IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

PIGEON PASS SEWER PUMP STATION

NOTICE TO CONTRACTOR

ACCORDING TO THE INFORMATION PROVIDED BY UNDERGROUND SERVICE ALERT (U.S.A.) DATED FEBRUARY 18, 1999, THE FOLLOWING ORGANIZATIONS ARE U.S.A. MEMBERS WITHIN THE PROJECT AREA:

ADELPHIA
PACIFIC BELL
RIVERSIDE HIGHLAND WATER COMPANY
D.W.R.
THE GAS COMPANY
SOUTHERN CALIFORNIA EDISON

THE EXISTENCE AND LOCATIONS OF ALL UNDERGROUND UTILITIES (UTILITY PIPES, STRUCTURES, ETC.) SHOWN ON THESE PLANS (MAIN LINES ONLY – NO SERVICE LATERALS) WERE ASCERTAINED BY A REVIEW OF RECORDS PROVIDED BY THESE MEMBERS AGENCIES AND ARE APPROXIMATE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN.

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITIES SHOWN ON THESE PLANS AND/OR ANY OTHER UNDERGROUND UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

VALVE VAULT

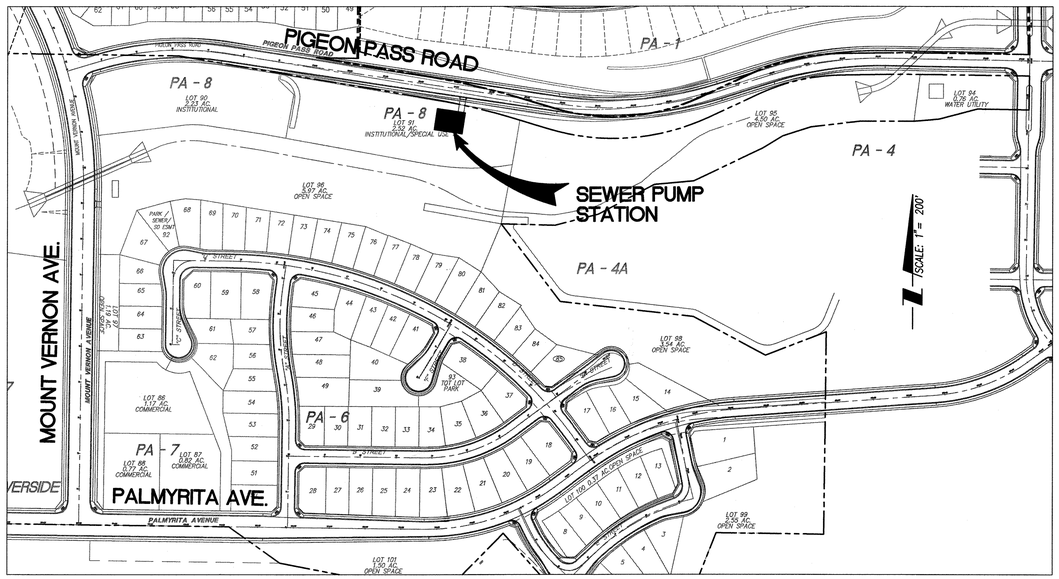
THE PRE-CAST VALVE VAULT STRUCTURE IS A DEFERRED SUBMITTAL AND SHALL BE SUBMITTED TO THE ENGINEER AND COUNTY BUILDING AND SAFETY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. SUBMITTALS SHALL BE SUBMITTED TO THE ENGINEER AND WHEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS, WILL FORWARD THEM TO THE COUNTY FOR APPROVAL. SUBMITTALS WILL BE PROCESSED THROUGH ENGINEER IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

UNAUTHORIZED CHANGES & USES

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

UNDERGROUND STRUCTURES

ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THE RECORD EXAMINED ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. THE OWNER BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THAT REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.



LOCATION MAP
SCALE: 1"=200'

WORK TO BE DONE

IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT RIVERSIDE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS AND THE CURRENT AMERICAN PUBLIC WORKS ASSOCIATION (APWA) "GREEN BOOK" STANDARDS AND SPECIFICATIONS.

SHEET INDEX

OWNER / PERMITTEE

SMR VENTURES
2710 LOKER AVE, SUITE 350
CARLSBAD, CA 92010
(760) 918-6797

BY:

BOB TURI DATE

SCHOOL DISTRICT

RIVERSIDE UNIFIED SCHOOL DISTRICT
909-788-7134

UTILITY CONTACTS

WATER:	RIVERSIDE HIGHLAND WATER COMPANY	909-825-4128
SEWER:	CITY OF RIVERSIDE	909-826-5341
	CSA 152	SEE COUNTY
ELECTRIC:	SOUTHERN CALIFORNIA EDISON COMPANY, BOB SIEGAL TRANSMISSION, JEANNETTE RIVERA	909-307-6770 909-930-8580
GAS:	SOUTHERN CALIFORNIA GAS COMPANY, HECTOR MARTINEZ	909-335-7674
TELEPHONE:	PACIFIC BELL/SBC, LEE CORBY	909-357-2255
CABLE TV:	ADELPHIA COMMUNICATIONS, MIKE McMILLAN	909-975-3402
DEPARTMENT OF WATER RESOURCES		661-858-5500
RIVERSIDE COUNTY TRANSPORTATION AND LAND MANAGEMENT AGENCY		909-955-6740
RIVERSIDE COUNTY FIRE DEPARTMENT		909-955-4777

SOURCE OF TOPOGRAPHY

TOPOGRAPHY SHOWN ON THESE PLANS WAS GENERATED BY PHOTOGRAMMETRIC METHODS FROM INFORMATION GATHERED IN DECEMBER OF 2003, BY INLAND AERIAL SURVEYS, INC. TOPOGRAPHY SHOWN HEREON CONFORMS TO NATIONAL MAP ACCURACY STANDARDS.

LEGAL DESCRIPTION

BEING A DIVISION OF PORTIONS OF SECTIONS 8, 9, AND 10, TOWNSHIP 2S, RANGE 4W, SAN BERNARDINO MERIDIAN.

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSION CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. IN ASSUMING RESPONSIBLE CHARGE I ACCEPT FULL RESPONSIBILITY FOR THE ENTIRE DESIGN OF THIS PROJECT AS SHOWN ON THESE PLANS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF SAN DIEGO, OR ITS AGENTS IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR THE PROJECT DESIGN.

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE, SUITE 300
SAN MARCOS, CA 92069
(760) 891-3200

JEFFREY T. DUNN R.C.E. 58455 DATE 11/3/06
EXPIRATION DATE: 12-31-06

REGISTERED PROFESSIONAL ENGINEER JEFFREY T. DUNN No. 58455 Exp. 12/31/08 CIVIL STATE OF CALIFORNIA

SITE AREA

GROSS: 0.11 ACRES
NET: 0.11 ACRES

ZONING

EXISTING ZONING: SP 323 – INSTITUTIONAL

LAND USE

EXISTING LAND USE: VACANT
PROPOSED LAND USE: INSTITUTIONAL

SURROUNDING PROPERTY

INSTITUTIONAL

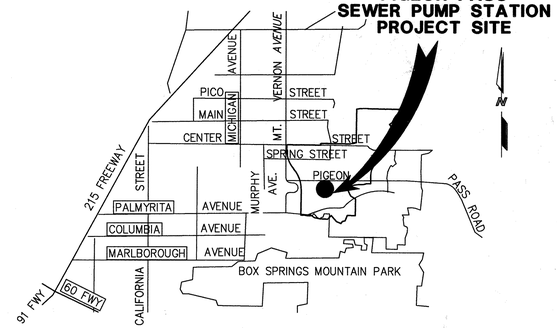
CASE NUMBER

PUP00875

BENCHMARK NOTE:

PLANS PREPARED WITH NAVD 88 DATUM.
CITY OF RIVERSIDE NGVD 29 RECORD DATUM IS INCLUDED FOR PREFERENCE, AS FOLLOWS: ELEVATION PER PLAN (NGVD 29 ELEVATION) NOTE THAT CONTOURS AND AERIAL TOPOGRAPHY ARE IN NAVD 88.

REFER TO THE FOLLOWING FOR BENCHMARK CONVERSION:
BENCHMARK DATUM: NAVD 88
BENCHMARK: CITY OF RIVERSIDE B.M. JB-D3
ELEVATION: 918.908 (NGVD 29) PUBLISHED / 921.398 ADJUSTED TO NAVD 88 [ADD 2.49 FEET PER NGS VERTCON PROGRAM = 921.398 NAVD 88]
DESCRIPTION: LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OF NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.



Thomas Guide (2004); page. 646, E-7

VICINITY MAP
NOT TO SCALE

ASSESSOR PARCEL NUMBER
255-200-017 (PORTION)

CALL BEFORE YOU DIG 811 or 800-227-2600

RIVERSIDE COUNTY SERVICE AREA 152C
APPROVED BY: Robin Zumpft
DATE: 4/27/07

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER DATE 3/22/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 PW05-0064
WALL PERMIT No. BXX068135

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTIBILITY OF THE DESIGN HEREIN. IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/08 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN DATE:
RECOMMENDED BY PBS & J DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER JEFFREY T. DUNN No. 58455 Exp. 12/31/08 CIVIL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY:
JEFFREY T. DUNN R.C.E. NO. 58455
DATE: 11/6/06

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JB-D3
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OF NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN N/A
FOR: W.O. COUNTY FILE NO.

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

TITLE SHEET

SHEET NO. G1
OF 20 SHTS.

INDEXED 5-02-07 LH

PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

C:\TEMP\BGPlot_3696\ PRSW0301.dwg 11/07/06_11:41

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE DESIGN AND CONSTRUCTION STANDARDS OF CITY OF RIVERSIDE FOR SANITARY SEWER FACILITIES.
2. CONSTRUCTION MATERIALS TESTING AND INSPECTION SHALL COMPLY WITH CITY OF RIVERSIDE STANDARDS AND SPECIFICATIONS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF RIVERSIDE COUNTY ("GREEN BOOK") AND, THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (A.S.T.M.) STANDARDS. FAILURE TO MEET ANY OF THE ABOVE REQUIREMENTS WILL BE CAUSE FOR REJECTION.
3. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS AND EQUIPMENT, UNLESS NOTED OTHERWISE.
4. SUPERVISION FOR INSTALLATION, START-UP, AND TESTING TO BE PROVIDED BY MANUFACTURER'S REPRESENTATIVE AS PART OF THE EQUIPMENT PURCHASE CONTRACT.
5. ALL CONSTRUCTION AND OPERATIONS BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH CAL-OSHA REQUIREMENTS.
6. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF ANY CONSTRUCTION CHANGES AND SHALL MAKE INFORMATION AVAILABLE TO THE ENGINEER FOR PREPARATION OF "AS BUILT" DRAWINGS. THE "AS BUILT" DRAWINGS SHALL BE SUBMITTED TO CITY OF RIVERSIDE FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
7. WHERE THE WATER MAIN AND SEWER CROSSES STORM DRAINS, OTHER PIPELINES, TELEPHONE AND ELECTRIC DUCTS, OR SIMILAR INSTALLATIONS, A MINIMUM OF 12" OF CLEARANCE SHALL BE PROVIDED BETWEEN THE MAIN OR SEWER AND OTHER INSTALLATIONS.
8. SEPARATION OF SEWER AND WATER LINES MUST COMPLY WITH THE RIVERSIDE COUNTY HEALTH DEPARTMENT STANDARDS AS SHOWN ON RIVERSIDE COUNTY STANDARD PLAN 609 AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE STATE OF CALIFORNIA, DEPARTMENT OF HEALTH.
9. CONNECTIONS TO EXISTING CITY OF RIVERSIDE SEWER OR WATER LINES SHALL BE IN ACCORDANCE WITH STANDARD CITY OF RIVERSIDE PROCEDURES AND SHALL NOT BE ACCOMPLISHED UNLESS CITY OF RIVERSIDE INSPECTOR IS PRESENT.
10. OPEN TRENCH AT ANY ONE TIME SHALL BE LIMITED TO 600 FEET ALONG ROAD RIGHT-OF-WAY UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. TRENCH SHALL BE BACK FILLED AND COMPACTED AT THE CONCLUSION OF EACH DAY.
11. SURFACE IMPROVEMENTS DAMAGED OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE RECONSTRUCTED BY THE CONTRACTOR TO THE LOCAL GOVERNING AGENCY'S REQUIREMENTS.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ANY STREET MONUMENT IN PLACE. IF ANY MONUMENT IS DISTURBED OR DESTROYED, THE CONTRACTOR WILL BE REQUIRED TO CONTRACT WITH A REGISTERED LAND SURVEYOR FOR THE RE-ESTABLISHMENT AND MAPPING OF DESTROYED MONUMENT.
13. NOTICE TO CONTRACTOR: THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT ON RECORD OR NOT SHOWN ON THESE PLANS. APPROVAL OF THIS PLAN BY THE EASTERN MUNICIPAL WATER DISTRICT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.
14. PIPE SHALL BE HANDLED SO AS TO PROTECT PIPE, JOINTS, LINING AND COATING, AND BE CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT UNEVEN SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS OF THE INSTALLED PIPE SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
15. PIPE JOINTS SHALL NOT BE DEFLECTED AT ANY ANGLE GREATER THAN THE MAXIMUM ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
16. SEWER PIPE TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF RIVERSIDE STANDARDS SB-157, SB-158 AND SB-159.
17. QUANTITIES SHOWN HEREON FOR BOND ESTIMATE PURPOSES ONLY. NEITHER THE ENGINEER SIGNING THESE PLANS OR E.M.W.D GUARANTEE THEIR ACCURACY OF COMPLETENESS.
18. ALL PIPE FITTINGS SHALL BE DUCTILE IRON CLASS 250 AND VALVES SHALL BE CAST IRON, CLASS 150, UNLESS NOTED OTHERWISE.
19. THE FLOOR OF THE WET WELL SHALL BE FINISHED SMOOTH AND LEVEL.
20. ALL CONSTRUCTION JOINTS SHALL BE WATERPROOF. THERE SHALL BE NO TRACE OF WATER LEAKS INTO WET WELL UPON COMPLETION OF THE PROJECT.
21. NOTCHES OR GROOVES AROUND OPENINGS IN CONCRETE SHALL BE PROVIDED AS REQUIRED TO RECEIVE MANHOLE FRAMES AND ACCESSORIES. DIMENSIONS AND POSITIONS WHERE NOT SPECIFIED FOR CONDUITS, FRAMES, AND ACCESSORIES SHALL BE DETERMINED FROM THE DETAILS AND FROM MANUFACTURER'S SHOP DRAWINGS.
22. ALL LOCKS SHALL CONFORM TO THE CITY OF RIVERSIDE SHALL BE KEYED FOR CITY OF RIVERSIDE STANDARD KEY.
23. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT WRITTEN APPROVAL OF CITY OF RIVERSIDE.
25. GRAVITY SEWER PROFILE ELEVATIONS ARE TO FLOW LINE (CONDUIT INVERT). FORCE MAIN PROFILE ELEVATIONS ARE TO FLOW LINE.
26. PRIOR TO CONSTRUCTION OF SEWER, CONTRACTOR SHALL EXPOSE EXISTING SEWER AND VERIFY ITS EXISTING ELEVATION AND LOCATION. WHERE CONNECTION TO EXISTING MANHOLES AND INLET STUB OF PROPER SIZE EXISTS, NO ALTERATIONS SHALL BE MADE TO EXISTING MANHOLE BASE OR STUB EXCEPT AS SPECIFICALLY AUTHORIZED BY CITY OF RIVERSIDE
27. THE CONTRACTOR IS ADVISED THAT THE WORK ON THIS PROJECT MAY INVOLVE WORKING IN A CONFINED AIR SPACE. CONTRACTOR SHALL BE RESPONSIBLE FOR "CONFINED AIR SPACE" ARTICLE 108, TITLE 8, CALIFORNIA ADMINISTRATIVE CODE.
28. WHERE GROUNDWATER IS ENCOUNTERED, ALL VCP PIPE SHALL BE TREATED FOR ABSORPTION RESISTANCE PER CITY OF RIVERSIDE SPECIFICATIONS.
29. INSTALL LOCATOR WIRE OVER FORCE MAIN PER STD. DWG. B-656.
30. DUCTILE IRON PIPE AND FITTINGS SHALL BE TAR (SEAL) COATED FOR ABOVE AND BELOW GROUND INSTALLATIONS AND SHALL BE COAL TAR EPOXY COATED FOR INSTALLATIONS WITHIN THE WET WELL. DUCTILE IRON PIPE AND FITTINGS SHALL BE EPOXY OR CERAMIC LINED. ALL JOINTS SHALL BE FLANGED.
31. ALL DUCTILE OR GRAY IRON PIPE AND FITTINGS SHALL BE ENCASED AT THE TIME OF INSTALLATION WITH POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANSI/AWWA C-105.
32. JOINT RESTRAINERS, INSTEAD OF THRUST BLOCKS, SHALL BE USED ON ALL FORCE MAIN PIPE JOINTS WITHIN SPECIFIED "LIMITS" AND ALL JOINTS OF WATER APPURTENANCE LATERALS OFF MAIN LINE, PER CITY OF RIVERSIDE SPECIFICATIONS.
33. ALL EDGES/CORNERS OF CONCRETE EXPOSED AND BURIED, SHALL BE FORMED WITH 3/4" CHAMFER.

CODE AND SAFETY REQUIREMENTS

1. ALL ELECTRICAL PLANS, METHODS AND MATERIALS MUST CONFORM TO THE NEC OR CITY OF RIVERSIDE SPECIFICATIONS WHICHEVER REQUIREMENTS ARE GREATER.
   (I) WET WELLS SHALL COMPLY TO CLASS I, DIVISION I OF THE NEC CODE.
   (II) VALVE VAULTS, DRY WELLS AND CONTROL PANELS SHALL COMPLY TO CLASS I, DIVISION 2 OF THE NEC CODE.
   (III) ALL ELECTRICAL CONDUITS FROM THE WET WELL TO THE VALVE VAULT OR CONTROL PANEL AND/OR FROM THE VAULT TO THE PANEL SHALL BE SEALED OFF PER ARTICLE 501-5 OF THE NEC CODE. THE SEAL-OFF SHALL BE ACCOMPLISHED WITH REMOVABLE (PLIABLE) COMPOUNDS AND FITTINGS.
   (IV) REFER TO CITY OF RIVERSIDE SPECIFICATIONS _____.
2. ALL FACILITIES ARE SUBJECT TO THE REQUIREMENTS OF THE GENERAL INDUSTRIAL SAFETY ORDER ISSUED BY THE DIVISION OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA (CAL OSHA).
3. ALL CONTROL PANELS MUST BE VANDAL AND ACCIDENT PROOF BY SUCH MEASURES SUCH AS INSTALLATION OF LOCKS, BARRIER POSTS, AND FENCING.
4. ALL CHECK VALVES SHALL BE INSTALLED IN A HORIZONTAL POSITION.
5. GAUGES SHOULD BE PROTECTED FROM SLUDGE AND CORROSION BY GAUGE ISOLATION OR GUARDS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE CONSTRUCTION CREW, THE PUBLIC AND AND ANY DAMAGE OF THE WORK IN CONJUNCTION WITH HIS CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL FURNISH, INSTALL AND CONSTRUCT SHORING, BRACING, SLOPING AND /OR OTHER PROVISIONS IN ACCORDANCE WITH THE OSHA REQUIREMENTS AND THE GREEN BOOK SPECIFICATIONS FOR CONSTRUCTION OF THE PROJECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE WORKERS WORKING IN THE CONFINED SPACE AND SHALL SUBMIT THE CONFINED SPACE ENTRY PROGRAM TO THE ENGINEER AND CITY OF RIVERSIDE FOR REVIEW PER THE CITY OF RIVERSIDE PERMIT CONFINED SPACE PROCEDURE.
8. THE CONTRACTOR SHALL FURNISH TO THE OWNER POLICY CERTIFICATE OF LIABILITY INSURANCE ACCEPTABLE TO THE OWNER. THE CONTRACTOR SHALL PERFORM HIS WORK PER THE REQUIREMENTS OF OSHA AND SPECIFIED IN THE GREEN BOOK IN ADDITION TO THE REQUIREMENTS NOTED ON HE PLANS.

NOTIFICATIONS

1. CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY TO DETERMINE AND VERIFY LOCATION OF EXISTING UTILITIES OR UNDERGROUND STRUCTURES OF ANY KIND PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
2. THE PERMITTEE SHALL GIVE REASONABLE NOTICE TO THE OWNER OF ADJOINING LANDS AND BUILDINGS PRIOR TO BEGINNING EXCAVATIONS WHICH MAY AFFECT THE LATERAL AND SUBJACENT SUPPORT OF THE ADJOINING PROPERTY. THE NOTICE SHALL STATE THE INTENDED DEPTH OF EXCAVATION AND WHEN THE EXCAVATION WILL COMMENCE. THE ADJOINING OWNER SHALL BE ALLOWED AT LEAST 30 DAYS AND REASONABLE ACCESS ON THE PERMITTED PROPERTY TO PROTECT HIS STRUCTURE, IF HE SO DESIRES, UNLESS OTHERWISE PROTECTED BY LAW.
3. AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION, CONTRACTOR SHALL NOTIFY:
   A. CITY OF RIVERSIDE
      PUBLIC WORKS DEPARTMENT, (951) 826-5341
   B. UNDERGROUND SERVICE ALERT (USA)
      (800) 227-2600

PERMITS

1. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
2. A SEPARATE PERMIT SHALL BE OBTAINED FROM THE COUNTY OF RIVERSIDE DEPARTMENT OF BUILDING AND SAFETY PRIOR TO CONSTRUCTION OF ANY BUILDINGS.
3. AN APPROVED COPY OF THE GRADING PLAN SHALL BE ON THE PERMITTED SITE WHILE WORK IS IN PROGRESS.
4. AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL CONSTRUCTION WORK DONE WITHIN PUBLIC RIGHTS-OF-WAY. BEFORE ISSUANCE OF SAID PERMIT, THE CONTRACTOR / DEVELOPER MUST PROVIDE THE CITY ENGINEER WITH CERTIFICATE OF INSURANCE, REQUIRED BONDING FOR PUBLIC IMPROVEMENTS, THE ENCROACHMENT PERMIT MUST BE PRESENTED AT THE JOB SITE DURING THE TOTAL TIME FRAME OF PROJECT CONSTRUCTION WITH APPROVED SET OF IMPROVEMENT PLANS.
5. A SEPARATE PERMIT SHALL BE OBTAINED FROM SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR BOTH CONSTRUCTION AND OPERATION OF DIESEL OPERATED GENERATOR SET.

MISCELLANEOUS PIPE NOTES

1. BOLTS AND NUTS FOR BURIED FLANGES, FLANGES LOCATED OUTDOORS ABOVE GROUND, FLANGES LOCATED IN OPEN VAULTS AND STRUCTURES, AND SUBMERGED FLANGES SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A 193, GRADE B FOR BOLTS, AND ASTM A 194, GRADE 1, 2 OR 2H FOR NUTS
2. THE INTERIOR OF ALL PIPE AND FITTINGS SHALL BE LINED WITH CEMENT-MORTAR PER ANSI A-21.4 AND AWWA C104. LINING SHALL BE THE DOUBLE THICKNESS LISTED IN AWWA C104, SECTION 4.8. LINING MATERIALS SHALL CONFORM TO ASTM C150, TYPE V.
3. ALL BURIED PIPE, FITTINGS, BURIED MECHANICAL AND RESTRAINED JOINT BOLTS, NUTS AND GLANDS SHALL BE ENCASED IN AN 8-MIL THICK POLYETHYLENE TUBE MATERIAL PER AWWA C 105.
4. THE EXTERIOR SURFACES FOR DUCTILE IRON FITTINGS THAT ARE BURIED SHALL BE COATED WITH A BITUMINOUS MATERIAL IN CONFORMANCE WITH ANSI A21.10 (AWWA C110). THE COATING SHALL BE FREE FROM BLISTERS AND HOLES; SHALL ADHERE TO THE METAL SURFACE AT ALL TEMPERATURES ENCOUNTERED IN THE FIELD; SHALL BE SMOOTH, NOT BRITTLE WHEN COLD; AND SHALL NOT BECOME STICKY WHEN EXPOSED TO THE SUN. THE COATING SHALL BE CHECKED BY THE MANUFACTURER WITH A SUITABLE ELECTRICAL HOLIDAY DETECTOR.
5. ALL DUCTILE IRON AND GRAY IRON PIPE AND FITTINGS BURIED UNDERGROUND SHALL BE PROTECTED WITH PLASTIC FILM WRAP IN ACCORDANCE WITH AWWA C105. WRAP SHALL BE A LOOSE 8-MIL-THICK POLYETHYLENE TUBE. ALL JOINTS BETWEEN PLASTIC TUBES SHALL BE WRAPPED WITH 1-INCH-WIDE POLYETHYLENE ADHESIVE TAPE, POLYKEN 900, SCOTCH WRAP 50, OR EQUAL. INSTALLATION OF PLASTIC FILM SHALL CONFORM TO THE FOLLOWING PROCEDURE, AND WRAPPING SHALL BE APPLIED TO THE PIPE IN THE FIELD IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
6. POLYVINYL CHLORIDE PIPELINES SHALL BE PROVIDED WITH A NO. 10 AWG BARE COPPER WIRE LAID ALONG THE TOP OF THE PIPE AND HELD IN PLACE WITH TIES OR HITCHES OF THE SAME KIND OF WIRE SPACED NOT MORE THAN 13-FEET APART, OR METALLIC LOCATING TAPE LAID ALONG THE CENTERLINE OF THE PIPE TRENCH AT A DEPTH OF 18-INCHES BELOW FINISH GRADE. IN SUCH CASE, THE CONTRACTOR SHALL FURNISH MANUFACTURER'S LITERATURE, IN ACCORDANCE WITH THE SPECIAL PROVISIONS, COMPLETELY DESCRIBING THE TAPE PROPOSED TO BE FURNISHED. NO TAPE SHALL BE USED PRIOR TO RECEIPT OF WRITTEN APPROVAL OF THE ENGINEER.
7. ALL FITTINGS FOR PVC PRESSURE PIPE SHALL BE DUCTILE IRON AND SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF AWWA C110, C153, C111 AND SECTION 207-9 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC). ALL DUCTILE IRON FITTINGS FOR DOMESTIC WATER AND RAW SEWAGE SHALL BE LINED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C104. ALL FITTINGS SHALL BE ANCHORED IN ACCORDANCE WITH CITY STANDARD DRAWINGS OR AS SHOWN ON THE PLANS.
8. MECHANICAL JOINT FITTINGS FOR PVC WILL BE ALLOWED ONLY AT THE DISCRETION OF THE CITY OF RIVERSIDE.

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	LAV	LAVATORY
A.V.	AIR/VACUUM VALVE	LG.	LONG
AWWA	AMERICAN WATER WORKS ASSOCIATION	L.F.	LINEAL FEET
A.C.	ASPHALT CONCRETE	MIN.	MINIMUM
B.C.	BEGINNING OF CURVE	MAX.	MAXIMUM
B.V.	BUTTERFLY VALVE	N.E.C.	NATIONAL ELECTRIC CODE
B.O.	BLOWOFF ASSEMBLY	NO.	NUMBER
C.F.	CURB FACE	N.P.T.	NATIONAL PIPE THREAD
℄	CENTER LINE	N.T.S.	NOT TO SCALE
CLR.	CLEAR DISTANCE	O.A.E.	OR APPROVED EQUAL
CL	CLASS	O.C.	ON CENTER
CO	CLEAN OUT	O.D.	OUTSIDE DIAMETER
CONC.	CONCRETE	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
DIA.	DIAMETER	P.E.	PLAIN END
D.I.P.	DUCTILE IRON PIPE	P.V.C.	POLYVINYL CHLORIDE
DIST.	DISTRICT	R	RADIUS
DR.	DRIVE	RED.	REDUCING
D.W.	DOMESTIC WATER	REQ'D	REQUIRED
E.C.	END OF CURVE	RCP	REINFORCED CONCRETE PIPE
ELEV.	ELEVATION	RWV	RESILIENT WEDGE GATE VALVE
EXIST.	EXISTING	S	SLOPE
C.O.R.	CITY OF RIVERSIDE	SHT.	SHEET
E.W.	EACH WAY	S.S.	SANITARY SEWER
F.G.	FINISH GRADE	ST.	STREET
FLEX	FLEXIBLE	STA.	STATION
FLG.	FLANGE	STDS.	STANDARDS
F.M.	FORCE MAIN	STL.	STEEL
F.S.	FINISH SURFACE	SQ.	SQUARE
GALV.	GALVANIZED	T.C.	TOP OF CURB
G.E.	GROOVED END	TYP.	TYPICAL
HORIZ.	HORIZONTAL	TW	TOP OF WALL
I.D.	INSIDE DIAMETER	VERT.	VERTICAL
INT.	INTERSECTION	WC	WATER CLOSET
INV.	INVERT	W/	WITH
L	LENGTH		

LEGEND

DESCRIPTION	DENOTES
XX / XX — DETAIL NUMBER OR SECTION LETTER / SHEET NO. WHERE SHOWN	DETAIL CALL OUT
———	PROPERTY LINE
2076	EXISTING CONTOURS
2067.39 / (2067.0)	PROPOSED FINISHED ELEVATION / EXISTING ELEVATION
7 →	MATERIAL CALL OUT
2 →	CURVE NUMBER CALL OUT

CONSTRUCTION NOTES:

1. SUBMERSIBLE VORTEX PUMP, 341 GPM @ 84' TDH, WITH 25 HP, 1750 RPM, 460 VOLTS/3 PHASE/60 HZ SUBMERSIBLE EXPLOSION-PROOF MOTOR, ESSCO MODEL No. 4x12 TF 7 VANES, OR APPROVED EQUAL.
2. (NOT USED)
3. 5" GUARD POST, SEE DETAIL 3/M3
4. 6" D.I. PIPE, FLG X FLG
5. 6"-90° D.I. ELBOW, FLG'D
6. 6" D.I. PIPE, FLG X BE
7. 6" D.I. PIPE, PE X PE
8. 6" RESTRAINED FLANGED FLEXIBLE COUPLING, EPOXY COATED, WITH 316 S.S. BOLTS & 4 TIE RODS.
9. 6" SWING CHECK VALVE, WITH LEVER & AIR CUSHION DEVICE, APCO SERIES 6000.
10. 6" D.I. SPOOL, FLG X GVD
11. 6" MCTAULIC COUPLING, STYLE 31 W/ RESTRAINING RODS (4).
12. 6" ECCENTRIC PLUG VALVE, MILLIKEN #600, OR CITY OF RIVERSIDE APPROVED EQUAL.
13. 6"-45° L.R. ELBOW, D.I., FLG'D.
14. (NOT USED)
15. 6"x6" 45° WYE, D.I., FLG'D.
16. 6" D.I. PIPE, FLG. X PE.
17. 6" COMPANION FLANGE W/ SHORT NIPPLE & FEMALE CAMLOCK ADAPTER WITH MALE CAMLOCK PLUG.
18. 8" D.I. PIPE, FLG. X PE.
19. (NOT USED)
20. 9' x 10' CONCRETE WET WELL, DESIGNED FOR H-20 BRIDGE LOADING.
21. 9'-0"x16'-0" PRECAST CONCRETE VAULT DESIGNED FOR H-20 BRIDGE LOADING. SEE NOTE 4 SHT M-1. FOR LADDER, SEE DETAIL 2, SHT. M4
22. 5'-6"Wx8'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-3AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
23. 5'-0"Wx5'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-4AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
24. SONIC LEVEL SENSOR (MILLTRONICS).
25. MC 5X9 S. STL. PIPE SUPPORT AT 6' (MAX.) SPACING ANCHORED TO WET WELL WALL, SEE DETAIL 1/M3
26. (NOT USED)
27. POWER CABLE WITH EXTENDED LENGTH AS REQUIRED.
28. STAINLESS STEEL PUMP LIFTING CABLE W/ EXTENDED LENGTH AS REQ'D.
29. STAINLESS STEEL PIPE GUIDE RAIL W/ EXTENDED LENGTH AS REQ'D.
30. 6" ADJUSTABLE PIPE SUPPORT, GRINNELL FIG. 264 PER IRWD W-24.
31. GALV. STL. LADDER, ALHAMBRA FDY. No. A-3400.
32. INTERMEDIATE GUIDE RAIL BRACKETS (S.S.) PER PUMP MFR'S DESIGN.
33. 4" FLOOR DRAIN, CLOW MODEL F-3946.
34. 4" PVC PIPE DRAIN, SCH. 80.
35. 4" FLAP VALVE, CLOW MODEL F-3016.
36. 8" X 6" REDUCER, FLG. X FLG.
37. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR EXHAUST)
38. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR INTAKE)
39. 8" ECCENTRIC PLUG VALVE, DEZURIK SERIES 118.
40. 12" VCP STUBOUT.
41. 12" VCP PIPE, EXTRA STRENGTH
42. (NOT USED)
43. 4"x6", CONCENTRIC REDUCER, FLG.
44. 4" - 90° D.I. BASE ELBOW W/ APPURTENANCES
45. 6" D.I. RESTRAINED FLANGE ADAPTOR
46. 6" MAGNETIC FLOW METER WITH LOCAL FLOW INDICATOR & REMOTE TRANSMITTER, WATER SPECIALTIES #JM06-R OR APPROVED EQUAL
47. (NOT USED) 2" WATER LINE, COPPER TYPE K HARD
48. PIPE ANCHOR, SEE DETAIL 2/M3
49. 60" I.D. CONCRETE MANHOLE WITH 30" DIA. C.I. FRAME AND COVER.
50. 1" WATER LINE, COPPER TYPE K HARD.
51. 2" Ø BACK FLOW PREVENTOR WITH BALL VALVES AND FITTINGS.
52. 2" DRAIN LINE, COPPER TYPE K HARD.
53. 8" FORCE MAIN, CLASS 50 D.I. PIPE & FITTINGS W/ RESTRAINED JOINTS.
54. ZEBRON COATING INSIDE WET WELL, PER MANUFACTURER'S REQUIREMENTS.
55. 316 STAINLESS STEEL STIRRUP STEPS PER CITY OF RIVERSIDE STANDARD DRAWING No. 500
56. 16'x8'H ENTRANCE SLIDING GATE W/ ELECT. OPERATOR & INTRUSION ALARM.
57. YARD LIGHT POLE, SEE DETAIL G/E6
58. 3/4" HOSE BIBB PER APWA STD. PLAN 505 W/ ANTI SIPHON DEVICE.
59. 6" D.I. WALL PIPE, FLG. X B.E. W/ WALL COLLAR.
60. 8" PVC FORCEMAIN, C-900, CL150.
61. 12" GRAVITY SEWER PIPE COUPLING
62. 8" DIP TO PVC TRANSITION COUPLING

CALL BEFORE YOU DIG 811 (800) 227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTIBILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

DATE	BY	MARK	REVISIONS	APPR.	DATE
3/07	RT	⚠	NPW LINE CHANGED TO 2", ADDED 2" NPW MAKE UP LINE		

ENGINEER — COUNTY

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER, KHALED A. OTHMAN, No. 33950, Exp. 6/30/08, CIVIL, STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER, JEFFREY T. DUNN, No. 58455, Exp. 12/31/08, CIVIL, STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE: 11/6/06

BENCHMARK DATUM
WHO BR 921.398
BENCHMARK
CITY OF RIVERSIDE BM. #3-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET W/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

NOTES AND ABBREVIATIONS

SHEET NO. G2 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

W:\Tettemer\14192.00\dwg\Pigeon Pass\ PRSW0302.dwg 11/07/06_11:41

Indexed 5-02-07 GH

ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A.	AMPERES	NEC	NATIONAL ELECTRIC CODE
AC	ARMORED CABLE	NIC.	NOT IN CONTRACT
ADA.	AMERICANS WITH DISABILITIES ACT	mA	MILLIAMPERES
AFF.	ABOVE FINISHED FLOOR	MAX.	MAXIMUM
AFG.	ABOVE FINISHED GRADE	MB.	MAIN BREAKER
AIC	AMPERE INTERRUPTING CAPACITY	MCC	MOTOR CONTROL CENTER
AWG	AMERICAN WIRE GAGE	MFR	MANUFACTURER
AL.	ALUMINUM	MIN.	MINIMUM
APPROX.	APPROXIMATELY	MON.	MONITOR
BCG	BARE COPPER GROUND		
BRKR.	BREAKER	N.I.C.	NOT IN CONTRACT
C.	CONDUIT	NOM.	NOMINAL
CCTV	CLOSED CIRCUIT TELEVISION	N.O.	NORMALLY OPEN
CIRC.	CIRCUIT	N.C.	NORMALLY CLOSED
CU.	COPPER		
DECON.	DECONTAMINATION	OD.	OUTSIDE DIAMETER
DC	DIRECT CURRENT	P.	POLE
DISC.	DISCONNECT	PNL.	PANEL
DWG	DRAWING	PVC	POLYVINYL CHLORIDE – SCHEDULE 40, UNO.
EMS	ENERGY MANAGEMENT SYSTEM		
EMT.	ELECTRICAL METALLIC TUBING	REC.	RECEPTACLE
EQ.	EQUAL	REQD.	REQUIRED
EXIST.	EXISTING	RGS.	RIGID GALVANIZED STEEL
FLEX.	FLEXIBLE	SH.	SHEET
FLUOR.	FLUORESCENT	SW.	SWITCH
G.	GROUND	STL.	STEEL
GRD.	GRADE	SUSP.	SUSPENDED
INCAN.	INCANDESCENT		
ID.	INSIDE DIAMETER	TC	TIME CLOCK
IMC.	INTERMEDIATE METAL CONDUIT	TYP.	TYPICAL
INSUL.	INSULATED OR INSULATION	UNO.	UNLESS NOTED OTHERWISE
ISOL.	ISOLATION OR ISOLATED	W.	WIRE
JB.	JUNCTION BOX	V.	VOLTS
KCMIL	THOUSAND CIRCULAR MILS	VFD	VARIABLE FREQUENCY DRIVE
LV.	LOW VOLTAGE	VAC	VOLTS – ALTERNATING CURRENT
N.	NEUTRAL	VDC	VOLTS – DIRECT CURRENT

GENERAL ELECTRICAL NOTES

1. ALL NECESSARY NEW ELECTRICAL EQUIPMENT REQUIRED FOR THE WORK PROPOSED SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL COMPLY WITH, AND ALL WORK AND MATERIALS SHALL CONFORM TO, THE REQUIREMENTS OF ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ORDINANCES AND REGULATIONS. ALL WORK SHALL COMPLY WITH THE LANGUAGE AND INTENT OF THE NATIONAL ELECTRICAL CODE.
3. LOCATION OF ELECTRICAL EQUIPMENT IS DIAGRAMMATIC AND SHOWS THE DESIGN INTENT ONLY. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR EXACT LOCATIONS OF ALL EQUIPMENT. PULL BOXES OR JUNCTION BOXES THOUGH NOT SHOWN ON THE PLANS, SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
4. ALL ITEMS INCIDENTAL TO AND/OR REQUIRED TO COMPLETE THE INSTALLATION SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
5. ALL ELECTRICAL EQUIPMENT, INCLUDING CONDUIT AND WIRING SHALL BE NEW.
6. ALL CIRCUITS SHALL INCLUDE DEDICATED NEUTRAL AND COMMON GROUND.
7. ALL CONDUITS SHALL BE SCHEDULE 80 PVC, MOUNTED ON CEILING OR WALLS UNLESS NOTED OTHERWISE OR AS DIRECTED BY THE ENGINEER.
8. SINGLE PHASE EQUIPMENT, LIGHTING AND RECEPTACLE HOMERUNS TO LIGHTING PANEL SHALL BE 3/4"C, 2#12, #12G UNLESS NOTED OTHERWISE.
9. LABEL EACH JUNCTION BOX COVER WITH THE PANEL NUMBER AND BRANCH CIRCUIT NUMBERS OF THE BRANCH CIRCUIT CONDUCTORS WHICH PASS THROUGH THE BOX.
10. MOUNT ALL POWER RECEPTACLES AT +48" ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE.
11. MOUNT ALL SWITCHES AT +48" ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GENERAL USE DISCONNECTION SWITCH		MOMENTARY PUSHBUTTON OPERATOR – NORMALLY CLOSED
	TIMED CLOSED CONTACT ON ENERGIZATION		MOMENTARY PUSHBUTTON OPERATOR – NORMALLY OPEN
	TIMED OPEN CONTACT ON ENERGIZATION		SELECTOR SWITCH – NORMALLY OPEN
	TIMED OPEN CONTACT ON DE-ENERGIZATION		PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
	TIMED CLOSED CONTACT ON DE-ENERGIZATION		SOLENOID OR CLUTCH
	FLOAT ACTUATED SWITCH – NO		THERMAL OVERLOAD
	FLOAT ACTUATED SWITCH – NC		A-C SURGE PROTECTOR
	PRESSURE ACTUATED SWITCH – NC		HORN
	PRESSURE ACTUATED SWITCH – NO	(F)	FIELD LOCATED
	FLOW ACTUATED SWITCH – NO		FUSE
	FLOW ACTUATED SWITCH – NC		CIRCUIT BREAKER WITH STAB CONNECTION
	TEMPERATURE SWITCH – NC		CONTROL POWER TRANSFORMER
	TEMPERATURE SWITCH – NO		TWO COIL LATCHING RELAY
	LIMIT SWITCH – NORMALLY OPEN		SELECTOR SWITCH OPERAOR WITH FUNCTION SHOWN
	LIMIT SWITCH – NORMALLY OPEN – HELD CLOSED		MAINTAINED PUSH-PULL OPERATOR
	LIMIT SWITCH – NORMALLY CLOSED – HELD OPEN		MAINTAINED STOP-START PUSHBUTTON OPERATOR
	LIMIT SWITCH – NORMALLY CLOSED		DIODE RECTIFIER OR D-C SURGE PROTECTOR
	CONTROL RELAY CONTACT – NORMALLY OPEN		GFCI DUPLEX RECEPTACLE
	CONTROL RELAY CONTACT – NORMALLY CLOSED		DUPLEX RECEPT
	LIGHTNING ARRESTOR		QUADPLEX RECEPTACLE
ETI	ELAPSED TIME INDICATOR		THREE-PHASE GENERATOR RECEPTACLE
T	TIMING RELAY COIL	S	SWITCH (SINGLE-POLE)
T	TIMED RELAY COIL (OFF-DELAY)	J J	JUNCTION BOX
G	INDICATING LIGHT		MANUAL STARTER
	PUSH-TO-TEST INDICATING LIGHT	5	MAGNETIC STARTER, SIZE AS SHOWN
	BATTERY	M	THREE-PHASE MOTOR
X1 X2	SECONDARY TRANSFORMER	M	SINGLE PHASE MOTOR
	VARIABLE RESISTOR		EXPOSED CONDUIT
	RESISTOR		HIDDEN CONDUIT
	MOLDED CASE CIRCUIT BREAKER		FIELD TERMINAL
	SPEED SWITCH		CONNECTION POINT
FE 100	I/O POINT		

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	LAMP	MOUNTING	WATTS	MANUFACTURER	MODEL NUMBER OR SERIES
A	DAMP LOCATION INDUSTRIAL INCANDESCENT LUMINAIRE WITH CAST ALUMINUM HOUSING, CLEAR GLASS GLOBE, WIRE GUARD. WALL MOUNT BRACKET, FULLY GASKETED, FUSED, 120V	1-100W INCAND.	WALL MOUNT	100	APPLETON HAZLUX LDPI	REA-10LB-VGU-1 VM100-120-GG-B2-F 381 SERIES
B	CIRCULAR CUTOFF-STYLE AREA LIGHT WITH 12' POLE, FLAT GLASS LENS, ALUMINUM HOUSING, SPIDER MOUNT, DARK BRONZE FINISH, FULLY GASKETED, PHOTOCELL, FUSED, 120V	1-175W M.H.	12' POLE	175	LITHONIA MOLDCAST MCGRAW-EDISON	KKR-175M-R4-120-SF-PE1. SOL23 SERIES CIRRUS SERIES

CALL BEFORE YOU DIG 800-227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893

WDID No. 833C327881 | PW05-0064

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER DENNIS E.S. DARLING 62331 ELECTRICAL STATE OF CALIFORNIA

Stantec
STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE:

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JB-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OF NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

ELECTRICAL LEGEND

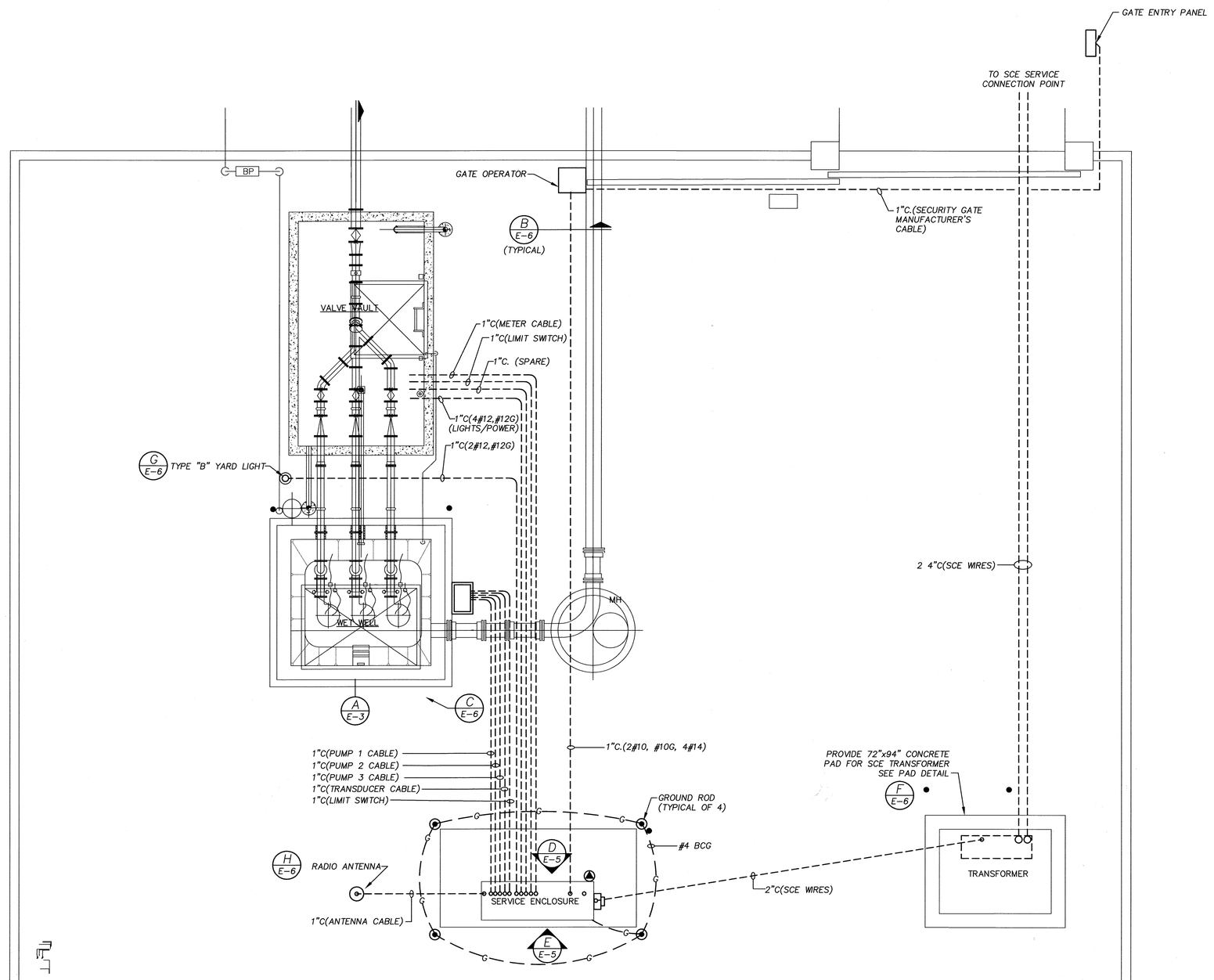
SHEET NO. E-1 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

INDEXED 5-02-07 GH

SCALE: 1/4"=1'-0"



ELECTRICAL PLAN

SCALE: 1/4"=1'-0"

CALL BEFORE YOU DIG 800-227-2600

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DATE	BY	MARK	REVISIONS	APPR.	DATE
	ENGINEER			COUNTY	

SEAL-COUNTY

REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL

REGISTERED PROFESSIONAL ENGINEER DENNIS M. DARLING 62331 ELECTRICAL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
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SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE:

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/26/07

CITY OF RIVERSIDE DRAWING # S-1893

WDID No. 833C327881 | PW05-0064

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JB-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET W/O B.C.R. OR NW CURB RETURN AT PALMYRA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

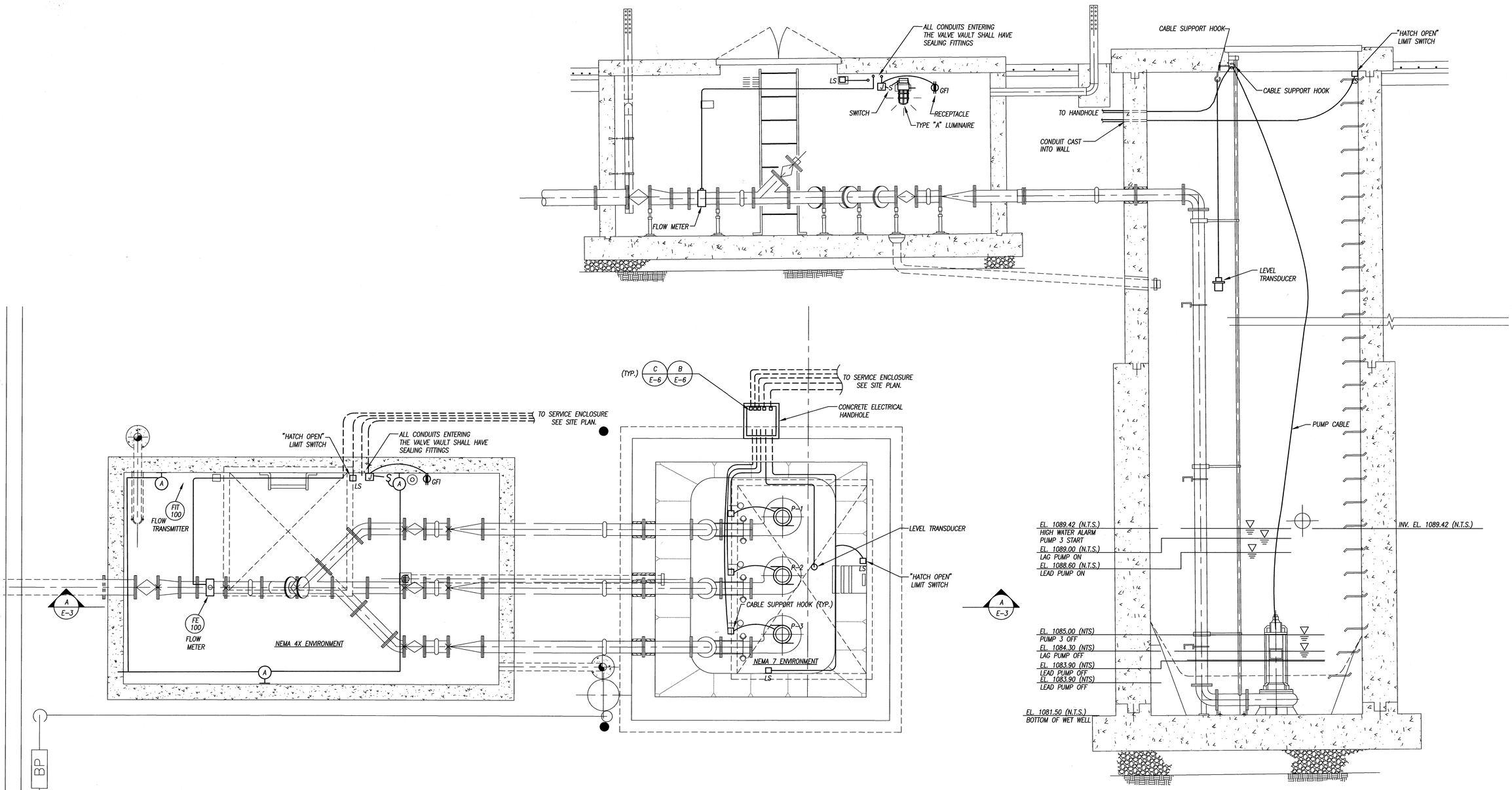
ELECTRICAL SITE PLAN

SHEET NO. E-2 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

INDEXED 5-02-07



WET WELL/VAULT PLAN

SCALE: 1/2" = 1'

SECTION (A E-3)

SCALE: 1/2" = 1'

CALL BEFORE YOU DIG USA 800-227-2600

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
		ENGINEER		COUNTY	

SEAL-COUNTY

REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL

REGISTERED PROFESSIONAL ENGINEER DENNIS M. DARLING 62331 ELECTRICAL STATE OF CALIFORNIA

Stantec

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE:

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/20/07

BENCHMARK DATUM
NAVD 88 921.388
BENCHMARK
CITY OF RIVERSIDE B.M. 28-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 | PW05-0064

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

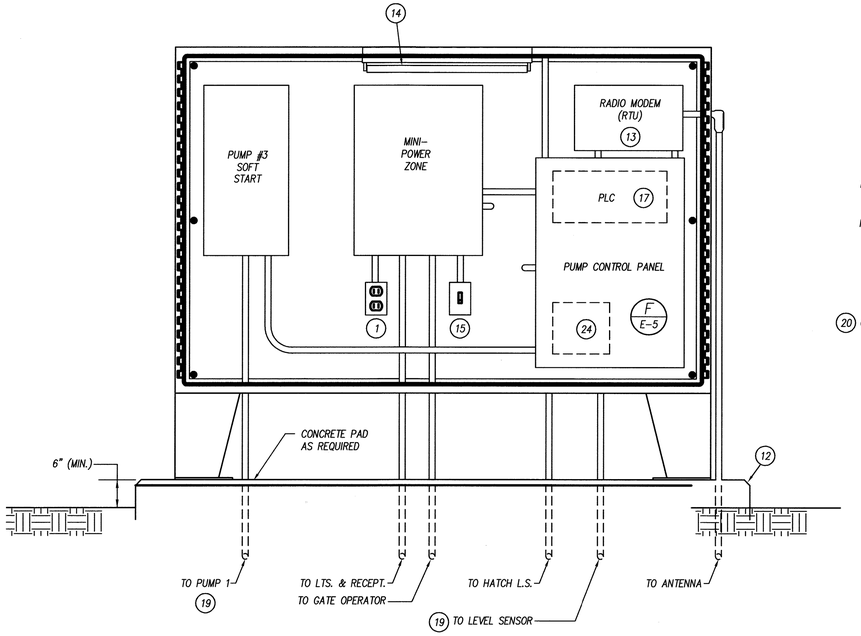
ELECTRICAL
FLOOR PLAN & SECTION

SHEET NO. E—3 OF 20 SHTS.

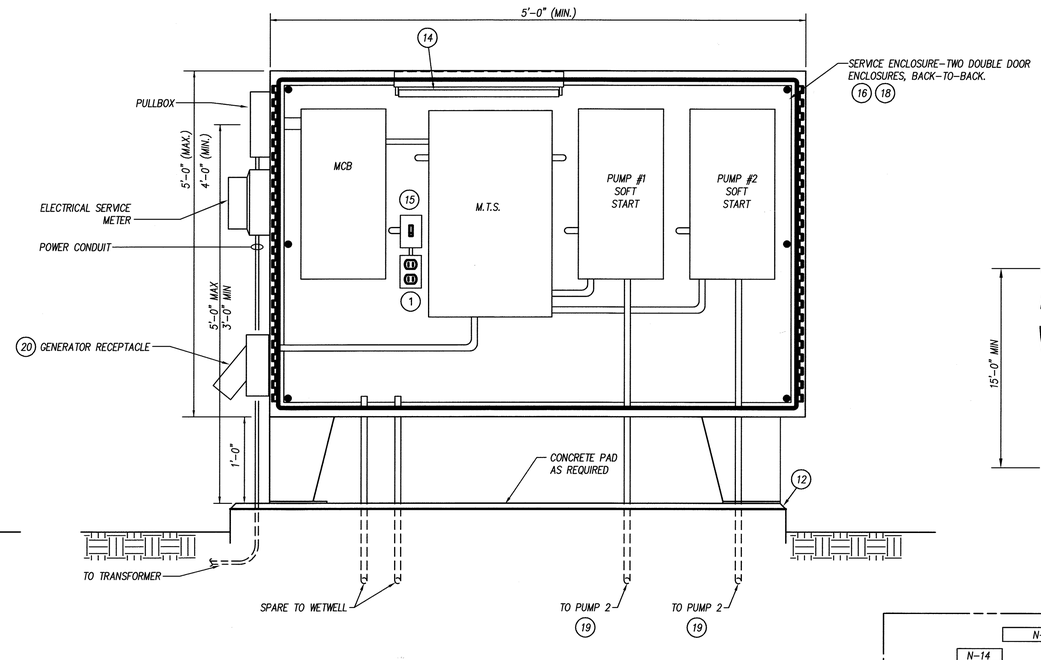
FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

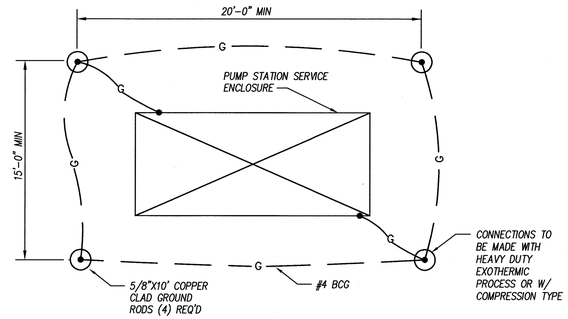
INDEXED 5-02-07 LFH



FRONT VIEW (E, E-5)



REAR VIEW (D, E-5)



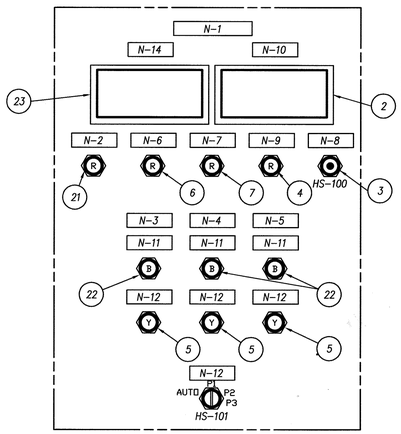
TYPICAL PUMP STATION GROUNDING

1. DUPLEX RECEPTACLE (20A GFCI)
2. WET WELL L.C.D. LEVEL INDICATOR
3. ALARM ACKNOWLEDGE PUSHBUTTON
4. HIGH WET WELL ALARM LIGHT
5. SEAL FAIL LIGHT
6. LOW WET WELL LEVEL LIGHT
7. HIGH WET WELL LEVEL LIGHT
12. 3/4" CHAMFER. TYP. ALL SIDES.
13. MOTOROLA MOSCAD WIRELESS TELEMETRY EQUIPMENT
14. FLUORESCENT LIGHT FIXTURE. HOFFMAN (LOW PROFILE) APX WITH 18 WATT LAMP (F15T8)
15. LIGHT SWITCH
16. NEMA 3R ENCLOSURE
17. MODICON QUANTUM PLC.
18. DOUBLE DOORS WITH LOCKING HANDLES (TYP.)
19. CONTROL CONDUIT AND CONDUCTORS FOR PUMPS. COORDINATE WITH PUMP MANUFACTURER.
20. GENERATOR RECEPTACLE. COORDINATE WITH CITY OF RIVERSIDE'S GENERATOR.
21. CONTROL PANEL AVAILIABLE LIGHT
22. RUNNING LIGHT
23. FLOW INDICATOR
24. FLOW METER CONTROLLER

NOTE: EXTERIOR DOOR(S) REMOVED FOR CLARITY

SUBMERSIBLE PUMP STATION SERVICE ENCLOSURE LAYOUT

SEE ONE-LINE FOR CONDUIT SIZES AND WIRE FILL INFORMATION.



PUMP CONTROL PANEL LAYOUT (F, E-5)

NAMEPLATE LEGEND

NO.	INSCRIPTION
N-1	MAIN CONTROL PANEL - MCP
N-2	CONTROL POWER AVAILABLE
N-3	PUMP 1
N-4	PUMP 2
N-5	PUMP 3
N-6	LOW LEVEL
N-7	HIGH LEVEL
N-8	ALARM ACKNOWLEDGE
N-9	HIGH LEVEL ALARM
N-10	WET WELL LEVEL
N-11	RUNNING
N-12	SEAL FAIL
N-13	MANUAL OVERRIDE SWITCH
N-14	STATION FLOW

CALL BEFORE YOU DIG USA 800-227-2600

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY

REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/08 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL

REGISTERED PROFESSIONAL ENGINEER DENNIS M. DARLING 62331 ELECTRICAL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 200
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE:

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 PW05-0064

BENCHMARK DATUM
NAVD 88 921.308
BENCHMARK
CITY OF RIVERSIDE B.M. JB-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. ON NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

ELECTRICAL SERVICE ENCLOSURE DETAILS

SHEET NO. E-5 OF 20 SHTS.

FOR: W.O. COUNTY FILE NO.

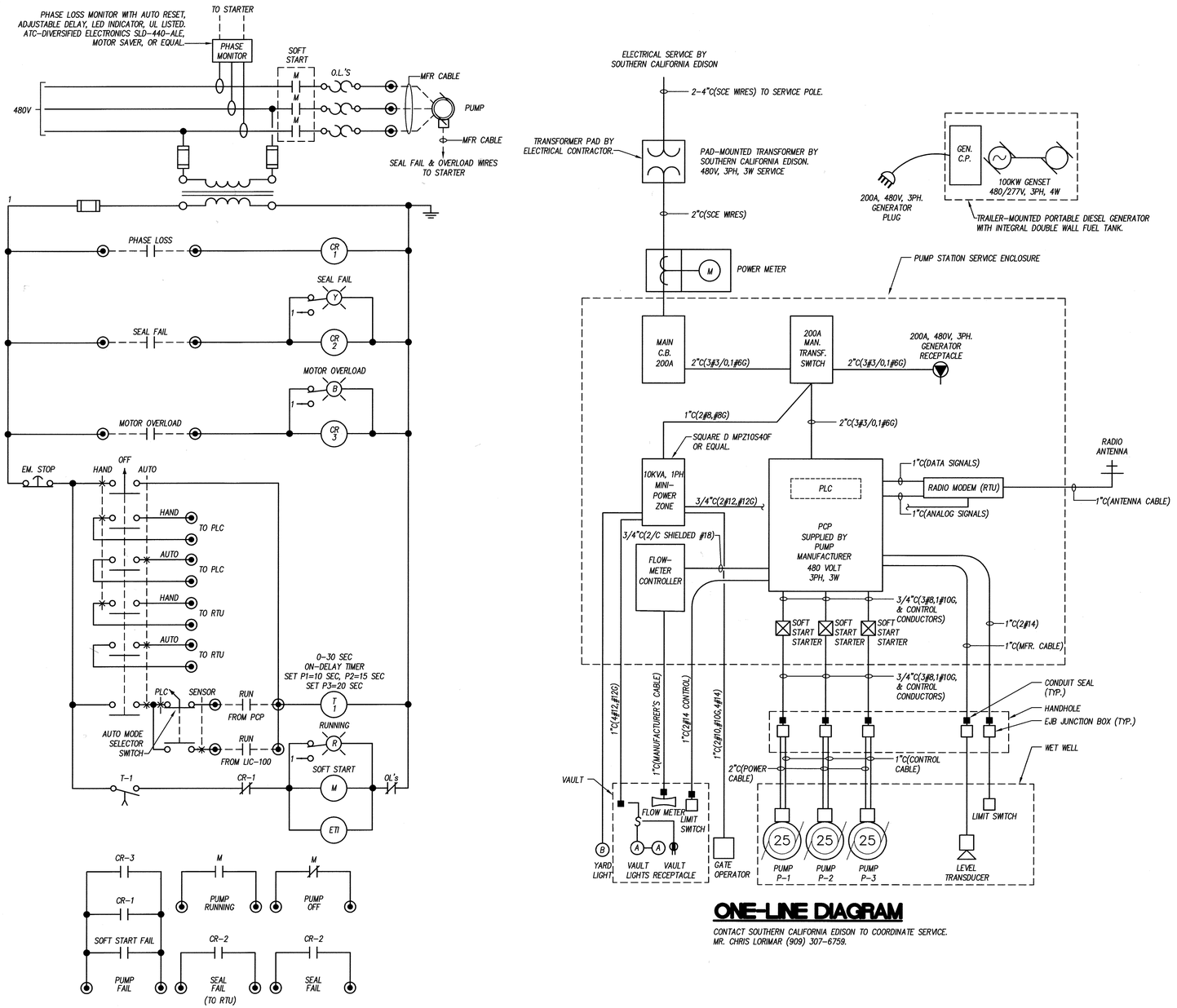
PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

Indexed 5-02-07 GH

MPZ

LOCATION: SERVICE ENCLOSURE
MOUNTING TYPE: SURFACE
PRIMARY CB RATING: 40A
SECONDARY CB RATING: 60A
VOLTAGE: 120/240VAC, 1ø, 3W
TRANSFORMER SIZE: 10KVA

CIRC. NO	LOAD DESCRIPTION	BRKR. SIZE	BRKR. SIZE	LOAD DESCRIPTION	CIRC. NO
1	CONTROL ENCLOSURE RECEPTACLES	20	20	RADIO MODEM	2
3	VAULT GFCI RECEPTACLE	20	30	GATE OPERATOR	4
5	VAULT LIGHTS	20	20	YARD LIGHT	6
7	CONTROL ENCLOSURE LIGHTS	20	20	SPARE	8
9	SPARE	20	20	SPARE	10



TYPICAL PUMP MOTOR STARTER

NONSCALABLE

ONE-LINE DIAGRAM

CONTACT SOUTHERN CALIFORNIA EDISON TO COORDINATE SERVICE.
MR. CHRIS LORIMAR (909) 307-6759.

CALL BEFORE YOU DIG 811 or 800.227.2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 | PW05-0064

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COUNTY OF RIVERSIDE
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PREPARED BY: JEFFREY T. DUNN
R.C.E. NO. 58455
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COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

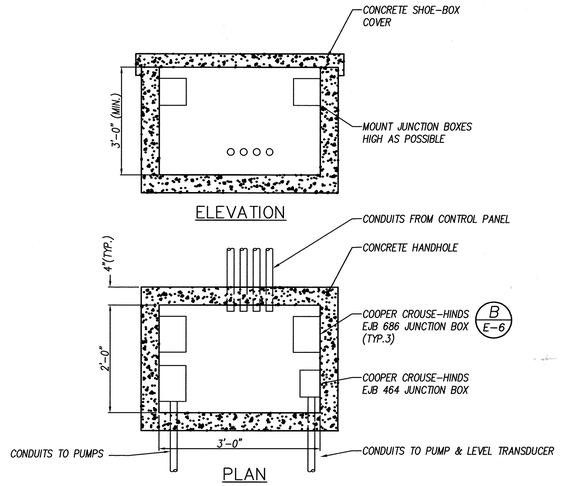
ELECTRICAL WIRING DIAGRAMS

SHEET NO. E-4
OF 20 SHTS.

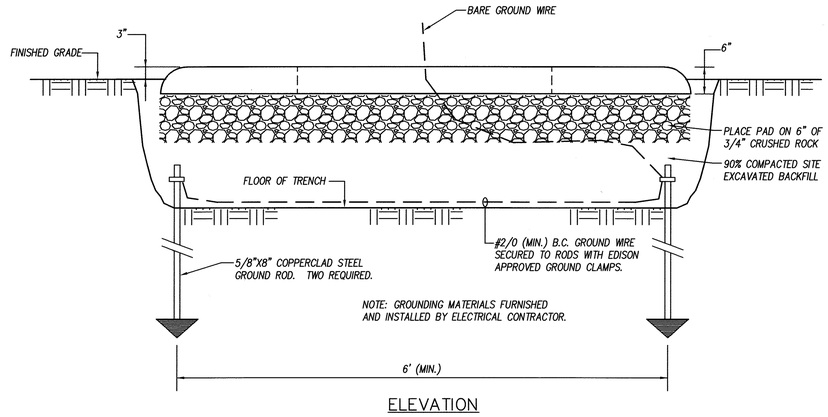
FOR: | W.O. | COUNTY FILE NO.

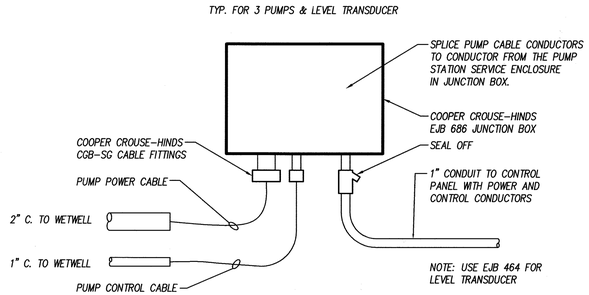
PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

INDEXED 5-02-07 KH

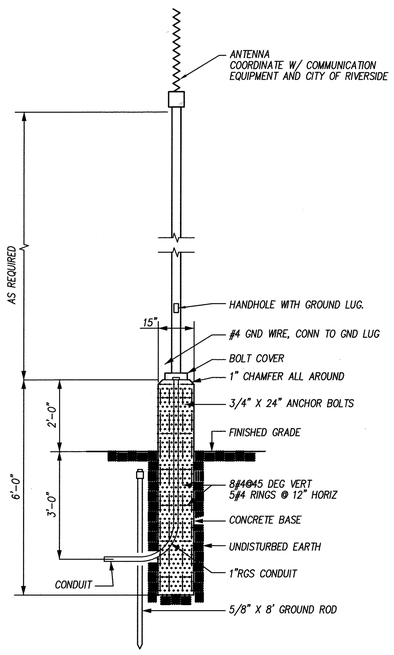


ELECTRICAL HANDHOLE DETAIL (C, E-6)
NO SCALE

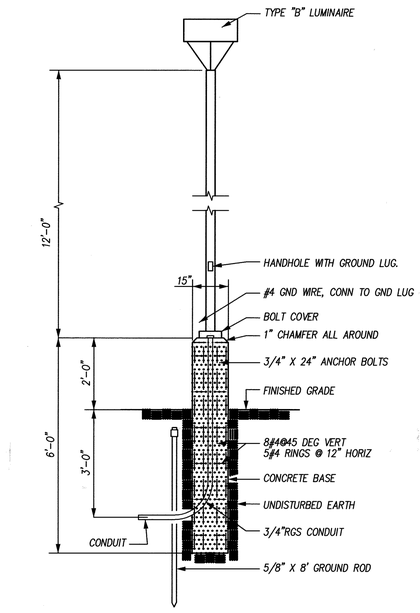




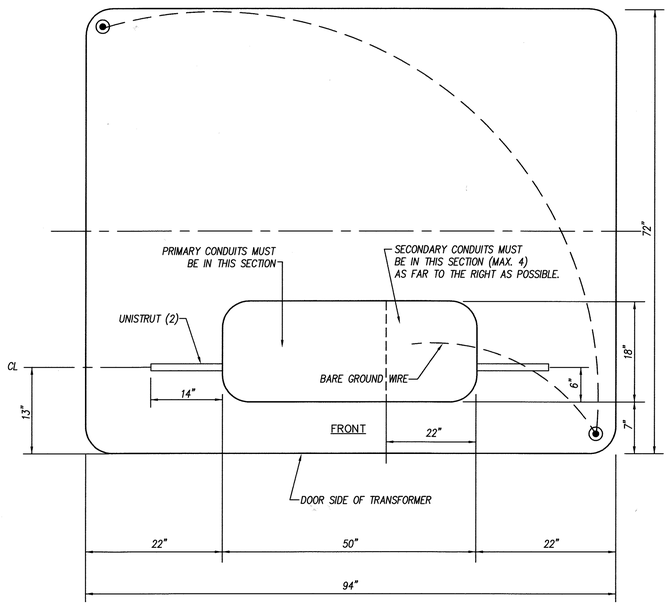
SPLICE BOX DETAIL (B, E-2)
NO SCALE



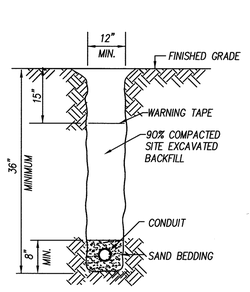
ANTENNA & FOUNDATION DETAIL (H, E-2)
NO SCALE

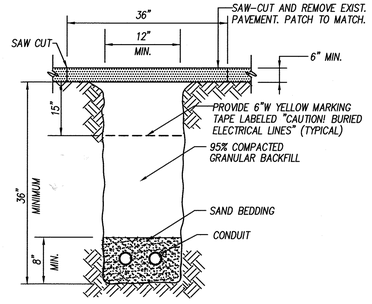


TYPE "B" LUMINAIRE, POLE AND BASE DETAIL (G, E-6)
NO SCALE



PRECAST SCE TRANSFORMER PAD DETAIL (F, E-6)
NO SCALE





SEE PLAN FOR NUMBER OF CONDUITS AND SIZE.

CALL BEFORE YOU DIG 800-227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/20/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 | PW05-0064

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER — KHALED A. OTHMAN — No. 33950 Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — DENNIS M. DARLING — 62331 — ELECTRICAL — STATE OF CALIFORNIA

STANTEC CONSULTING INC.
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760.891.3200
stantec.com
PREPARED BY:
JEFFREY T. DUNN
R.C.E. NO. 58455
DATE:

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NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JB-03
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COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

ELECTRICAL DETAILS

SHEET NO. E-6
OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

INDEXED 5-02-07 GH

GRAPHIC SYMBOLS FOR INSTRUMENTATION ITEMS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DEVICE MOUNTED ON PANEL		GENERAL USE DISCONNECTION SWITCH		MOMENTARY PUSHBUTTON OPERATOR – NORMALLY CLOSED
	BOARD OR PANEL MOUNTED DEVICE – DEVICE MOUNTED INSIDE PANEL		TIMED CLOSED CONTACT ON ENERGIZATION		MOMENTARY PUSHBUTTON OPERATOR – NORMALLY OPEN
	FIELD OR LOCALLY MOUNTED DEVICE		TIMED OPEN CONTACT ON ENERGIZATION		SELECTOR SWITCH – NORMALLY OPEN
	PROGRAMMED FUNCTION NOT NORMALLY ACCESSIBLE TO OPERATOR		TIMED OPEN CONTACT ON DE–ENERGIZATION		PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
	PROGRAMMED FUNCTION ACCESSIBLE THROUGH OPERATOR'S INTERFACE DEVICE		TIMED CLOSED CONTACT ON DE–ENERGIZATION		SOLENOID OR CLUTCH
	COMPUTER SYSTEM INPUT OR OUTPUT POINT		FLOAT ACTUATED SWITCH – NO		THERMAL OVERLOAD
	INTERLOCKING		FLOAT ACTUATED SWITCH – NC		A–C SURGE PROTECTOR
XOR	EXCLUSIVE OR		PRESSURE ACTUATED SWITCH – NC		HORN
A	ALTERNATOR		PRESSURE ACTUATED SWITCH – NO	(F)	FIELD LOCATED
OR	OR		FLOW ACTUATED SWITCH – NO		LOW VOLTAGE FUSE
AND	AND		FLOW ACTUATED SWITCH – NC		CIRCUIT BREAKER WITH STAB CONNECTION
S	MOTOR STARTER		TEMPERATURE SWITCH – NC		CONTROL POWER TRANSFORMER
P	PURGE		TEMPERATURE SWITCH – NO		TWO COIL LATCHING RELAY
L	COMPLEX LOGIC		LIMIT SWITCH – NORMALLY OPEN		RECEPTACLE
	TERMINAL OR TRANSITION POINT		LIMIT SWITCH – NORMALLY OPEN – HELD CLOSED		SELECTOR SWITCH OPERAOR WITH FUNCTION SHOWN
	FLOAT SWITCH		LIMIT SWITCH – NORMALLY CLOSED – HELD OPEN		MAINTAINED PUSH–PULL OPERATOR
	PARSHALL FLUME		LIMIT SWITCH – NORMALLY CLOSED		MAINTAINED STOP–START PUSHBUTTON OPERATOR
	MIXER		CONTROL RELAY CONTACT – NORMALLY OPEN		DIODE RECTIFIER OR D–C SURGE PROTECTOR
	SEAL		CONTROL REALY CONTACT – NORMALLY CLOSED		
	PROCESS MACHINERY MOTOR		LIGHTNING ARRESTOR		
	VENTURI OR INSERT FLOW TUBE	ETI	ELAPSED TIME INDICATOR		
	IN–LINE FLOW ELEMENT (PROPELLER TYPE)	T	TIMING RELAY COIL		
	IN–LINE FLOW ELEMENT (MAGNETIC TYPE)	T	TIMED RELAY COIL (OFF–DELAY)		
	IN–LINE FLOW ELEMENT (ULTRA SONIC)	G	INDICATING LIGHT		
	FLOW ORIFICE		PUSH–TO–TEST INDICATING LIGHT		
	TURBIDIMETER		BATTERY		
	ROTAMETER	X1 X2	SECONDARY TRANSFORMER		
	PUMP		VARIABLE RESISTOR		
	BLOWER		RESISTOR		
			MOLDED CASE CIRCUIT BREAKER		
			SPEED SWITCH		

GRAPHIC SYMBOLS FOR VALVES

SYMBOL	DESCRIPTION
	STROKE OR POSITION ACTUATOR CYLINDER (OPEN–SHUT)
	STROKE OR POSITION ACTUATOR CYLINDER (THROTTLING)
	PNEUMATIC DIAPHRAGM OR POSITIONER (OPEN–SHUT)
	PNEUMATIC DIAPHRAGM OR POSITIONER (THROTTLING)
M	MOTOR OPERATED (THROTTLING)
M	MOTOR OPERATED (OPEN–SHUT)
	SLIDE–STOP GATE
	SLUICE GATE
	AIR SET ASSEMBLY
	BALL VALVE
	GLOBE VALVE
	GATE VALVE OR KNIFE GATE
	CHECK VALVE
	PLUG VALVE
	BUTTERFLY VALVE, DAMPER OR LOUVER
S	TWO–WAY SOLENOID VALVE OPERATOR
M	ELECTRIONICALLY CONTROLLED CHECK VALVE
S D	TWO–WAY SOLENOID VALVE OPERATOR – DETENTED
S	THREE–WAY SOLENOID VALVE OPERATOR
S	FOUR–WAY SOLENOID VALVE OPERATOR

I.S.A. STANDARD LETTER FUNCTIONS

SYMBOL	FIRST LETTER	SUCEEDING LETTERS
A	ANLYSIS, ANALOG	ALARM
B	BURNER, FLAME	BATCH
C	CONDUCTIVITY, COMMAND	CONTROL (FEEDBACK TYPE)
D	DENSITY, SPECIFIC GRAVITY	
E	VOLTAGE	PRIMARY ELEMENT
F	FLOW RATE	RATIO
G	GAGING	GLASS
H	HAND, MANUAL	HIGH
I	CURRENT	INDICATE
J	POWER	SCAN
K	TIME, TIME SCHEDULE	CONTROL (NO FEEDBACK)
L	LEVEL, LIGHT	LOW
M	MOISTURE, HUMIDITY	MIDDLE, MODULATE
N		
O	OVERLOAD	ORIFICE
P	PRESSURE, VACUUM	POINT
Q	QUANTITY	TOTALIZE, INTEGRATE
R	RADIOACTIVITY	RECORD, PRINT, RECIEVE
S	SPEED, FREQUENCY, SOLENOID	SWITCH
T	TEMPERATURE, TURBIDITY	TRANSMIT, TRANSFORM
U	MULTIVARIABLE	MULTIFUNCTION
V	VIBRATION, VISCOSITY	VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE	
X		
Y		RELAY, COMPUTE
Z	POSITION	DRIVE, ACTUATE

ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
R	RESET	%	GAIN OR PROPORTIONAL CONTROL
T	TRIP	∫	INTEGRAL OR RESET CONTROL
AS	AIR SUPPLY	D	DERIVATIVE OR RATE CONROL
DO	DISSOLVED OXYGEN	V	VELOCITY AT ALGONITHM
GS	GAS SUPPLY	1–0	ON–OFF CONTROL
HS	HYDRAULIC SUPPLY	√	SQUARE ROOT EXTRACTOR
NS	NITROGEN SUPPLY	Σ	ADD OR TOTALIZE
ORP	OXYGEN REDUCTION POTENTIAL	△	SUBTRACT OR DIFFERENCE
SS	STEAM SUPPLY	>	HIGH MEASURED VARIABLE
SP	SET POINT	<	LOWEST MEASURED VARIABLE
WS	WATER SUPPLY	E/I, I/P	CONVERT ONE TO ANOTHER
PV	PROCESS VARIABLE	X, ÷	MULTIPLY, DIVIDE
F.O.	FAIL OPEN	±	BIAS OR REVERSING
F.C.	FAIL CLOSE	f(x)	CHARACTERIZE – (EQUATION/ /D/%/ETC.)

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CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893

WDID No. 833C327881 | PW05-0064

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Exp. 6/30/06
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STATE OF CALIFORNIA

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COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

INSTRUMENTATION
LEGEND, ABBREVIATIONS

SHEET NO. 1–1
OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

Indexed 5-02-07 LH

PUMP STATION FUNCTIONAL REQUIREMENTS

LEVEL SENSOR/CONTROLLER –
- SHALL PROVIDE ANALOG LEVEL INPUT TO THE PLC
- SHALL PROVIDE ON & OFF STARTING OF PUMPS IN THE EVENT OF PLC FAILURE.
- SHALL PROVIDE ALTERNATION OF PUMPS IN EVENT OF PLC FAILURE.
- SHALL PROVIDE ULTRASONIC FAILURE INPUT TO RTU.

PROGRAMMABLE LOGIC CONTROLLER (PLC) –
- SHALL PROVIDE STARTING AND STOPPING OF THE PUMPS IN AUTO.
- SHALL PROVIDE ALTERNATION OF THE PUMPS AFTER EACH CYCLE.
- RECOGNIZE LEVEL SENSOR FAILURE AND PROVIDE INPUT TO THE RTU.
- SHALL RECOGNIZE PUMP HAND SWITCH POSITION AND ADJUST CONTROL LOGIC.
- SHALL PROVIDE ALL TIMING FUNCTIONS.
- SHALL PROVIDE OUTPUT TO THE RTU FOR LOW LEVEL ALARM.
- SHALL PROVIDE INPUT TO THE RTU IN THE EVENT OF SEAL FAILURE OF EACH PUMP.
- SHALL PROVIDE INPUT TO THE RTU IN THE EVENT OF THERMAL OVERLOAD.
- SHALL CALL LAG PUMP IF REQUIRED.
- SHALL PROVIDE INPUT TO THE RTU INDICATING PUMP FAILURE AND IDENTIFYING THE PUMP.
- SHALL PROVIDE OUTPUT TO THE RTU FOR HIGH LEVEL ALARM.

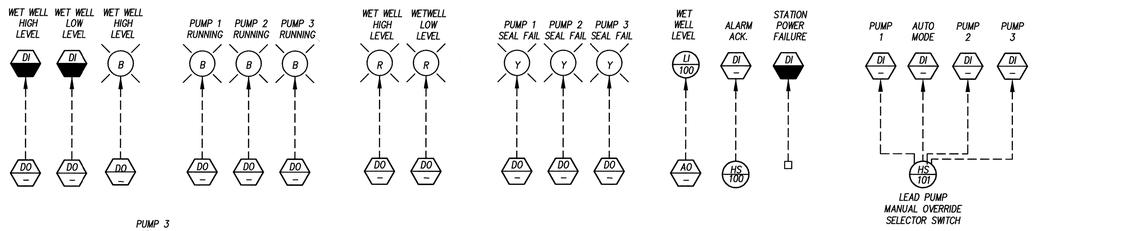
A 4–POSITION SELECTOR SWITCH SHALL INTERFACE WITH THE PLC TO PROVIDE FOR MANUAL OVERRIDE OF THE AUTOMATIC CHANGING OF LEAD AND LAG PUMPS, IN THE EVENT OF PUMP FAILURE (I.E. AUTO – PUMP 1 – PUMP 2 – PUMP 3).

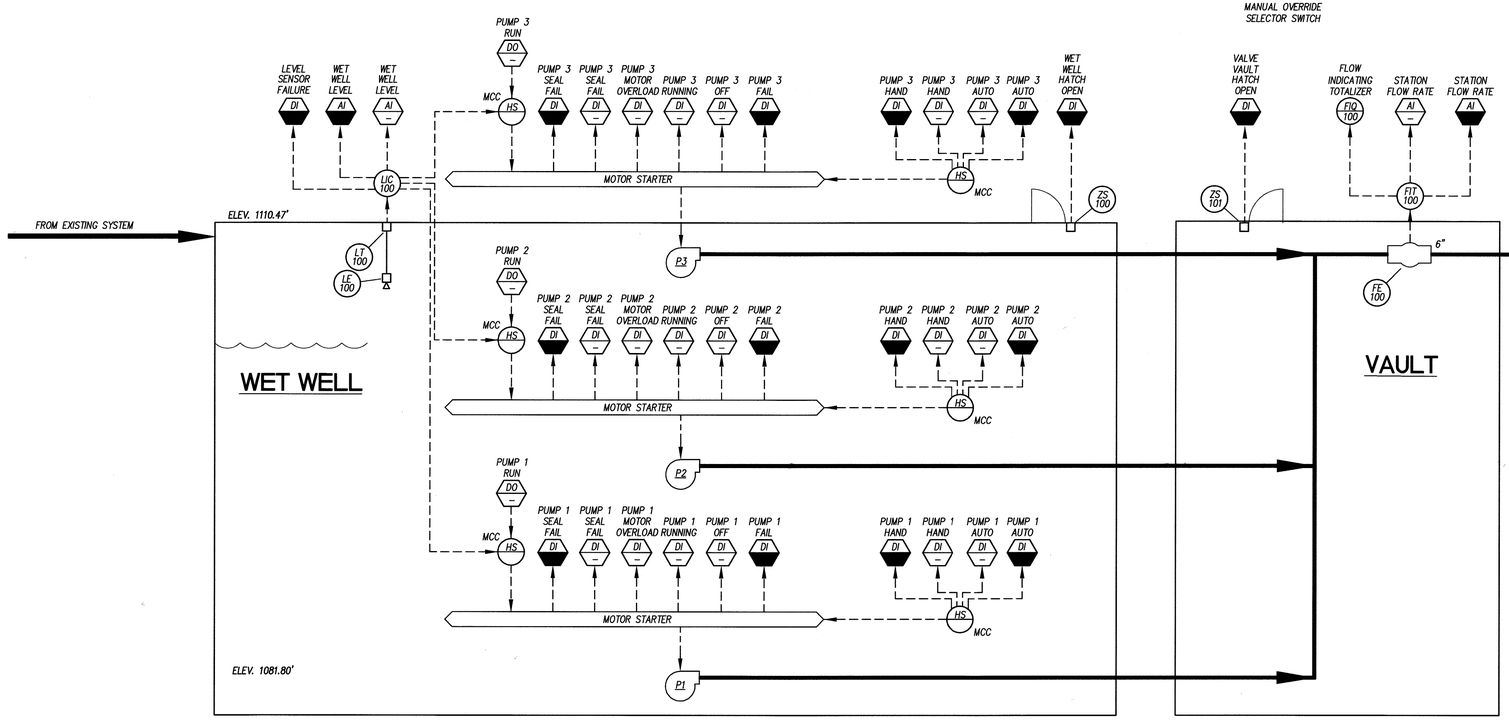
CONTROLS –
- A MANUAL BYPASS SHALL BE PROVIDED FOR WATER LEVELS, PLC, LEVEL SENSOR, ETC. AND SHALL DIRECTLY ENERGIZE THE MOTOR STARTERS.

THE AUTO FUNCTION SHALL BE CONTROLLED BY THE PLC OR IN THE EVENT OF A PLC FAILURE, THE LEVEL SENSOR CONTROLLER WILL START, STOP AND ALTERNATE LEAD AND LAG PUMPS.

RADIO TELEMETRY UNIT (RTU) –
- SHALL MONITOR ONLY, NOT CONTROL.
- SHALL TRANSMIT DYNAMIC WETWELL LEVEL (ANALOG OUTPUT).
- SHALL INDICATE LOW AND HIGH LEVEL.
- SHALL INDICATE STATION ENTRY.
- SHALL INDICATE AC FAILURE.
- SHALL INDICATE INDIVIDUAL PUMP FAILURE.
- SHALL INDICATE PUMP SELECTOR SWITCH IN AUTO OR HAND POSITION.
- SHALL INDICATE PUMP STATUS.
- SHALL INDICATE LEVEL SENSOR FAILURE.
- SHALL INDICATE MOTOR SEAL FAILURE.

XX / – = PLC INPUT OR OUTPUT XX = RTU INPUT





INSTRUMENTATION FLOW DIAGRAM

(PROCESS VALVES NOT SHOWN)

Pigeon Pass Lift Station Sequence of Operation

The Pump Station is equipped with three (3) pumps. The pump station will be utilized to pump wastewater from the wetwell to the next lift station downstream.

The pumps will be turned on or off by starters in a pump control panel, based on the level of wastewater in the wetwell as sensed by a level transducer.

The pumps are designated as P1, P2 and P3. The pump start sequence will be automatically alternated after each normal run cycle, i.e., the first cycle will be P1, P2, P3; then P2, P3, P1; then P3, P1, P2; and so on. The start/stop sequence is proposed as following:

	Start Sequence	Stop Sequence	Remarks
Normal Operation	Lead pump starts when wastewater level exceeds elev. 1088.60' Lag pump 1 starts when wastewater level exceeds elev. 1089.00' Lag pump 2 starts when wastewater level exceeds elev. 1089.42'	Lead pump stops when wastewater level drops below elev. 1083.90' Lag pump 1 stops when wastewater level drops below elev. 1083.30' Lag pump 2 stops when wastewater level drops below elev. 1085.00'	
Alarm Conditions	High level alarm activated when wastewater level exceeds elev. 1089.42' Low level alarm activated when wastewater level exceeds elev. 1083.50'	All alarm signals shall be acknowledged by remote or local control center, but can only be reset at local control center.	
Emergency Conditions	Any pump shall start when activated at the remote control center.	Any pump shall stop when deactivated at the remote control center.	
Alarm for pump operation	Power outage. Pump failure.	All alarm signals shall be acknowledged by remote or local control center, but can only be reset at local control center.	

NOTES:

1. THE LEVEL MEASURING DEVICE, LE–100, SHALL BE A MILLTRONICS HYDRORANGER ULTRASONIC MEASURING DEVICE.
2. THE STATION SHALL BE CONTROLLED BY A MODICON QUANTUM PROGRAMMABLE LOGIC CONTROLLER (PLC).
3. THE STATION SHALL BE EQUIPPED WITH A MOTOROLA MOSCAD RADIO TELEMETRY UNIT (RTU). THE TELEMETRY SYSTEM SHALL INCLUDE ALL REQUIRED RADIO ANTENNAS, TOWERS, CABLES AND APPURTENANCES.
4. THE RTU SHALL BE INSTALLED AND FULLY FUNCTIONAL PRIOR TO ACCEPTANCE BY THE CITY OF RIVERSIDE.
5. THE CITY OF RIVERSIDE APPROVED INTEGRATOR SHALL COORDINATE AND PAY FOR THE INTEGRATION OF THIS RTU INTO THE CITY OF RIVERSIDE'S EXISTING SCADA SYSTEM.
6. CONTROL SYSTEM INTEGRATION WITH THE CITY OF RIVERSIDE'S SCADA SYSTEM SHALL BE PERFORMED BY AN INTEGRATOR APPROVED BY THE CITY OF RIVERSIDE.
7. THE INTEGRATOR SHALL PROVIDE A COPY OF THE PROPOSED PLC PROGRAM TO THE CITY OF RIVERSIDE FOR REVIEW PRIOR TO CONSTRUCTION. A FULLY ANNOTATED COPY OF THE PLC PROGRAM SHALL BE PROVIDED, BOTH IN ELECTRONIC FORMAT AND HARD COPY PRINTED FORMAT UPON PROJECT COMPLETION.

CALL BEFORE YOU DIG 811 800-227-2600

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL–COUNTY: REGISTERED PROFESSIONAL ENGINEER, KHALED A. OTHMAN, No. 33950, Exp. 6/30/06, CIVIL, STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER, DENNIS M. DARLING, 62331, ELECTRICAL, STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY:
JEFFREY T. DUNN
R.C.E. NO. 58455
DATE:

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 | PW05-0064

BENCHMARK DATUM
NAVD 88 921.386
BENCHMARK
CITY OF RIVERSIDE B.M. 18-13
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

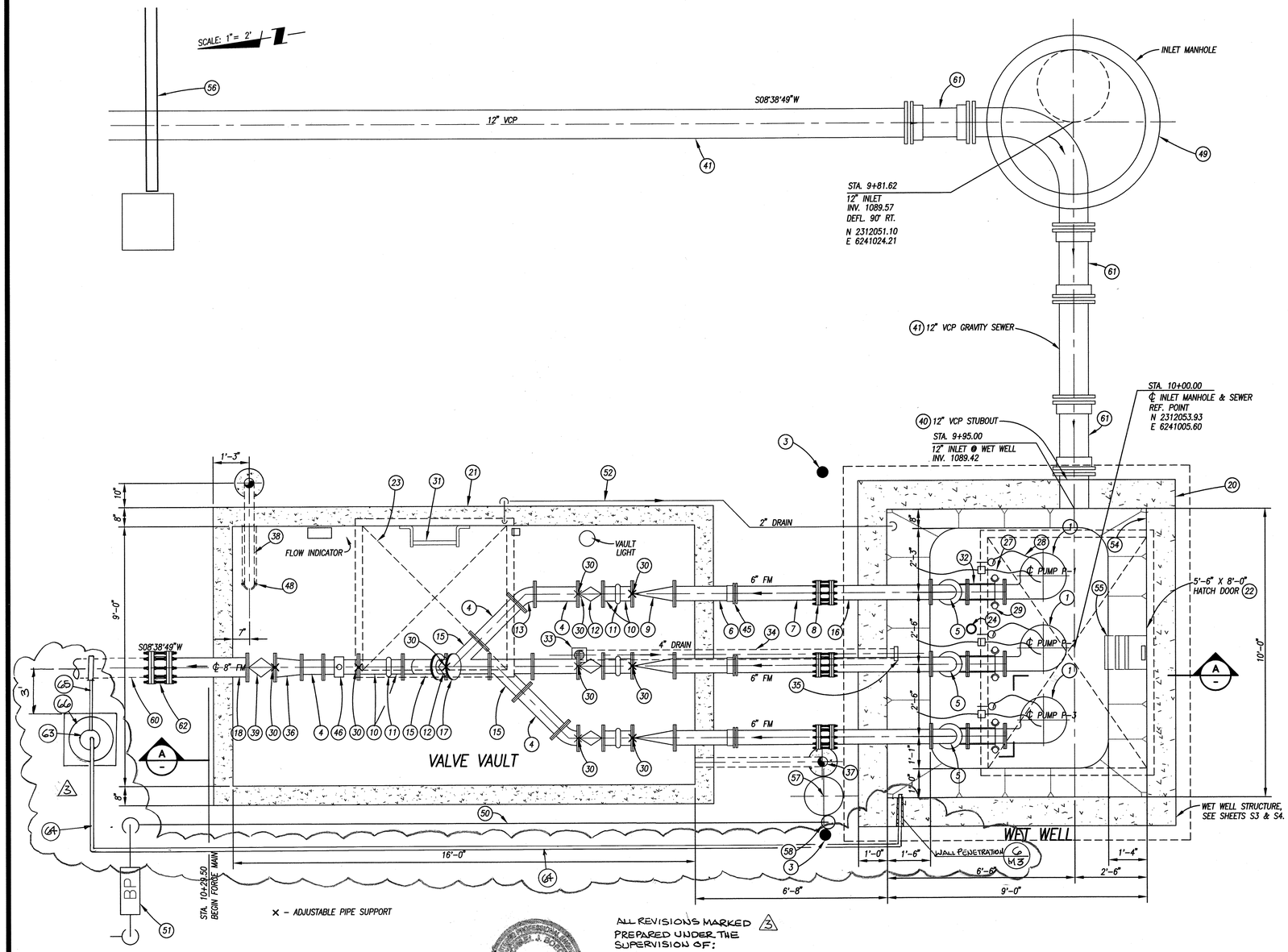
INSTRUMENTATION FLOW DIAGRAM

SHEET NO. 1–2
OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

INDEXED 5-02-07 FH



CONSTRUCTION NOTES:

1. SUBMERSIBLE VORTEX PUMP, 341 GPM @ 84' TDH, WITH 25 HP, 1750 RPM, 460 VOLTS/3 PHASE/60 HZ SUBMERSIBLE EXPLOSION-PROOF MOTOR, ESSCO MODEL No. 4x12 TF 7 VANES OR APPROVED EQUAL.
3. 5" GUARD POST, SEE DETAIL 3/M3
4. 6" D.I. PIPE, FLG X FLG
5. 6"-90° D.I. ELBOW, FLG'D
6. 6" D.I. PIPE, FLG X BE
7. 6" D.I. PIPE, PE X PE
8. 6" RESTRAINED FLANGED FLEXIBLE COUPLING, EPOXY COATED, WITH 316 S.S. BOLTS & 4 TIE RODS.
9. 6" SWING CHECK VALVE, WITH LEVER & AIR CUSHION DEVICE, APCO SERIES 6000.
10. 6" D.I. SPOOL, FLG X GVD
11. 6" VICTAULIC COUPLING, STYLE 31 W/ RESTRAINING RODS (4).
12. 6" ECCENTRIC PLUG VALVE, MILLIKEN #600, MILLCENTRIC OR CITY OF RIVERSIDE APPROVED EQUAL.
13. 6"-45° L.R. ELBOW, D.I., FLG'D.
15. 6"x6" 45° WYE, D.I., FLG'D.
16. 6" D.I. PIPE, FLG. X PE.
17. 6" COMPANION FLANGE W/ SHORT NIPPLE & FEMALE CAMLOCK ADAPTER WITH MALE CAMLOCK PLUG.
18. 8" D.I. PIPE, FLG. X PE.
20. 9' x 10' CONCRETE WET WELL, DESIGNED FOR H-20 BRIDGE LOADING.
21. 9'-0"x16'-0" PRECAST CONCRETE VAULT DESIGNED FOR H-20 BRIDGE LOADING. SEE NOTE 4 SHT M-1. FOR LADDER, SEE DETAIL 2, SHT. M4 (2/M4)
22. 5'-6"Wx8'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-3AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
23. 5'-0"Wx5'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-4AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
24. SONIC LEVEL SENSOR (MILLTRONICS).
27. POWER CABLE WITH EXTENDED LENGTH AS REQUIRED.
28. STAINLESS STEEL PUMP LIFTING CABLE W/ EXTENDED LENGTH AS REQ'D.
29. STAINLESS STEEL PIPE GUIDE RAIL W/ EXTENDED LENGTH AS REQ'D.
30. 6" ADJUSTABLE PIPE SUPPORT, GRINNELL FIG. 264 PER IRWD W-24.
31. GALV. STL. LADDER, ALHAMBRA FDY. No. A-3400.
32. INTERMEDIATE GUIDE RAIL BRACKETS (S.S.) PER PUMP MFR'S DESIGN.
33. 4" FLOOR DRAIN, CLOW MODEL F-3946.
34. 4" PVC PIPE DRAIN, SCH. 80.
35. 4" FLAP VALVE, CLOW MODEL F-3016.
36. 8" X 6" REDUCER, FLG. X FLG.
37. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR EXHAUST)
38. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR INTAKE)
39. 8" ECCENTRIC PLUG VALVE, DEZURIK SERIES 118 MILLCENTRIC (2/)
40. 12" VCP STUBOUT
41. 12" VCP PIPE, EXTRA STRENGTH
45. 6" D.I. RESTRAINED FLANGE ADAPTOR
46. 6" MAGNETIC FLOW METER WITH LOCAL FLOW INDICATOR & REMOTE TRANSMITTER, WATER SPECIALTIES #UM06-R OR APPROVED EQUAL. (2/)
48. PIPE ANCHOR, SEE DETAIL 2/M3
49. 60" I.D. CONCRETE MANHOLE WITH 30" DIA. C.I. FRAME AND COVER.
50. 1" WATER LINE, COPPER TYPE K HARD.
51. 1" BACK FLOW PREVENTOR WITH BALL VALVES AND FITTINGS.
52. 2" DRAIN LINE, COPPER TYPE K HARD.
54. ZEBRON COATING INSIDE WET WELL, PER MANUFACTURER'S REQUIREMENTS.
55. 316 STAINLESS STEEL STIRRUP STEPS PER CITY OF RIVERSIDE STANDARD DRAWING No. 500
56. 16'x8'H ENTRANCE SLIDING GATE W/ ELECT. OPERATOR & INTRUSION ALARM.
57. YARD LIGHT POLE, SEE DETAIL G/E6
58. 3/4" HOSE BIBB PER APWA STD. PLAN 505 W/ ANTI SIPHON DEVICE.
60. 8" PVC FORCEMAIN, C-900, CL150.
61. 12" GRAVITY SEWER PIPE COUPLING
62. 8" DIP TO PVC TRANSITION COUPLING
63. 2" AIR RELEASE VALVE "VAL-MATIC SERIES NO. 49A (4/M3)
64. 1" SCH 80 PVC PIPE (3/)
65. 2" SCH 80 PVC PIPE
66. AIR VALVE ENCLOSURE PER DETAIL 5/M3

GENERAL NOTES:

THE VALVE VAULT MAY BE PRE-CAST OR CAST IN PLACE. IN EITHER CASE, THE CONTRCTOR SHALL DESIGN THE VAULT AND BASE STRUCTURES AND HAVE THE BASE CAST IN PLACE AND FORMED TO FIT THE VAULT WALLS. THE VAULT STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND MAXIMUM EARTH AND H-20 LOAD. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ALL DESIGN CALCULATIONS AND PLANS FOR REVIEW AND APPROVAL.

ANY OPENINGS IN THE WET WELL WALLS SHALL BE SEALED WITH LINKSEAL AND GROUTED WATERTIGHT.

PIPES THROUGH CAST IN PLACE CONCRETE WALL SHALL BE CAST IN WALL.

2. PRE-CAST CONCRETE VAULT SHALL BE PROVIDED AND DESIGNED BASED ON THE FOLLOWING:
3. CODE: 2001 C.B.C. (CALIFORNIA BUILDING CODE TITLE) CCR, TITLE 24, PART 2
4. GRAVITY LOADS:

1. LIFT STATION ROOF LIVE LOAD HS20 LOADING

LATERAL LOADS: SEE GEOTECH REPORT BY CHJ INC.

1. SEISMIC ZONE 4

SEISMIC SOURCE TYPE A
DISTANCE TO CRITICAL SOURCE = 5 Km
Ca = 0.53
Na = = 1.2
Cv = 1.02
Nv = 1.6
R = 4.5

SEISMIC BASE SHEAR:
V = 0.293W (ULTIMATE DESIGN)
V = 0.210W (ALLOWABLE DESIGN)

2. LATERAL EFP = 60 PSF/FT (TRIANGULAR)

ALL REVISIONS MARKED (3)
PREPARED UNDER THE SUPERVISION OF:

Michael Boeck 1/27/15
MICHAEL J. BOECK DATE:
RCE NO. 66417 EXP 06-30-16
RBF CONSULTING 40810 COUNTY CENTER DR. TEMECULA CA 92591
951-676-8042 FAX 951-676-7240

WET WELL / VAULT PLAN (1/-)

SCALE: 1" = 2'

ENGINEER	REVISION	APPR.	DATE
OYIS RBF (3)	ADD A.R.V. & PIPING		

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/28/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

CALL BEFORE YOU DIG 800-227-2600

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
8/10/06		(1)	MODIFIED CONSTR. NOTE 21 & GENERAL NOTES		
10/20/14	RBF	(2)	AS-BUILTS FROM FIELD VISIT 8/17/10		
1/15	RBF	(3)	ADD AIR RELEASE VALVE AND PIPING	JM	2-03-15

ENGINEER — COUNTY

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/08 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER JEFFREY T. DUNN No. 58455 Exp. 12/31/08 CIVIL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE: 11/9/06

BENCHMARK DATUM
NAVD 88 921.388
BENCHMARK
CITY OF RIVERSIDE B.M. B-83
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

WET WELL/VALVE VAULT PIPING PLAN

SHEET NO. M1 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

INDEXED 5-02-07 lgh

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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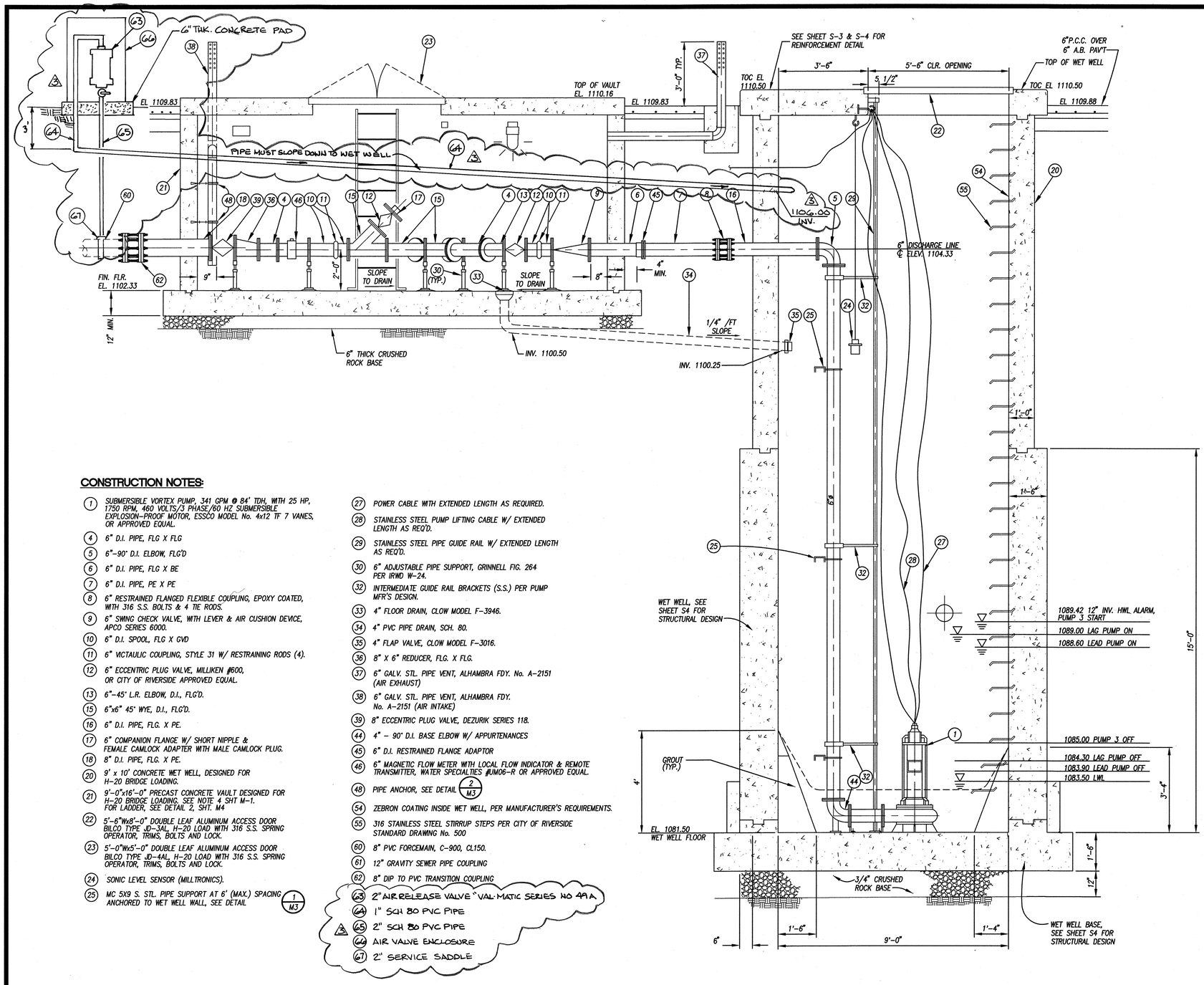

SECTION A

SCALE: 1" = 2'

CONSTRUCTION NOTES:

1. SUBMERSIBLE VORTEX PUMP, 341 GPM @ 84' TDH, WITH 25 HP, 1750 RPM, 460 VOLTS/3 PHASE/60 HZ SUBMERSIBLE EXPLOSION-PROOF MOTOR, ESSCO MODEL No. 4x12 TF 7 VANES, OR APPROVED EQUAL.
4. 6" D.I. PIPE, FLG X FLG
5. 6"-90° D.I. ELBOW, FLG'D
6. 6" D.I. PIPE, FLG X BE
7. 6" D.I. PIPE, PE X PE
8. 6" RESTRAINED FLANGED FLEXIBLE COUPLING, EPOXY COATED, WITH 316 S.S. BOLTS & 4 TIE RODS.
9. 6" SWING CHECK VALVE, WITH LEVER & AIR CUSHION DEVICE, APCO SERIES 6000.
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11. 6" VICTAULIC COUPLING, STYLE 31 W/ RESTRAINING RODS (4).
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15. 6"x6" 45° WYE, D.I., FLG'D.
16. 6" D.I. PIPE, FLG. X PE.
17. 6" COMPANION FLANGE W/ SHORT NIPPLE & FEMALE CAMLOCK ADAPTER WITH MALE CAMLOCK PLUG.
18. 8" D.I. PIPE, FLG. X PE.
20. 9' x 10' CONCRETE WET WELL, DESIGNED FOR H-20 BRIDGE LOADING.
21. 9'-0"x16'-0" PRECAST CONCRETE VAULT DESIGNED FOR H-20 BRIDGE LOADING, SEE NOTE 4 SHT M-1. FOR LADDER, SEE DETAIL 2, SHT. M4
22. 5'-6"W x8'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-3AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
23. 5'-0"W x5'-0" DOUBLE LEAF ALUMINUM ACCESS DOOR BILCO TYPE JD-4AL, H-20 LOAD WITH 316 S.S. SPRING OPERATOR, TRIMS, BOLTS AND LOCK.
24. SONIC LEVEL SENSOR (MILLTRONICS).
25. MC 5X9 S. STL. PIPE SUPPORT AT 6' (MAX.) SPACING ANCHORED TO WET WELL WALL, SEE DETAIL 1/M3
27. POWER CABLE WITH EXTENDED LENGTH AS REQUIRED.
28. STAINLESS STEEL PUMP LIFTING CABLE W/ EXTENDED LENGTH AS REQ'D.
29. STAINLESS STEEL PIPE GUIDE RAIL W/ EXTENDED LENGTH AS REQ'D.
30. 6" ADJUSTABLE PIPE SUPPORT, GRINNELL FIG. 264 PER IRWD W-24.
32. INTERMEDIATE GUIDE RAIL BRACKETS (S.S.) PER PUMP MFR'S DESIGN.
33. 4" FLOOR DRAIN, CLOW MODEL F-3946.
34. 4" PVC PIPE DRAIN, SCH. 80.
35. 4" FLAP VALVE, CLOW MODEL F-3016.
36. 8" X 6" REDUCER, FLG. X FLG.
37. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR EXHAUST)
38. 6" GALV. STL. PIPE VENT, ALHAMBRA FDY. No. A-2151 (AIR INTAKE)
39. 8" ECCENTRIC PLUG VALVE, DEZURIK SERIES 118.
44. 4" - 90° D.I. BASE ELBOW W/ APPURTENANCES
45. 6" D.I. RESTRAINED FLANGE ADAPTOR
46. 6" MAGNETIC FLOW METER WITH LOCAL FLOW INDICATOR & REMOTE TRANSMITTER, WATER SPECIALTIES #UM06-R OR APPROVED EQUAL.
48. PIPE ANCHOR, SEE DETAIL 2/M3
54. ZEBRON COATING INSIDE WET WELL, PER MANUFACTURER'S REQUIREMENTS.
55. 316 STAINLESS STEEL STIRRUP STEPS PER CITY OF RIVERSIDE STANDARD DRAWING No. 500
60. 8" PVC FORCEMAIN, C-900, CL150.
61. 12" GRAVITY SEWER PIPE COUPLING
62. 8" DIP TO PVC TRANSITION COUPLING
63. 2" AIR RELEASE VALVE "VAL-MATIC SERIES NO 49A
64. 1" SCH 80 PVC PIPE
65. 2" SCH 80 PVC PIPE
66. AIR VALVE ENCLOSURE
67. 2" SERVICE SADDLE

ALL REVISIONS MARKED 3

PREPARED UNDER THE SUPERVISION OF:

Michael Boeck 1/27/15

MICHAEL J. BOECK DATE:
RCE NO. 66917 EXP. 06-30-16
RBF CONSULTING 40810 COUNTY CENTER DR. TEMECULA CA 92591
951-676-8042 FAX 951-676-7240

GENERAL NOTES:

1. THE VALVE VAULT MAY BE PRE-CAST OR CAST IN PLACE. IN EITHER CASE, THE CONTRACTOR SHALL DESIGN THE VAULT AND BASE STRUCTURES AND HAVE THE BASE CAST IN PLACE AND FORMED TO FIT THE VAULT WALLS. THE VAULT STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND MAXIMUM EARTH AND H-20 LOAD. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ALL DESIGN CALCULATIONS AND PLANS FOR REVIEW AND APPROVAL.
2. ALL OPENINGS IN THE WET WELL WALLS SHALL BE GROUTED AND SEALED WATERTIGHT.
3. PIPES THROUGH CAST IN PLACE CONCRETE WALL SHALL BE CAST IN WALL.

ENGINEER	REVISION	APPR	DATE
01/15 RBF	3 ADD A.R.V. & PIPING		

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/24/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

CALL BEFORE YOU DIG USA 800-227-2600

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DATE	BY	MARK	REVISIONS	APPR.	DATE
01/15	RBF	3	ADD A.R.V. AND PIPING	JA	2-07-15

ENGINEER — COUNTY

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER, KHALED A. OTHMAN, No. 33950, Exp. 6/30/08, CIVIL, STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER, JEFFREY L. DUNN, No. 58455, Exp. 12/31/08, CIVIL, STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY L. DUNN — R.C.E. NO. 58455 — DATE: 11/9/06

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. 28-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

WET WELL/VALVE VAULT PIPING SECTION

SHEET NO. M2 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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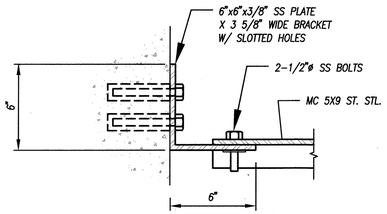
INDEXED 5-02-07 LH



BRACKET SECTION DETAIL

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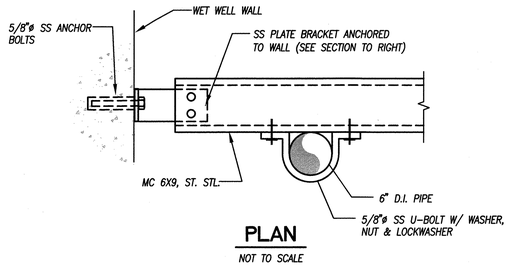
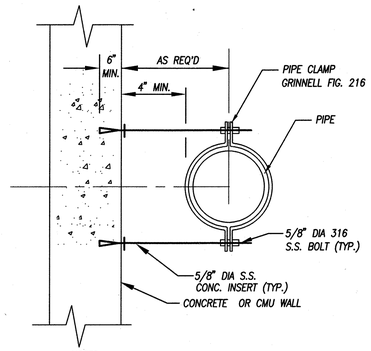


PLAN

NOT TO SCALE

PIPE BRACKET DETAIL 1

NOT TO SCALE

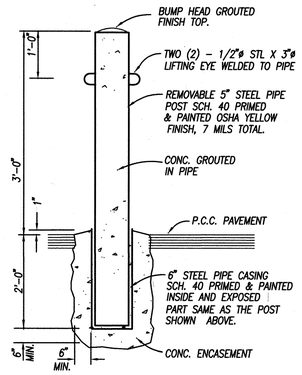


NOTES:

1. ALL BOLTS, NUTS, ANCHORS, MOUNTING BRACKETS, & CLAMP TO BE TYPE 316 SS, UNLESS NOTED OTHERWISE.

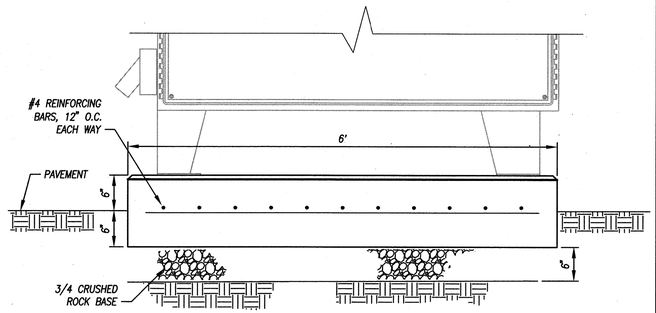
GALV STL PIPE ANCHOR DETAIL 2

NOT TO SCALE



GUARD POST DETAIL 3

NOT TO SCALE

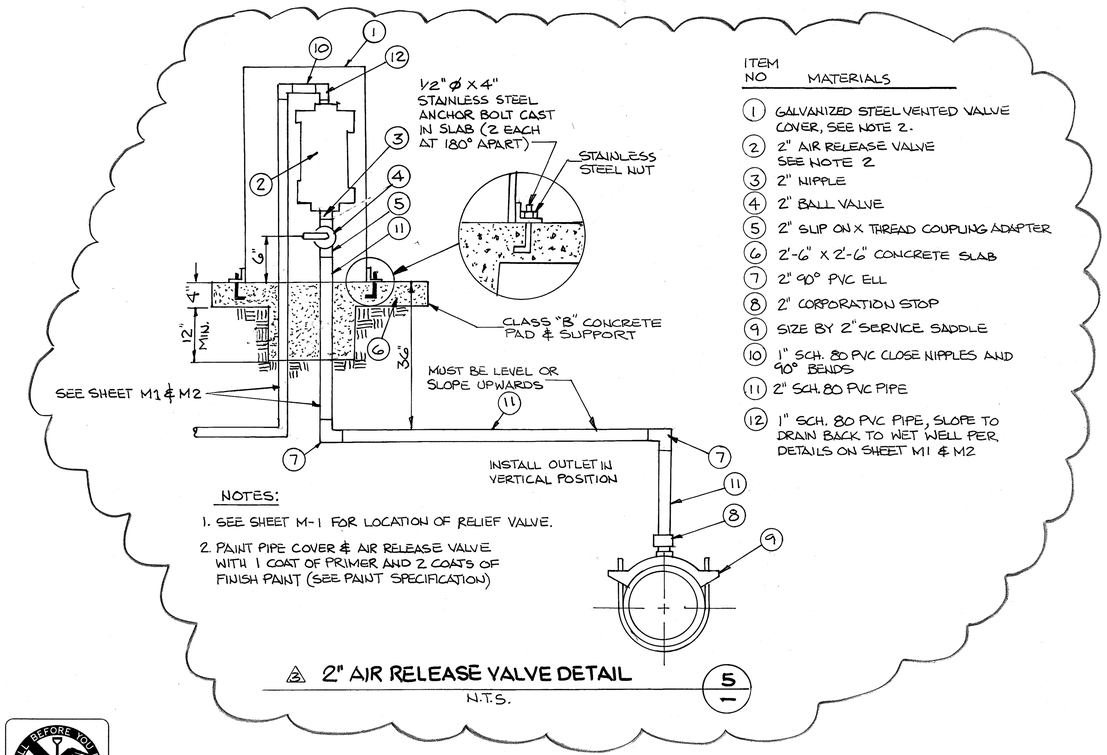


NOTES:

1. CONTRACTOR TO VERIFY PAD DIMENSIONS FOR CONTROL PAD PRIOR TO CONSTRUCTION.
2. ANCHORAGE BY 5/8"x3-1/2" HILTI KB3 GALVANIZED EXPANSION ANCHORS, TOTAL (4), (1) EACH CORNER, ICBO ESR-1385, SPECIAL INSPECTION IS NOT REQUIRED BY DESIGN.

⚠ CONTROL PANEL PAD DETAIL 4

NOT TO SCALE



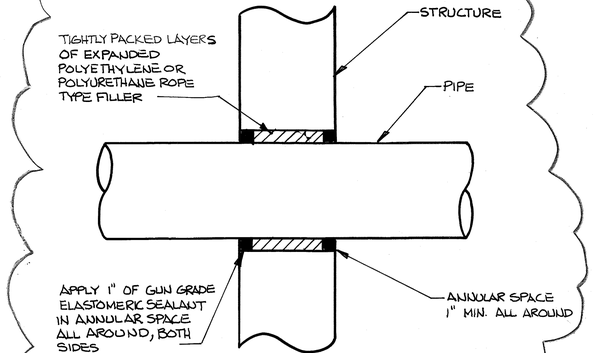
ITEM NO	MATERIALS
1	GALVANIZED STEEL VENTED VALVE COVER, SEE NOTE 2.
2	2" AIR RELEASE VALVE SEE NOTE 2
3	2" NIPPLE
4	2" BALL VALVE
5	2" SLIP ON X THREAD COUPLING ADAPTER
6	2'-6" X 2'-6" CONCRETE SLAB
7	2" 90° PVC ELL
8	2" CORPORATION STOP
9	SIZE BY 2" SERVICE SADDLE
10	1" SCH. 80 PVC CLOSE NIPPLES AND 90° BENDS
11	2" SCH. 80 PVC PIPE
12	1" SCH. 80 PVC PIPE, SLOPE TO DRAIN BACK TO WET WELL PER DETAILS ON SHEET M1 & M2

NOTES:

1. SEE SHEET M-1 FOR LOCATION OF RELIEF VALVE.
2. PAINT PIPE COVER & AIR RELEASE VALVE WITH 1 COAT OF PRIMER AND 2 COATS OF FINISH PAINT (SEE PAINT SPECIFICATION)

⚠ 2" AIR RELEASE VALVE DETAIL 5

N.T.S.



NOTE:
FOR WETWELL PENETRATIONS ABOVE THE MAXIMUM HWL ONLY

⚠ WALL PENETRATION DETAIL 6

ALL REVISIONS MARKED ⚠3 PREPARED UNDER THE SUPERVISION OF:

Michael Boeck 1/27/15

MICHAEL J. BOECK DATE
RCE No. 66417 EXP. 06-30-16
RBF CONSULTING 90810 COUNTY CENTER DR. TEMECULA CA 92591
951-676-8042, FAX 951676-7240

ENGINEER		REVISION	APPR	DATE
01/15	RBF	⚠3 ADD A.R.V. & PIPING		

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/20/07

CITY OF RIVERSIDE DRAWING No. S-1893

WDID No. 833C327881 | PW05-0064

WALL PERMIT No. BXX068135

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTIBILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

DATE	BY	MARK	REVISIONS	APPR.	DATE
8/06		⚠1	ADDED DETAIL 4.		
10/10	RBF	⚠2	AS BUILTS FROM FIELD VISIT 8/17/12.		
01/15	RBF	⚠3	ADD AIR RELEASE AND WALL PENETRATION DETAILS	BM	2-02-15

ENGINEER — COUNTY

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER, KHALED A. OTHMAN, No. 33950, Exp. 6/30/08, CIVIL, STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER, JEFFREY T. BURK, No. 58455, Exp. 12/31/08, CIVIL, STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. BURK — R.C.E. NO. 58455 — DATE: 11/16/06

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE BM. 28-83
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

MISCELLANEOUS DETAILS AND SECTIONS

SHEET NO. M3 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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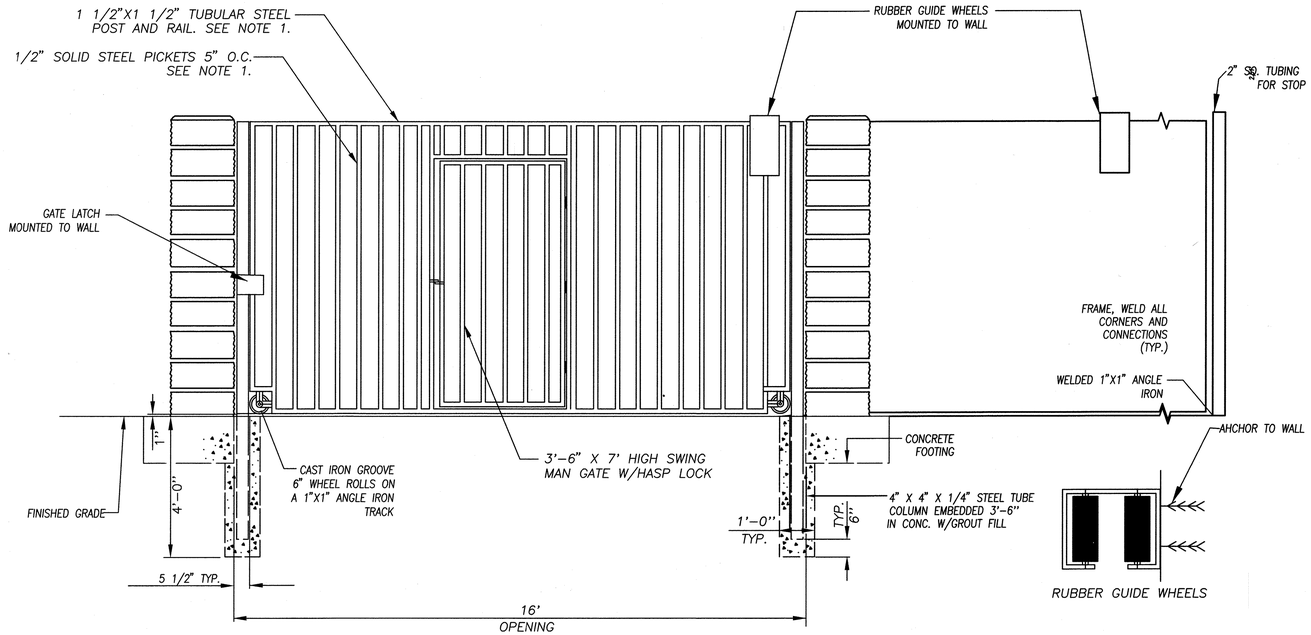
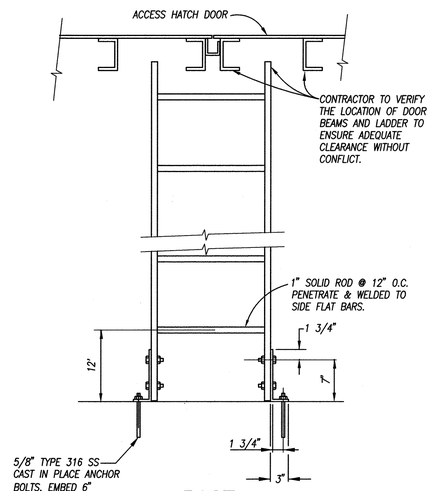


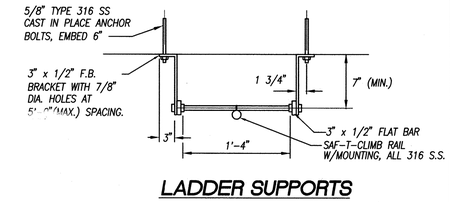
ELEVATION



BASE

NOTE:

LADDER, FASTENERS, AND ACCESSORIES SHALL BE TYPE 316 SS

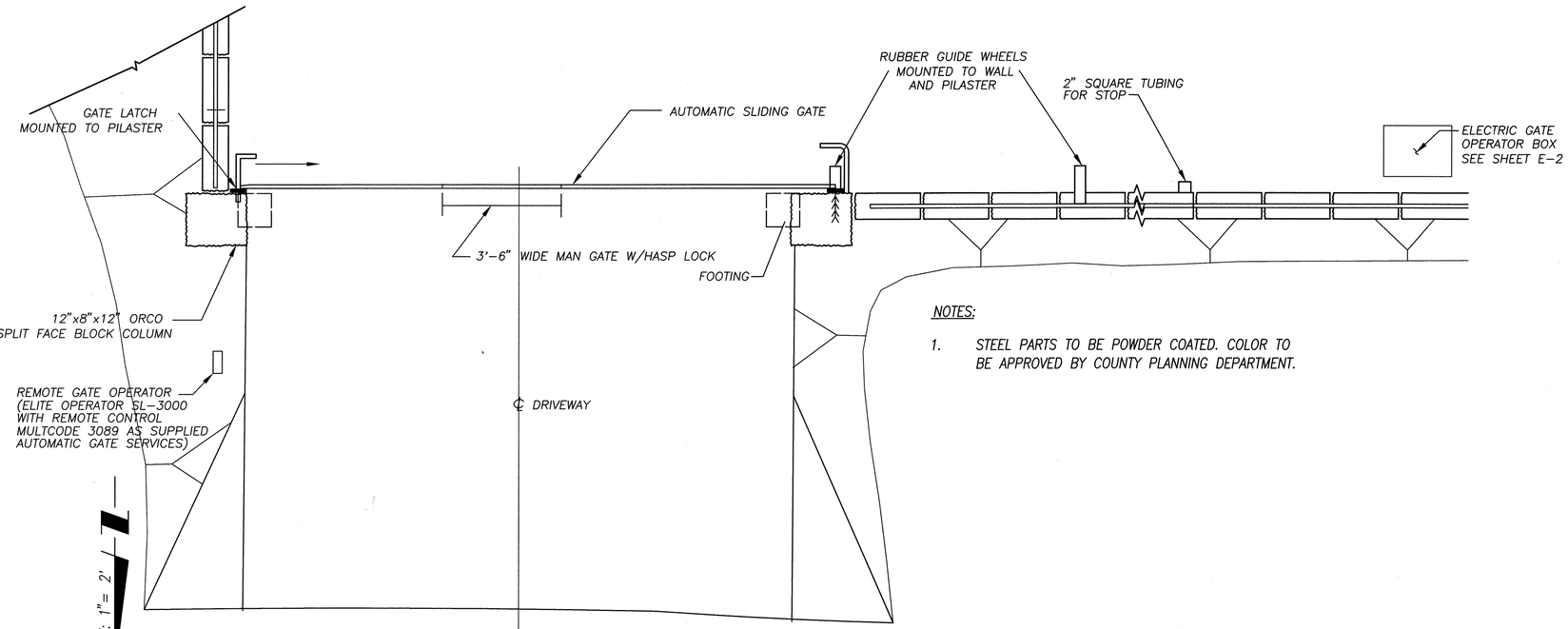


LADDER SUPPORTS

LADDER DETAIL

SCALE: 1" = 4'

2 / –



PLAN VIEW

NOTES:

1. STEEL PARTS TO BE POWDER COATED. COLOR TO BE APPROVED BY COUNTY PLANNING DEPARTMENT.

8' HIGH TUBULAR STEEL GATE DETAIL

SCALE: 1" = 2'

1 / –

CALL BEFORE YOU DIG USA 800-227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER — KHALED A. OTHMAN — No. 33950 Exp. 6/30/08 — CIVIL — STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — JEFFREY T. DUNN — No. 58455 Exp. 12/31/08 — CIVIL — STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE: 11/06

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. 28-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. ON NW CURB RETURN AT PALMYRITA AVE. & IONA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

GATE DETAIL

SHEET NO. M4
OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

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CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF A.C.I. 318–LATEST EDITION "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS CONTAINED HEREIN OR SHOWN ON THE DRAWINGS.
2. ALL CONCRETE SHALL BE 150 P.C.F. HARDROCK, MIXED PER A.S.T.M. C–94, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT 28 DAYS.
3. THE MAXIMUM SIZE AGGREGATE IN FOUNDATION AND MASS CONCRETE WORK SHALL BE 1 INCH. THE MAXIMUM SIZE AGGREGATE IN SLABS ON GRADE, WALLS, AND ALL OTHER CONCRETE SHALL BE 3/4" INCH.
4. CEMENT SHALL CONFORM TO A.S.T.M.. C–150, TYPE V, LOW ALKALI. AGGREGATES FOR NORMAL WEIGHT SHALL CONFORM TO A.S.T.M. C–33.
5. ADMIXTURES AND COLORS (EXCEPT AS NOTED HEREIN) SHALL NOT BE USED UNLESS SUBSTANTIATING DATA IS SUBMITTED TO AND ACCEPTED BY THE ENGINEER AND ARCHITECT OF RECORD.
6. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. THE MIX DESIGNS SHALL CONFORM TO U.B.C. SEC. 1905. UNLESS NOTED OTHERWISE.
7. NON–STRUCTURAL STEEL EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.
8. PROVIDE 2– #5 DIAGONAL BARS AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF FLOORS.
9. PROVIDE WATERSTOPS IN ALL BELOW GRADE FOUNDATION WALL CONSTRUCTION JOINTS.
10. READY MIXED CONCRETE SHALL CONFORM TO (A.S.T.M. C–94).
11. PLACEMENT OF CONCRETE SHALL CONFORM TO A.C.I. 304. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE FOR ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
12. ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B–B PLYFORM, CLASS I, EXT–A.P.A. PLYWOOD.
13. ALL SLABS SHALL HAVE A TROWELED FINISH EXCEPT AS NOTED ON THE DRAWINGS.
14. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
15. IF THE CONTRACTOR DESIRES TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, HE SHALL SUBMIT DETAILS OF CHANGES TO THE ENGINEER OF RECORD FOR REVIEW BEFORE STARTING WORK.
16. NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OFF THE GROUND.
17. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, U.N.O.
18. SLEEVE PLUMBING OPENINGS IN SLABS WITH NON–CORROSIVE SLEEVE BEFORE PLACING CONCRETE AND BEND REINFORCING AROUND SLEEVES.
19. ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE MINIMUM COVER:

FOOTINGS CAST AGAINST EARTH	3"
FORMED CONCRETE EXPOSED TO EARTH OR WEATHER	2"
BEAMS AND GIRDERS	1 1/2"
WALLS	1 1/2"
COLUMN TIES	1 1/2"
SLABS (#11 AND SMALLER)	3/4"

20. CONCRETE CURING: TYPICALLY REQUIRED FOR 10 DAYS.

MASONRY:

1. MASONRY UNITS SHALL BE TYPE II, GRADE N–1, ORCO SPLIT FACE BLOCK IN ACCORDANCE WITH A.S.T.M. SPECIFICATION C–90, F'm = 2,000 P.S.I.
2. ALL VERTICAL CELLS SHALL BE GROUTED SOLID IN LIFTS NOT EXCEEDING 8'–0" IN HEIGHT.
3. VERTICAL BARS IN MASONRY UNITS SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT INTERVALS OF NOT LESS THAN 4'–0" AND AT TOP AND BOTTOM.
4. PROVIDE INSPECTION AND CLEANOUT HOLES AT BASE OF VERTICAL CELL GROUT LIFTS WHICH ARE MORE THAN 4'–0" IN HEIGHT.
5. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1 1/2" BELOW THE TOP OF THE UPPERMOST MASONRY UNITS.

CALL BEFORE YOU DIG 811 800-227-2600

REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE U.B.C., AND THE "MANUAL OF STANDARD PRACTICE" BY THE C.R.S.I. OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
2. REINFORCING BARS SHALL CONFORM TO A.S.T.M. A–615, DEFORMED GRADE 60, EXCEPT #3 BARS MAY BE GRADE 40. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO A.S.T.M. A–706, DEFORMED GRADE 60.
3. WELDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH A.S.T.M. A–706 WITH LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO U.B.C. STANDARD 19–1 AND STRUCTURAL WELDING CODE REINFORCING STEEL BY A.N.S.I. / A.W.S. D1.4. MINIMUM TENSILE STRENGTH OF WELD METAL SHALL BE 90 K.S.I. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD, UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL.
5. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A–185, AND SHALL BE LAPPED 1 SPACES AND 12" MINIMUM.
6. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE LAPPED WITH THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE VERTICAL REINFORCEMENT, RESPECTIVELY.
7. REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
8. ALL VERTICAL REINFORCING SHALL BE CONTINUOUS BETWEEN TWO LEVELS, UNLESS NOTED OTHERWISE.
9. SLAB ON GRADE REINFORCING SHALL BE POSITION AT MID–DEPTH, UNLESS NOTED OTHERWISE.
10. PROVIDE #3 SPACER TIES AT 2'–6" ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.
11. ALL REBAR SIZES ON THESE DRAWINGS ARE IN POUND – INCH UNITS. SEE TABLE FOR METRIC EQUIVALENT.
12. PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED. A.C.I. #6.3.12

POUND – INCH BAR SIZE DESIGNATION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
METRIC BAR SIZE DESIGNATION	M10	M13	M16	M19	M22	M25	M29	M32	M36	M43	M57

Summary of Special Inspection

1 Concrete	13.1 Verify soil conditions are substantially in conformance with the soil investigation report
2 Bolts installed in concrete	13.2 Verify that foundation excavations extend to proper depth and bearing strata
3 Concrete moment resisting space frame	13.3 Provide soil compaction test results, depth of fill, relative density, bearing values
4 Reinforcing steel and prestressing steel	13.4 Provide soil expansion test results, expansion index, recommendations for foundation, on grade floor slab design for each building site
5.1 All structural welding	14 Smoke control system
5.2 Weld lasting ductile moment–resisting steel frame	15 Special cases (describe)
5.3 Welding reinforcing steel	16 Off–site fabrication of building components
6 High–strength bolting	17 Other structural inspections as required by designer
7 Structural masonry	
8 Reinforced gypsum concrete	
9 Insulating concrete fill	
10 Spray–applied fireproofing	
11 Deep foundations (piling, drilled piers & caissons)	
12 Shotcrete	

No.	DESCRIPTION OF TYPE OF INSPECTION REQUIRED, LOCATION, REMARKS, ETC.	Design Strength
1	CONCRETE (ALL CONCRETE, U.N.O.)	F'c = 4,000 P.S.I.
2	ALL BOLTS INSTALLED IN CONCRETE	
4	PLACEMENT OF REINFORCING STEEL AT CONCRETE	
7	STRUCTURAL MASONRY – ALL CMU	F'm = 2,000 P.S.I.
13.1	SOIL ENGINEER TO VERIFY CONDITIONS AND DEPTH OF FOUNDATIONS AND PROVIDE COMPACTION REPORT	2,000 P.S.F.
13.2 13.3 13.4	SOILS REPORT BY CHJ INC. FILE NO. 04454–3, DATED MARCH 21, 2005	
16		

a. The special instructions listed are in addition to the called inspections required by section 108 of the C.B.C., as amended. Special inspection is not a substitute for inspection by a city inspector.

b. Continuous inspection is always required during the performance of the work unless otherwise specified. When work in more than one category of work requiring special inspection is to be performed simultaneously, or the geographic location of the work is such that it cannot be continuously observed in accordance with the provisions of C.B.C. section 1701.8.1 It is the agent's responsibility to employ a sufficient number of inspectors to assure that all the work is inspected in accordance with those provisions.

c. The special inspections must be reviewed by the Engineer of to perform the type of inspection specified.

Exceptions:
1. Soils inspections by the soils engineer of record.
2. Smoke control system, by the mechanical engineer of record.
3. When waived by the building official.

d. It is the responsibility of the contractor to notify the special inspector or inspection agency at least on working day prior to performing any work the requires special inspection.

e. Specially inspected work that is installed or covered without the approval of the city inspector is subject to removal or exposure.

FOUNDATION:

1. ATTACH ONE COPY OF SOILS REPORT TO THE APPROVED SET OF CONSTRUCTION DOCUMENTS. SOILS REPORT SHALL BE PART OF THESE NOTES. PRIOR TO THE POURING OF CONCRETE AND PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS. HE SHALL POST NOTICE ON THE JOB SITE AND ADVISE THE BUILDING INSPECTOR IN WRITING THAT THE WORK SO INSPECTED MEETS THE CONDITIONS OF THE REPORT. A WRITTEN CERTIFICATION TO VERIFY THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOIL REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED, AND
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
2. SOILS REPORT PREPARED BY:
   CHJ INC.
   CHJ REPORT NO. 04454–3. MARCH 21, 2005
3. SOIL REMOVAL AND RECOMPACTION SHALL BE DONE PER SOILS REPORT RECOMMENDATIONS UNDER GEOTECHNICAL ENGINEER'S SUPERVISION AND INSPECTION.
4. TYPE OF FOOTING:
   A. SHALLOW FOOTING SYSTEM MINIMUM EMBEDMENT 18" BELOW LOWEST ADJACENT GRADE.
   DESIGN SOIL PRESSURE:

FOOTING TYPE	STATIC BEARING PRESSURE
SPREAD FOOTING	2,000 P.S.F.
CONTINUOUS FOOTING	2,000 P.S.F.

5. SLAB BASE AND COMPACTION TO BE IN ACCORDANCE WITH SOILS REPORT.
6. NO PIPES OR DUCTS SHALL BE PLACED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER.
7. FOR ALL DIMENSIONS, CURBS, SLAB DEPRESSIONS, STEPS, FLOOR DRAINS, TRENCHES, UNDERFLOOR DUCTS AND CONDUITS, SEE CIVIL AND ELECTRICAL DRAWINGS, TRENCH BACKFILL AS PER SOILS REPORT REQUIREMENTS.
8. ALL WALLS RETAINING EARTH SHALL DRAIN TO DAYLIGHT OR OTHER DRAINAGE.
9. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
10. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
12. 1998 C.B.C. SEISMIC SOIL CATEGORIZATION (SECTION 1636.2)

    SEISMIC ZONE: 4
    ZONE FACTOR: 0.4
    SOIL PROFILE TYPE S_D

MASONRY (CONT.):

6. MORTAR SHALL BE TYPE S PER CALIFORNIA BUILDING CODE TABLE 21–A WITH A 28 DAYS COMPRESSIVE STRENGTH OF 2,000 P.S.I.
7. REINFORCEMENT WELDING SHALL COMPLY WITH A.W.S. D1.4 (LATEST EDITION). NO FIELD WELDING OF REINFORCING BARS, U.N.O.
8. ALL HEAD JOINTS SHALL BE FULL BUTTERED OR OPEN END MASONRY UNITS SHALL BE USED.
9. GROUT SHALL CONFORM TO TABLE 21–B. A MIXTURE OF CEMENT, SAND, PEA GRAVEL AND WATER WHICH WILL COMPLETELY FILL ALL VOIDS IN THE WALL AND DEVELOP A 28 DAY COMPRESSIVE STRENGTH OF 2,500 P.S.I.
10. REINFORCING STEEL A.S.T.M. A–615, GRADE 60. SPLICE IN REINFORCEMENT SHALL BE LAPPED 48 DIAMETERS MIN.
11. ALL VERTICAL WALL REINFORCEMENT SHALL BE DOWELED TO THE FOUNDATION WITH THE SAME SIZE AND NUMBER OF BARS AS SHOWN IN THE WALLS.
12. PROVIDE ONE INCH MINIMUM GROUT COVER ON ALL BOLTS AND PLATES.
13. HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM UNITS.
14. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.

DESIGN BASIS:

CODE: 2001 C.B.C. (CALIFORNIA BUILDING CODE TITLE) CCR, TITLE 24, PART 2

GRAVITY LOADS:

1. LIFT STATION ROOF LIVE LOAD 100 P.S.F. OR HS20 LOADING

LATERAL LOADS: SEE GEOTECH REPORT BY CHJ INC.

1. SEISMIC ZONE 4

   SEISMIC SOURCE TYPE A
   DISTANCE TO CRITICAL SOURCE = 5 Km
   Ca = 0.53
   Na = = 1.2
   Cv = 1.02
   Nv = 1.6
   R = 4.5

   SEISMIC BASE SHEAR:
   V = 0.293W (ULTIMATE DESIGN)
   V = 0.210W (ALLOWABLE DESIGN)

2. LATERAL EFP = 60 PSF/FT (TRIANGULAR)

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE CIVIL, MECHANICAL & ELECTRICAL DRAWINGS.
2. THE CONTRACTOR SHALL REVIEW EXISTING CONDITIONS ON THE SITE DURING THE BIDDING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
3. UNLESS OTHERWISE SHOWN OR NOTED, ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE CALIFORNIA BUILDING CODE (2001 EDITION C.B.C.), RELATED UNIFORM BUILDING CODE STANDARDS (1997 EDITION), AND ANY A.S.T.M. SPECIFICATIONS WHICH THESE STANDARDS ARE BASED.
4. ALL A.S.T.M. DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
5. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
6. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
7. THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. REFER TO CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR NON–STRUCTURAL ITEMS, SUCH AS:
   A. SIZE AND LOCATION OF ALL OPENINGS.
   B. SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, ROOF AND FLOOR DRAINS, SLOPES, ETC.
   C. FLOOR, ROOF AND WALL FINISHES.
   D. DIMENSION NOT SHOWN ON STRUCTURAL DRAWINGS.
8. THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
9. NEITHER THE OWNER NOR THE CIVIL/STRUCTURAL ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
10. SATISFACTORY EXECUTION OF CONSTRUCTION IS DEPENDENT UPON CONFORMANCE WITH THE INTENT OF THESE DRAWINGS. OWNER OR CONTRACTOR SHALL RETAIN A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER DURING CONSTRUCTION TO OBSERVE THE CONSTRUCTION AND STATE THAT THE STRUCTURE HAS BEEN BUILT IN GENERAL CONFORMANCE WITH THE INTENT OF THESE DRAWINGS.
11. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH PARTICULAR LEVEL. WHEN WEIGHT OF MATERIALS OR EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
12. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK. THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
13. PROJECT SHALL COMPLY WITH RIVERSIDE COUNTY ADOPTED CODES; 2011 CRC, CEC, CPC, CMC, CFC AND RIVERSIDE COUNTY ORD. 457.

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER _____ DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 | PW05-0064

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL–COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN DATE:
RECOMMENDED BY PBS & J DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER DONALD R. ORTNER No. 53538 EXP. 12-31-06 STRUCTURAL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com
PREPARED BY: R.C.E. NO. 58455
JEFFREY T. DUNN DATE:

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE BM. JB–03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

STRUCTURAL NOTES

SHEET NO. S1 OF 20 SHTS.

SCALE: HOR: 1"=40' VERT: AS SHOWN
FOR: W.O. COUNTY FILE NO.

Indexed 5-02-07 lph

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PIGEON PASS SEWER PUMP STATION – SEWER IMPROVEMENT PLANS – COUNTY OF RIVERSIDE

STEEL:

1. FABRICATION AND ERECTION TO CONFORM TO A.I.S.C. LATEST EDITION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.

2. QUALIFIED AND CERTIFIED WELDERS SHALL BE USED FOR ALL WELDING. WELDING TO BE PERFORMED IN THE SHOP OF A STATE LICENSED FABRICATOR. ALL WELDING TO CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE A.W.S. D1.1. INSPECTION OF WELDING SHALL CONFORM TO C.B.C. REQUIREMENTS (CHAPTER 17).

3. MATERIALS:

STRUCTURAL STEEL SHAPES	A.S.T.M. A992 or A-572 (Fy = 50 K.S.I.)
STRUCTURAL STEEL CHANNEL & ANGLES	A.S.T.M. A-36
STRUCTURAL STEEL PLATES	A.S.T.M. A-36
WELDING ELECTRODES	A.W.S. A-5.1 OR A-5.5.
ANCHOR BOLTS	A.S.T.M. A-307
TYPICAL STEEL CONNECTION BOLTS	A.S.T.M. A-307
MISCELLANEOUS BOLTS	A.S.T.M. A-307
GALVANIZING	A.S.T.M. A-123
RUST-INHIBITING PRIMER	TT-P-645 A.S.T.M.
HSS-STEEL TUBING	A.S.T.M. A-500, GRADE B (Fy = 46 K.S.I.)

4. HOT-DIPPED GALVANIZE AFTER FABRICATION ALL STRUCTURAL STEEL AND CONNECTORS EXPOSED TO WEATHER. TOUCH UP DAMAGED GALVANIZING WITH GALVALLOY AFTER ERECTION IS COMPLETE.

5. CONNECTED MEMBERS SHALL BEAR ONLY UPON UNTHREADED PORTIONS OF BOLTS.

6. THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

7. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLESS NOTED OTHERWISE.

8. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.

9. OPENING SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED. BURNING OF HOLES IS NOT ALLOWED.

WELDING:

1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY CODE D1.1. (LATEST EDITION).

2. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS.

3. ALL WELDING SHALL BE DONE BY THE SHIELDED ARC PROCESS USING APPROVED ELECTRODES PER A.W.S. SPECIFICATIONS E70XX (LOW HYDROGEN ELECTRODES).

4. ALL WELDS SHALL HAVE A WELD CONTROLLED SEQUENCE AND TECHNIQUE IN ORDER TO MINIMIZE SHRINKAGE, STRESSES AND DISTORTION.

5. ALL ELECTRODES FILLER MATERIAL SHALL BE A MINIMUM OF E70XX.

6. WELDING OF REINFORCING BARS TO BE IN ACCORDANCE WITH A.W.S. D1.4. REINFORCING STEEL TO BE WELDED SHALL HAVE A CARBON EQUIVALENT (CE) OF 0.75 SPECIAL INSPECTION IS REQUIRED.

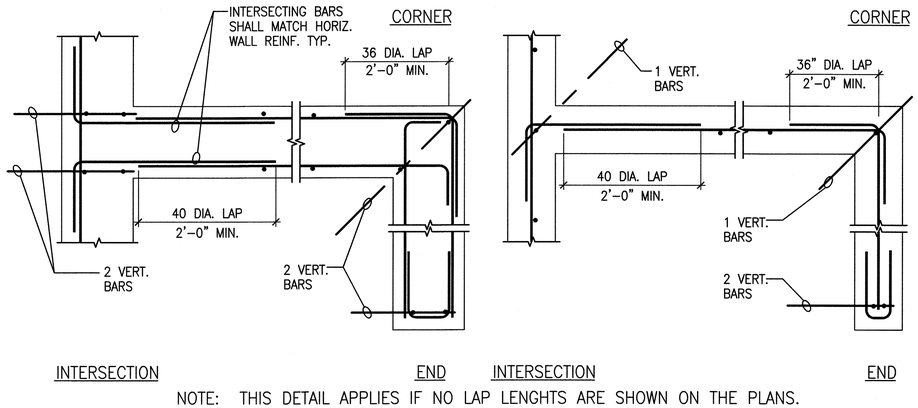
7. WELDING OF SHEET METAL SHALL BE IN ACCORDANCE WITH A.W.S. D1.3.

8. SPECIAL INSPECTION IS REQUIRED FOR ALL FIELD WELDING.

9. ALL SHOP AND FIELD WELDING OF MOMENT CONNECTIONS OR MOMENT RESISTING FRAMES, AND ALL COLUMN SPLICE WELDS, SHALL BE TESTED AS PER C.B.C.

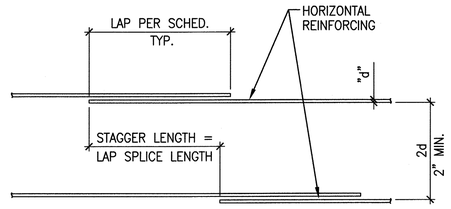
CALL BEFORE YOU DIG 811 (800) 227-2600

STEEL & WELDING NOTES N.T.S. (1)



NOTE: THIS DETAIL APPLIES IF NO LAP LENGHTS ARE SHOWN ON THE PLANS.

TYPICAL CONCRETE WALL/FOOTING REBAR - PLAN VIEW N.T.S. (2)



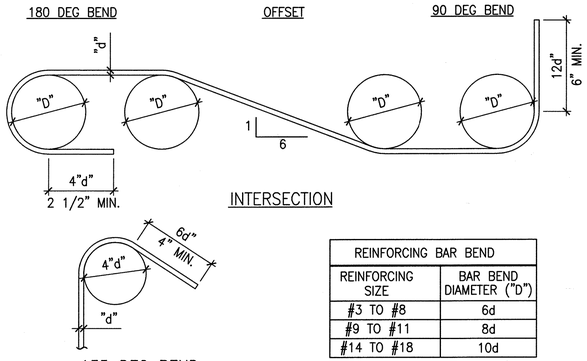
CONC. F'c P.S.I.	BAR SIZE										
	#3	#4	#5	#6	#7	#8	#9	#10			
	TENSION LAP SPLICES, INCHES										
3,000	29	38	47	56	82	94	106	119			
4,000	25	33	41	49	69	81	91	103			

HARDROCK CONCRETE
F'y = 60,000 P.S.I. (CLASS "B")

NOTES:

1. SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
2. DIVIDE BY 1.3 FOR NON-TOP BAR (LESS THAN 12" OF CONCRETE CAST BELOW)
3. CONCRETE MASONRY UNITS LAP 40d MIN. HORIZ & VERT. REINF.

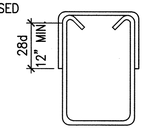
HORIZONTAL REINFORCING SPLICE N.T.S. (4)



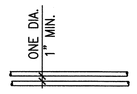
REINFORCING BAR BEND	
REINFORCING SIZE	BAR BEND DIAMETER ("D")
#3 TO #8	6d
#9 TO #11	8d
#14 TO #18	10d

NOTE: ALL BENDS SHALL BE MADE COLD

NOTE:
CAP STIRRUPS MAY BE USED WHENEVER 135° CLOSED STIRRUPS ARE SHOWN IN GRADE BEAM ONLY

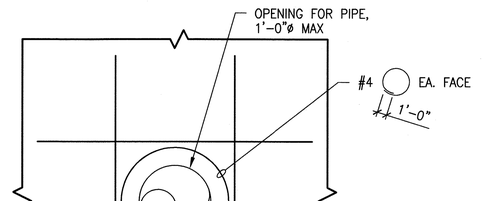


CAP STIRRUP



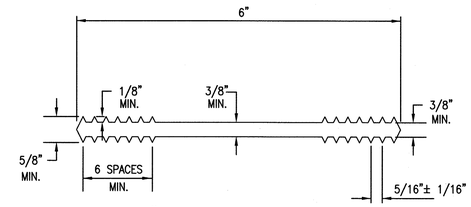
BAR CLEARANCE

TYPICAL BAR BENDS N.T.S. (6)

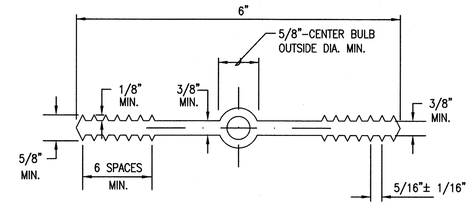


NOTE: CAST PIPE IN-PLACE, OR GROUT INTO PLACE

TYPICAL PIPE THRU WALL N.T.S. (3)



6" FLATSTRIP WATERSTOP



6" CENTER-BULB WATERSTOP

WATERSTOP DETAILS N.T.S. (5)

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 PW05-0064

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER DONALD R. ORTH No. 58539 EXP. 12-31-06 STRUCTURAL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY:
JEFFREY T. DUNN
R.C.E. NO. 58455
DATE:

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JR-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

TYPICAL STRUCTURAL DETAILS & NOTES

SHEET NO. S2 OF 20 SHTS.

FOR: W.O. COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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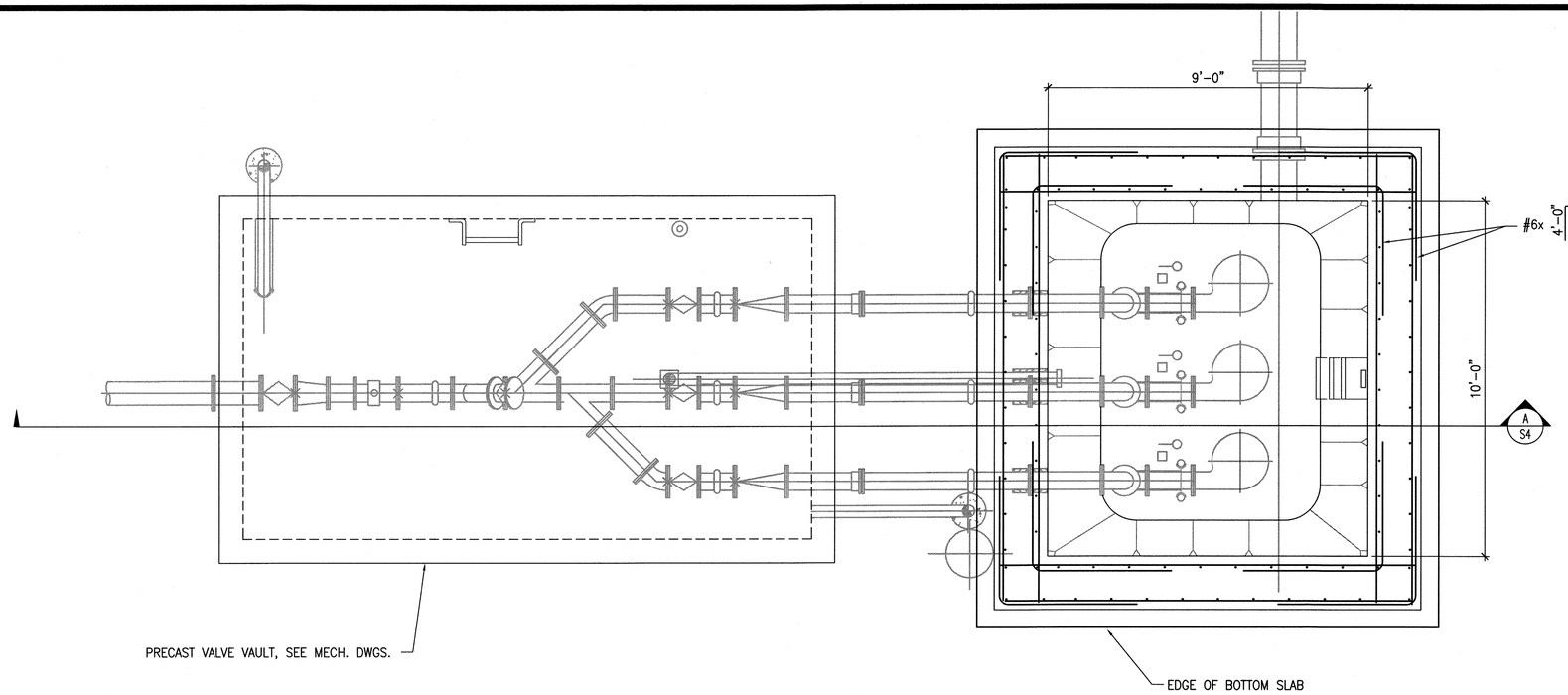
INDEXED 5-02-07 LH



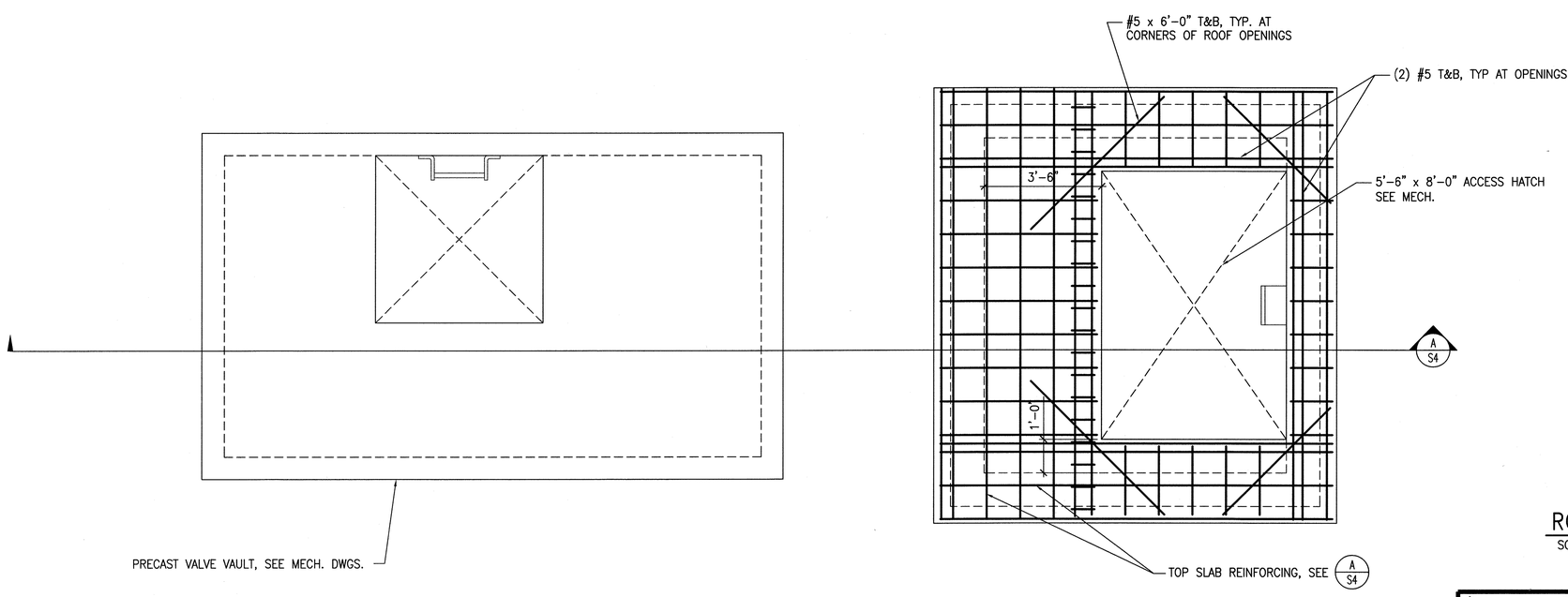
NOTES:

1. FOR DIMENSIONS NOT SHOWN, SEE MECHANICAL PLANS.
2. PULL BOXES TO BE INTALLED PER MECHANICAL AND ELECRICAL PLANS.

FOUNDATION PLAN

SCALE: 1/2" = 1'-0"

(A)



ROOF SLAB PLAN

SCALE: 1/2" = 1'-0"

(B)

CALL BEFORE YOU DIG 800-227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL

CITY ENGINEER — DATE 3/22/07

CITY OF RIVERSIDE DRAWING # S-1893

WDID No. 833C327881 | PW05-0064

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY: REGISTERED PROFESSIONAL ENGINEER — KHALED A. OTHMAN — No. 33950 Exp. 6/30/06 — CIVIL — STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — RONALD R. ORTH — No. 53658 Exp. 12-31-08 — STRUCTURAL — STATE OF CALIFORNIA

STANTEC CONSULTING INC.
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SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY T. DUNN — R.C.E. NO. 58455 — DATE:

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE BM. JB-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRA AVE. & IOWA AVE.
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SCALE: HOR: 1"=40' VERT: AS SHOWN

FOR: | W.O. | COUNTY FILE NO.

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

WET WELL/DRY WELL STRUCTURAL PLANS

SHEET NO. S3 OF 20 SHTS.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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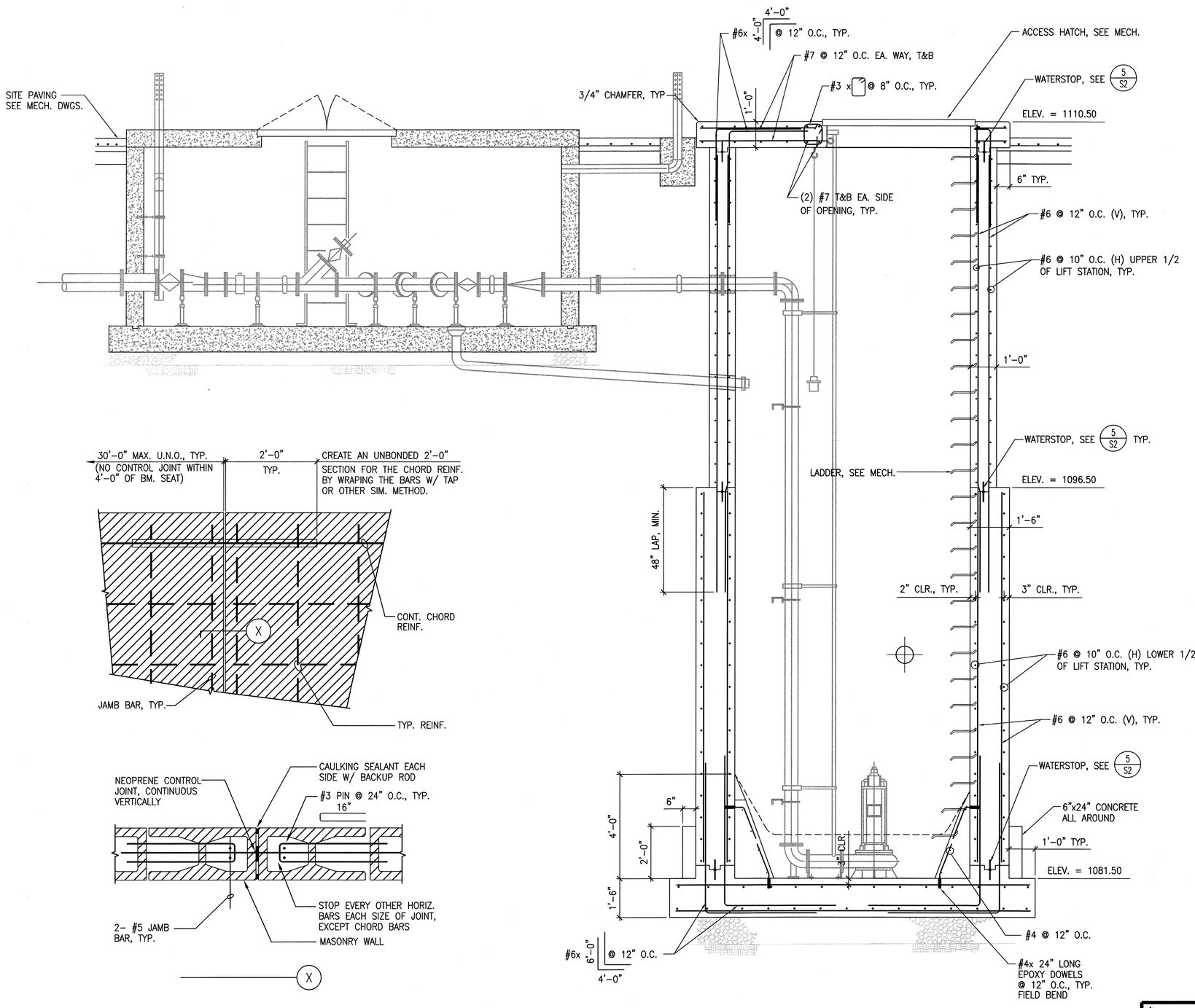
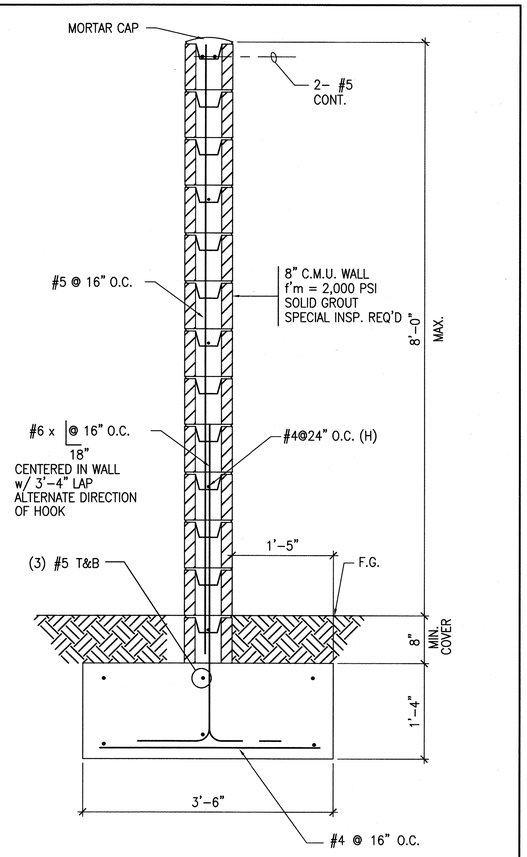
Indexed 5-02-07 LH

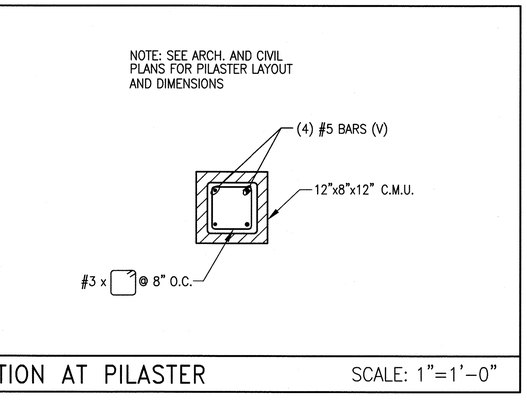


TYPICAL VERTICAL CONTROL JOINT SCALE: N.T.S.

LIFT STATION SECTION (A)
SCALE: 1/2" = 1'-0"



FREE-STANDING CMU WALL SCALE: 1"=1'-0"



SECTION AT PILASTER SCALE: 1"=1'-0"

CALL BEFORE YOU DIG 800-227-2600

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER 3/22/07 DATE

CITY OF RIVERSIDE DRAWING # S-1893
WDID No. 833C327881 PW05-0064

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/06 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN DATE:
RECOMMENDED BY PBS & J DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER DONALD R. ORTNER No. S3838 EXP. 12-31-06 STRUCTURAL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
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760.891.3200
stantec.com
PREPARED BY:
JEFFREY T. DUNN
R.C.E. NO. 58455
DATE:

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE BM. JB-03
BENCHMARK DESCRIPTION
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COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

WET WELL/DRY WELL
STRUCTURAL SECTION

SHEET NO. S4 OF 20 SHTS.
FOR: W.O. COUNTY FILE NO.

INDEXED 5-02-07 LH

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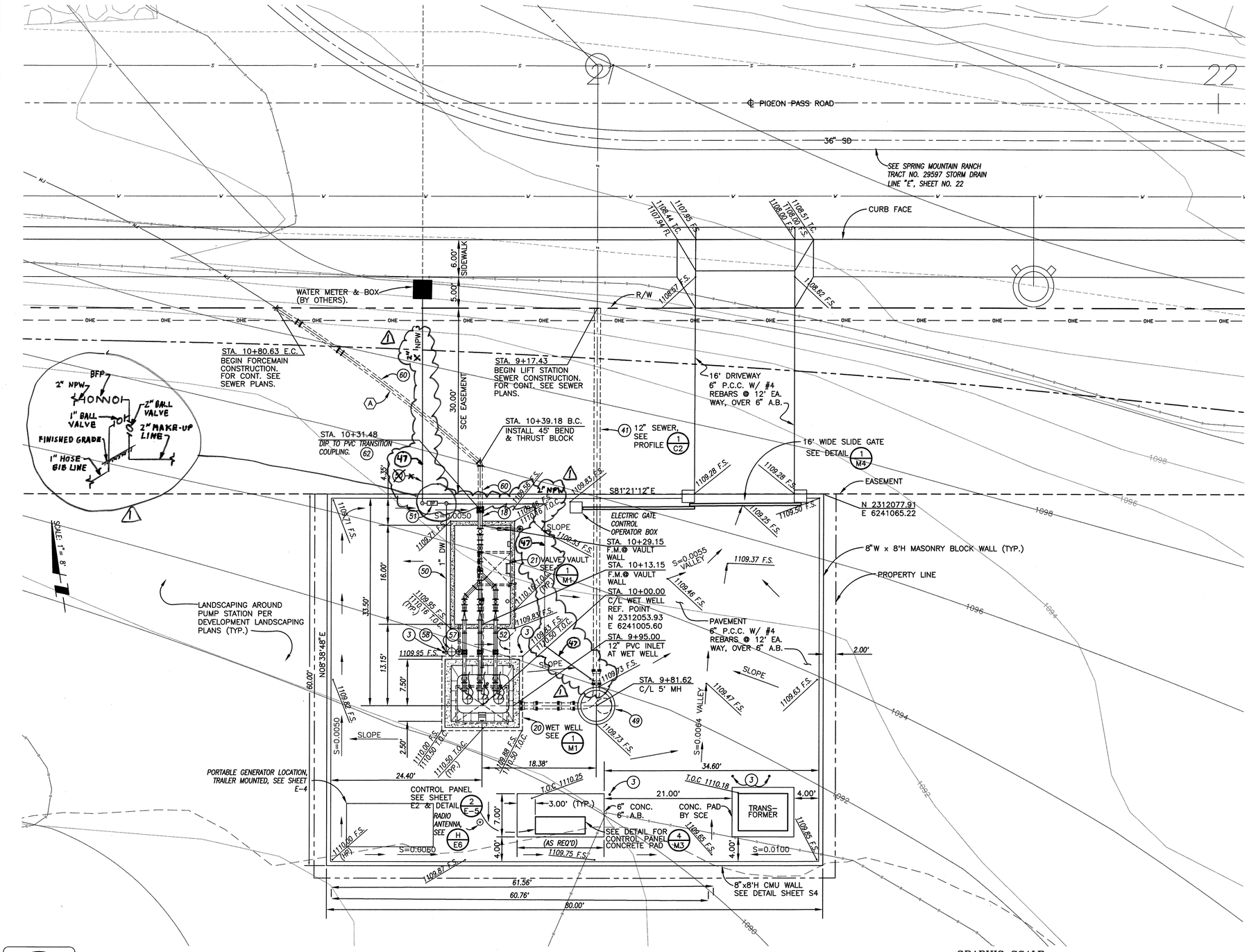
PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE



CONSTRUCTION NOTES:

(3) 5" GUARD POST, SEE DETAIL 3/M3
(18) 8" D.I. PIPE, FLG. X PE.
(20) 9' x 10' CONCRETE WET WELL, DESIGNED FOR H-20 BRIDGE LOADING.
(21) 9'-0"x16'-0" PRECAST CONCRETE VAULT DESIGNED FOR H-20 BRIDGE LOADING. SEE NOTE 6 SHT C-1. FOR LADDER, SEE DETAIL 2, SHT. M4
(41) 12" VCP PIPE, EXTRA STRENGTH
(49) 60" I.D. CONCRETE MANHOLE WITH 30" DIA. C.I. FRAME AND COVER.
(50) 1" WATER LINE, COPPER TYPE K HARD.
(51) 1" BACK FLOW PREVENTOR WITH BALL VALVES AND FITTINGS.
(52) 2" DRAIN LINE, COPPER TYPE K HARD.
(57) YARD LIGHT POLE, SEE DETAIL G/E6
(58) 3/4" HOSE BIBB PER APWA STD. PLAN 505 W/ ANTI SIPHON DEVICE.
(60) 8" PVC FORCEMAIN, C-900, CL150.
(62) 8" DIP TO PVC TRANSITION COUPLING

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
A	8°45'07"	280.00	41.45	21.43

NOTES

1. CONCRETE PAD THICKNESS LESS THAN 12" SHALL BE CONSTRUCTED WITH PERIMETER FOOTING 8" W x 18" DEEP. TOP OF CONCRETE PAD ABOVE THE SURROUNDING FINISHED CONCRETE PAVEMENT SHALL BE AT LEAST 3" AND NO GREATER THAN 8".
2. ALL CONCRETE PAD FOR EQUIPMENT OR STRUCTURES SHALL BE 6" (MIN.) THICK WITH 6" AGGREGATE BASE AND CONSTRUCTED WITH STEEL REBARS #5@12" EACH WAY UNLESS NOTED OTHERWISE.
3. ASTERISK (*) DENOTES A DIMENSION DEPENDENT ON ACTUAL EQUIPMENT FURNISHED. DIMENSION IS FOR DIFFERENCE ONLY WHERE SHOWN. CONTRACTOR SHALL VERIFY EQUIPMENT DIMENSIONS AND ADJUST AS NEEDED.
4. IF THE LIFT STATION DISCHARGE LINE IS CONSTRUCTED AFTER THE FORCE MAIN IS IN PLACE, THE CONTRACTOR SHALL VERIFY THE JOINT TYPE AND MATERIAL OF THE EXISTING PIPE AND USE APPROPRIATE BEND AND CONSTRUCT CONCRETE BLOCK PER THE CITY OF RIVERSIDE STANDARD PLANS.
5. WET WELL T.O.C. IS TO BE CONSTRUCTED 8" ABOVE FINISH SURFACE OF PCC PAVEMENT.
6. PRE-CAST CONCRETE VAULT SHALL BE PROVIDED AND DESIGNED BASED ON THE FOLLOWING:

CODE: 2001 C.B.C. (CALIFORNIA BUILDING CODE TITLE) CCR, TITLE 24, PART 2

GRAVITY LOADS:

1. LIFT STATION ROOF LIVE LOAD HS20 LOADING

LATERAL LOADS: SEE GEOTECH REPORT BY CHJ INC.

1. SEISMIC ZONE 4

SEISMIC SOURCE TYPE A
DISTANCE TO CRITICAL SOURCE = 5 Km
Ca = 0.53
Na = 1.2
Cv = 1.02
Nv = 1.6
R = 4.5

SEISMIC BASE SHEAR:
V = 0.293W (ULTIMATE DESIGN)
V = 0.210W (ALLOWABLE DESIGN)

2. LATERAL EFP = 60 PSF/FT (TRIANGULAR)

GRAPHIC SCALE
8 0 4 8 16 32
(IN FEET)
1 inch = 8 ft.

CALL BEFORE YOU DIG 811 or 800-227-2600

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTIBILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

DATE	BY	MARK	REVISIONS	APPR.	DATE
8/07	RT	1	NPW LINE CHANGED TO 2", ADDED 2" NPW MAKE-UP LINE		9/1/2007

ENGINEER — COUNTY

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER KHALED A. OTHMAN No. 33950 Exp. 6/30/08 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:
KHALED A. OTHMAN — DATE:
RECOMMENDED BY PBS & J — DATE:

SEAL
REGISTERED PROFESSIONAL ENGINEER JEFFREY L. DUNN No. 58455 Exp. 12/31/06 CIVIL STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY DUNN — R.C.E. NO. 58455 — DATE: 11/6/06

BENCHMARK DATUM
NAVD 88 921.398
BENCHMARK
CITY OF RIVERSIDE B.M. JS-03
BENCHMARK DESCRIPTION
LEAD & TACK IN TOP OF CURB 3.5 FEET N/O B.C.R. OR NW CURB RETURN AT PALMYRITA AVE. & IOWA AVE.
BASIS OF BEARINGS
BEARINGS SHOWN HEREON ARE GRID BEARINGS PER THE CALIFORNIA COORDINATE SYSTEM ZONE 6.

SCALE: HOR: 1"=40' VERT: AS SHOWN

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 2/22/07

CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

SITE/GRADING PLAN

SHEET NO. C1 OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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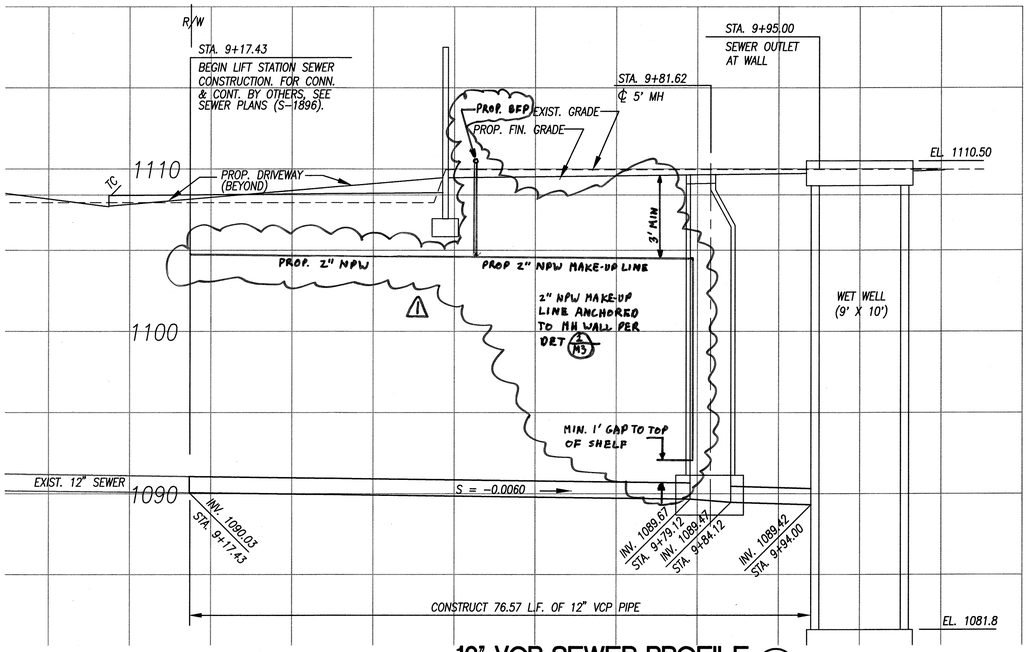
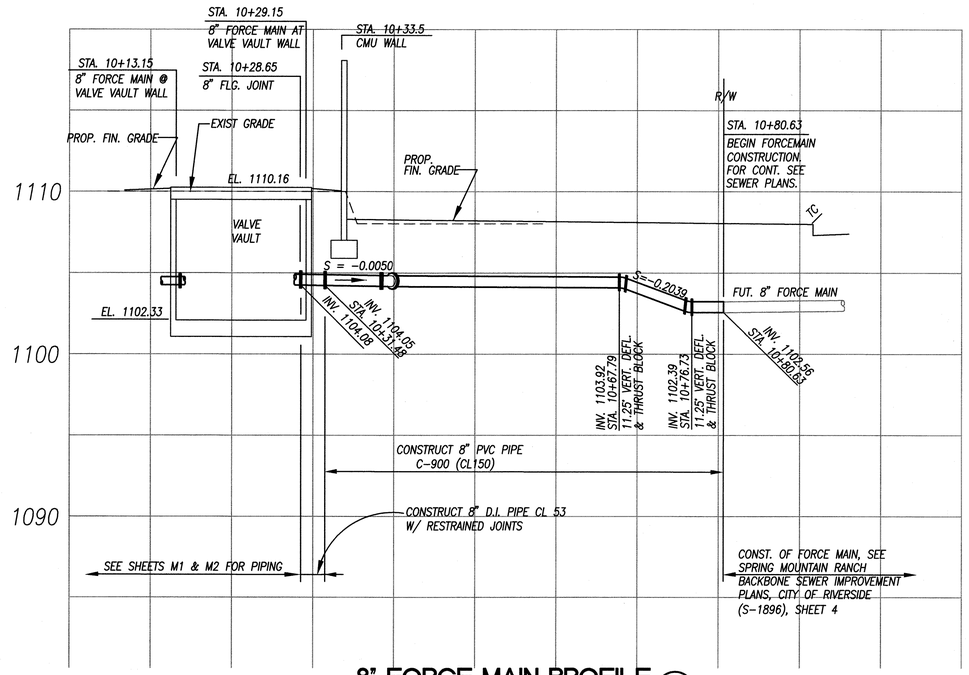
INDEXED S-02-07 LH



12" VCP SEWER PROFILE (1)

SCALE: HORIZ: 1" = 10'
VERT: 1" = 5'



8" FORCE MAIN PROFILE (2)

SCALE: HORIZ: 1" = 10'
VERT: 1" = 5'

PIGEON PASS SEWER PUMP STATION - SEWER IMPROVEMENT PLANS - COUNTY OF RIVERSIDE

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CALL BEFORE YOU DIG 800-227-2600

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DATE	BY	MARK	REVISIONS	APPR.	DATE
3/07	RT	1	ADDED 2" NPW TO PROFILE	TC	3/22/07

ENGINEER — COUNTY

SEAL-COUNTY
REGISTERED PROFESSIONAL ENGINEER
KHALED A. OTHMAN
No. 33950
Exp. 6/30/08
CIVIL
STATE OF CALIFORNIA

COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY:

KHALED A. OTHMAN — DATE:

RECOMMENDED BY PBS & J — DATE:

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STATE OF CALIFORNIA

STANTEC CONSULTING INC.
277 RANCHEROS DRIVE
SUITE 300
SAN MARCOS, CA 92069
760.891.3200
stantec.com

PREPARED BY: JEFFREY L. DUNN — R.C.E. NO. 58455 — DATE: 11/8/06

CITY OF RIVERSIDE
RECOMMENDS APPROVAL
CITY ENGINEER — DATE 3/22/07

BENCHMARK DATUM
NAVD 88 921.368
BENCHMARK
CITY OF RIVERSIDE B.M. JR-03
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CITY OF RIVERSIDE DRAWING No. S-1893
WDID No. 833C327881 | PW05-0064
WALL PERMIT No. BXX068135

COUNTY OF RIVERSIDE
SEWER IMPROVEMENT PLANS
PIGEON PASS SEWER PUMP STATION

PIPE PROFILES

SHEET NO. C2
OF 20 SHTS.

FOR: | W.O. | COUNTY FILE NO.

INDEXED 5-02-07 LH