNDS. THE COMPOUND SHALL BE HEATED TO THE TEMPERATURE RECOMMENDED BY THE MANUFACTURER.

FLEXIBLE COMPRESSION JOINTS IN VITRIFIED CLAY PIPE AND RESILIENT JOINT MATERIALS TO BE USED THEREIN SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION: C 425.

RUBBER GASKETED JOINTS SHALL CONFORM TO THE PROVISIONS IN SECTION 65-1.06, "JOINTS," OF THE STANDARD SPECIFICATIONS.

MISCELLANEOUS IRON AND STEEL ITEMS SHALL CONFORM TO THE PROVISIONS IN SECTION 75, "MISCELLANEOUS METAL," OF THE STANDARD SPECIFICATIONS.

REINFORCEMENT SHALL CONFORM TO THE PROVISIONS IN SECTION 52, "REINFORCEMENT," OF THE STANDARD SPECIFICATIONS.

CONCRETE SHALL CONFORM TO THE PROVISIONS IN SECTION 51, "CONCRETE STRUCTURES," AND SECTION 90, "PORTLAND CEMENT CONCRETE," OF THE STANDARD SPECIFICATIONS. CONCRETE FOR SEWER STRUCTURES SHALL BE CLASS A UNLESS OTHERWISE SHOWN ON THE PLANS.

INSTALLATION

EXCAVATION AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 19 ALTERNATE C, "EARTHWORK (STRUCTURE EXCAVATION AND BACKFILL)," OF THESE SPECIAL PROVISIONS.

THE PIPE SHALL BE LAID IN A TRENCH EXCAVATED TO THE LINES AND GRADES DESIGNATED BY THE ENGINEER. THE BOTTOM OF THE TRENCH SHALL BE GRADED AND PREPARED TO PROVIDE A FIRM AND UNIFORM BEARING THROUGHOUT THE ENTIRE LENGTH OF THE PIPE BARREL.

SUITABLE EXCAVATION SHALL BE MADE TO RECEIVE THE BELL OF THE PIPE AND THE JOINT SHALL NOT BEAR UPON THE BOTTOM OF THE TRENCH. ALL ADJUSTMENT TO LINE AND GRADE SHALL BE MADE BY SCRAPING AWAY OR FILLING IN WITH SAND, GRAVEL, OR GRANULAR MATERIAL UNDER THE BODY OF THE PIPE, AND NOT BY WEDGING OR BLOCKING.

TRENCHES SHALL NOT BE LEFT OPEN FARTHER THAN THREE HUNDRED FEET (300') IN ADVANCE OF PIPE LAYING OPERATIONS OR TWO HUNDRED FEET (200') TO THE REAR THEREOF, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

THE EXCAVATION SHALL BE SUPPORTED SO THAT IT WILL BE SAFE AND THAT THE GROUND ALONGSIDE THE EXCAVATION WILL NOT SLIDE OR SETTLE, AND ALL EXISTING IMPROVEMENTS, EITHER ON PUBLIC OR PRIVATE PROPERTY, WILL BE FULLY PROTECTED FROM DAMAGE.

ALL SUPPORTS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AND SHALL BE WITHDRAWN IN A MANNER THAT WILL PREVENT THE CAVING OF THE SIDES OF THE EXCAVATION. ALL OPENINGS CAUSED BY THE REMOVAL OF SUPPORTS SHALL BE FILLED WITH SUITABLE MATERIAL PROPERLY COMPACTED.

BACKFILL OF PIPE TRENCHES MAY BE PLACED WHILE THE JOINT MORTAR IS STILL PLASTIC. SHOULD THE JOINT MORTAR BECOME SET BEFORE THE BACKFILL IS PLACED, BACKFILLING THE PIPE TRENCHES SHALL NOT BE COMMENCED WITHIN SIXTEEN (16) HOURS OF JOINTING THE PIPE SECTIONS.

PIPE SHALL BE PROTECTED DURING HANDLING AGAINST IMPACT SHOCKS AND FREE FALL.

WHEN THE NEW FACILITIES INTERFERE WITH THE EXISTING FLOW OF SEWAGE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY BYPASS FACILITIES AT HIS EXPENSE.

THE PIPE SHALL BE LAID WITHOUT BREAK UPGRADE FROM STRUCTURE TO STRUCTURE, WITH BELL END UPGRADE FOR BELL AND SPIGOT PIPE, UNLESS OTHERWISE PERMITTED BY THE DIRECTOR.

SEWER PIPE SHALL BE CONNECTED TO EXISTING FACILITIES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

WHENEVER THE WORK CEASES FOR ANY REASON, THE END OF THE PIPE SHALL BE SECURELY CLOSED WITH A TIGHT FITTING PLUG OR COVER.

WHENEVER EXISTING PIPES ARE TO BE CUT OR ABANDONED, THE OPEN ENDS OF SAID PIPES SHALL BE SECURELY CLOSED BY A TIGHT FITTING PLUG OR WALL OF CONCRETE NOT LESS THAN 0.5 FOOT THICK.

ALL JOINTS SHALL BE CAREFULLY CLEANED ON THE INSIDE.

STOPPERS FOR PIPES AND BRANCHES LEFT UNCONNECTED SHALL BE MADE OF THE SAME MATERIAL AS THE PIPE, OR OF RESILIENT JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION: C 425. AFTER PLACING THE STOPPER, IT SHALL BE COVERED WITH A LAYER OF SEALANT. THE SEALANT SHALL BE SUFFICIENTLY FLUID TO ENSURE FREE FLOW AROUND THE STOPPER.

WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, SEWER PIPE SHALL BE ENCASED IN CONCRETE, REINFORCED WITH CONCRETE, OR BACKFILLED WITH CONCRETE, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

CONCRETE FOR PIPE ENCASEMENT, PIPE REINFORCEMENT, AND BACKFILL SHALL CONFORM TO THE PROVISIONS IN SECTION 90-10, "MINOR CONCRETE," OF THE STANDARD SPECIFICATIONS, EXCEPT THAT THE MINOR CONCRETE SHALL CONTAIN NOT LESS THAN FOUR HUNDRED-SEVENTY (470) POUNDS OF CEMENT PER CUBIC YARD.

ALL CONCRETE SHALL BE CURED FOR A PERIOD OF NOT LESS THAN TEN (10) DAYS AFTER BEING PLACED AND SHALL BE PROTECTED FROM DAMAGE.

NEW MANHOLES, DROP INLET CONNECTIONS, LAMPHOLES, SERVICE LATERALS, SERVICE CLEANOUTS, TERMINAL CLEANOUT STRUCTURES, AND PIPE CHIMNEYS FOR SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS, AS SPECIFIED IN THESE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.

PRECAST CONCRETE PIPE MANHOLES SHALL CONFORM TO THE PROVISIONS IN SECTION 70, "MISCELLANEOUS FACILITIES," OF THE STANDARD SPECIFICATIONS, EXCEPT FOR MEASUREMENT AND PAYMENT.

WHEN THE MANHOLE IS LOCATED IN THE PAVEMENT AREA, IT SHALL NOT BE CONSTRUCTED TO FINAL GRADE UNTIL THE PAVEMENT HAS BEEN COMPLETED.

THE INSIDE BOTTOMS OF EXISTING MANHOLES, WHERE NEW CONNECTIONS ARE MADE, AND OF NEW MANHOLES SHALL BE SHAPED TO PROVIDE CHANNELS CONFORMING TO THE SIZE AND SHAPE OF THE LOWER PORTION OF THE INLETS AND OUTLETS OF THE MANHOLES. THE CHANNELS SHALL VARY UNIFORMLY IN SIZE AND SHAPE FROM INLET TO OUTLET.

NO PIPE SHALL PROJECT MORE THAN 0.17 FOOT INTO A MANHOLE AND IN NO CASE SHALL THE BELL OF A PIPE BE BUILT INTO THE WALL OF A MANHOLE OR STRUCTURE.

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER · PAUL J. SCHNEIDER · No. 62498 · Expires 9/30/05 · CIVIL · STATE OF CALIFORNIA

DATE SIGNED: [illegible]

CA: 800-227-2600 · CALL BEFORE YOU DIG · USA · UNDERGROUND SERVICE ALERT · NV: 800-227-2600

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

GENERAL NOTES AND SPECIFICATIONS

PREPARED IN THE OFFICE OF:
• Civil Engineering
• Land Surveying
• Structural Engineering
• Planning
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214
SIEGFRIED ENGINEERING, INC.

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007
DESIGN ENGINEER

DRAWN BY: DJA
SCALE: AS SHOWN
SHEET C-3 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVEMENTS\04251-C03-NOTES.dwg 08/22/06

COUNTY GENERAL NOTES

1. ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE FOLLOWING: COUNTY OF SAN JOAQUIN IMPROVEMENT STANDARDS, ADOPTED MAY 1997, AND ALL AMENDMENTS THERETO TO DATE, CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS, LATEST EDITION, WHERE APPLICABLE. ALL WORK SHALL BE INSPECTED BY THE COUNTY OF SAN JOAQUIN.

2. PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH THE CURRENT COUNTY OF SAN JOAQUIN STANDARDS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR BEING FAMILIAR WITH THE WRITTEN SPECIFICATIONS AND/OR OTHER STANDARD DETAILS NOT SHOWN BUT WHICH ARE INCLUDED IN THE "COUNTY OF SAN JOAQUIN IMPROVEMENT STANDARDS".

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FROM DAMAGE ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN. SUCH IMPROVEMENTS THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT HIS EXPENSE.

4. THE CONTRACTOR SHALL DEMOLISH, EXCAVATE, REMOVE AND DISPOSE OF ALL EXISTING CONCRETE CURB, GUTTER AND/OR SIDEWALK, ASPHALT CONCRETE PAVING, BASE MATERIAL, AND DELETERIOUS MATERIAL AS REQUIRED TO CONSTRUCT THE CONTRACT WORK. ALL SUCH EXCESS MATERIAL GENERATED SHALL BE DISPOSED OF FROM THE SITE BY THE CONTRACTOR.

5. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK DONE WITHIN THE COUNTY RIGHT-OF-WAY FROM THE COUNTY OF SAN JOAQUIN PUBLIC WORKS DEPARTMENT, AND NOTIFY THE COUNTY 48 HOURS IN ADVANCE OF STARTING ANY WORK TO BE ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE COUNTY OF SAN JOAQUIN.

6. WORK IN PUBLIC RIGHT-OF-WAY IS SUBJECT TO THE APPROVAL AND ACCEPTANCE OF THE COUNTY OF SAN JOAQUIN PUBLIC WORKS DEPARTMENT.

7. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD THEIR MAIN SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (1-800-227-2600).

8. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES AND VERIFY ALL UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF HIS CONTRACT. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICES TO THE DEVELOPMENT. FINAL PAVEMENT WORK SHALL NOT OCCUR WITHIN THE ROAD RIGHT-OF-WAY PRIOR TO COMPLETION OF UTILITY RELOCATION WITHOUT SPECIFIC APPROVAL OF DIRECTOR.

9. WHENEVER EXISTING PAVEMENT IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE PLANS AND SPECIFICATIONS, THE PAVEMENT SHALL BE REPLACED WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE SAN JOAQUIN COUNTY PUBLIC WORKS DIRECTOR IF LOCATED WITHIN COUNTY RIGHT-OF-WAY.

10. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE 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, THE ENGINEER AND THE COUNTY OF SAN JOAQUIN, ITS ELECTED OFFICIALS, OFFICERS, EMPLOYEES, AND AGENTS 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.

11. DUST CONTROL SHALL BE PERFORMED AT ALL TIMES, AT THE CONTRACTOR'S EXPENSE, TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH SECTION 10 OF CALTRANS STANDARD SPECIFICATIONS AND THE REQUIREMENTS OF THE COUNTY OF SAN JOAQUIN.

12. THE COMPLETED PROJECT, INCLUDING ALL WORK, MATERIALS, DEVICES AND EQUIPMENT, SHALL BE GUARANTEED BY THE DEVELOPER AGAINST FAULTY WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE BY THE BOARD OF SUPERVISORS. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL REPAIR AND/OR REPLACEMENTS INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, DEVICES, PLANT AND OTHER ITEMS OF WORK NECESSARY. TO SECURE THIS GUARANTEE, A BOND OR OTHER SECURITY SHALL BE PROVIDED IN THE AMOUNT OF 20% OF THE VALUE OF THE WORK ESTIMATED BY THE ENGINEER. SAID BOND SHALL CONTINUE IN FULL FORCE AND EFFECT FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FORMAL ACCEPTANCE OF THE WORK BY THE BOARD OF SUPERVISORS.

13. ANY IMPROVEMENTS CONSTRUCTED TO THESE SPECIFICATIONS AND WHICH IT IS INTENDED THAT THE COUNTY WILL ASSUME MAINTENANCE RESPONSIBILITY, MUST BE INSPECTED DURING CONSTRUCTION BY AN AUTHORIZED AGENT OF THE DEVELOPER AND DIRECTOR. EACH PHASE OF CONSTRUCTION MUST BE INSPECTED AND APPROVED PRIOR TO PROCEEDING TO THE SUBSEQUENT PHASES. ANY IMPROVEMENTS CONSTRUCTED WITHOUT INSPECTION AS PROVIDED ABOVE OR CONSTRUCTED CONTRARY TO THE ORDERS OR INSTRUCTIONS OF THE AUTHORIZED AGENT OF THE DEVELOPER AND DIRECTOR WILL BE DEEMED AS NOT COMPLYING WITH SAN JOAQUIN COUNTY STANDARDS AND SPECIFICATIONS, AND WILL NOT BE ACCEPTED BY SAN JOAQUIN COUNTY FOR MAINTENANCE PURPOSES. THE DEVELOPER WILL HAVE COMPACTION TESTS TAKEN ON ALL LOTS WHERE THE DEPTH OF FILL IS GREATER THAN SEVEN (7") INCHES AND WITHIN THE STREETS. RE-TESTS THAT ARE THE RESULT OF THE CONTRACTOR'S FAILURE TO COMPACT THESE AREAS AS REQUIRED WILL BE BORNE BY THE CONTRACTOR. THE COUNTY DEPARTMENT OF PUBLIC WORKS WILL PERFORM FIELD INSPECTION FOR THIS PROJECT. THE CIVIL ENGINEER, DIRECTOR AND DEVELOPER, OR THEIR AGENTS, SHALL AT ALL TIMES, HAVE ACCESS TO THE WORK DURING ITS CONSTRUCTION, AND SHALL BE FURNISHED WITH EVERY REASONABLE FACILITY FOR ASCERTAINING THAT THE MATERIALS AND WORKMANSHIP ARE IN ACCORDANCE WITH THE REQUIREMENTS AND INTENTIONS OF THESE SPECIFICATIONS, SPECIAL PROVISIONS, AND PLANS. ALL WORK DONE AND ALL MATERIALS FURNISHED SHALL BE SUBJECT TO REVIEW. THE REVIEW OF THE WORK OR MATERIALS SHALL NOT RELIEVE THE CONTRACTOR AND DEVELOPER OF ANY OF THEIR OBLIGATIONS TO FULFILL THEIR CONTRACT AS PRESCRIBED.

14. UPON COMPLETION OF ANY IMPROVEMENTS WHICH ARE CONSTRUCTED UNDER AND IN CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS, AND PRIOR TO REQUESTING FINAL INSPECTION, THE AREA SHALL BE THOROUGHLY CLEANED OF ALL RUBBISH, EXCESS MATERIAL AND EQUIPMENT; AND ALL PORTIONS OF THE WORK SHALL BE LEFT IN A NEAT AND ORDERLY CONDITION, SATISFACTORY TO THE DIRECTOR AND THE DEVELOPER. WITHIN TEN (10) DAYS AFTER RECEIVING THE REQUEST FOR FINAL INSPECTION, THE DIRECTOR SHALL INSPECT THE WORK. THE DEVELOPER, OR HIS AUTHORIZED REPRESENTATIVE, WILL BE NOTIFIED IN WRITING AS TO ANY PARTICULAR DEFECTS OR DEFICIENCIES TO BE REMEDIED. THE CONTRACTOR SHALL PROCEED TO CORRECT ANY SUCH DEFECTS OR DEFICIENCIES AT THE EARLIEST POSSIBLE DATE. AT SUCH TIME, AS THE WORK HAS BEEN COMPLETED, A SECOND INSPECTION SHALL BE MADE BY THE DIRECTOR TO DETERMINE IF THE PREVIOUSLY MENTIONED DEFECTS HAVE BEEN REPAIRED, ALTERED AND COMPLETED IN ACCORDANCE WITH THESE STANDARDS AND SPECIFICATIONS. WHEN THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, THE DIRECTOR WILL RECOMMEND ACCEPTANCE OF THE WORK TO THE BOARD OF SUPERVISORS.

15. TRAFFIC SIGNS AND MARKINGS SHALL CONFORM TO THE MANUAL ON TRAFFIC CONTROL DEVICES (MUTCD), THE MUTCD CALIFORNIA SUPPLEMENT, CALTRANS STANDARD PLANS, SAN JOAQUIN COUNTY STANDARDS AND AS SHOWN ON THE PLANS. ALL SIGNS SHALL BE VISIBLE TO TRAFFIC FROM ALL DIRECTIONS.

16. DRAINAGE FACILITIES SHALL BE MAINTAINED DURING PERIODS OF INCLEMENT WEATHER AND RESTORED TO THEIR ORIGINAL CONDITIONS UPON COMPLETION OF WORK.

PIPE TABLE

TYPE OF UTILITY	SIZE	TYPE & CLASS	BEDDING CLASS
SANITARY SEWER	4" LATERALS	PVC CL200 DR14 PER AWWA C900-97 OR DIP 4 FEET EITHER SIDE OF A WATER MAIN CROSSING WITH NO JOINTS 4 FEET EITHER SIDE OF THE WATER CROSSING OTHERWISE SDR-35 MAY BE USED.	PER SAN JOAQUIN COUNTY STD DWG R-29
	8"	SDR-35 UNLESS OTHERWISE NOTED	
STORM DRAIN	12" TO 18"	CL V RCP OR DIP UNLESS OTHERWISE NOTED	PER SAN JOAQUIN COUNTY STD DWG R-29
WATER MAIN	8" 1"-2"	C900 CL 150 OR DIP TYPE K COPPER POLYTHYLONE, OR POLYBUTYLONE WITH COMPRESSION TYPE FITTINGS UNLESS OTHERWISE NOTED	PER SAN JOAQUIN COUNTY STD DWG R-29

SU 4119

BENCH MARK:

PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Expires 9/30/05
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 9-15-06

SPECIFICATIONS

CONTRACTOR NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTIONS AND COMPLETION OF THE PROJECT, AND SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS AND CONDITIONS OF ALL PERMITS AND APPROVALS APPLICABLE TO THIS PROJECT. THE CONTRACTOR SHALL ENSURE THAT THE NECESSARY RIGHT-OF-WAY, EASEMENTS, ABANDONMENT AND/OR PERMITS ARE SECURED PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER AND THE SAN JOAQUIN COUNTY PUBLIC WORKS DIRECTOR.

3. THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.

5. THE CIVIL ENGINEER SHALL KEEP AN ACCURATE RECORD OF ALL APPROVED DEVIATIONS FROM THE PLANS AND SHALL PROVIDE A COPY OF THESE RECORDS TO THE DIRECTOR UPON COMPLETION OF WORK. THESE ARE TO BE UTILIZED WITH THE INSPECTOR'S PLANS FOR PREPARING A COMPLETE AND ACCURATE SET OF "RECORD DRAWINGS" FOR THE PERMANENT RECORDS OF THE COUNTY. PREPARATION OF THE "RECORD DRAWINGS" IS THE RESPONSIBILITY OF THE DEVELOPER AND HIS CIVIL ENGINEER. "RECORD DRAWINGS" SHALL BE SUBMITTED TO THE DIRECTOR PRIOR TO ACCEPTANCE OF WORK AS COMPLETE. APPROVED DEVIATIONS SHALL BE RECORDED IN RED INK ON THE ORIGINAL APPROVED PLANS, NOT REPRODUCIBLE COPIES. THE ORIGINAL PLANS SHALL NOT BE REMOVED FROM THE DEPARTMENT OF PUBLIC WORKS FOR PREPARATION OF "RECORD DRAWINGS". A WORK AREA WILL BE AVAILABLE FOR MAKING ADDITIONS OR CORRECTIONS, AS WILL THE "RECORD DRAWING" STAMP AND PEN WITH RED INK, IF REQUESTED.

6. LOCATION OF SAW CUTTING AS REPRESENTED ON THESE PLANS SHALL BE DETERMINED IN THE FIELD WITH THE SAN JOAQUIN COUNTY PUBLIC WORKS INSPECTOR. IF THE EXISTING SECTION REQUIRES GRINDING OR OVERLAYING OF A.C., IT SHALL BE DETERMINED IN THE FIELD WITH THE SAN JOAQUIN COUNTY PUBLIC WORKS INSPECTOR.

7. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC HANDLING AND DETOUR PLAN TO THE COUNTY OF SAN JOAQUIN. IF REQUIRED.

ENGINEER GENERAL NOTES

1. ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH SAN JOAQUIN COUNTY STANDARD SPECIFICATION SECTION 5-ALT. A.

2. EXCAVATION OF 5 FEET OR MORE IN DEPTH WILL REQUIRE AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY.

3. EXISTING UTILITIES ARE SHOWN AS THEY ARE BELIEVED TO EXIST. THE OWNER AND THE ENGINEER DO NOT ACCEPT RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL HAVE EACH UTILITY COMPANY ACCURATELY LOCATE IN THE FIELD THEIR MAINS AND SERVICE LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES.

4. ATTENTION IS CALLED TO: SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS (TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540), ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1973, AS AMENDED, WHICH STATES:

> "PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATION I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND, IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING AND WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION."

5. THE CONTRACTOR SHALL CONTACT TRUEMAN PHILLIPS (468-3019) OF SAN JOAQUIN COUNTY FIELD OF ENGINEERING DIVISION AT LEAST 72 HOURS IN ADVANCE OF THE CONTRACTOR'S INTENT TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE PRIOR TO STARTING ANY WORK.

6. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD THEIR MAIN SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (800-227-2600).

7. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES AND VERIFY ALL UTILITY LOCATIONS. IT SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF HIS CONTRACT. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICES TO THE DEVELOPMENT.

8. PAYMENT FOR PAVEMENT WILL BE MADE FOR THE AREAS SHOWN ON THE PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT IN THE INSTALLATION OF THE IMPROVEMENTS COVERED BY THESE PLANS AND SPECIFICATIONS, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INCLUDED IN THE STREET CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.

9. THE CONTRACTOR SHALL EXPOSE EXISTING STORM DRAINS AND SANITARY SEWERS WHERE CONNECTIONS ARE TO BE MADE SO EXISTING FLOWLINES AND LOCATIONS CAN BE VERIFIED BEFORE THE START OF CONSTRUCTION.

10. CONSTRUCTION STAKING: IF SIEGFRIED ENGINEERING IS NOT PERFORMING THE CONSTRUCTION STAKING, AND AN ERROR OR OMISSION ON THE PLANS IS DISCOVERED BY THE SURVEYOR PERFORMING THE CONSTRUCTION STAKING DURING THE PREPARATION OF THE STAKING PLAN AND IT IS NOT IMMEDIATELY BROUGHT TO THE ATTENTION OF SIEGFRIED ENGINEERING THEN SIEGFRIED ENGINEERING CAN NOT, AND WILL NOT TAKE RESPONSIBILITY FOR THE CONSTRUCTION COSTS HAD THE ERROR OR OMISSION BEEN MITIGABLE PRIOR TO CONSTRUCTION.

11. AFTER THE SANITARY SEWER PIPE HAS BEEN LAID AND BACKFILLED, A LOW PRESSURE AIR TEST PER SAN JOAQUIN COUNTY STANDARD SPECIFICATIONS "AIR PRESSURE TEST" SHALL BE MADE ON EACH SECTION OF PIPE BETWEEN MAINTENANCE HOLES. THE PRESSURE TEST SHALL BE CONDUCTED AS PRESCRIBED BY THE COUNTY ENGINEER AND SHALL MEET AIR PRESSURE LOSS PER TIME PERIOD IN ACCORDANCE WITH SAN JOAQUIN COUNTY STANDARD SPECIFICATIONS. SHOULD ANY TEST ON ANY SECTION OR PIPELINE DISCLOSE AN AIR LOSS GREATER THAN THAT PERMITTED, THE CONTRACTOR SHALL, AT HIS OWN COST, LOCATE AND REPAIR THE DEFECTIVE JOINTS OR PIPE AND RETEST UNTIL THE AIR LOSS IS WITHIN THE SPECIFIED ALLOWANCE. CONTRACTOR SHALL TELEVISE LINES AND PRESENT THE SAN JOAQUIN COUNTY WITH A COPY OF THE VIDEO TAPE. ANY DEFECTS FOUND BY THE SAN JOAQUIN COUNTY BY TELEVISION INSPECTION SHALL BE REPAIRED BY THE CONTRACTOR PRIOR TO CONSTRUCTION OF THE STREET PAVEMENT.

12. THE UNDERGROUND CONTRACTOR SHALL PROVIDE SUFFICIENT RECORDS AND SHALL LEAVE ADEQUATE MARKS IN THE FIELD FOR THE CURB, GUTTER AND SIDEWALK CONTRACTOR TO ACCURATELY STAMP THE "S" AND "W" MARKINGS FOR SANITARY AND WATER SERVICES. PRIOR TO THE PLACING OF ANY SIDEWALK OR CURB SECTION, THE CURB, GUTTER AND SIDEWALK CONTRACTOR SHALL FURNISH DATA TO THE SAN JOAQUIN COUNTY FIELD INSPECTOR SHOWING HE HAD ADEQUATE INFORMATION TO ACCURATELY FIELD LOCATE AND MARK THE "S" AND "W" MARKINGS TO BE STAMPED IN HIS WORK. SANITARY SEWER SERVICES IN NEW SUBDIVISIONS SHALL BE MARKED BY THE CURB, GUTTER AND SIDEWALK CONTRACTOR WITH AN "S" STAMPED ON THE BACK OF THE SIDEWALK OR ON THE TOP OF THE CURB. WATER SERVICES IN NEW SUBDIVISIONS SHALL BE MARKED BY THE CURB, GUTTER AND SIDEWALK CONTRACTOR WITH A "W" STAMPED ON THE BACK OF THE SIDEWALK OR ON THE TOP OF CURB. PRIOR TO FINAL TROWELING OF THE CONCRETE, THE SAN JOAQUIN COUNTY FIELD INSPECTOR SHALL DETERMINE THAT THE "S" AND "W" MARKINGS HAVE BEEN STAMPED ON THE BACK OF SIDEWALK OR ON THE TOP OF CURB.

13. ALL STATIONS ARE STREET PAVEMENT CENTERLINE STATIONS.

CA: 800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
NV: 800-227-2600

9-15-07

14. THE CONTRACTOR SHALL FURNISH, INSTALL OPERATE AND MAINTAIN ALL MACHINERY, APPLIANCES AND EQUIPMENT TO MAINTAIN ALL EXCAVATIONS FREE FROM WATER DURING CONSTRUCTION, AND SHALL DEWATER AND DISPOSE OF THE WATER SO AS TO NOT CAUSE INJURY TO PUBLIC OR PRIVATE PROPERTY, OR TO CAUSE A NUISANCE OR MENACE TO THE PUBLIC. THE DEWATERING SYSTEM SHALL BE INSTALLED AND OPERATED SO THE GROUNDWATER LEVEL OUTSIDE THE EXCAVATION IS NOT REDUCED TO THE EXTENT WHICH WOULD CAUSE DAMAGE OR ENDANGER ADJACENT STRUCTURES OR PROPERTY. ALL COSTS FOR DEWATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL PIPE CONSTRUCTION. THE STATIC WATER LEVEL SHALL BE DRAWN DOWN A MINIMUM OF 1 FOOT BELOW THE BOTTOM OF EXCAVATION OF ANY FILL TO THE SPECIFIED DENSITY. DISPOSAL OF WATER SHALL BE IN ACCORDANCE WITH THE APPROVED SWPPP AND SHALL NOT DAMAGE PROPERTY, CREATE A PUBLIC NUISANCE OR VIOLATE THE LAW. THE CONTRACTOR SHALL HAVE ON HAND, PUMPING EQUIPMENT AND MACHINERY IN GOOD WORKING CONDITION FOR EMERGENCIES AND SHALL HAVE WORKMEN AVAILABLE FOR ITS OPERATION. THE DEWATERING SYSTEM SHALL OPERATE CONTINUOUSLY UNTIL BACK-FILL HAS BEEN COMPLETED TO 1 FOOT ABOVE THE NORMAL STATIC GROUNDWATER LEVEL.

15. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER AND THE COUNTY ENGINEER.

16. THE CONTRACTOR SHALL SUBMIT PERTINENT PLANS SPECIFICATIONS AND DETAILS FOR STREET LIGHTS TO COUNTY FIELD INSPECTOR FOR APPROVAL PRIOR TO INSTALLATION.

SANJOAQUIN COUNTY SPECIFICATIONS

3-8

CHANGES ON PLANS AND SPECIFICATIONS--ANY CHANGES TO THE APPROVED IMPROVEMENT PLANS AND SPECIFICATIONS MUST BE PREPARED AND CERTIFIED BY THE CIVIL ENGINEER, AND SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL PRIOR TO IMPLEMENTATION.

SECTION 7

ALTERNATE A

MAINTAINING TRAFFIC--ATTENTION IS DIRECTED TO SECTIONS 7-1.08, "PUBLIC CONVENIENCE," 7-1.09, "PUBLIC SAFETY," AND 12, "CONSTRUCTION AREA TRAFFIC CONTROL DEVICES," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL OF TRAFFIC CONTROLS (CALTRANS) AND SUPPLEMENTED BY THE CURRENT WORK AREA TRAFFIC CONTROL HANDBOOK (BUILDING NEWS).

THROUGH PUBLIC TRAFFIC SHALL BE PERMITTED TO PASS THROUGH CONSTRUCTION OPERATIONS AT ALL TIMES WITH AS LITTLE INCONVENIENCE AND DELAY AS POSSIBLE.

THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL CONSTRUCTION AREA TRAFFIC CONTROL DEVICES WITHIN THE PROJECT AND AT ALL PUBLIC ROAD ENTRANCES TO THE PROJECT.

SECTION 16

ALTERNATE B

CLEARING AND GRUBBING (MINOR)--CLEARING AND GRUBBING SHALL CONFORM TO THE REQUIREMENTS IN SECTION 16, "CLEARING AND GRUBBING," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ALL TREES SHALL BE PRESERVED UNLESS OTHERWISE DESIGNATED ON THE PLANS OR MARKED FOR REMOVAL.

PLANTS AND LAWN IN FRONT OF RESIDENCES SHALL BE PRESERVED ADJACENT TO NEW SHOULDER CONSTRUCTION WHERE NATURAL GROUND SURFACE AND FINISHED GRADE ARE COMPATIBLE, UNLESS OTHERWISE DESIGNATED ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.

TREE TRIMMING WILL BE REQUIRED ONLY WHERE IT IS NECESSARY TO CLEAR CONSTRUCTION EQUIPMENT UNLESS OTHERWISE SHOWN ON THE PLANS.

EXISTING TREE STUMPS INSIDE LIMITS OF WORK SHALL BE REMOVED TO A POINT ONE FOOT (1') BELOW FINISHED GRADE, UNLESS OTHERWISE SHOWN ON PLANS. TREE ROOTS THAT INTERFERE WITH CONSTRUCTION SHALL BE CUT OFF IN A WORKMANLIKE MANNER.

GRASS AND WEEDS MAY BE THOROUGHLY INCORPORATED WITH THE NATIVE SOIL BY DISKING OR OTHER MEANS. MATERIALS CONTAINING GRASS AND WEEDS SHALL BE USED OUTSIDE THE PAVED PORTION OF THE ROADWAY.

BURNING WILL BE ALLOWED WHEN PERMITTED BY THE SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT.

SECTION 17

WATERING--WATERING SHALL CONFORM TO THE REQUIREMENTS IN SECTION 17, "WATERING," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

WATER FOR USE ON THIS PROJECT SHALL BE NONPOTABLE WATER UNLESS OTHERWISE APPROVED BY THE COUNTY IN WRITING FOR USE OF POTABLE WATER AND SHALL BE FURNISHED AND APPLIED AS REQUIRED IN THE SPECIFICATIONS.

THE CONTRACTOR SHALL ADVISE THE COUNTY IN WRITING OF THE INTENDED SOURCE(S) TO BE USED, PRIOR TO STARTING WORK ON THE PROJECT.

NONPOTABLE WATER SUPPLY, TANKS, PIPES AND ANY OTHER CONVEYANCES OF NONPOTABLE WATER SHALL BE CLEARLY AND DISTINCTLY LABELED:

NONPOTABLE WATER

DO NOT DRINK

SECTION 19

ALTERNATE B (SANDY SOILS)

EARTHWORK--EARTHWORK SHALL CONFORM TO THE REQUIREMENTS IN SECTION 19, "EARTHWORK," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ALL RELATIVE COMPACTION REQUIREMENTS OF SECTION 19-5, "COMPACTION," OF THE STANDARD SPECIFICATIONS, SHALL BE NOT LESS THAN NINETY PERCENT (90%).

THE REQUIREMENT OF THE SECOND PARAGRAPH OF SECTION 19-5.03, "RELATIVE COMPACTION (95 PERCENT)," OF THE STANDARD SPECIFICATIONS, WILL BE REQUIRED ONLY IN THOSE AREAS SHOWN ON THE PLANS.

IN LIEU OF THE TOLERANCE SPECIFIED IN SECTION 19-1.03B "GRADE TOLERANCE," OF THE STANDARD SPECIFICATIONS, THE SURFACE OF THE GRADING PLANE SHALL NOT BE MORE THAN 0.05 FOOT ABOVE OR BELOW THE GRADE ESTABLISHED BY THE ENGINEER.

BEFORE GRADE IS APPROVED BY THE COUNTY, ALL EARTHWORK (INCLUDING DRIVEWAYS AND SLOPES) SHALL BE COMPACTED TO GRADE. UNLESS OTHERWISE SHOWN ON THE PLANS, ALL SURPLUS MATERIALS NOT TO BE SALVAGED, STOCKPILED OR DISPOSED OF AS PROVIDED IN SECTION 19-2.06, "SURPLUS MATERIAL," OF THE STANDARD SPECIFICATIONS, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF AS PROVIDED IN SECTION 7-1.13, "DISPOSAL OF MATERIAL OUTSIDE THE HIGHWAY RIGHT OF WAY," OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE PLANS, THE EXISTING PAVEMENT, WHEN USED AS EMBANKMENT, SHALL BE BROKEN UP INTO PIECES NOT LARGER THAN 0.33 FOOT IN GREATEST DIMENSION.

SECTION 19

ALTERNATE C

EARTHWORK (STRUCTURE EXCAVATION & BACKFILL)--STRUCTURE EXCAVATION AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS IN SECTION 19-3, "STRUCTURE EXCAVATION AND BACKFILL," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ALL REFERENCES TO CULVERT EXCAVATION AND CULVERT BACKFILL ON THE PLANS SHALL BE DEEMED TO MEAN STRUCTURE EXCAVATION AND STRUCTURE BACKFILL, RESPECTIVELY, IN THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

STRUCTURE BACKFILL WHICH IS OUTSIDE OF THE PAVED PORTIONS OF THE ROADWAY, UNLESS OTHERWISE SPECIFIED ON THE PLANS, SHALL BE NATIVE MATERIAL SELECTED FOR ITS RESISTANCE TO EROSION.

COMPACTION REQUIREMENTS: UNLESS OTHERWISE SHOWN ON THE PLANS, THE COMPACTION REQUIREMENTS WITHIN THE LIMITS OF STRUCTURE EXCAVATION FOR PIPES AND ARCHES SHALL BE AS SHOWN ON STANDARD DRAWINGS.

PONDING AND JETTING WILL BE PERMITTED ONLY IF A MAINTENANCE BOND IN THE AMOUNT OF TWENTY PERCENT (20%) OF THE ENGINEER'S ESTIMATE WITH A CORPORATE SURETY APPROVED BY THE COUNTY IS PROVIDED. SUCH A BOND SHALL BE PROVIDED BEFORE FINAL ACCEPTANCE OF THE PROJECT BY THE COUNTY AND SHALL GUARANTEE THE REPAIR OF ALL DAMAGE DUE TO FAULTY MATERIALS OR WORKMANSHIP PROVIDED OR DONE BY THE CONTRACTOR. THE GUARANTEE SHALL REMAIN IN EFFECT FOR A PERIOD OF THREE (3) YEARS AFTER THE DATE OF FINAL ACCEPTANCE OF THE PROJECT BY THE COUNTY OR BOARD OF SUPERVISORS.

SECTION 19

ALTERNATE F

EARTHWORK (CONCRETE CURBS & SIDEWALKS)--EARTHWORK FOR CONCRETE CURBS AND SIDEWALKS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 19, "EARTHWORK," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

EXCAVATION FOR CONCRETE CURBS AND SIDEWALKS ALONG IMPROVED FRONTAGES SHALL BE LIMITED TO SIX INCHES (6") BEHIND NEW CONCRETE CONSTRUCTION ADJACENT TO PROPERTY LINE UNLESS OTHERWISE SHOWN ON THE PLANS.

ALL RELATIVE COMPACTION OF SECTION 19-5, "COMPACTION," OF THE STANDARD SPECIFICATIONS, SHALL BE NOT LESS THAN NINETY PERCENT (90%), UNLESS OTHERWISE DESIGNATED ON THE PLANS. THE REQUIREMENT OF THE SECOND PARAGRAPH OF SECTION 19-5.03, "RELATIVE COMPACTION (95 PERCENT)," OF THE STANDARD SPECIFICATIONS, WILL NOT BE REQUIRED.

GROUND AREA TO BE USED F OR LANDSCAPING PURPOSES, WHICH HAS BEEN EXCAVATED OR IS BELOW FINISHED GRADE, SHALL BE BACKFILLED WITH SELECTED MATERIAL OR IMPORTED TOPSOIL, FREE OF STONES, CONFORMING TO THE PROVISIONS OF SECTION 20-2.01, "TOPSOIL," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE SHOWN ON THE PLANS. BACKFILLED MATERIAL IN GROUND AREAS SHALL BE COMPACTED EQUAL TO NATURAL GROUND AND MAY BE COMPACTED BY PONDING WITH WATER.

THE GROUND AREA ADJACENT TO NEW CONCRETE OR PAVEMENT CONSTRUCTION SHALL BE GRADED FLUSH TO MATCH NEW IMPROVEMENTS AS SHOWN ON THE PLANS. BACKFILL MATERIAL IN SLOPE AREAS GREATER THAN SIX TO ONE SHALL BE SELECTED FOR RESISTANCE TO EROSION.

UNLESS OTHERWISE SHOWN ON THE PLANS OR SPECIFIED IN THESE SPECIAL PROVISIONS, ALL SURPLUS MATERIAL NOT TO BE SALVAGED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AS PROVIDED IN SECTION 7-1.13, "DISPOSAL OF MATERIAL OUTSIDE THE HIGHWAY RIGHT OF WAY," OF THE STANDARD SPECIFICATIONS.

SECTION 22

FINISHING ROADWAY--FINISHING ROADWAY SHALL CONFORM TO THE REQUIREMENTS IN SECTION 22, "FINISHING ROADWAY," OF THE STANDARD SPECIFICATIONS.

SECTION 26

ALTERNATE B

AGGREGATE BASE--AGGREGATE BASE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 26, "AGGREGATE BASES," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

AGGREGATE BASE SHALL BE CLASS 2.

THE COMBINED AGGREGATE SHALL CONFORM TO THE GRADING SPECIFIED FOR THE THREE-FOURTHS INCH (3/4") MAXIMUM AGGREGATE.

THE R-VALUE REQUIREMENT MAY BE WAIVED, PROVIDED THE AGGREGATE BASE CONFORMS TO THE SPECIFIED GRADING AND DURABILITY AND HAS A SAND EQUIVALENT VALUE OF THIRTY-THREE (33) OR MORE.

RECYCLED ASPHALT CONCRETE (R.A.C.) MAY BE SUBSTITUTED FOR CLASS 2 AGGREGATE BASE, PROVIDED IT MEETS THE SPECIFIED GRADATION AND R-VALUE REQUIREMENTS. DURABILITY AND SAND EQUIVALENT REQUIREMENTS SHALL BE WAIVED.

IF THE RESULTS OF THE R-VALUE TEST ON R.A.C. DO NOT MEET THE REQUIREMENTS FOR CLASS 2 AGGREGATE BASE, THE AGGREGATE BASE REPRESENTED BY THE FAILING TEST SHALL BE REMOVED. NO SINGLE R-VALUE TEST SHALL REPRESENT MORE THAN TWO THOUSAND (2,000) CUBIC YARDS OR ONE (1) DAY'S PRODUCTION.

THE RESULTS OF THE R-VALUE TEST SHALL BE KNOWN PRIOR TO PLACEMENT OF SUBSEQUENT LAYERS OF MATERIAL.

SECTION 39

ALTERNATE A

ASPHALT CONCRETE--ASPHALT CONCRETE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 39, "ASPHALT CONCRETE," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ASPHALT CONCRETE SHALL BE TYPE "B". AGGREGATE SHALL CONFORM TO THE ONE-HALF INCH (1/2") MINIMUM, COARSE OR MEDIUM GRADING AS DETERMINED BY THE ENGINEER AND DIRECTOR. AT THE CONTRACTOR'S OPTION, AND WITH APPROVAL OF THE ENGINEER AND DIRECTOR, AGGREGATE MAY BE THREE-FOURTHS INCH (3/4") MAXIMUM, MEDIUM GRADING WITH THE EXCEPTION OF THE FINAL FINISH COURSE.

AGGREGATE CONFORMING TO THE THREE-EIGHTHS INCH (3/8") MAXIMUM GRADING WILL BE PERMITTED FOR USE IN DRIVEWAYS, DIKES AND OTHER AREAS WITH APPROVAL OF THE ENGINEER AND DIRECTOR.

THE AMOUNT OF ASPHALT BINDER TO BE MIXED WITH THE AGGREGATE SHALL BE BETWEEN FIVE PERCENT (5%) AND SEVEN PERCENT (7%) BY WEIGHT OF THE DRY AGGREGATE. THE EXACT AMOUNT OF ASPHALT BINDER TO BE MIXED WITH THE AGGREGATE WILL BE DETERMINED BY THE ENGINEER. THE AR VISCOSITY GRADE OF THE ASPHALT BINDER SHALL BE 4,000 UNLESS OTHERWISE SHOWN ON THE PLANS. THE PROVISIONS OF PARAGRAPHS 5 THROUGH 8 OF SECTION 39- 3.03, "PROPORTIONING," OF THE STANDARD SPECIFICATIONS, SHALL NOT APPLY TO THIS PROJECT.

WHEN THE ASPHALT CONCRETE IS TO BE PRODUCED IN A BATCH PLANT, THE ASPHALT CONCRETE SHALL BE PROPORTIONED AND MIXED BY THE AUTOMATIC METHOD.

WHEN SHOWN IN THE ENGINEER'S ESTIMATE PRIME COAT, LIQUID ASPHALT PENETRATION GRADE SHALL BE SC-70 OR SC-250 AS DIRECTED BY THE ENGINEER AND DIRECTOR. THE PLACEMENT OF ASPHALT CONCRETE SHALL NOT BEGIN UNTIL TWENTY-FOUR (24) HOURS AFTER THE PRIME COAT IS APPLIED.

PAINT BINDER (TACK COAT) SHALL BE APPLIED AT A RATE OF APPROXIMATELY 0.05 GALLON PER SQUARE YARD, UNLESS OTHERWISE SHOWN ON THE PLANS.

ALL STEEL-TIRED ROLLERS SHALL BE OF THE TANDEM TYPE. THE THIRD PARAGRAPH OF SECTION 39-5.02, "COMPACTING EQUIPMENT," OF THE STANDARD SPECIFICATIONS, SHALL BE DELETED.

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES

GENERAL NOTES AND SPECIFICATIONS

PREPARED IN THE OFFICE OF:

SIEGFRIED ENGINEERING, INC.

- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 09/15/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

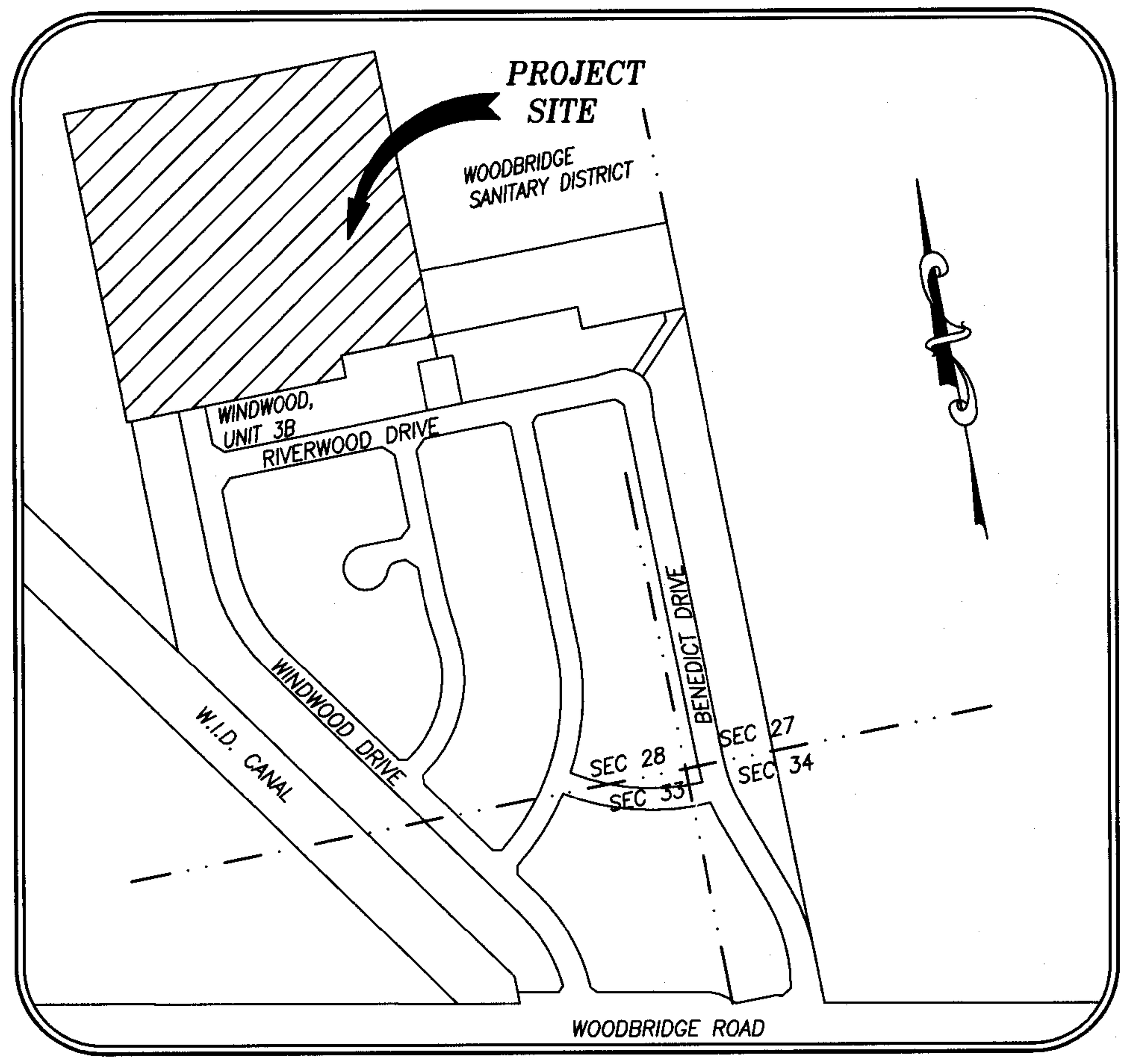
DRAWN BY: DJA
SCALE: AS SHOWN
SHEET C-2 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVEMENTS\04251-C02-NOTES.dwg 09/15/06

TRACT NUMBER 3629
WINDWOOD ESTATES
WOODBRIDGE, CALIFORNIA
APRIL, 2006

ABBREVIATIONS

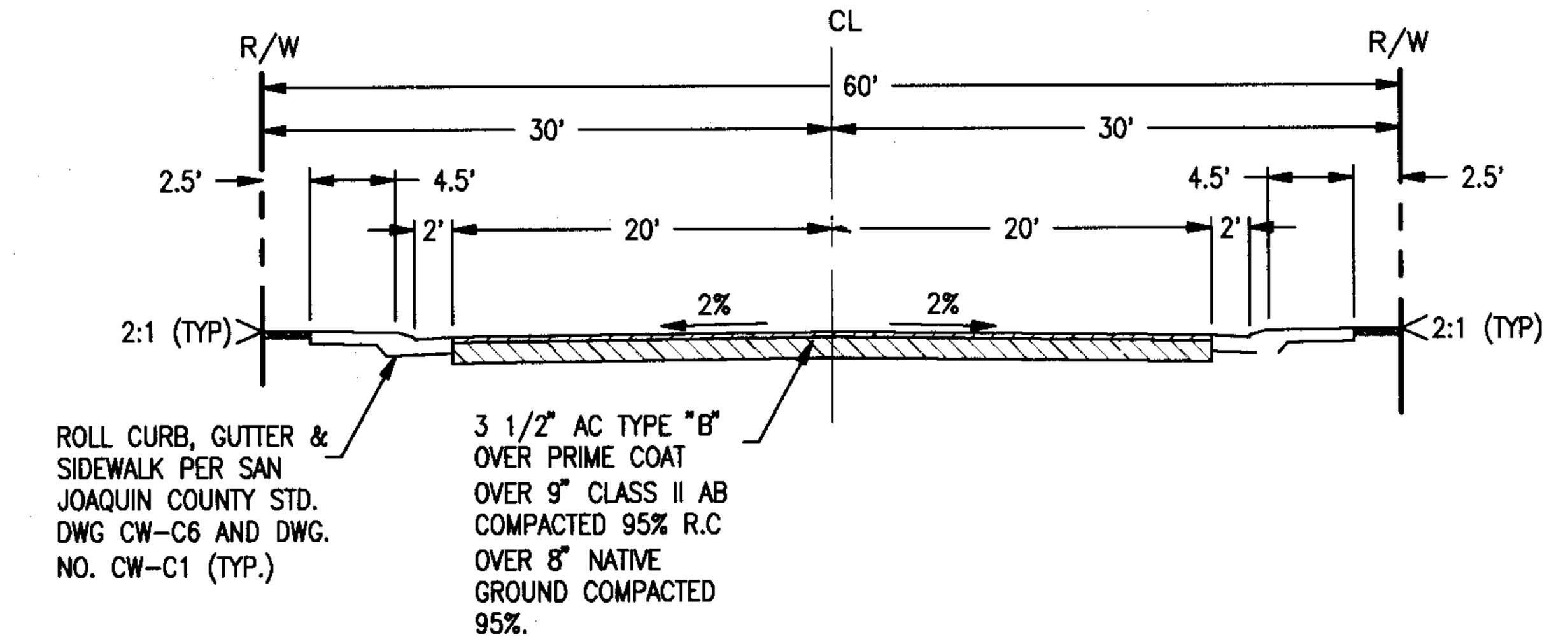
ABBREVIATION	DESCRIPTION
@	AT
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
BC	BEGINNING OF CURVE
BO	BLOWOFF
BM	BENCH MARK
BOW	BACK OF WALK
BW	BOTTOM OF WALL
C	CONCRETE
C & G	CURB AND GUTTER
C,G, & SW	CURB, GUTTER, AND SIDEWALK
CL	CENTERLINE
CB	CATCH BASIN
CO	CLEANOUT
CR	CURB RETURN
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
EC	END OF CURVE
EG	EXISTING GROUND
EL	ELEVATION
EEP	EDGE OF EXISTING PAVEMENT
EP	EDGE OF PAVEMENT, EXISTING PAVEMENT
ESMT	EASEMENT
EX.	EXISTING
FL	FLOWLINE
FF	FINISHED FLOOR
FOC	FACE OF CURB
FT.	FEET
G	GROUND
GB	GRADE BREAK
HORIZ	HORIZONTAL
HP	HIGH POINT
LF	LINEAL FEET
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MH	MAINTENANCE HOLE
MIN	MINIMUM
MHT	MEAN HIGH TIDE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
P	PAVEMENT
PC	POINT OF CURVATURE
PP	POWER POLE
PT	POINT
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PL	PROPERTY LINE
R	RADIAL OR RADIUS
R/W	RIGHT-OF-WAY
RCP	REINFORCED CONCRETE PIPE
RP	RADIUS POINT
RT	RIGHT
RWL	RAIN WATER LEADER
SD	STORM DRAIN
SS	SANITARY SEWER
SL	STREET LIGHT
SW	SIDEWALK
SDMH	STORM DRAIN MAINTENANCE HOLE
SSMH	SANITARY SEWER MAINTENANCE HOLE
STA	STATION
STD	STANDARD
TC	TOP OF CURB
TI	TRAFFIC INDEX
TW	TOP OF WALL
TYP	TYPICAL
VERT	VERTICAL
W	WATER
(W)	WEST
(E)	EAST
(S)	SOUTH
(N)	NORTH
±	PLUS OR MINUS



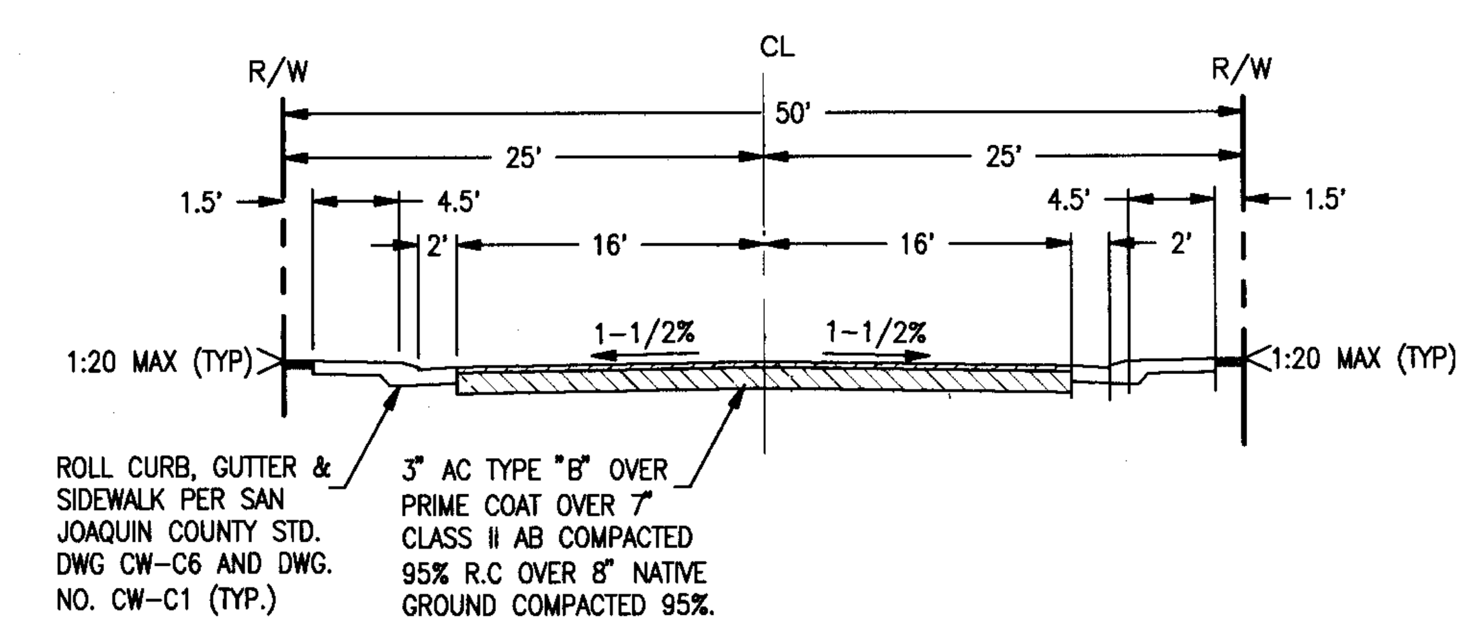
VICINITY MAP
NOT TO SCALE

SHEET INDEX

SHEET NO.	DESCRIPTION
C-1	TITLE SHEET AND TYPICAL CROSS SECTIONS
C-2	GENERAL NOTES AND SPECIFICATIONS
C-3	GENERAL NOTES AND SPECIFICATIONS
C-4	GENERAL NOTES AND SPECIFICATIONS
C-5	GENERAL NOTES AND SPECIFICATIONS
C-6	COMPOSITE GRADING PLAN AND SIGNING & STRIPING PLAN
C-7	COMPOSITE UTILITY PLAN
C-8	PLAN AND PROFILE WINDWOOD DRIVE STA: 25+00 TO 33+00
C-9	PLAN AND PROFILE RIVERMIST DRIVE STA: 5+00 TO 10+50
C-10	PLAN AND PROFILE RIVERBEND DRIVE STA: 1+00 TO 7+00 & WATER LINE EASEMENT STA: 1+00 TO 3+50
C-11	PLAN AND PROFILE RED OAK DRIVE STA: 1+00 TO 5+50
C-12	DETAILS
C-13	DETAILS
C-14	DETAILS
C-15	EROSION CONTROL PLAN



WINDWOOD DRIVE TYPICAL SECTION
NOT TO SCALE
R-VALUE=22, TI=6.0



RIVERMIST DRIVE, RIVERBEND DRIVE
RED OAK DRIVE TYPICAL SECTION
NOT TO SCALE
R-VALUE=22, TI=5.0

LEGEND

EXISTING	DESCRIPTION	PROPOSED
— GAS —	GAS LINE	— GAS —
— MCI —	MCI LINE	— MCI —
— PG&E —	PG&E CONDUIT	— PG&E —
— SBC —	SBC LINE	— SBC —
11.93TC / 11.43FL	TOP OF CURB ELEVATION / FLOW LINE ELEVATION	11.93TC / 11.43FL
12.05BOW	BACK OF WALK ELEVATION	12.05BOW
× 12.05		
11.93G / 18.93TW / 11.93BW	GROUND ELEVATION / TOP OF WALL ELEVATION / BOTTOM OF WALL ELEVATION	11.93G / 18.93TW / 11.93BW
	SAW CUT LINE	
	ELECT. CONDUIT	— SL —
	EASEMENT LINE	
	PROPERTY & R/W LINE	
8"S	SANITARY SEWER LINE	8"S
12"D	STORM DRAIN LINE	12"D
12"W	WATER LINE	12"W
	BENCH MARK	
	TYPE 2 CATCH BASIN	
	CURB, GUTTER, AND SIDEWALK	
	GATE VALVE	
	STREET LIGHT W/ PULL BOX	
	MAINTENANCE HOLE	
	FIRE HYDRANT	
	WATER BLOW OFF	
	WATER TEE WITH THRUST BLOCK	
	UTILITY POLE	
	SIGN	
	SANITARY SEWER CLEAN OUT	
— x — x —	FENCE	— x — x —
	SURVEY MONUMENT & FRAME COVER	

UTILITY SERVICES PROVIDED BY:
1. STORM DRAINAGE: MOKELUMNE ACRES MAINTENANCE DISTRICT
2. SANITARY SEWER: WOODBRIDGE SANITARY DISTRICT
3. WATER: MOKELUMNE ACRES MAINTENANCE DISTRICT
4. STREET LIGHTS: WOODBRIDGE LIGHTING DISTRICT
5. ELECTRICITY: P.G.&E.
6. NATURAL GAS: P.G.&E.
7. TELEPHONE: SBC
8. CABLE T.V.: COMCAST

BENCH MARK:
PER U.S.G.S. B.M. 19-8 1907-45.
LOCATION: NORTHWEST CORNER OF MASONIC BUILDING IN THE TOWN OF WOODBRIDGE.
ELEVATION: 45.85 IS MOST CURRENT PER F.E.M.A.

REFER TO MAJOR SUBDIVISION NO. PA-04-667

REGISTERED PROFESSIONAL ENGINEER PAUL J. SCHNEIDER No. 62498 Expires 9/30/07 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 8-22-06

SU 4120

7-13-07

APPROVED BY: SAN JOAQUIN FIRE WARDEN — Steve Dalton — 8-24-06 — SIGNATURE — DATE:

APPROVED BY: SAN JOAQUIN PUBLIC HEALTH — SIGNATURE — 8-24-06 — DATE:

APPROVED BY: WOODBRIDGE SANITARY DISTRICT — STEPHEN K. SINNOCK, ENGINEER, WOODBRIDGE SANITARY DISTRICT — 8-24-2006 — DATE:

APPROVED BY: WOODBRIDGE IRRIGATION DISTRICT — SIGNATURE — 8/24/06 — DATE:

APPROVED BY: WOODBRIDGE FIRE DISTRICT — SIGNATURE — 8/24/06 — DATE:

COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS
APPROVED: SENIOR CIVIL ENGINEER — 9/18/06 DATE
R.C.E. NO.: 46533 — EXP. DATE: 6/30/07
DIRECTOR OF PUBLIC WORKS COUNTY OF SAN JOAQUIN — 9/21/06 DATE

REVISIONS NO.	DESCRIPTION	COUNTY APPROVAL APPROVED BY:	DATE

WINDWOOD ESTATES
TITLE SHEET AND TYPICAL CROSS SECTIONS

PREPARED IN THE OFFICE OF:
- Civil Engineering
- Land Surveying
- Structural Engineering
- Planning

SIEGFRIED ENGINEERING, INC.
4045 Coronado Avenue • Stockton, CA 95204
209 943-2021 • Fax: 209 942-0214

DESIGN ENGINEER

DATE: 08/22/06
R.C.E. NO.: 62498
EXP DATE: 09/2007

DRAWN BY: DJA
SCALE: AS SHOWN
SHEET C-1 OF 15
JOB NO. 04251
DRAWING FILE NO. G-

F:\04cad\04251\civil\OFF SITE IMPROVEMENTS\...51-C01-TITLE.dwg 08/22/06