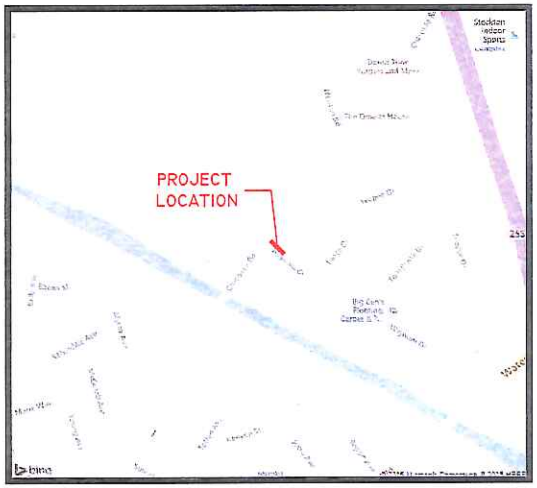
BORE FOR WORKPLACE PROJECT

JURISDICTION:
CITY OF STOCKTON

JOB ID# 222643
2650 WIGWAM DR
CITY OF STOCKTON, CA

DRAWING INDEX

NUMBER	SHEET	TITLE
1	T-1	TITLE SHEET
2	G-1	GENERAL NOTES
3	C-1	CONSTRUCTION DRAWING
4 & 5	CD-1 & CD-2	CONSTRUCTION DETAILS
6 - 9	TR-1 THRU THR- 4	TRAFFIC CONTROL



PROJECT LOCATION
N.T.S.

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

SEFNCO COMMUNICATIONS
CHRIS PERRY
925-783-4877
cperry@sefnco.com

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

NO.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

SHEET #: T-1

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY'S STANDARD DETAILS, TECHNICAL SPECIFICATIONS, AND GENERAL REQUIREMENTS.

2. CONTRACTOR SHALL SECURE A STREET OPENING PERMIT FROM THE CITY ENGINEERING DEPT. AND PAY APPROPRIATE FEE PRIOR TO COMMENCEMENT OF WORK. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE DONE UNDER A SINGLE STREET OPENING PERMIT.

3. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE APPROPRIATE UTILITY AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY ALL PUBLIC & PRIVATE UTILITY OWNERS 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY. CONTACT UNDERGROUND SERVICE ALERT (USA) AT 800-642-2444.

4. ALL SIDEWALK, CURB, AND GUTTER SHALL BE REMOVED AND REPLACED TO THE NEAREST SCORE MARK OR AS DIRECTED BY THE ENGINEER. INSTALLATION OF NEW SIDEWALK, CURB & GUTTER AGAINST EXISTING IMPROVEMENTS SHALL REQUIRE A SIDEWALK CONTACT JOINT (DOWELS REQUIRED).

5. UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER IN THE FIELD: AT EACH LOCATION WHERE NEW CURB/GUTTER IS TO BE INSTALLED ON AN EXISTING STREET (DRIVEWAY INSTALLATION, DRIVEWAY ABANDONMENT, CURB RAMP INSTALLATION, CURB FACE DRAINAGE INSTALLATION, ETC.) PAVEMENT RECONSTRUCTION SHALL BE REQUIRED. AN 18" WIDE BAND OF PAVEMENT SHALL BE REMOVED AND REPLACED ALONG THE ENTIRE LENGTH OF CURB/GUTTER INSTALLATION. REMOVAL DEPTH (SAW CUTS REQUIRED) SHALL BE TO THE BASE MATERIAL ON STREETS WITH A.C. OR P.C.C. PAVEMENT FOUR (4) INCHES OR LESS IN THICKNESS. REMOVAL DEPTH SHALL BE TWO INCHES MINIMUM ON STREETS WITH A.C. (GRIND) / P.C.C. (SAW CUT) PAVEMENT THICKNESS GREATER THAN FOUR (4) INCHES. REPLACE WITH A.C. PAVEMENT.

6. BLACK SAND SLURRY SEAL SHALL BE REQUIRED ON ALL NEW STREET PAVEMENT FOR TRENCH WORK, POTHOLES, AND STREET WIDENINGS. SLURRY SEAL SHALL EXTEND 12" BEYOND THE LIMIT OF PAVEMENT RECONSTRUCTION.

7. THE CONTRACTOR SHALL NOTIFY, BY CIRCULAR, ALL BUSINESS ESTABLISHMENTS & RESIDENCES LOCATED IN AREAS AFFECTED BY THE WORK AT LEAST (48) HOURS PRIOR TO START OF CONSTRUCTION. CIRCULAR SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.

8. ALL MANHOLES, VALVE BOXES, MONUMENT BOXES, AND OTHER STRUCTURES IN THE PAVEMENT AREA SHALL BE ADJUSTED TO FINISH GRADE BEFORE PAVING FINAL LIFT.

9. GRADE BREAKS ON CURBS AND SIDEWALKS ARE TO BE ROUNDED OFF ON FORM WORK & FINISHED SURFACING.

10. IT IS THE CONTRACTORS RESPONSIBILITY TO REPLACE ALL STREET MONUMENTS OR LOT CORNER PIPES DISTURBED DURING THE PROCESS OF CONSTRUCTION. IF A STREET MONUMENT HAS THE POTENTIAL OF BEING DISTURBED, A CORNER RECORD SHALL BE FILED WITH SAN JOAQUIN COUNTY SURVEYOR (PER SECTION 8771.2 OF THE PUBLIC LAND SURVEYORS ACT) AS REQUIRED BY THE SUBDIVISION MAP ACT TO PRESERVE THE LOCATION OF SAID STREET MONUMENT. CONTRACTOR SHALL, AT HIS/HER EXPENSE, HIRE A CIVIL ENGINEER OR LAND SURVEYOR TO PERFORM THE WORK.

11. ALL SURPLUS & UNSUITABLE MATERIAL SHALL BE REMOVED FROM PUBLIC RIGHT OF WAY.

12. CONTRACTOR SHALL PROVIDE ADEQUATE DUST CONTROL & KEEP MUD & DEBRIS OFF THE PUBLIC RIGHT OF WAY AT ALL TIMES.

13. ALL TRENCHES & EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF CALIF. & FEDERAL O.S.H.A. REQUIREMENTS & OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN & INSTALLATION.

14. EXISTING UTILITIES SHOWN ARE BASED UPON RECORD INFORMATION & ARE APPROXIMATE IN LOCATION & DEPTH. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES THAT MAY BE AFFECTED BY NEW FACILITIES IN THIS CONTRACT, VERIFY ACTUAL LOCATION & DEPTH, & REPORT POTENTIAL CONFLICTS TO THE ENGINEER PRIOR TO EXCAVATING FOR NEW FACILITIES.

15. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES THAT MAY BE ALLOW HARMFUL POLLUTANTS TO ENTER THE STORM DRAIN SYSTEM. TO ENSURE COMPLIANCE, THE CONTRACTOR SHALL IMPLEMENT THE APPROPRIATE BEST MANAGEMENT PRACTICE (BMP) AS OUTLINED IN THE BROCHURES ENTITLED "BEST MANAGEMENT PRACTICE FOR THE CONSTRUCTION INDUSTRY" ISSUED BY THE CITY OF STOCKTON NONPOINT SOURCE POLLUTION CONTROL PROGRAM, TO SUIT THE CONSTRUCTION SITE & JOB CONDITION.

16. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT IN THE PUBLIC RIGHT OF WAY SHALL NOT BE PERMITTED, EXCEPT AT LOCATION(S) APPROVED BY THE CITY TRAFFIC ENGINEER.

17. UNLESS OTHERWISE NOTED, CLASS 2 A.B. UNDER CURB, GUTTER, & STREET SECTIONS PAVED WITH ASPHALT CONCRETE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION (MINIMUM).

18. ALL TRAFFIC CONTROL DEVICES SHALL BE IN PLACE BEFORE WORK IS STARTED. DEVICES NO LONGER REQUIRED SHALL BE REMOVED AS SOON AS POSSIBLE.

19. PEDESTRIAN TRAFFIC MUST BE MAINTAINED AT ALL TIMES. PEDESTRIANS MAY BE RELOCATED ONTO PRIVATE PROPERTY WITH OWNERS PERMISSION ONLY.

811

Know what's below.
Call before you dig

20. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR PERMITTED TO STAND UNPROTECTED WHERE TRAFFIC IS MAINTAINED UNLESS IT IS ALLOWED BY THE CITY ENGINEER IN WRITING.

21. NO EQUIPMENT OR MATERIALS SHALL BE STORED ON ROAD SURFACE DURING NON-WORKING PERIODS UNLESS IT IS ALLOWED BY CITY ENGINEER IN WRITING.

22. NO EQUIPMENT OR MATERIALS SHALL BE STORED ON SIDEWALK AT ANYTIME.

23. EXCAVATION MATERIALS SHALL BE STORED AWAY FROM THE PAVED ROADWAY WHENEVER POSSIBLE. ALL SPILLED MATERIAL IS TO BE REMOVED TO AVOID SLIPPERY CONDITIONS.

24. EXISTING SIGNS, DELINEATIONS, GUARDRAILS, MARKERS, TREES, SHRUBS, FENCES, WALKS, STEPS, ETC. THAT ARE DISTURBED BY THIS CONSTRUCTION SHALL BE REPLACED OR RESTORED TO THEIR ORIGINAL CONDITION OR TO THE SATISFACTION OF THE ADJACENT PROPERTY OWNERS AND THE CITY OF STOCKTON.

CONSTRUCTION NOTES

1. THE METHOD OF CONSTRUCTION SHALL BE BY HORIZONTAL BORING UNLESS OTHERWISE APPROVED BY THE CITY.

2. (H) CIDT. SHALL BE INSTALLED ON ALL OPEN TRENCHING UNLESS SHOWN OTHERWISE.

3. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. NOT ALL EXISTING UTILITIES ARE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF ALL UTILITIES BY EXPOSING UTILITY CROSSINGS PRIOR TO DIRECTIONAL BORING. THE CONTRACTOR SHALL USE HAND TOOLS AND EXTREME CARE WHEN WORKING IN CLOSE PROXIMITY TO EXISTING UTILITIES. (CALL USA PRIOR TO ANY EXCAVATION)

4. FOR OPEN CUT TRENCHING THE FOLLOWING MINIMUM CLEARANCES SHALL APPLY: A 12" VERTICAL CLEARANCE AT ALL CROSSINGS SHALL BE MAINTAINED BETWEEN PROPOSED CONDUITS AND OTHER EXISTING UTILITIES. A 8' MINIMUM HORIZONTAL CLEARANCE SHALL BE MAINTAINED BETWEEN PROPOSED CONDUITS AND EXISTING SANITARY SEWER AND STORM DRAIN MAINS THAT RUN PARALLEL, UNLESS APPROVED BY THE CITY. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 5' HORIZONTAL CLEARANCE FOR ALL OTHER UTILITIES UNLESS OTHERWISE APPROVED BY THE CITY, EXCEPT WHEN AT THE SAME ELEVATION AS WATER MAINS, 8' HORIZONTAL CLEARANCE SHALL BE MAINTAINED UNLESS OTHEWISE APPROVED BY THE CITY. CLEARANCES ALSO APPLY TO FIRE HYDRANTS.

5. THE FOLLOWING MINIMUM CLEARANCES (FROM REAMED PERIMETER OF THE BORE HOLE TO THE OUTER PERIMETER OF THE UTILITY) SHALL BE USED AS A GUIDELINE. THE GEOTECHNICAL REPORT CONCLUSIONS & RECOMMENDATIONS OR THE CITY'S DETERMINATION SHALL BE FOLLOWED, IF MORE RESTRICTIVE.

(A) LOCATE HDD 8 FT. CLEAR (HORIZONTALLY) FROM THE EXISTING STORM DRAIN & SANITARY SEWER MAINS, EXCEPT WHEN AT THE SAME ELEVATION AS WATER MAINS, 8 FT. HORIZONTAL CLEARANCE SHALL BE MAINTAINED. MINIMUM OF 5 FT. HORIZONTAL CLEARANCE SHALL BE MAINTAINED FROM FIRE HYDRANTS, ELECTRICAL CONDUITS, BOXES, & VAULTS.

(B) USE THE FOLLOWING CHART FOR MINIMUM DEPTH OF COVER (IN THE PAVEMENT & SIDEWALK AREAS) & MINIMUM CLEARANCE WHEN CROSSING UTILITIES (STORM DRAIN, SANITARY SEWER, WATER, ELECTRICAL, GAS, ETC.). CROSSING SHALL BE AT 90-DEGREE.

BORE DIAMETER	Min. DEPTH OF COVER	Min. CLEARANCE FROM CROSSING UTILITIES
6" OR LESS	4'	3'
14" OR LESS	6'	5'
24" OR LESS	10'	7'
48" OR LESS	25'	15'

6. AT THE END OF EACH DAY, CONDUIT CAPS SHALL BE PLACED ON ALL VACANT DUCTS. DUCT IN BUILDING ENTRANCES, NEW OR EXISTING SHALL BE SEALED PRIOR AND AFTER PLACEMENT OF FIBER OPTIC CABLE IS COMPLETED, INCLUDING DUCTS ON WALL WHERE CORING IS REQUIRED.

7. THE REMOVAL, STORAGE, AND REPLACEMENT OF ALL SHRUBBERY SHALL BE THE RESPONSIBILITY OF CONTRACTOR. ALL LANDSCAPING SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITIONS.

8. TRAFFIC SIGNAL CIRCUITS AND INTERCONNECT CONDUITS MAY NOT BE SHOWN. CONTRACTOR SHALL LOCATE ALL TRAFFIC SIGNAL CIRCUITS AND INTERCONNECT CONDUITS PRIOR TO ANY TRENCHING OR BORING. PROVIDE 5' SEPARATION BETWEEN NEW CONDUITS AND ALL TRAFFIC SIGNAL AND INTERCONNECT CONDUITS AND 5' FROM ALL TRAFFIC SIGNAL CONTROLLERS AND PULL BOXES. ALL TRAFFIC SIGNAL AND INTERCONNECT CONDUITS SHALL BE MAINTAINED AND PROTECTED. LOOPS OR CONDUITS DAMAGED SHALL BE REPLACED BY THE CONTRACTOR TO CITY SPECIFICATIONS. NOTIFY CITY INSPECTOR IMMEDIATELY AND TRAFFIC DEPARTMENT 48 HOURS PRIOR TO ANY WORK IN THESE AREAS.

9. APPROXIMATE LOCATIONS OF SPLICE BOXES ARE SHOWN ON THE PLANS. EXACT FINAL LOCATION OF SPLICE BOXES SHALL BE DETERMINED IN THE FIELD WITH CITY APPROVAL AFTER ALL EXISTING UTILITIES IN THE AREA OF WORK HAVE BEEN LOCATED.

10. TOPS OF SPLICE BOXES SHALL BE SET FOR FUTURE SIDEWALK INSTALLATION IN SPECIFIED LOCATIONS. ALL SPLICE BOXES SHALL BE PLACED WITH PEDESTRIAN TRAFFIC SAFETY IN MIND UNTIL ALL WORK IS COMPLETE.

11. THE CITY WATER DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 24 HOURS ACWD PRIOR TO POT HOLING ANY CITY WATER OR RECLAIMED WATER MAINS OR SERVICES.

CITY ARBORIST NOTES:

1. NO TRENCHING SHALL BE DONE WITHIN THE DRIPLINE OF EXISTING TREES WITHOUT THE APPROVAL OF THE CITY ARBORIST. OPEN TRENCHING IN THE ROOT ZONE OF A PUBLIC TREE IS PROHIBITED EXCEPT IN CASES WHERE THE TRENCHING FALLS OUTSIDE THE TREE INVOLVED. EXCEPTIONS WILL BE ALLOWED IF, IN THE OPINION OF THE CITY ARBORIST, THE IMPACT OF TRENCHING UPON THE TREE WILL BE NEGLIGIBLE.

2. NO CUTTING OF ANY PART OF CITY TREES, INCLUDING ROOTS SHALL BE DONE WITHOUT SECURING APPROVAL AND DIRECT SUPERVISION FROM THE CITY ARBORIST.

3. NO CUTTING OF ANY PART OF PRIVATE TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT SECURING SUPERVISION OF A CERTIFIED ARBORIST (CERTIFICATION OF INTERNATIONAL SOCIETY OF ABORICULTURE).

4. BORE OUTSIDE THE DRIPLINE OF ALL TREES TO PREVENT ROOT DAMAGE. NO BORE PITS ARE ALLOWED WITHIN THE DRIPLINE OF ANY EXISTING TREE.

5. TUNNELING: ALL PUBLIC TREES IN EXCESS OF 5" DBH, WHERE THERE IS INSUFFICIENT SPACE TO BYPASS THE DRIPLINE BY TRENCHING, MUST BE TUNNELED. THE BEGINNING/ ENDING DISTANCE OF THE TUNNEL FROM THE FACE OF THE TREE IN ANY DIRECTION IS DETERMINED BY THE DIAMETER OF THE TREE AS SPECIFIED BY THE ACCOMPANYING TABLE:

WHEN THE TREE DIAMETER AT 4.5 FEET IS:	TRENCHING WILL BE REPLACED BY TUNNELING AT THIS MIN. DISTANCE FROM THE FACE OF THE TREE IN ANY DIRECTION:
6"-9"	5 FEET
10"-14"	10 FEET
15"-19"	12 FEET
OVER 19"	15 FEET

DEPTH OF TUNNELING	
TREE DIAMETER	DEPTH OF TUNNEL
9" OR LESS	2.5'
10"-14"	3.0'
15"-19"	3.5'
20" OR MORE	4.0'

LEGEND

FO	PROPOSED NEW COMCAST CONDUIT
XO	EXISTING NEXTLINK/XO CONDUIT
BFC	EXISTING BFC CONDUIT
MFS	EXISTING MFS CONDUIT
C	EXISTING CONDUIT(S)
G	EXISTING PG&E NATURAL GAS
N2	EXISTING AIR PRODUCTS NITROGEN MAIN
TGE	EXISTING TELEPHONE, GAS, AND ELECTRIC
GE	EXISTING GAS AND ELECTRIC
RCW	EXISTING RECLAIMED WATER
P2P	EXISTING POINT TO POINT CONDUIT
W	EXISTING WATER
E	EXISTING ELECTRIC
T	EXISTING TELEPHONE
TS	EXISTING TRAFFIC SIGNAL CONDUIT
SL	EXISTING STREET LIGHTING CONDUIT
S	SUBSCRIBER CONDUIT
SS	EXISTING SANITARY SEWER
SD	EXISTING STORM DRAIN
SVP	EXISTING SVP FIBER OPTIC CONDUIT
TSI	TRAFFIC SIGNAL INTERCONNECT
	EXISTING MANHOLE
	EXISTING FIRE HYDRANT
	LIGHT POLE
JP	JOINT POLE
TS	TRAFFIC SIGNAL POLE
	EXIST. TREE
	WATER OR GAS VALVE
	TEMP. BORE PIT

ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
CB	CATCH BASIN
CIP	CAST IRON PIPE
℄	CENTER LINE
CONC	CONCRETE
CSB	CUSTOMER SPLICE BOX
DSP	DRY STAND PIPE
DWG	DRAWING
E	ELECTRIC
EXIST	EXISTING
FA	FIRE ALARM
FRID	FIRE RATED INNER DUCT
FOC	FACE OF CURB
G	GAS
HDPE	HIGH DENSITY POLYETHYLENE
HV	HIGH VOLTAGE
IC	INNER CONNECT
LV	LOW VOLTAGE
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
MPOE	MINIMUM POINT OF ENTRY
NXLK	NEXTLINK
PBSB	PACIFIC BELL SPLICE BOX
PBMH	PACIFIC BELL MANHOLE
PIV	POST INDICATOR VALVE
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT OF WAY
S	SUBSCRIBER
SB	SPLICE BOX/ SUBSCRIBER BOX
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
SVP	SILICON VALLEY POWER
T	TELEPHONE
TS	TRAFFIC SIGNAL
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
W	WATER
WM	WATER METER
WV	WATER VALVE
W-W	WALL TO WALL

CONTACTS:

SEFNCO COMMUNICATIONS
CHRIS PERRY
925-783-4877
cperry@sefnco.com

SAGEBRUSH ENGINEERING
BOB DURFLINGER
415 BEATRICE CT-STE G
BRENTWOOD, CA 94514
(209)365-3598

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

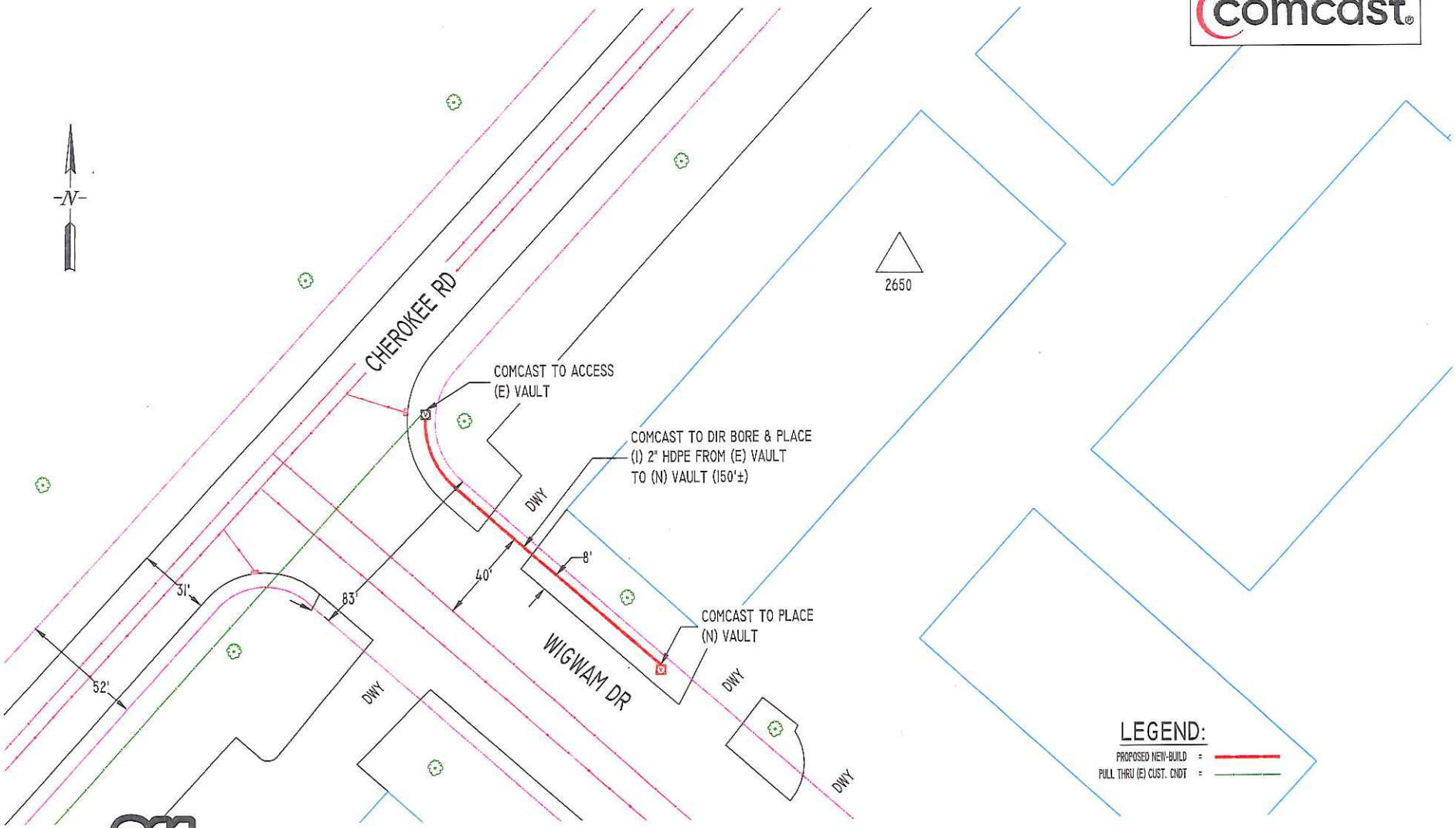
No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

SHEET #: G-1

2 OF 9 SHEETS



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

JURISDICTION:
CITY OF STOCKTON

BUILD FOOTAGE
(N) UG BUILD =150'±

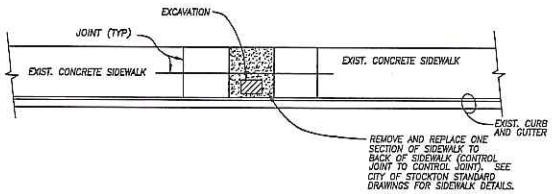
Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

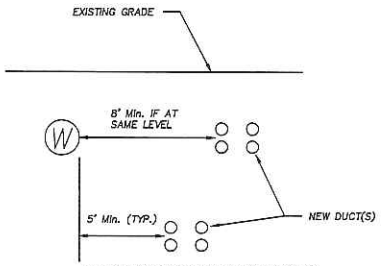
COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	1" = 40'

SHEET #:
C-1
3 OF 9 SHEETS

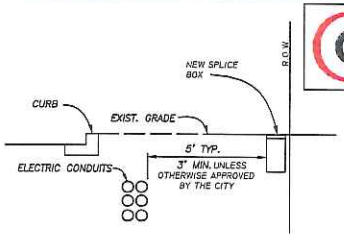


SIDEWALK REPAIR DETAIL
NO SCALE

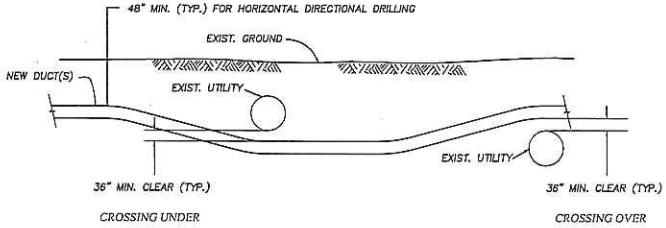


IF LESS THAN 5' (WHEN APPROVED BY CITY), MAINTAIN 5' MIN. VERTICAL CLEARANCE FROM WATER LINE

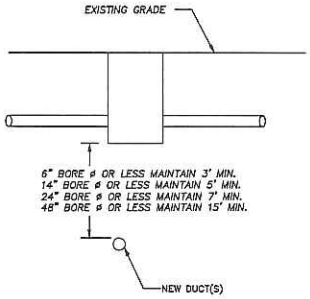
WATER LINE PARALLEL
NO SCALE



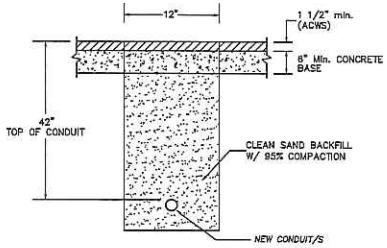
TYPICAL BOX LOCATION DETAIL (NEAR ELEC. UTILITIES)
NO SCALE



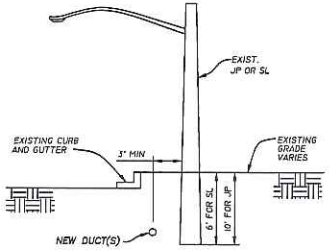
TYPICAL UTILITY CROSSING DETAIL
NO SCALE



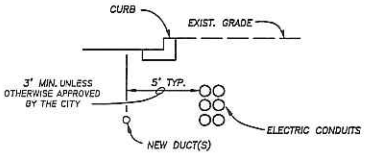
WATER FACILITY AT CROSSING
NO SCALE



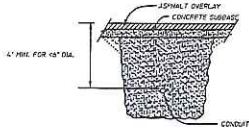
TYPICAL TRENCH DETAIL
N.T.S.



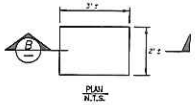
TYPICAL CONDUIT LOCATION (BELOW SL, JP, ETC.)
NO SCALE

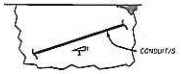


TYPICAL CONDUIT LOCATION DETAIL (NEAR ELEC. UTILITIES)
NO SCALE

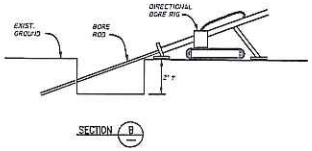


MINIMUM COVER FOR DIRECTIONAL BORE (TYP.)
N.T.S.





MAXIMUM SLOPE FOR BURIED CONDUIT
N.T.S.



TYPICAL BORE PIT DETAIL
N.T.S.

comcast

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

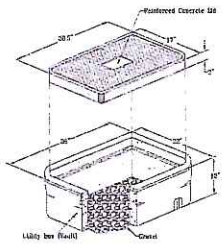
COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

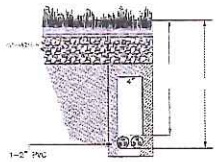
SHEET #: CD-1

HERE IS AN EXAMPLE OF 17"X 30" VAULT.

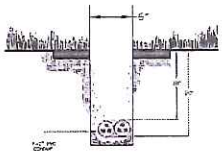
VAULT DETAIL:



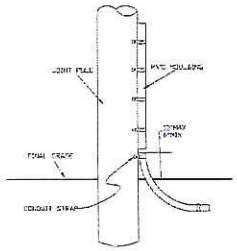
DIRECTIONAL BORE BACK OF WALK



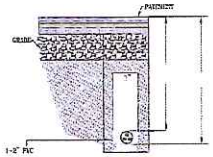
OPEN TRENCH DETAIL:

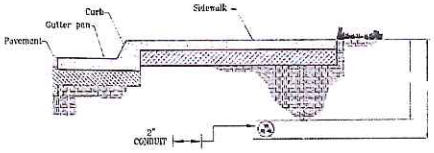


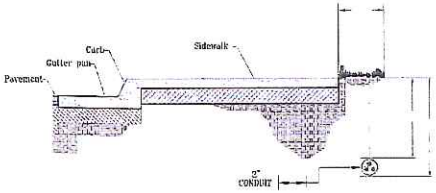
POLE RISER DETAIL -(C):

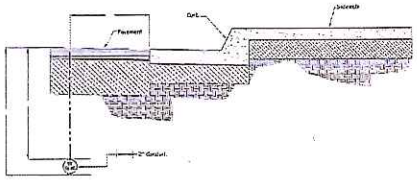


DIRECTIONAL BORE UNDER R.O.W (SIDEWALK & PAVEMENT) DETAIL:

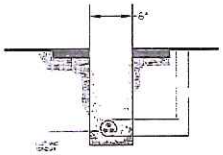








ROCK SAW DETAIL:



comcast

811

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

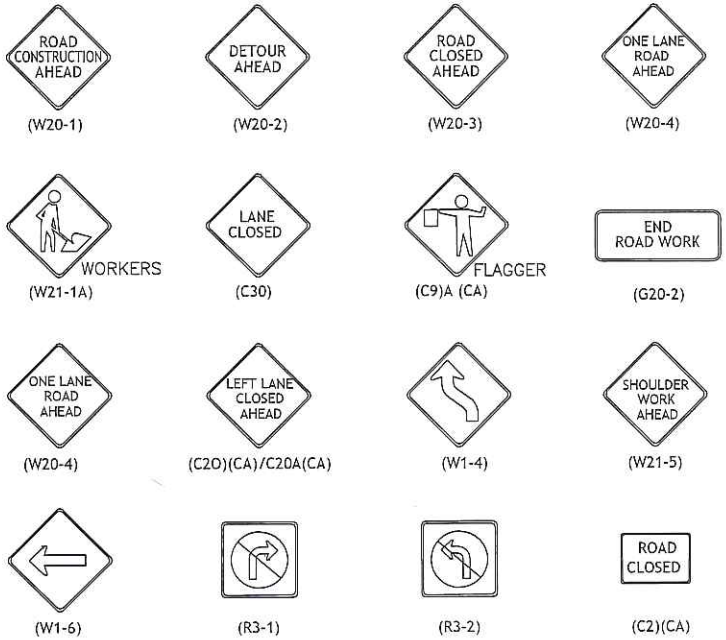
No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

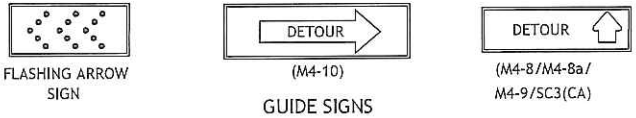
SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

SHEET #: CD-2

WARNING SIGNS AND GUIDE SIGNS

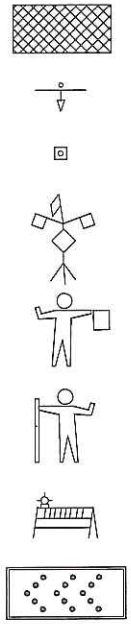


WARNING SIGNS



GUIDE SIGNS

SYMBOLS AND LEGENDS



WORK AREA

TRAFFIC SIGNS (ARROW DIRECTION INDICATES SIGN ORIENTATION)

CHANNELIZING DEVICES (TRAFFIC CONES, DELINEATOR POSTS, VERTICAL PANELS, ETC.)

HIGH LEVEL WARNING DEVICE

FLAGGER (COUNTERMANDING TRAFFIC SIGNALS REQUIRES OFF-DUTY LAW ENFORCEMENT OFFICER)

SURVEY RODMAN

BARRICADES

FLASHING ARROW SIGN

NOTES :

1. ALL WORK SHALL BE DONE IN CONFORMACE WITH THE LATEST EDITION OF THE "WATCH MANUAL" & "MUTCD" - CALIFORNIA
2. FOR NIGHT TIME USAGE, REFER TO "WARNING LIGHT APPLICATIONS DURING NIGHT TIME OPERATIONS"
3. ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES (SEQUENTIAL ARROWS, BARRICADES, STEEL PLATES) MAY BE REQUIRED.
4. ALL LIGHT BOARDS & LIGHTED SIGNAGE TO BE SOLAR POWERED
5. DEVICES PER "MUTCD" - CALIFORNIA
6. TRAFFIC CONTROL REQUIRED AT ALL WORK LOCATION IN STREET INCLUDING BORE PITS, POT HOLES AND EXCAVATION/TRENCHES.

NOTE: POST R9-11A OR R9-3A SIGNS IF SIDEWALK IS RESTRICTED.

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

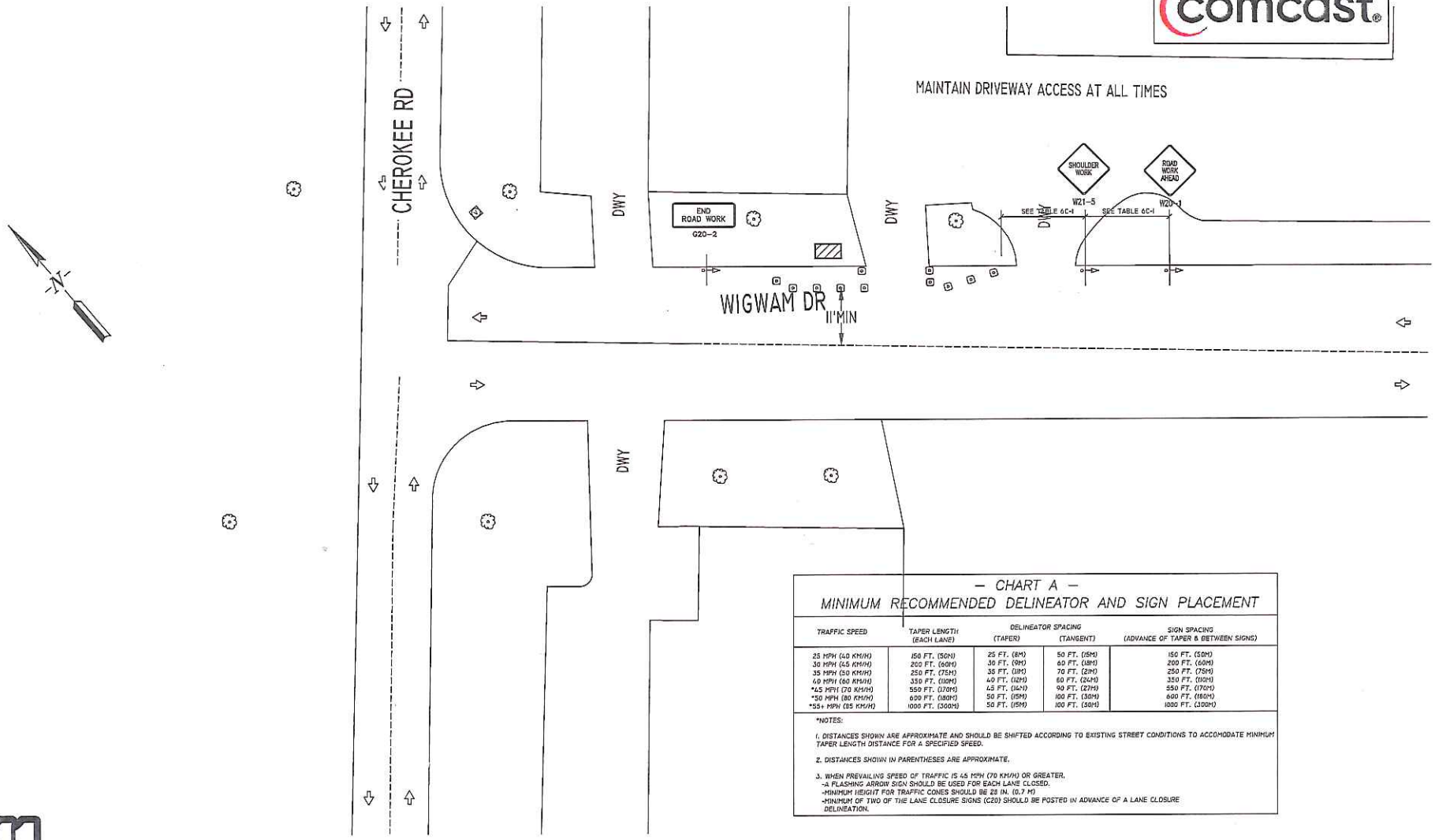
SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

SHEET #: TR-1

6 OF 9 SHEETS

comcast

MAINTAIN DRIVEWAY ACCESS AT ALL TIMES



– CHART A –
MINIMUM RECOMMENDED DELINEATOR AND SIGN PLACEMENT

TRAFFIC SPEED	TAPER LENGTH (EACH LANE)	DELINEATOR SPACING (TAPER)	DELINEATOR SPACING (TANGENT)	SIGN SPACING (ADVANCE OF TAPER & BETWEEN SIGNS)
25 MPH (40 KM/H)	150 FT. (50M)	25 FT. (8M)	50 FT. (15M)	150 FT. (50M)
30 MPH (45 KM/H)	200 FT. (60M)	30 FT. (9M)	60 FT. (18M)	200 FT. (60M)
35 MPH (50 KM/H)	250 FT. (75M)	35 FT. (11M)	70 FT. (21M)	250 FT. (75M)
40 MPH (60 KM/H)	350 FT. (110M)	40 FT. (12M)	80 FT. (24M)	350 FT. (110M)
*45 MPH (70 KM/H)	550 FT. (170M)	45 FT. (14M)	90 FT. (27M)	550 FT. (170M)
*50 MPH (80 KM/H)	600 FT. (180M)	50 FT. (15M)	100 FT. (30M)	600 FT. (180M)
*55+ MPH (85 KM/H)	1000 FT. (300M)	50 FT. (15M)	100 FT. (30M)	1000 FT. (300M)

*NOTES:

1. DISTANCES SHOWN ARE APPROXIMATE AND SHOULD BE SHIFTED ACCORDING TO EXISTING STREET CONDITIONS TO ACCOMODATE MINIMUM TAPER LENGTH DISTANCE FOR A SPECIFIED SPEED.

2. DISTANCES SHOWN IN PARENTHESES ARE APPROXIMATE.

3. WHEN PREVAILING SPEED OF TRAFFIC IS 45 MPH (70 KM/H) OR GREATER.
-A FLASHING ARROW SIGN SHOULD BE USED FOR EACH LANE CLOSED.
-MINIMUM HEIGHT FOR TRAFFIC CONES SHOULD BE 28 IN. (0.7 M)
-MINIMUM OF TWO OF THE LANE CLOSURE SIGNS (C20) SHOULD BE POSTED IN ADVANCE OF A LANE CLOSURE DELINEATION.

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

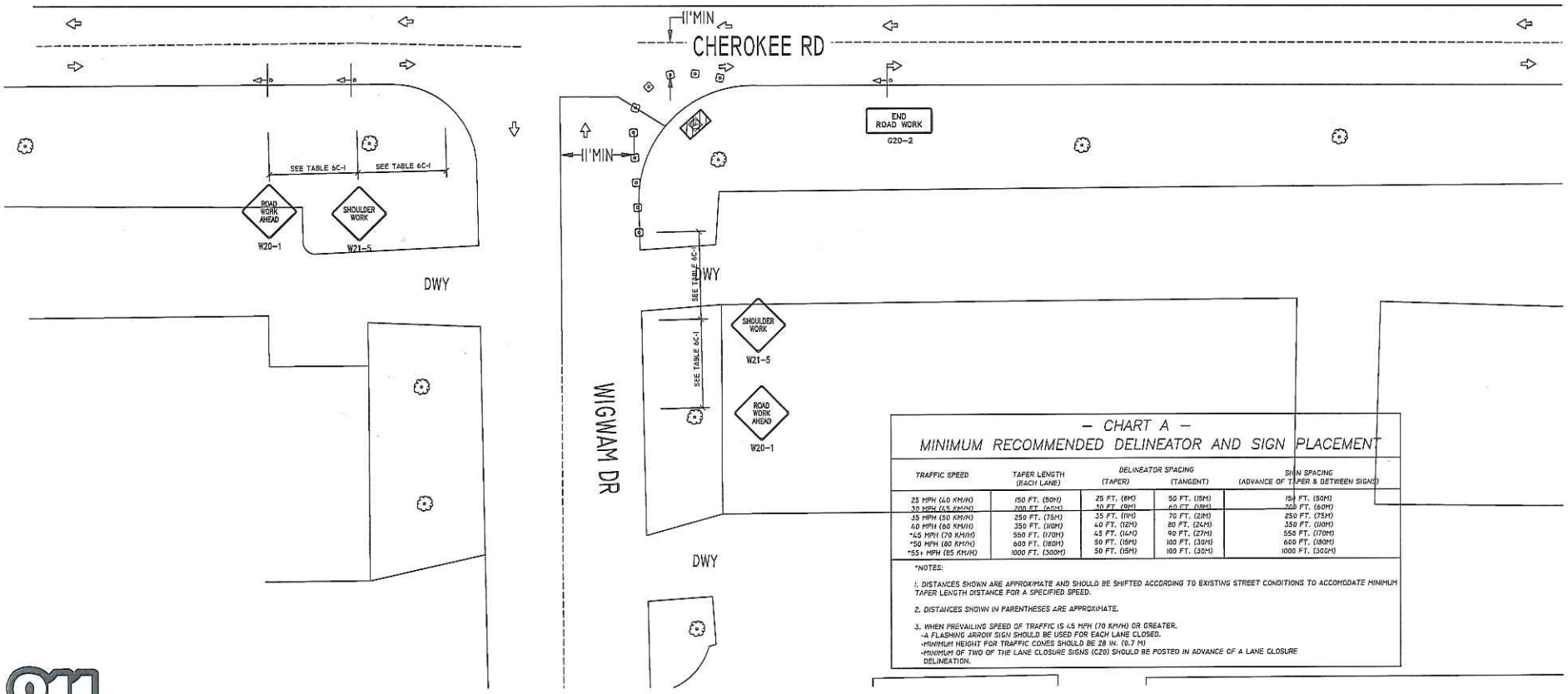
No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	1" = 40'

SHEET #: TR-2

MAINTAIN DRIVEWAY ACCESS AT ALL TIMES



– CHART A –
MINIMUM RECOMMENDED DELINEATOR AND SIGN PLACEMENT

TRAFFIC SPEED	TAPER LENGTH (EACH LANE)	DELINEATOR SPACING (TAPER)	DELINEATOR SPACING (TANGENT)	SIGN SPACING (ADVANCE OF TAPER & BETWEEN SIGNS)
25 MPH (40 KM/H)	150 FT. (50M)	25 FT. (8M)	50 FT. (15M)	150 FT. (50M)
30 MPH (45 KM/H)	200 FT. (60M)	30 FT. (9M)	60 FT. (18M)	200 FT. (60M)
35 MPH (50 KM/H)	250 FT. (75M)	35 FT. (11M)	70 FT. (21M)	250 FT. (75M)
40 MPH (60 KM/H)	350 FT. (110M)	40 FT. (12M)	80 FT. (24M)	350 FT. (110M)
*45 MPH (70 KM/H)	550 FT. (170M)	45 FT. (14M)	90 FT. (27M)	550 FT. (170M)
*50 MPH (80 KM/H)	600 FT. (180M)	50 FT. (15M)	100 FT. (30M)	600 FT. (180M)
*55+ MPH (85 KM/H)	1000 FT. (300M)	50 FT. (15M)	100 FT. (30M)	1000 FT. (300M)

*NOTES:

1. DISTANCES SHOWN ARE APPROXIMATE AND SHOULD BE SHIFTED ACCORDING TO EXISTING STREET CONDITIONS TO ACCOMODATE MINIMUM TAPER LENGTH DISTANCE FOR A SPECIFIED SPEED.

2. DISTANCES SHOWN IN PARENTHESES ARE APPROXIMATE.

3. WHEN PREVAILING SPEED OF TRAFFIC IS 45 MPH (70 KM/H) OR GREATER.
-A FLASHING ARROW SIGN SHOULD BE USED FOR EACH LANE CLOSED.
-MINIMUM HEIGHT FOR TRAFFIC CONES SHOULD BE 28 IN. (0.7 M)
-MINIMUM OF TWO OF THE LANE CLOSURE SIGNS (C20) SHOULD BE POSTED IN ADVANCE OF A LANE CLOSURE DELINEATION.

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

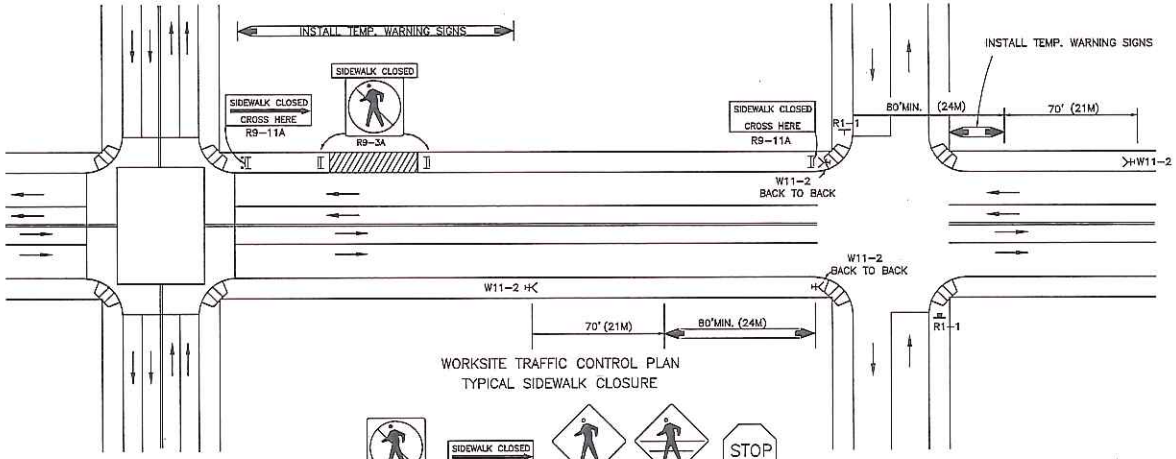
No.	DATE	BY	DESCRIPTION	APR'VD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

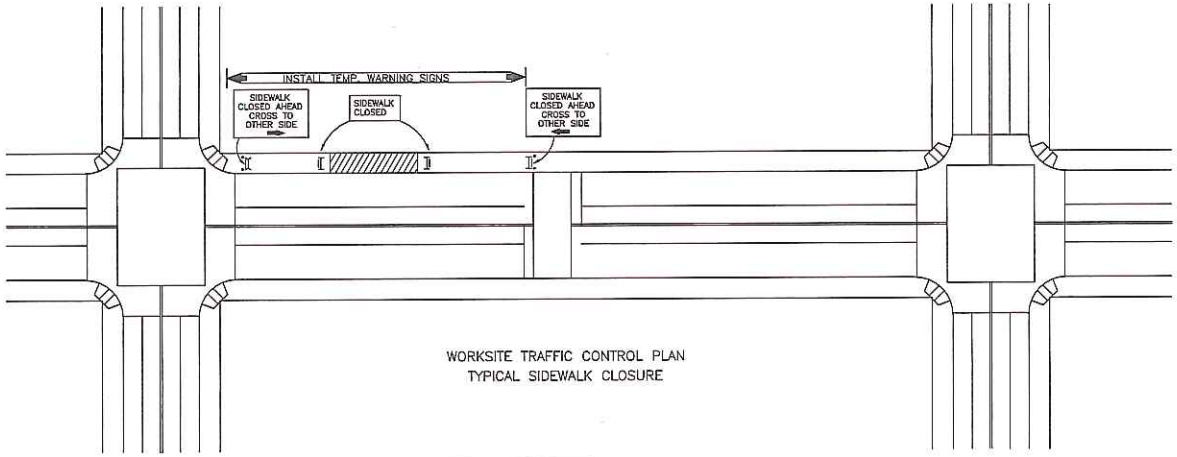
SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	1" = 40'

SHEET #: TR-2

8 OF 9 SHEETS



WORKSITE TRAFFIC CONTROL PLAN
TYPICAL SIDEWALK CLOSURE



WORKSITE TRAFFIC CONTROL PLAN
TYPICAL SIDEWALK CLOSURE

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

Sagebrush Engineering
communication engineers
415 BEATRICE CT -STE G
BRENTWOOD, CA
94514
209-365-3598
bdurflinger0014@gmail.com

No.	DATE	BY	DESCRIPTION	APRVD
0	9/14/15	BD	ISSUED FOR REVIEW	SBE

COMCAST BLDG TIE
JOB ID# 222643
2650 WIGWAM DR
STOCKTON, CA

SBE JOB NO.:	-
ATT JOB NO.:	-
DESIGNED BY:	BRD
DRAWN BY:	BRD
DATE:	9/14/15
SCALE:	N.T.S.

SHEET #: TR-3

9 OF 9 SHEETS

GENERAL PROVISIONS

GOVERNING INSTALLATION OF SUBSURFACE STRUCTURES AND PIPELINES WITHIN COUNTY ROAD-RIGHTS-OF-WAY

PUBLIC CONVENIENCE AND SAFETY:

A. Before obstructing any private driveway entrance or County road traveled way with a trench, spoil bank, equipment or other barrier permitted for any prolonged period of time, the Permittee shall notify the known users of the respective thoroughfare(s) involved, and shall provide access for vehicular and pedestrian traffic to and from the road.
   1. Unless otherwise permitted, all work shall be conducted in such a manner that no less than one lane of the existing County road traveled way will be maintained open to public traffic during working hours in a smooth and safe riding condition(s). Two lanes shall be open after working hours.
   2. In cases where road closure is permitted, the permission to close the road will be granted under the condition that the Permittee notify the following persons and/or agencies of the time, the period of closure, and the detour route at least twenty-four (24) hours prior to said road closure.
      a. The County of San Joaquin Public Works Department
      b. The County of San Joaquin Sheriff's Office
      c. The local postal service
      d. The local fire district
      e. The local school district
      f. The local residents involved

B. Should hazardous conditions relative to the installation operations warrant flagmen, as many capable flagmen as may be necessary shall be provided by the Permittee and stationed in advance of work to warn and direct traffic.

C. Lights, signs and barricades shall be furnished, erected and maintained by the Permittee for the adequate warning and convenience of the public, with particular attention to be taken in this regard after dark.

D. Any excess dirt and/or debris which might be a hazard to either automobile or pedestrian traffic, uncontrollable by lights, signs and barricades, shall be removed from the jobsite daily.

STRUCTURES:

A. Walls of structures shall be such quality and strength that they will resist all pressures and will not crack or be deformed in such a way as to create a hazard or maintenance problem at any time. Therefore, the minimum structural requirements for concrete pipe placed under county road rights-of-way shall conform to the following American Association of State Highway and transportation Officials (AASHTO) designations.
   1. For concrete pipe up to and including thirty-three inches (33") inside diameter, extra strength concrete conforming to AASHTO Designation M 170M.
   2. For concrete pipe thirty-six inches (36") inside diameter and larger, reinforced concrete pipe conforming to AASHTO Designation M 170M Class III.
   3. Plastic pipe conforming to AASHTO Designation M294.

B. All concrete pipe joints with County road rights-of-way shall be sealed against leakage and/or infiltration with rubber gasket in conformance with Section 65-1:06 of the California Standard Specifications, or with other methods as may be permitted under the Special Provisions.

C. Cast-in-place concrete pipe, vitrified clay pipe, spiral welded steel pipe, or corrugated aluminum alloy pipe shall not be installed within the County road rights-of-way unless specifically so stated in the Special Provisions, and only under the conditions as provided.

D. All structures to be buried within the County rights-of-way shall be set at such elevations as to allow minimum coverage of thirty inches (30") to the centerline of the roadways and twelve inches (12") at the bottoms of borrow ditches each side of the roadways. The depths of structures shall be established below a flat plane extending across the rights-of-way, no part of which shall extend above the elevations stated above; manholes, lampholes, valves, etc. not included. Future surface elevations shall be anticipated as nearly as possible and structure elevations shall be established for future adjustments accordingly.

E. The County hereby reserves the right to specify in the Special Provisions the gage and surface treatment of any galvanized corrugated metal pipe that is to be installed.

F. All longitudinal utility facilities are to be established (and dimensioned on sketches) from surveyed centerline of road right-of-way, not from right-of-way (border) lines.

REPAIRS OF THE COUNTY RIGHT-OF-WAY:

A. All excavations shall be backfilled and compacted immediately after work therein has been completed.

B. Trenched shall not be left open farther than 300 feet in advance of pipe laying operations, or 200 feet to the rear thereof, unless otherwise permitted by the Engineer.

C. Unless otherwise permitted under the Special Provisions, backfill shall be placed and mechanically compacted in such a manner that the relative compaction throughout the entire fill within the County road right-of-way shall conform to the percentages of compaction as shown on the Trench detail.

D. Backfill material shall be placed in horizontal uniform layers not to exceed in thickness, before compaction, 0.67 foot in the bedding region, one –foot where 90% compaction is required, and two-feet where 80% compaction is required.

E. No portion of the excavation(s) shall be compacted by ponding or jetting unless a maintenance bond is provided.

F. Gravel backfill material shall be utilized only where specifically so stated on the face of the permit. It shall be compacted by means of a high-frequency internal vibrator, the compactor to be a size and type approved by the Engineer. Points of compaction shall not be greater than 18" centers and to the full depth of the lift.

G. All pavements, curbs, gutters, sidewalks, borrow ditches, pipes, head walls, road signs, trees, shrubbery, and/or other permanent road facilities impaired by or as a result of construction operations at the construction site(s) occupied by materials and/or equipment, shall be restored immediately upon backfilling of the excavation to the original grades and cross sections, and to a condition as good as, or better than existing prior to construction.

H. All surfacing materials of roadways and driveway approaches cut or damaged by or as a result of construction operations, shall be replaced within ONE WEEK following the backfilling of excavation, weather permitting, with compacted layers of surfacing materials at least as thick as the existing, and no less than two inches (2") of asphalt concrete over six inches (6") of aggregate base, both as specified below.
   1. Asphalt Concrete: Combined mineral aggregate shall conform to the quality and gradation requirements for Type "B" one-half inch(1/2) maximum aggregate, coarse or medium gradation as specified in Section 39 of the California Standard Specifications. The bituminous binder to be mixed with mineral aggregate shall be paving asphalt having (Grade PG 64-10), unless otherwise directed by the Engineer. Placement of asphalt concrete surfacing shall conform to the applicable provisions of Section 39 of the California Standard Specifications.
   2. Aggregate Base: Combined mineral aggregates shall conform to the quality and the grading for three-quarter inch (3/4") maximum size aggregate Class 2 Aggregate Base specified in Section 26 of the California Standard Specifications.

I. Before acceptance of repairs to the County road rights-of-way, all unsightly and detrimental dirt, dust and/or debris shall be removed and the construction areas left in a neat and presentable condition(s).
   1. If necessary, County road traveled way and driveway pavements shall be washed with water to remove dirt and dust.
   2. Driveway approaches and field entrance pavements damaged by equipment or spoil banks shall be repaired as directed by the Engineer.

J. Upon request by the County, any settlement, sagging of surface, or cracking of pavement shall be repaired immediately by and at the sole expense of the Permittee for a period of one year following acceptance of the work.

SPECIAL PROVISIONS

Winter Weather Utility Work

---

1. **SUPERVISION:** The utility company (permittee) shall furnish full-time supervision of all work to insure compliance with the permit provision.

2. **START OF WORK:** No work within the County right-of-way shall be started until the utility company representative has made an evaluation of weather conditions and has determined the work can be accomplished under the provisions of the permit.

3. **CLEAN PAVEMENT:** Dirt and mud shall not be deposited on the pavement outside the area of work, and if inadvertently tracked onto the road travel way shall be removed immediately.

4. **DAILY RESTORATION:** Private driveways and road intersections shall be restored daily.

5. **WEATHER-TIGHT CONDITIONS:** All trenches shall be filled and compacted, ditches and other drainage facilities regarded and opened, and the entire work area restored to weather-tight condition prior to any rain.