GENERAL SPECIFICATIONS

DEVELOPER SHALL:

1. Verify the location of telephone and all utility substructures two days prior to excavation. Call underground service alert (1-800-422-4133).
2. Be responsible for all trenching, and provide conduit in those portions of the trench, both common and separate, as specified by the Pacific Bell Engineer and must provide "As Built" drawings with footages to the Engineer upon completion of conduit placement.
3. Be responsible for the placement of conduit according to Pacific Bell specifications and under the inspection of a Pacific Bell Trench Coordinator. Copies of specifications are available from the Engineer upon request.
4. Insure there will be no change in design without the concurrence of the Pacific Bell Trench Coordinator and Engineer.
5. Contact your Pacific Bell Trench Coordinator _____ days prior to construction to establish a pre-construction meeting date.
6. Provide supervision over and coordination between the various contractors working within the project in order to prevent damage to Pacific Bell facilities. Developer is responsible for the cost of repairs, replacement, or relocation made necessary by damage to the Pacific Bell facilities by other work operations until the project is ready for service and the Pacific Bell facilities tested.

TRENCH:

1. Grading to within 4" of final shall be completed prior to trenching.
2. All trench, backfill material (Class B) and compaction to be in accordance with municipal/county specifications. Trenches shall be level and free of debris and a minimum of eight inches wide.
3. Minimum final cover shall be 36" from gutter flowline in public rights of way and 36" for cable or wire from final grade on private property.
4. Minimum radial clearance to be 12 inches from Power and Gas, except C.A.T.V. per C.P.U.C. General Order 128.
5. Minimum radial clearance to be 6 feet from power transformers, 3 feet from power pull boxes and 18 inches from Cable TV at all riser locations.
6. Under no circumstances will other utilities be allowed directly above the Pacific Bell Position.
7. Staking at property line corners shall be furnished so Telephone Company fixtures can be properly located and verification of cable locations can be made for record purposes.
8. A minimum 3,000 feet of trench, or a complete trench system if under 3,000 feet, shall be ready for placement on any call for placing of telephone facilities.
9. The Telephone Company reserves the right to refuse to use the developer trench if the criteria is not met, or upon notice, corrected to specifications. If not corrected, upon notice, the Telephone Company may, at its option, make the necessary corrections and deduct the cost from the reimbursement amount or provide its own trenching on easement or in public rights of way at a time of its own choosing prior to initial service requirements.
10. Service connection trenches to all buildings on private property, either single or multiple units, are the responsibilty of the developer and cables and/or wires will not be placed prior to completion of slabs, and preferably after building framing has been completed. The developer shall place conduits(s) or plastic holeliner(s) with pull wires as may be specified by the Telephone Engineer.
11. No changes from the approved plan may be made by either the Developer (or his representative) or the Telephone Construction Department without concurrance of the Telephone Engineer.
12. All required permits, within the tract, shall be obtained by developer.
13. See exhibit #1 for trench details.

CONDUIT:

1. All 1" conduit to be type ABS-DB or equivalent.
2. All 2" - 4" to be type "C" or equivalent.
3. All conduit exposed to sunlight must be stamped and approved on the conduit for that application.
4. All ducts are to be clear and pull lines in place.
5. Bends, sweeps or grade changes having a radius of 80 feet or less, or a grade change of 20 percent (11.3 degrees) or more, must be encased using separations in accordance with Pacific Bell specifications - material 3½ sack, ½" aggregate, type 1 cement.
6. Each section to be limited to two 90 degree factory bends and no more than two 90 degree sweeps of not less than 25 feet radius. Exceptions must be approved by the Pacific Bell Trench Coordinator. (1" conduit excluded).
7. Conduit material delivered by Pacific Bell is to be signed for at the job.
8. The use of conduit for other than Pacific Bell owned wiring will preclude its use by Pacific Bell, and may require exposed telephone wire or cables. Pacific Bell may refuse to use conduit that deviates from plans or specifications. If the conduit is damaged or the cable can't be pulled, it is the developer's responsibility to correct the condition.
9. See Exhibit #2 for conduit details.

PULLINES:

1. 3/16" min. polypropylene pullines required for 1" conduits.
2. 3/8" min. polypropylene pullines required for 2" and 4" conduits.

TELEPHONE SERVICE CABINETS FOR SINGLE FAMILY AND DUPLEX RESIDENTAL UNITS

1. As of January 1, 1990 Pacific Bell in accordance with the National Electrical Code requires that all terminal cabinets which are connected to telephone network must have a UL rating. This includes all terminal housing cabinets placed by us or the building trade (owners/developers/etc.) to be UL listed.
2. The following is a list of the minimum specifications we require for single family and duplex residental units:
   a). 20 Ga Steel 14" W x 11" H x 5.25" D weatherproof enclosure. (UL approved)
   b). Provided with ¾" Plywood Backboard
   c). Provided with 4 - #6 Ground Bar (Buss)
   d). Must meet the following UL 50, Standard for Safety Criteria:
   Paragraph 4.2, Edge Requirements
   Table 5.1, Number 1 or 2. for Interior Use
   Table 5.1, Number 3R for Exterior Use
   Paragraph 13, Protection Against Corrosion
   Paragraph 19, Overlap Requirements
   e). Depth of the boxes will vary, but it will never be less than four inches from the backboard to the front surface.

BACKBOARDS:

1. Backboards are required to attach Pacific Bell and customer provided equipment.
2. A ¾" plywood backboard is required for all single family residental units.
3. A ¾" exterior grade plywood backboard is required for all multi-unit complexes.
4. Size of backboard will vary according to application. Engineer will specify on job. See exhibit #4 for details.

GROUNDING:

1. Developer to provide Ufer Ground. The #4 (½") or larger rebar to which the grounding conductor is to be connected must be a minimum of 20' long unbroken. Where splices are necessary to obtain the 20' minimum, they must be made so that the two rebars overlap 15" and must be secured by at least two steel tie wires.
2. The rebar is to extend out of the slab in a dry location not less than 6" or more than 18" (option B&C). It must be accessible and must not be inside the power cabinet. (option 2A)
3. See exhibit #3 for details.

PREWIRE:

1. The wire shall contain at least **4 SOLID COPPER CONDUCTORS,** each of which has insulation in a industry standard color coding format. This format should provide **"Red and Green"** wires for the talking pair and the **"Yellow" and "Black"** wires as the second pair (for the two pair sheath wire) and Blue/White, Orange/White, and Green/White (for the three pair sheath wire).
2. The wire shall also have an outer sheath of insulation to protect the individual conductors insulation. The conductor size will be either 22 AWG or 24 AWG and shall be twisted as pairs within the sheath.
3. The wire shall meet the FCC registration rules part 68, subpart C-section 68.213. Wiring for commercial building shall also meet the National Fire Protection Association standards as specified in National Electrical Code, Article 800-3 (communications circuits).
4. Developer shall tag and identify all pre-wire (at the telephone terminal location) indicating which addressed living unit it serves in all multi-unit complexes.
5. If your pre-wire and jacks, as well as tagging and wiring of the jacks are not done properly, you have the option of selecting your contractor to correct the problem or Pacific Bell will correct the problem at the appropriate installation rates.

ATTENTION DEVELOPER

ATTENTION DEVELOPER

INSPECTION:

1. Pacific Bell shall provide speciifications and inspection for construction.
2. All trench must be inspected and accepted by the Pacific Bell Trench Coordinator prior to backfill.
3. All conduit must be inspected and accepted by the Pacific Bell Trench Coordinator prior to backfill.
4. Coordinate work and direct all construction related questions to your Pacific Bell Trench Coordinator.

CPIW NOTE: **YES** **NO**

DEVELOPER TO CALL TELEPHONE CO. PREWIRE 10 WORKING DAYS PRIOR TO INSTALLATION FOR INSTRUCTIONS

PHONE _____

R/W REQUIRED **YES** **NO**

DEVELOPER NOTE:

1. ADVISE TELEPHONE COMPANY CONSTRUCTION DEPT. OF PRE CONST. MTG. DATE. THE PRE CONST. MEETING IS TO BE HELD A MINIMUM OF 21 WORKING DAYS PRIOR TO TRENCH.
   CONTACT: _____
   TEL.#: _____
2. ADVISE TELEPHONE CO. 30 DAYS PRIOR TO ANTICIPATED MOVE-IN DAY FOR FOLLOW UP TERMINAL PLACEMENT.
   CONTACT: _____
   TEL.#: _____
   OR LEAVE MESSAGE AT CONSTRUCTION OFC.
   TEL.#: _____
3. WHERE NO FOUNDATIONS HAVE BEEN POURED DEVELOPER TO PROVIDE AND PLACE A 9" IRRIGATION H.H. TO PROTECT BURIED DROP WIRE.

TRACT # PHASE #

DEVELOPER:

NAME _____
ADDRESS _____
TELE # _____
CONTACT _____
UTILITY CONTACT _____
ADDRESS _____
TELE # _____
CONTACT _____

SBC-GS
Sheet 1 OF 2

TWO DAYS BEFORE YOU DIG
CALL **USA** TOLL FREE
800-422-4133

PACIFIC BELL
GEO _____ C.O. _____
EXCH _____
ENGR _____ TEL _____
TYPE OF CONST
RO/EST NO
DWG _____ OP _____
PS04 _____ 188 _____

INDEXED 5-24-04 GH FILE WITH R-3575

LEGEND

BURIED CABLE IN JOINT TRENCH

BURIED CABLE IN TELCO ONLY TRENCH

BURIED SERVICE WIRE

BURIED SERVICE WIRE IN 1" OR 2" DEVELOPER PROVIDED DUCT AS SPECIFIED BY ENGINEER

(ABOVE GROUND CLOSURE) PACIFIC BELL PEDESTAL

BURIED CABLE IN DEVELOPER PROVIDED DUCT

17" x 30" x 20" BURIED H.H.

POWER TRANSFORMER (BOND LOCATION)

22222 ADDRESS LOT NUMBER OR BLDG. NUMBER

PRIME PAIR
SPARE PAIR
SPARE PAIR

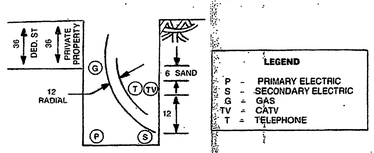
PREWIRE ROUTE TO TERMINAL

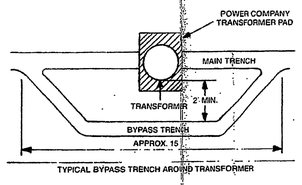
BACKBOARD LOCATION FOR PROTECTOR EQUIPMENT

CABLE GROUND

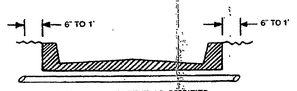
EXHIBIT #1

TYPICAL JOINT TRENCH DETAIL





TYPICAL BYPASS TRENCH AROUND TRANSFORMER



2" OR 4" DU. SLEEVE AS SPECIFIED ON DRAWINGS. PLACE PULL STRING IN ALL STREET CROSSINGS 2" OR LARGER IN EACH DUCT PLACED.

TYPICAL DUCT PLACEMENT DETAIL

TYPICAL TRENCHING DETAIL

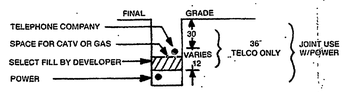
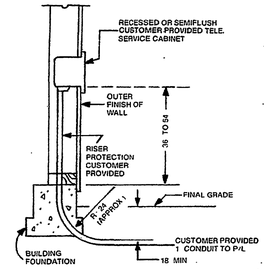
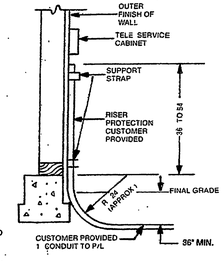


EXHIBIT #2

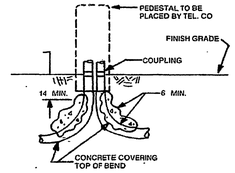
CONCEALED RISER PROTECTION AND CUSTOMER PROVIDED ENCLOSURE
FOR SINGLE FAMILY & DUPLEX UNITS



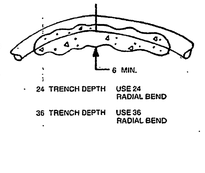
EXPOSED RISER PROTECTION AND CUSTOMER PROVIDED ENCLOSURE
FOR SINGLE FAMILY & DUPLEX UNITS



2" - 4" CONDUIT IN TRENCH LESS THAN 80' RADIUS



CONCRETE ON INSIDE OF RADIUS WHERE REQUIRED



CONSTRUCTION NOTES:

1. CABLE IS TO PLACED IN JOINT TRENCH EXCEPT AS NOTED. COORDINATE CABLE PLACEMENT WITH: _____
2. MAINTAIN 36" COVER FROM FINISH GRADE. MAINTAIN 12" VERTICAL SEPARATION FROM ALL POWER CABLES, INCLUDING SERVICE DROPS.
3. VERIFY ALL TIES AND PLANT MEASUREMENTS FOR PERMANENT RECORDS.
4. NOTIFY ENGINEER IN ADVANCE OF ANY PROPOSED FIELD CHANGES.
5. PAY DEVELOPER _____ *THE FLAT SUM* PAYMENT ON RECEIPT OF BILL FOR TRENCH PROVIDED IN TRACT _____

ON-SITE TRENCH

_____ JOINT TRENCH	@ $	/FT = $
_____ TELEPHONE ONLY TRENCH	@ $	/FT = $
_____ JOINT TRENCH - CATV and/or GAS	@ $	/FT = $

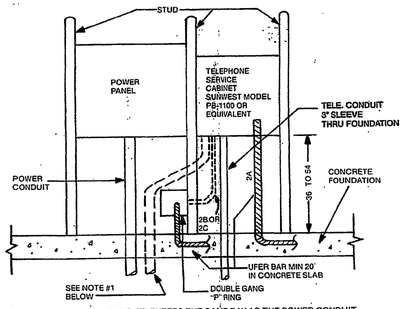
OFF-SITE TRENCH

_____ JOINT TRENCH	@ $	/FT = $
_____ TELEPHONE ONLY TRENCH	@ $	/FT = $
_____ JOINT TRENCH - CATV and/or GAS	@ $	/FT = $

TOTAL **FLAT SUM** = $

EXHIBIT #3

PACIFIC BELL STANDARD UNDERGROUND SERVING ARRANGEMENTS FOR RESIDENTIAL
SINGLE FAMILY AND DUPLEX UNITS

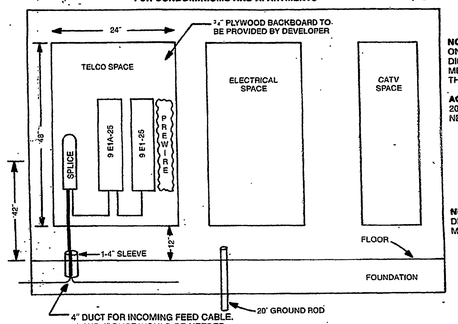


1. IF THE TELEPHONE CONDUIT ENTERS THE SAME BAY AS THE POWER CONDUIT (DASHED CONDUIT IN DETAIL ABOVE) SWEEPS MUST BE PLACED BY THE DEVELOPER INTO THE TELEPHONE CABINET. CONDUIT SWEEPS MUST BE OF ADEQUATE RADIUS TO ALLOW FOR WIRE PLACEMENT.
2. THE DEVELOPER IS PROVIDED WITH THREE OPTIONS RELATING TO GROUNDING. PACIFIC BELL'S PRIORITY IS AS FOLLOWS:
   A. UFER BAR EXTENDED INTO TELEPHONE SERVICE CABINET.
   B. DEVELOPER INSTALLED #12 GROUND WIRE FROM UFER TO TELEPHONE SERVICE CABINET. THIS IS NOT A REQUIREMENT BUT THE DEVELOPER MAY DO SO IF IT IS MORE CONVENIENT.
   C. CONDUIT FROM UFER TO TELEPHONE SERVICE CABINET.

   THE GROUNDING MEDIUM MUST BE PERMANENTLY ACCESSIBLE BY PLACEMENT OF A DOUBLE GANG P RING (5").
3. THE MINIMUM DIMENSIONS OF THE TELEPHONE SERVICE CABINET SHOULD BE 11" H x 14" W x 4" D.
4. NOTHING IS TO BE PLACED ADJACENT TO THE TELEPHONE SERVICE CABINET AS TO INTERFERE WITH IT'S COMPLETE OPENING AND CLOSING.

EXHIBIT #4

TYPICAL UTILITY OUTSIDE WALL ENCLOSURE
(WITH WEATHERPROOF DOORS)
FOR CONDOMINIUMS AND APARTMENTS



NOTE: IF TELCO ONLY IN ENCLOSURE DIMENSION REQUIREMENTS REMAIN THE SAME

ACCESSIBILITY TO A 20' GROUND ROD IS NEEDED

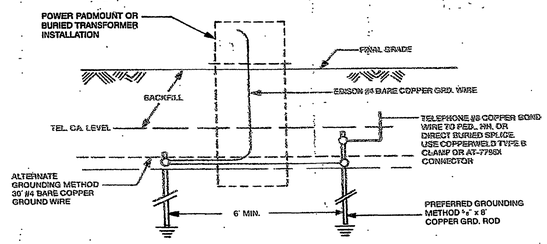
NOTE: ENCLOSURE DEPTH MUST BE A MINIMUM 28"

4" DUCT FOR INCOMING FEED CABLE. (A 2ND 4" DUCT WOULD BE NEEDED IF DEVELOPMENT ALL IN CONDUIT IN ORDER TO "LOOP-THROUGH" TO FEED SUBSEQUENT TERMINALS)

NOTE: LIVING UNIT PREWIRE MUST COME TO BACKBOARD LOCATION AS SHOWN. IT MUST BE TAGGED WITH PERTINENT APT. OR CONDOMINIUM NUMBERS, ETC.

EXHIBIT #5

DETAIL OF BONDING PROCEDURE
TELEPHONE CABLE SHEATH TO POWER COMPANY GROUND



AT LOCATIONS SHOWN ON WORKING DRAWINGS - PLACE #6 GROUND WIRE AND BOND TELEPHONE CABLE SHEATH TO POWER COMPANY GROUND.

BONDING CONNECTIONS TO TELEPHONE CABLE

TRANSFORMERS: (PADMOUNT OR BURD)

1. THE TELEPHONE COMPANY WILL INSTALL AND FURNISH LABOR AND MATERIAL FOR THE BONDING CONNECTION TO THE POWER 5/8" x 8' GROUND ROD OR DIRECT BURIED #4 BARE COPPER GROUND WIRE.
2. WHERE A BOND IS REQUIRED THE CONNECTION WILL BE MADE DURING THE TELEPHONE CABLE INSTALLATION AND BEFORE THE FINAL BACKFILL IS COMPLETED.
3. ONE GROUND ROD SHALL BE DRIVEN TO THE TELEPHONE LEVEL (APPROXIMATELY 12 INCHES ABOVE POWER LEVEL.

SBC-GS
Sheet 2 of 2

TWO DAYS BEFORE YOU DIG
CALL **USA** TOLL FREE
800-422-4133

PACIFIC BELL	
GEO _____	C.O. _____
EXCH _____	
ENGR _____	TEL _____
TYPE OF CONST	
RO/EST NO	
DWG _____	OF _____
PS04 _____	188 _____

INDEXED 5-29-04 4H FILE WITH R-3575