Appendix 5.5 (Continued)

Hydrology (Part 4 of 15)

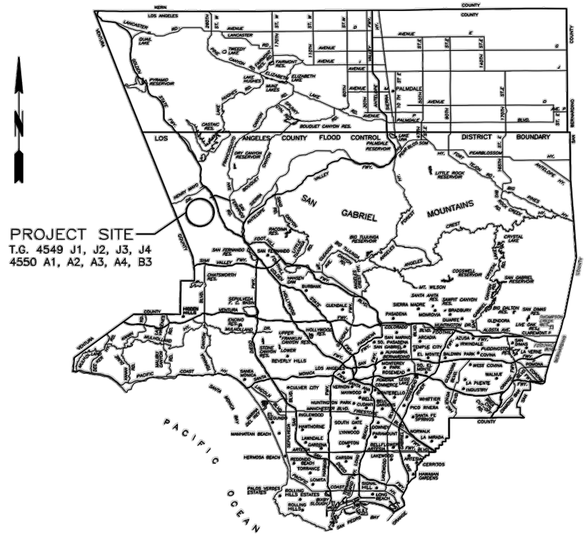
D-5: PD 2640

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

EIMP2014000164

PRIVATE DRAIN NO 2640

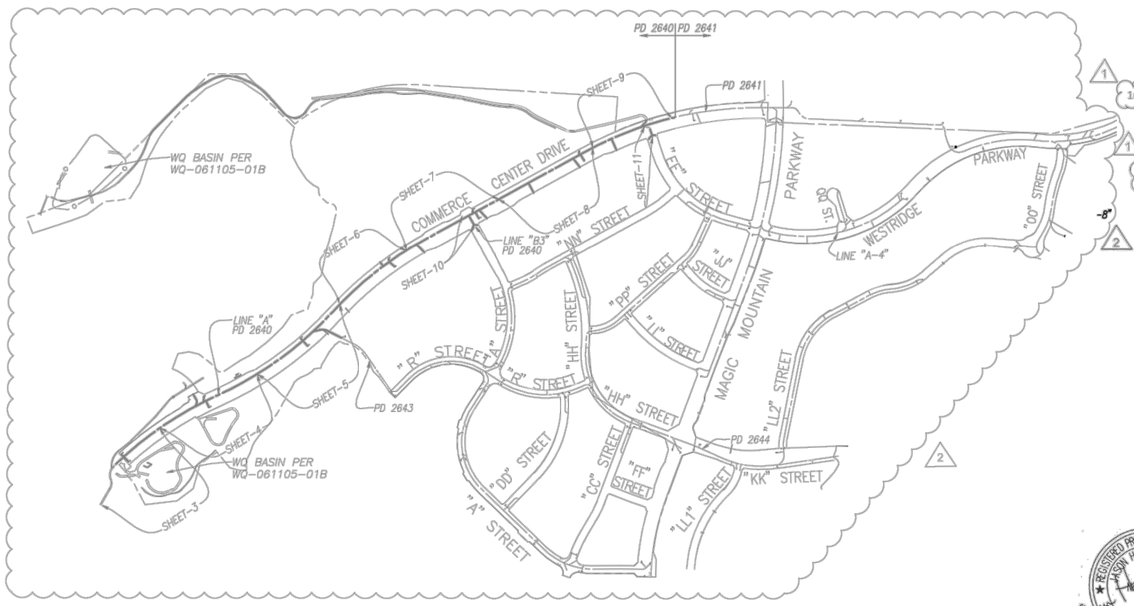
TRACT NO 61105-01



LOCATION MAP

INDEX TO PROJECT DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES, WATER QUALITY NOTES, AND HYDRAULIC ELEMENTS
3	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 13+71.06 TO 18+50.00
4	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 18+50.00 TO 28+00.00
5	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 28+00.00 TO 37+00.00
6	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 37+00.00 TO 44+00.00
7	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 44+00.00 TO 53+00.00
8	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 53+00.00 TO 61+88.30
9	STORM DRAIN PLAN AND PROFILE – LINE "A" FROM STA. 61+88.30 TO 69+02.33
10	STORM DRAIN PLAN AND PROFILE – LINE "A-5" FROM STA. 10+38.90 TO 11+25.02
11	STORM DRAIN PLAN AND PROFILE – LINE "A-6" FROM STA. 43+00.53 TO 51+67.01
12	DETAILS
13	CATCH BASIN LATERAL PROFILES
14	CATCH BASIN LATERAL PROFILES
15	CATCH BASIN LATERAL PROFILES
16	STORM DRAIN EASEMENTS
17	STRUCTURE DETAIL NOTES
18	STRUCTURE DETAILS
19	STRUCTURE DETAILS
20	STORM DRAIN PLAN AND PROFILE - LINE "B" FROM STA. 31+42.67 TO 34+94.38
21	STRUCTURE DETAILS
22	STRUCTURE DETAILS



KEY MAP

SCALE: 1"=600'

INDEX TO STANDARD DRAWINGS

CALIFORNIA DEPARTMENT OF TRANSPORTATION

STD. PLAN	TITLE
D86B	PIPE HEADWALLS

LOS ANGELES COUNTY DEPT. OF PUBLIC WORKS

STD. PLAN	TITLE
2032-2	CRADLING AND ENCASEMENT
3080-2	PIPE BEDDING
6008-1	MINIMUM PUBLIC SAFETY REQUIREMENTS FOR OPEN EXCAVATIONS

STANDARD PLANS FOR PUBLIC WORK CONSTRUCTION

STD. PLAN	TITLE
221-2	PIPE ANCHORS AND BACKFILL STABILIZERS
225-2	CONCRETE BLANKET
300-3	CURB OPENING CATCH BASIN
313-3	LOCAL DEPRESSIONS AT CATCH BASINS
320-2	MANHOLE – PIPE TO PIPE (36" OR LARGE)
321-2	MANHOLE – PIPE TO PIPE (33" OR SMALL)
322-2	MANHOLE – PIPE TO PIPE (LARGE INSIDE INLET)
330-2	MANHOLE SHAFT SAFETY LEDGE
331-3	JUNCTION STRUCTURE – PIPE TO PIPE
332-2	JUNCTION STRUCTURE – PIPE TO PIPE (ID < 24")
340-2	TRANSITION STRUCTURE – PIPE TO PIPE
380-4	CONCRETE COLLAR
383-2	VELOCITY CONTROL RINGS

CONSTRUCTION NOTES:

(1) INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
(2) INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
(3) INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
(4) INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
(10) INSTALL 114" R.C.P. (SEE PROFILE FOR D-LOAD)
(20) CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
(20a) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 320-2; SEE DETAILS ON SHEET 18 AND 19
(21) CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
(22) CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
(22a) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 322-2; SEE DETAIL ON SHEET 12
(22b) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 322-2; SEE DETAILS ON SHEET 18 AND 19
(24) CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22 (2)
(26) CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
(31) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
(32) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
(37) CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 12
(38) CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2
(62) CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD. PLAN 383-2; H=3" SPACING SEE PLAN
(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2
(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2
(74) CONSTRUCT PIPE CULVERT HEADWALL PER CALTRANS DETAIL D86B
(80) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4
(81) CONSTRUCT 8" BRICK AND MORTAR PLUG
(1) INSTALL 72" R.C.P. (SEE PROFILE FOR D-LOAD)
(6) INSTALL 84" R.C.P. (SEE PROFILE FOR D-LOAD)

CATCH BASIN STENCIL DETAIL
NTS

THIS DETAIL SHOULD APPEAR ON TOP OF ALL CATCH BASINS

ALL CATCH BASINS AND INLETS THAT DISCHARGE INTO AN EXISTING OR PROPOSED STORM DRAIN MUST BE STENCILED TO DISCOURAGE ILLEGAL DUMPING OFPOLLUTANTS. THIS STENCIL SHALL HAVE A MINIMUM DIAMETER OF 30 INCHES.

BENCH MARK: NEWHALL QUAD (2009) NAVD88
LADPW L 5210
DPW BM TAG IN E CB 3' N/O END @ SE COR RYE CYN RD & THE OLD ROAD 85' S & 55' E/O C/L INT.

ELEV. 1061.448 FEET ADJUSTMENT 2009

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS	
BY ASSISTANT DIVISION ENGINEER	7/31/2018 DATE
RECOMMENDED LAND DEVELOPMENT DIVISION	
BY STORM DRAIN SECTION	7/31/2018 DATE
SUBMITTED	
BY STORM DRAIN SECTION	7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD NOTES FOR 84" R.C.P., REVISED TOTAL SHEET NUMBER, ADD LINE TO INDEX.		MD.	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	No. 40695	MD.	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS			
3	REVISED LINE A-5 REVISED THE KEY MAP REVISED LATERALS PER BUILDER SITE, EXTENDED LATERALS TO TOP OF SLOPE		MD.	11/09/2020

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 7-20-18

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-XUEN CHIU No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

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 this map. The contractor is required to take due precautionary measures to protect the utility lines shown and any other lines not of record or shown on this drawing.

RCE SIGNATURE 7-20-18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9990

DWG SHEET 1 OF 19 20 21 22

G:\Newhall Ranch\61105 Mission Village\61105-01\Submit\PD 2640\WM081-01_Title Sheet.dwg Plotted on Jul 19, 2018 - 1:21pm by carissa

GENERAL NOTES:

1. A PERMIT SHALL BE OBTAINED AND A DEPOSIT PAID TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE 3RD FLOOR, ALHAMBRA, AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS CONTRACT. ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION PERMITS, MUST BE OBTAINED PRIOR TO STARTING WORK.
2. WHEN WORK IS WITHIN A CONTRACT CITY, CONTRACTOR MUST CONTACT THE DIRECTOR OF PUBLIC WORKS OF THAT CITY TO DETERMINE THE LOCATION TO PAY THE INSPECTION DEPOSIT.
3. THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE LISTED ON THE "APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION FORM I" TO ARRANGE FOR AN ACCEPTABLE CONSTRUCTION START DATE.
4. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 6008.
7. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929, UNLESS OTHERWISE INDICATED.
8. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
9. ALL STRUCTURAL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. UNLESS OTHERWISE NOTED.
10. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
11. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2-1/2 INCH CLEARANCE UNLESS OTHERWISE SPECIFIED.
12. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL PER A.S.T.M. A-615-GRADE 60.
13. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE."
14. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER LINE OF STEEL UNLESS OTHERWISE NOTED.
15. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18 INCHES WHICHEVER IS GREATER.
16. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4 INCH CHAMFER.
18. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.
19. CONCRETE BACKFILL IS REQUIRED WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX, PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.
20. ALL PIPES SHALL BE PLACED IN TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE THE TOP OF THE PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS.
21. ALL BACKFILL AND FILLS OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE COMPACTED TO MIN. 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D 1557-91 METHOD "D" UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.
22. ALL BACKFILL AND FILLS WITHIN STREET RIGHT-OF-WAY SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 306-1.3.4 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED AND INSPECTED BY THE CITY. CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS IN ADVANCE FOR SOIL TESTING AS REQUIRED BY THE INSPECTOR.
23. PIPE BEDDING SHALL BE:

    IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN NO. 3092 UNLESS OTHERWISE NOTED.

    ACCORDING TO STANDARD PLAN NO. 3080-0, CASE 3, EXCEPT BELL AND SPIGOT PIPE WHICH SHALL BE CASE 2 BEDDING, UNLESS OTHERWISE SHOWN. "W" VALUES SHALL BE AS SPECIFIED ON STANDARD PLAN 3080-0 FOR CASE 3 BEDDING, NOTES 3 (A), 3 (B), AND 3 (C). IF THE "W" VALUE AT THE TOP OF THE PIPE IS EXCEEDED, THE BEDDING SHALL BE MODIFIED, AND/OR PIPE OF ADDITIONAL STRENGTH SHALL BE PROVIDED. THE PROPOSED MODIFICATION SHALL BE APPROVED BY THE DEPARTMENT.
24. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND OUTLET HEADWALLS, UNLESS OTHERWISE SPECIFIED.
25. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN PRECAST CONCRETE PIPE SHALL BE 1 INCH IN PIPE HAVING A WALL THICKNESS OF 2 1/2 INCHES OR GREATER AND 3/4 INCH IN PIPE HAVING A WALL THICKNESS OF LESS THAN 2 1/2 INCHES.
26. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.
27. THE CONTRACTOR SHALL PROVIDE TO THE SATISFACTION OF THE CITY ENGINEER AND THE DIRECTOR OF PUBLIC WORKS A DRAINAGE SYSTEM FOR CONTRIBUTARY FLOWS TO BE OPERABLE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE. THE DESIGN OF THE DRAINAGE SYSTEM MUST BE PREPARED UNDER THE DIRECTION OF A CIVIL ENGINEER.

GENERAL NOTES (Cont'd)

28. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE ELEMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
29. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
30. UNLESS OTHERWISE INDICATED CROSSING UTILITIES ARE TO BE SUPPORTED IN ACCORDANCE WITH STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION NO. 224-2
31. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
32. MANHOLES SHALL USE THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 630-2 FOR THE "FRAME AND COVER" AND 635-2 FOR THE "STANDARD DROP STEP."
33. THIS STORM DRAIN WILL NOT BE FIELD ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE AND THE SYSTEM CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
34. AN NPDES PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD IS REQUIRED BEFORE ANY DISCHARGE OF NON-STORM WATER INTO THE STORM DRAIN IS ALLOWED.
35. THE LATEST REVISED STANDARD PLAN OR DRAWING SHALL BE USED UNLESS OTHERWISE NOTED.
36. THE SOILS ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.
37. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 630, 631, 632 AND 633 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.
38. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 312 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.
39. ALL ABOVE GROUND FACILITIES SHALL BE STAMPED WITH THE DRAIN AND LINE NAME. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND.
40. EVERY 100 FEET STATIONS SHALL BE LABELED ON THE INSIDE OF ALL STORM DRAINS AND WALL OF OPEN CHANNELS. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND AND SHOULD BE PLACED IN THE SOFFIT OF PIPES AND THE TOP 2 FEET OF A CHANNEL WALL.
41. FOR ALL DEBRIS BASINS, THE 0%, 5% AND 25% DEBRIS CONE ELEVATIONS SHALL BE LABELED ON THE CONCRETE FACING SLAB AND THE STAND PIPE.
42. PRIOR TO ORDERING PIPES, CONTACT GEOTECHNICAL & MATERIALS DIVISION AT (626) 458-1707 TO SCHEDULE FOR D-LOAD INSPECTION. FEES PAYABLE AT LAND DEVELOPMENT DIVISION PUBLIC COUNTER WILL BE REQUIRED.

VOID

STORMWATER POLLUTION CONTROL REQUIREMENTS FOR STORM DRAIN CONSTRUCTION

A. NOTES:

1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITE AT ALL TIME.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

B. THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CALIFORNIA BMP HANDBOOK (CONSTRUCTION) OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL) MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICIAL):

EROSION CONTROL
- EC1 – SCHEDULING
- EC2 – PRESERVATION OF EXISTING VEGETATION
- EC3 – HYDRAULIC MULCH
- EC4 – HYDROSEEDING
- EC5 – SOIL BINDERS
- EC6 – STRAW MULCH
- EC7 – GEOTEXTILES & MATS
- EC8 – WOOD MULCHING
- EC9 – EARTH DIKES & DRAINAGE SWALES
- EC10 – VELOCITY DISSIPATION DEVICES
- EC11 – SLOPE DRAINS
- EC12 – STREAMBANK STABILIZATION
- EC13 – RESERVED
- EC14 – COMPOST BLANKETS
- EC15 – SOIL PREPARATION/ROUGHENING
- EC16 – NON-VEGETATED STABILIZATION

TEMPORARY SEDIMENT CONTROL
- SE1 – SILT FENCE
- SE2 – SEDIMENT BASIN
- SE3 – SEDIMENT TRAP
- SE4 – CHECK DAM
- SE5 – FIBER ROLLS
- SE6 – GRAVEL BAG BERM
- SE7 – STREET SWEEPING AND VACUUMING
- SE8 – SAND BAG BARRIER
- SE9 – STRAW BALE BARRIERS
- SE10 – STORM DRAIN INLET PROTECTION
- SE11 – ACTIVE TREATMENT SYSTEMS
- SE12 – TEMPORARY SILT DIKE
- SE13 – COMPOST SOCKS & BERMS
- SE14 – BIOFILTER BAGS

WIND EROSION CONTROL
- WE1 – WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL
- TC1 – STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC2 – STABILIZATION CONSTRUCTION ROADWAY
- TC3 – ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT
- NS1 – WATER CONSERVATION PRACTICES
- NS2 – DEWATERING OPERATIONS
- NS3 – PAVING AND GRINDING OPERATIONS
- NS4 – TEMPORARY STREAM CROSSING
- NS5 – CLEAR WATER DIVERSION
- NS6 – ILLICIT CONNECTION/DISCHARGE
- NS7 – POTABLE WATER/IRRIGATION
- NS8 – VEHICLE AND EQUIPMENT CLEANING
- NS9 – VEHICLE AND EQUIPMENT FUELING
- NS10 – VEHICLE AND EQUIPMENT MAINTENANCE
- NS11 – PILE DRIVING OPERATIONS
- NS12 – CONCRETE CURING
- NS13 – CONCRETE FINISHING
- NS14 – MATERIAL AND EQUIPMENT USE
- NS15 – DEMOLITION ADJACENT TO WATER
- NS16 – TEMPORARY BATCH PLANTS

WASTE MANAGEMENT AND MATERIAL POLUTION CONTROL
- WM-1 – MATERIAL DELIVERY AND STORAGE
- WM-2 – MATERIAL USE
- WM-3 – STOCKPILE MANAGEMENT
- WM-4 – SPILL PREVENTION AND CONTROL
- WM-5 – SOLID WASTE MANAGEMENT
- WM-6 – HAZARDOUS WASTE MANAGEMENT
- WM-7 – CONTAMINATION SOIL MANAGEMENT
- WM-8 – CONCRETE WASTE MANAGEMENT
- WM-9 – SANITARY/SEPTIC WASTE MANAGEMENT
- WM-10 – LIQUID WASTE MANAGEMENT

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q (CFS)	DIA	Vmax (FPS)	REMARKS
"A"	13+71.06	14+64.35	2143.9	114"	31.9	2,3
	14+64.35	18+50.00	2091.3	114"	35.3	2,3
	18+50.00	22+03.37	2041.3	114"	31.6	2,3
	22+03.37	22+96.74	2001.3	114"	32.8	2,3
	22+96.74	28+00.00	1993.6	114"	36.8	2,3
	28+00.00	33+89.00	1980.6	114"	36.8	2,3
	33+89.00	37+00.00	1518.8	114"	39.1	2,3
	37+00.00	42+43.06	1518.8	114"	39.1	2,3
	42+43.06	66+73.09	1512.4	114"	25.0	1
	66+73.09	69+02.33	1476.4	114"	20.8	1
"A-2"	10+16.12	11+20.25	90.0	36"	12.7	
"A-5"	10+43.14	11+25.02	1.7	24"	19.0	
"A-6"	43+00.53	44+07.79	3.1	24"	15.0	
	44+07.79	47+00.30	2.1	24"	6.2	
	47+00.30	51+67.01	1.1	24"	6.6	
"A.13"	10+04.72	10+58.29	4.2	18"	9.0	
"A.14"	10+04.75	10+27.24	3.5	18"	12.5	
"A.15"	10+08.00	10+47.02	3.1	24"	16.4	
"A.16"	10+04.72	10+58.25	3.3	18"	15.6	
"A.17"	10+04.84	10+27.75	4.1	18"	15.3	
"A.18"	10+04.69	10+58.25	3.5	18"	13.6	
"A.19"	10+06.33	10+35.75	48.7	30"	9.9	
"A.20"	10+08.34	10+32.12	3.4	18"	18.4	
"A.21"	10+07.23	10+60.36	4.7	18"	15.3	
"A.22"	10+06.79	10+81.11	26.7	24"	22.2	1
"A.23"	10+02.97	10+32.12	4.5	18"	30.1	2
"A.24"	10+04.55	10+58.25	4.9	18"	23.0	1
"A.25"	10+07.60	10+80.78	1.3	36"	12.3	
"A.26"	10+07.01	10+79.33	2.0	30"	14.9	
"A.27"	10+02.16	10+32.04	1.0	18"	23.8	1
"A.28"	10+04.50	10+58.25	0.5	18"	12.0	
"A.29"	10+06.33	10+90.25	20.0	30"	27.3	1
"A.30"	10+16.30	10+64.84	36.0	30"	7.4	
"A5.1"	10+01.00	10+39.28	0.6	18"	12.4	
"A5.2"	10+00.80	10+24.25	1.1	18"	10.8	
"A6.1"	10+03.22	10+26.40	0.5	18"	6.5	
"A6.2"	10+02.60	10+15.27	0.5	18"	9.8	
"A6.3"	10+04.27	10+36.37	1.0	18"	8.2	
"B"	31+63.04	32+28.25	606.8	84"	38.2	2
	32+28.25	32+91.26	606.8	84"	38.2	2,3
	32+91.26	34+30.00	606.8	84"	37.3	2,3
	34+30.00	34+76.05	606.8	84"	37.3	2
	34+76.05	34+94.38	570.2	84"	23.0	
"B.7"	10+00.00	10+21.21	22.0	30"		4

PIPE LENGTHS CHART:

PIPE SIZE	TOTAL LENGTHS
18"	612'
24"	1,044'
30"	~~187'~~ 201'
36"	194'
114"	5,412'
TOTAL	~~7,481'~~ 7,814'

TOTAL SQ. FT. OF EASEMENT AQCUIRED = ~~9,123~~ SQ.FT. 15,504

PIPE SIZE	TOTAL LENGHTS
84"	126'
72"	193'

1 ADD AN ADDITIONAL 0.5" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 20 FPS.

2 ADD AN ADDITIONAL 1.0" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 30 FPS.

3 ADD VELOCITY CONTROL RINGS FOR V > 40 FPS.

4 NOT TO BE MAINTAINED BY LACFCD

FOR PLAN CHECK ONLY

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY M.D. Esslinger 7/31/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD LINE B AND LAT. B.7 TO ELEMENTS, REVISED TOTAL SHEET NUMBER, REVISE PIPE LENGHTS AND SQ. FT OF EASEMENTS.	Jason H. Fukumitsu	M.D. Esslinger	9/20/2018
2	VOIDED SHEET 2 AND REPLACED WITH SHEET 2A	Jason H. Fukumitsu No.40695	M.D. Esslinger	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
Jason H. Fukumitsu 7-20-18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG | SHEET 2 OF 19 20

DDN# 43-F546-1-19

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\MM081-02_Notes.dwg Plotted on Jul 19, 2018 - 1:21pm by ronsess

You created this PDF from an application that is not licensed to print to novaPDF printer (http://www.novapdf.com)

GENERAL NOTES:

1. A PERMIT SHALL BE OBTAINED AND A DEPOSIT PAID TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE 3RD FLOOR, ALHAMBRA, AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS CONTRACT. ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION PERMITS, MUST BE OBTAINED PRIOR TO STARTING WORK.
2. WHEN WORK IS WITHIN A CONTRACT CITY, CONTRACTOR MUST CONTACT THE DIRECTOR OF PUBLIC WORKS OF THAT CITY TO DETERMINE THE LOCATION TO PAY THE INSPECTION DEPOSIT.
3. THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE LISTED ON THE "APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION FORM I" TO ARRANGE FOR AN ACCEPTABLE CONSTRUCTION START DATE.
4. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 6008.
7. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929, UNLESS OTHERWISE INDICATED.
8. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
9. ALL STRUCTURAL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. UNLESS OTHERWISE NOTED.
10. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
11. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2-1/2 INCH CLEARANCE UNLESS OTHERWISE SPECIFIED.
12. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL PER A.S.T.M. A-615-GRADE 60.
13. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE."
14. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER LINE OF STEEL UNLESS OTHERWISE NOTED.
15. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18 INCHES WHICHEVER IS GREATER.
16. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4 INCH CHAMFER.
18. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.
19. CONCRETE BACKFILL IS REQUIRED WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX, PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.
20. ALL PIPES SHALL BE PLACED IN TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE THE TOP OF THE PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS.
21. ALL BACKFILL AND FILLS OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE COMPACTED TO MIN. 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D 1557-91 METHOD "D" UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.
22. ALL BACKFILL AND FILLS WITHIN STREET RIGHT-OF-WAY SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 306-1.3.4 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED AND INSPECTED BY THE CITY. CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS IN ADVANCE FOR SOIL TESTING AS REQUIRED BY THE INSPECTOR.
23. PIPE BEDDING SHALL BE:

    IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN NO. 3092 UNLESS OTHERWISE NOTED.

    ACCORDING TO STANDARD PLAN NO. 3080-0, CASE 3, EXCEPT BELL AND SPIGOT PIPE WHICH SHALL BE CASE 2 BEDDING, UNLESS OTHERWISE SHOWN. "W" VALUES SHALL BE AS SPECIFIED ON STANDARD PLAN 3080-0 FOR CASE 3 BEDDING, NOTES 3 (A), 3 (B), AND 3 (C). IF THE "W" VALUE AT THE TOP OF THE PIPE IS EXCEEDED, THE BEDDING SHALL BE MODIFIED, AND/OR PIPE OF ADDITIONAL STRENGTH SHALL BE PROVIDED. THE PROPOSED MODIFICATION SHALL BE APPROVED BY THE DEPARTMENT.
24. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND OUTLET HEADWALLS, UNLESS OTHERWISE SPECIFIED.
25. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN PRECAST CONCRETE PIPE SHALL BE 1 INCH IN PIPE HAVING A WALL THICKNESS OF 2 1/2 INCHES OR GREATER AND 3/4 INCH IN PIPE HAVING A WALL THICKNESS OF LESS THAN 2 1/2 INCHES.
26. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.
27. THE CONTRACTOR SHALL PROVIDE TO THE SATISFACTION OF THE CITY ENGINEER AND THE DIRECTOR OF PUBLIC WORKS A DRAINAGE SYSTEM FOR CONTRIBUTARY FLOWS TO BE OPERABLE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE. THE DESIGN OF THE DRAINAGE SYSTEM MUST BE PREPARED UNDER THE DIRECTION OF A CIVIL ENGINEER.

GENERAL NOTES (Cont'd)

28. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE ELEMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
29. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
30. UNLESS OTHERWISE INDICATED CROSSING UTILITIES ARE TO BE SUPPORTED IN ACCORDANCE WITH STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION NO. 224-2
31. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
32. MANHOLES SHALL USE THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 630-2 FOR THE "FRAME AND COVER" AND 635-2 FOR THE "STANDARD DROP STEP."
33. THIS STORM DRAIN WILL NOT BE FIELD ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE AND THE SYSTEM CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
34. AN NPDES PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD IS REQUIRED BEFORE ANY DISCHARGE OF NON-STORM WATER INTO THE STORM DRAIN IS ALLOWED.
35. THE LATEST REVISED STANDARD PLAN OR DRAWING SHALL BE USED UNLESS OTHERWISE NOTED.
36. THE SOILS ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.
37. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 630, 631, 632 AND 633 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.
38. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 312 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.
39. ALL ABOVE GROUND FACILITIES SHALL BE STAMPED WITH THE DRAIN AND LINE NAME. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND.
40. EVERY 100 FEET STATIONS SHALL BE LABELED ON THE INSIDE OF ALL STORM DRAINS AND WALL OF OPEN CHANNELS. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND AND SHOULD BE PLACED IN THE SOFFIT OF PIPES AND THE TOP 2 FEET OF A CHANNEL WALL.
41. FOR ALL DEBRIS BASINS, THE 0%, 5% AND 25% DEBRIS CONE ELEVATIONS SHALL BE LABELED ON THE CONCRETE FACING SLAB AND THE STAND PIPE.
42. PRIOR TO ORDERING PIPES, CONTACT GEOTECHNICAL & MATERIALS DIVISION AT (626) 458-1707 TO SCHEDULE FOR D-LOAD INSPECTION. FEES PAYABLE AT LAND DEVELOPMENT DIVISION PUBLIC COUNTER WILL BE REQUIRED.

STORMWATER POLLUTION CONTROL REQUIREMENTS FOR STORM DRAIN CONSTRUCTION

A. NOTES:

1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITE AT ALL TIME.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

B. THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CALIFORNIA BMP HANDBOOK (CONSTRUCTION) OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL) MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICIAL):

EROSION CONTROL
- EC1 – SCHEDULING
- EC2 – PRESERVATION OF EXISTING VEGETATION
- EC3 – HYDRAULIC MULCH
- EC4 – HYDROSEEDING
- EC5 – SOIL BINDERS
- EC6 – STRAW MULCH
- EC7 – GEOTEXTILES & MATS
- EC8 – WOOD MULCHING
- EC9 – EARTH DIKES & DRAINAGE SWALES
- EC10 – VELOCITY DISSIPATION DEVICES
- EC11 – SLOPE DRAINS
- EC12 – STREAMBANK STABILIZATION
- EC13 – RESERVED
- EC14 – COMPOST BLANKETS
- EC15 – SOIL PREPARATION/ROUGHENING
- EC16 – NON-VEGETATED STABILIZATION

TEMPORARY SEDIMENT CONTROL
- SE1 – SILT FENCE
- SE2 – SEDIMENT BASIN
- SE3 – SEDIMENT TRAP
- SE4 – CHECK DAM
- SE5 – FIBER ROLLS
- SE6 – GRAVEL BAG BERM
- SE7 – STREET SWEEPING AND VACUUMING
- SE8 – SAND BAG BARRIER
- SE9 – STRAW BALE BARRIERS
- SE10 – STORM DRAIN INLET PROTECTION
- SE11 – ACTIVE TREATMENT SYSTEMS
- SE12 – TEMPORARY SILT DIKE
- SE13 – COMPOST SOCKS & BERMS
- SE14 – BIOFILTER BAGS

WIND EROSION CONTROL
- WE1 – WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL
- TC1 – STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC2 – STABILIZATION CONSTRUCTION ROADWAY
- TC3 – ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT
- NS1 – WATER CONSERVATION PRACTICES
- NS2 – DEWATERING OPERATIONS
- NS3 – PAVING AND GRINDING OPERATIONS
- NS4 – TEMPORARY STREAM CROSSING
- NS5 – CLEAR WATER DIVERSION
- NS6 – ILLICIT CONNECTION/DISCHARGE
- NS7 – POTABLE WATER/IRRIGATION
- NS8 – VEHICLE AND EQUIPMENT CLEANING
- NS9 – VEHICLE AND EQUIPMENT FUELING
- NS10 – VEHICLE AND EQUIPMENT MAINTENANCE
- NS11 – PILE DRIVING OPERATIONS
- NS12 – CONCRETE CURING
- NS13 – CONCRETE FINISHING
- NS14 – MATERIAL AND EQUIPMENT USE
- NS15 – DEMOLITION ADJACENT TO WATER
- NS16 – TEMPORARY BATCH PLANTS

WASTE MANAGEMENT AND MATERIAL POLUTION CONTROL
- WM-1 – MATERIAL DELIVERY AND STORAGE
- WM-2 – MATERIAL USE
- WM-3 – STOCKPILE MANAGEMENT
- WM-4 – SPILL PREVENTION AND CONTROL
- WM-5 – SOLID WASTE MANAGEMENT
- WM-6 – HAZARDOUS WASTE MANAGEMENT
- WM-7 – CONTAMINATION SOIL MANAGEMENT
- WM-8 – CONCRETE WASTE MANAGEMENT
- WM-9 – SANITARY/SEPTIC WASTE MANAGEMENT
- WM-10 – LIQUID WASTE MANAGEMENT

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q (CFS)	DIA	Vmax (FPS)	REMARKS
"A"	13+71.06	14+64.35	2038.8	114"	34.5	2,3
	14+64.35	18+50.00	2035.3	114"	35.3	2,3
	18+50.00	22+03.37	2035.3	114"	35.3	2,3
	22+03.37	22+96.74	1945.3	114"	36.8	2,3
	22+96.74	28+00.00	1933.2	114"	39.2	2,3
	28+00.00	33+89.00	1933.2	114"	35.1	2,3
	33+89.00	37+00.00	1557.6	114"	39.2	2,3
	37+00.00	42+43.06	1557.6	114"	39.2	2,3
	42+43.06	66+73.09	1557.6	114"	25.0	1
	66+73.09	69+02.33	1521.6	114"	21.5	1
"A-2"	10+16.12	11+20.25	90.0	36"	12.7	
"A-5"	10+43.14	11+25.02	1.7	24"	19.0	
"A-6"	10+11.75	11+24.30	2.2	24"	13.4	
"A.13"	10+04.72	10+58.29	4.2	18"	9.0	
"A.14"	10+04.75	10+27.74	3.5	18"	12.5	
"A.15"	10+08.00	10+47.02	3.1	24"	16.4	
"A.16"	10+04.72	10+58.25	3.3	18"	15.6	
"A.17"	10+04.84	10+27.75	4.1	18"	15.3	
"A.18"	10+04.69	10+58.25	3.5	18"	13.6	
"A.19"	10+06.33	10+35.75	48.7	30"	9.9	
"A.20"	10+08.34	10+32.12	3.4	18"	18.4	
"A.21"	10+07.23	10+60.36	4.7	18"	15.3	
"A.22"	10+06.79	10+81.11	26.7	24"	22.2	1
"A.23"	10+02.97	10+32.12	4.5	18"	30.1	2
"A.24"	10+04.55	10+58.25	4.9	18"	23.0	1
"A.25"	10+07.60	10+80.78	16.3	36"	25.8	1
"A.26"	10+07.01	10+79.33	8.8	30"	23.1	1
"A.27"	10+02.16	10+32.04	1.0	18"	23.8	1
"A.28"	10+04.50	10+58.25	0.5	18"	12.0	
"A.29"	10+06.33	10+90.25	9.0	30"	22.0	1
"A.30"	10+16.30	10+64.84	36.0	30"	7.4	
"A.31"	10+04.75	10+92.25	9.5	24"	23.5	1
"A5.1"	10+01.00	10+39.28	0.6	18"	12.4	
"A5.2"	10+00.80	10+24.25	1.1	18"	10.8	
"A6.1"	10+03.22	10+40.21	1.1	18"	6.7	
"A6.2"	10+02.64	10+26.19	1.1	18"	7.3	
"A6.3"	10+04.27	10+36.37	1.0	18"	8.2	
"B"	31+63.04	32+28.25	634.2	84"	38.3	2
	32+28.25	32+91.26	634.2	84"	38.3	2,3
	32+91.26	34+01.64	634.2	84"	37.0	2,3
	34+01.64	34+30.00	577.9	84"	28.6	2,3
	34+30.00	34+76.05	577.9	84"	18.8	
	34+76.05	34+94.38	577.9	84"	18.8	
"B.7"	10+00.00	10+31.21	61.6	30"	12.9	4

PIPE LENGTHS CHART:

PIPE SIZE	TOTAL LENGTHS
18"	612'
24"	1,044'
30"	201'
36"	194'
114"	5,412'
TOTAL	7,814'

TOTAL SQ. FT. OF EASEMENT AQCUIRED = 9,123 SQ.FT.

PIPE SIZE	TOTAL LENGTHS
84"	126'
72"	193'

1 ADD AN ADDITIONAL 0.5" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 20 FPS.

2 ADD AN ADDITIONAL 1.0" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 30 FPS.

3 ADD VELOCITY CONTROL RINGS FOR V > 40 FPS.

4 NOT TO BE MAINTAINED BY LACFCD

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

2

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ DATE
STORM DRAIN SECTION

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED SHEET 2A REVISED HYDRAULIC TABLE	No.40695	MD.	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

5/1/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

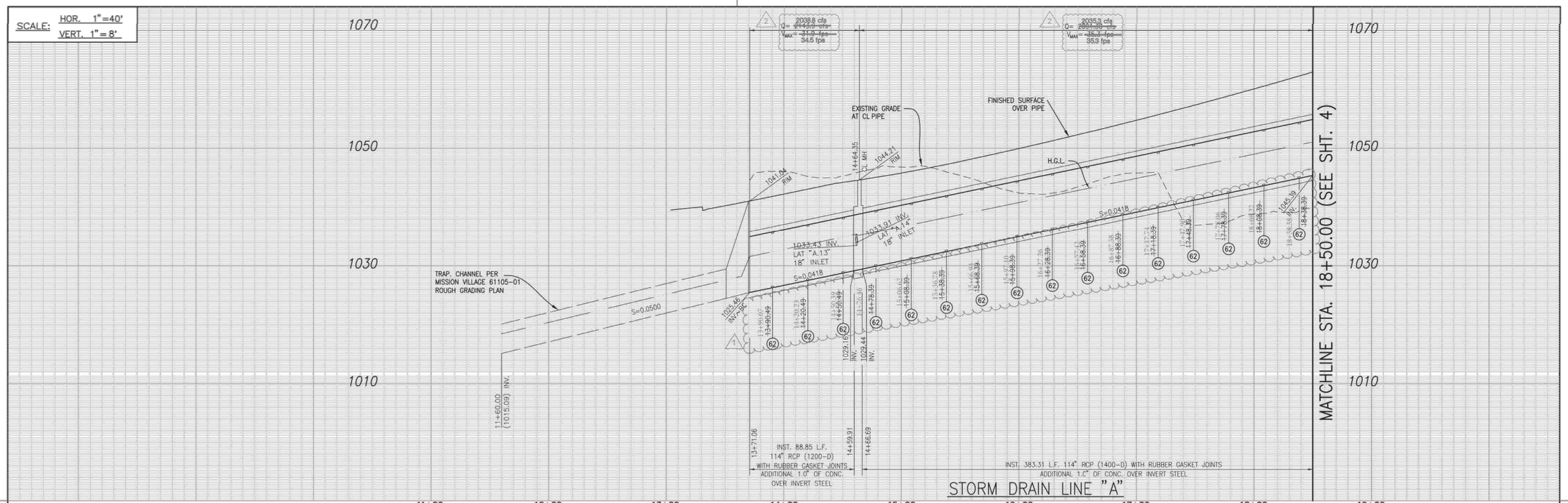
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 2A OF 22

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HW\081-02_Notes_REV.dwg Plotted on Apr 29, 2019-2:44pm by hidalya

SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "A"

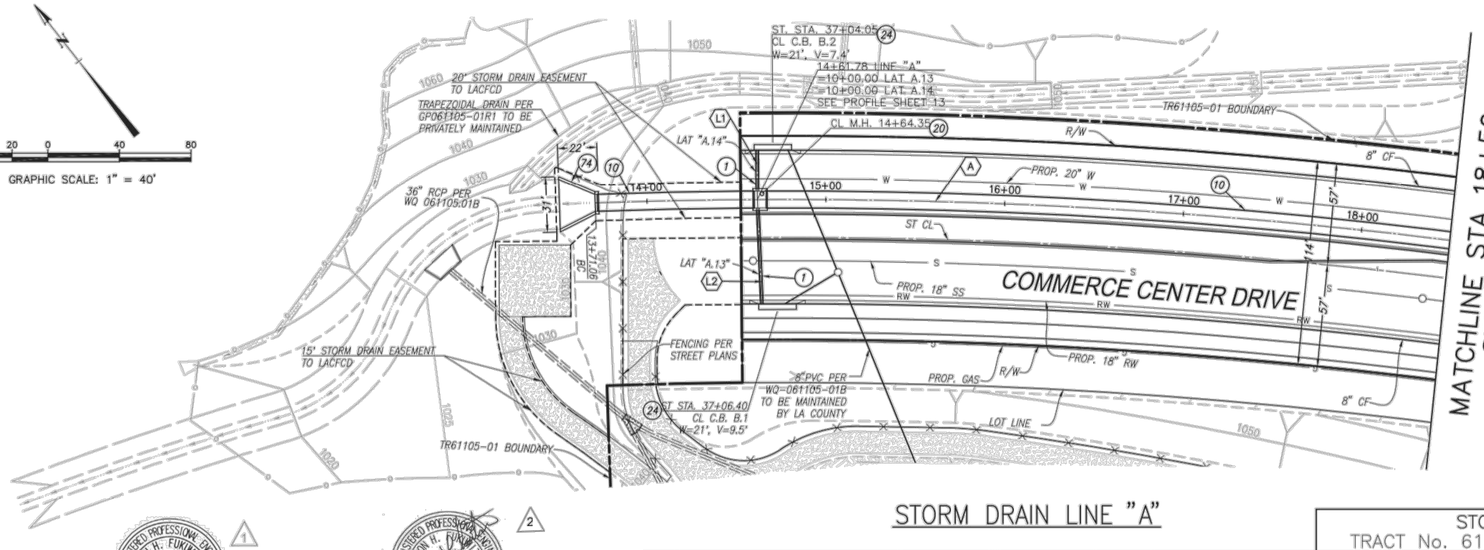
CONSTRUCTION NOTES:

(1) INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
(10) INSTALL 114" R.C.P. (SEE PROFILE FOR D-LOAD)
(20) CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
(24) CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22 (2)
(62) CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD. PLAN 383-2; H=3" @ 30" O.C.
(74) CONSTRUCT PIPE CULVERT HEADWALL PER CALTRANS DETAIL D86B

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
(A)	09°04'58"	3021.25'	478.94'	239.98'

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	27.74'	S37°51'24"W
(L2)	58.29'	N35°48'06"W

GRAPHIC SCALE: 1" = 40'



STORM DRAIN LINE "A"

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATE VELOCITY CONTROL RING PER AS-BUILT		MD.	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	No.40695	MD.	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS			

REVIEWED LAND DEVELOPMENT DIVISION
BY M D E STORM DRAIN SECTION 7/31/2018 DATE

JASON H. FUKUMITSU DATE 7-20-18

ANDREW A. PRICE No. 1209 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

VINCENT PING-KUEN LEE No. 2532 Exp. 6-30-20 — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

JASON H. FUKUMITSU No. 40695 — REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

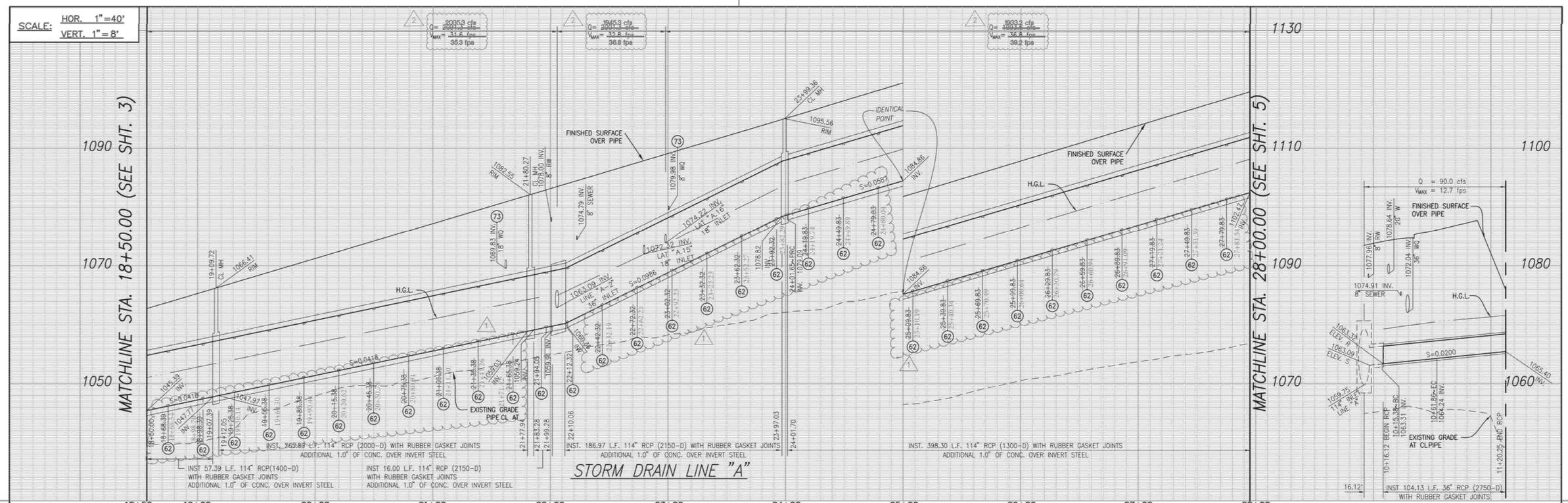
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-8890

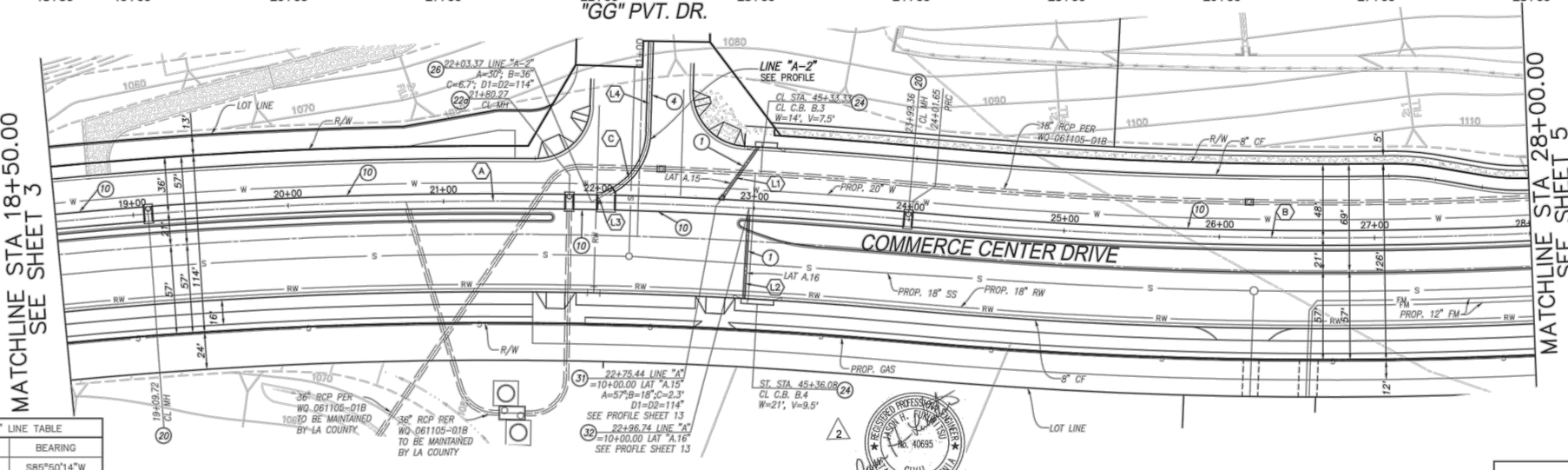
DWG | SHEET 3 OF 19 20 22

DDN# 43-F546-1-1-19

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\MM1081-03_SD Plan1.dwg Plotted on Jul 19, 2018--1:35pm by ramness

SCALE: HOR. 1"=40'
VERT. 1"=8'





STORM DRAIN LINE "A–2"

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" RCP (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
22. CONSTRUCT MODIFIED M.H. SEE SHT.12 FOR DETAIL
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
31. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
32. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
62. CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD. PLAN 383-2; H=3" 30" O.C.
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	47.02'	S85°50'14"W
L2	58.25'	N53°51'55"E
L3	15.38'	N68°29'28"W
L4	58.40'	N52°20'18"E

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	10°27'42"	3021.25'	551.65'	276.59'
B	07°39'29"	2978.75'	398.35'	199.47'
C	59°10'14"	45.00'	46.47'	25.55'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY M D Eslick 7/31/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATE VELOCITY CONTROL RING PER AS-BUILT		MD. Eslick	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	Jason H. Fukumitsu No.40695	MD. Eslick	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 7-20-18

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIGE No. 1108 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-AUNG IP No. 2622 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

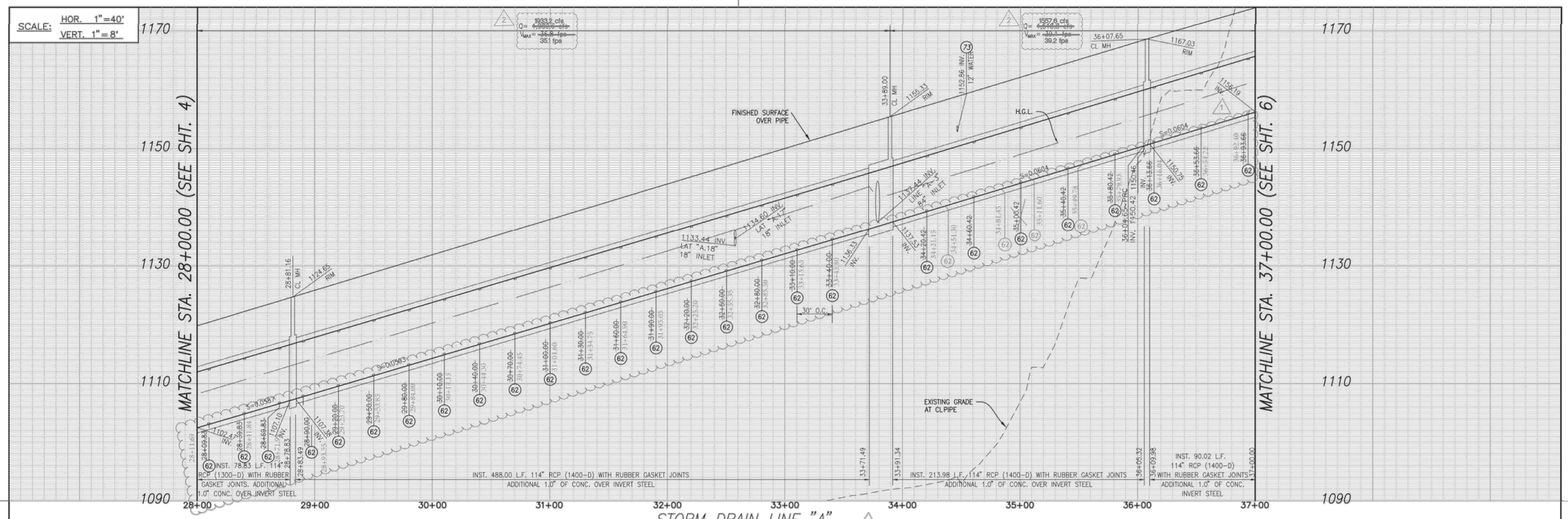
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-8890

DWG | SHEET 4 OF 19 20 22

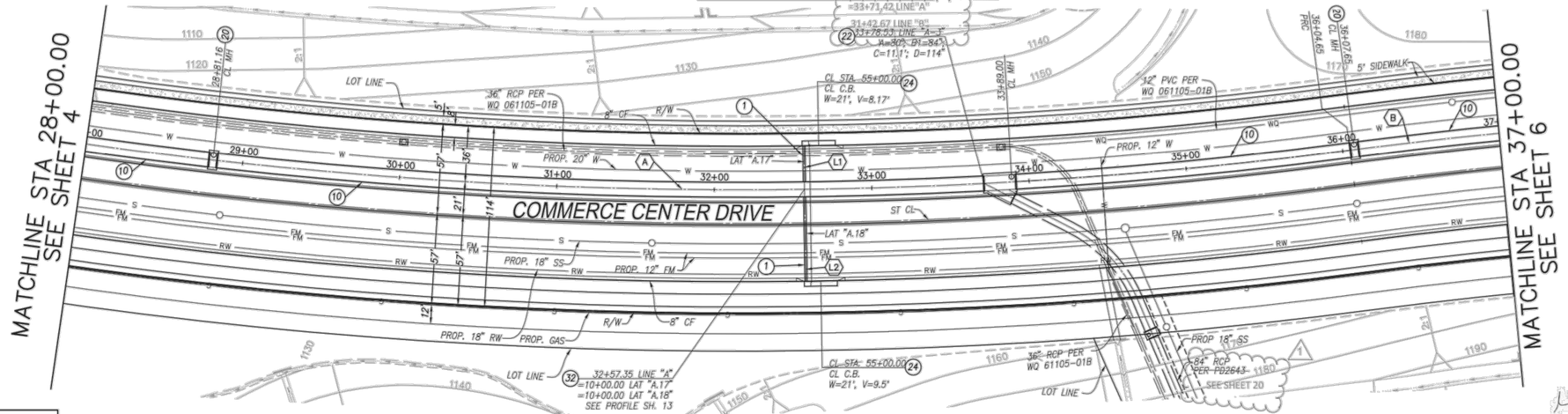
DDN# 43-F546-1-19

G:\Vtentuti Ranch\61105 Mission Village\61105-01\Storm\VP 2640\VAK\061--04_SD Plan2.dwg Plotted on Jul 19, 2018--1:45pm by ronsess

SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "A"



STORM DRAIN LINE "A"

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" RCP (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
22. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22
32. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
62. CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD. PLAN 383-2., H=3.0" SPACING SEE PROFILE
73. CONSTRUCT CONCRETE BLANKET PROTECTION PER S.P.P.W.C. STD. PLAN 225-2.

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	27.75'	S39°13'18"W
L2	58.25'	S39°02'24"W

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	15°28'38"	2978.75'	804.65'	404.79'
B	01°48'30"	3021.25'	95.35'	47.68'

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD JUNCTION INFO. FOR LINE B,CHANGE CALL OUT FOR LINE B, REVISED TOTAL SHEET NUMBER, UPDATE VELOCITY CONTROL RING STATION PER AS-BUILT		MD	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24. REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS	No.40695	MD	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 7-20-18

ANDREW A. PRICE No. 1209 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING AU-YEUNG No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

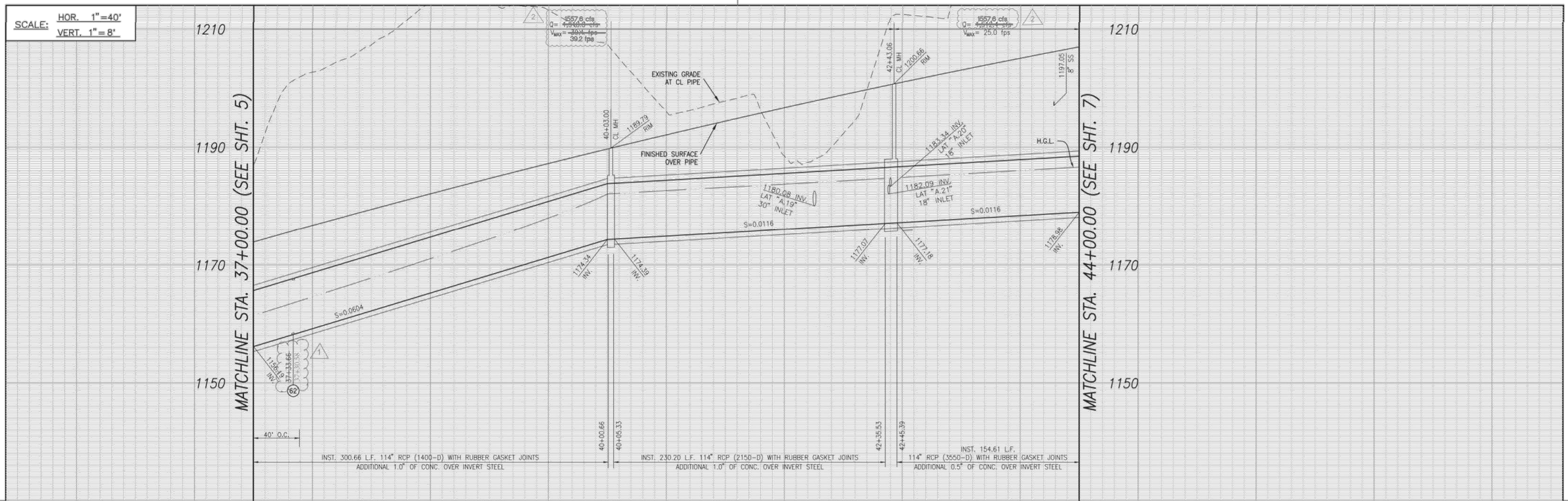
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-5890

DWG | SHEET 5 OF 19 28 22

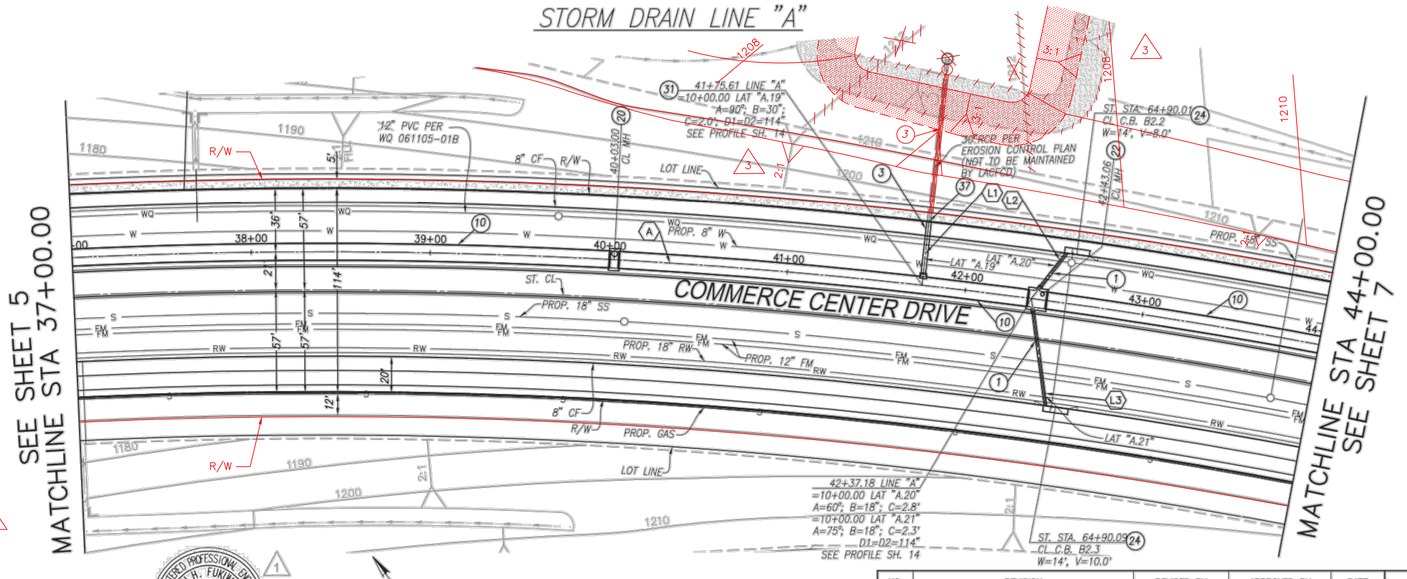
DDN# 43-F546-1-19

G:\Newhall Ranch\VB1105 Mission Village\61105-01\Storm\VPD 2640\VM\VM081-05_SD Plan3.dwg Plotted on Jul 19, 2018--2:04pm by rosteres

SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "A"



CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" RCP (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
22. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22
31. CONSTRUCT R.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 12
62. CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD PLAN 383-2; H=3" SPACING SEE PROFILE

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	67.00' 35.75'	S43°22'08"W
L2	32.12'	S75°55'11"W
L3	60.36'	N29°29'26"W

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	13°16'30"	3021.25'	700.00'	351.57'

GRAPHIC SCALE: 1" = 40'

REVISED HYDRAULIC ELEMENTS EXTENDED SD. LAT. 19 5' BEYOND SLOPE

REVIEWED LAND DEVELOPMENT DIVISION
BY M. D. Esslinger, Jr. STORM DRAIN SECTION
7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATE VELOCITY CONTROL RING STATION PER AS-BUILT		M.D.	9/20/2018
			M.D.	11/09/2020
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	No.40695	M.D.	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
7-20-18
JASON H. FUKUMITSU DATE

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1208 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

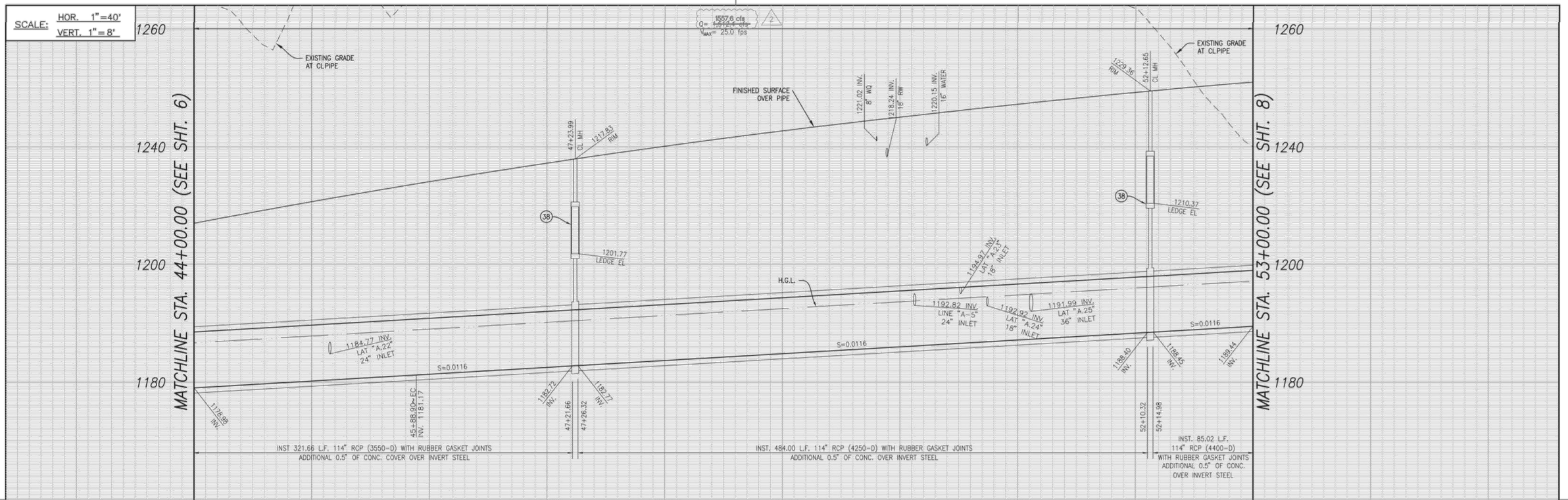
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-0890

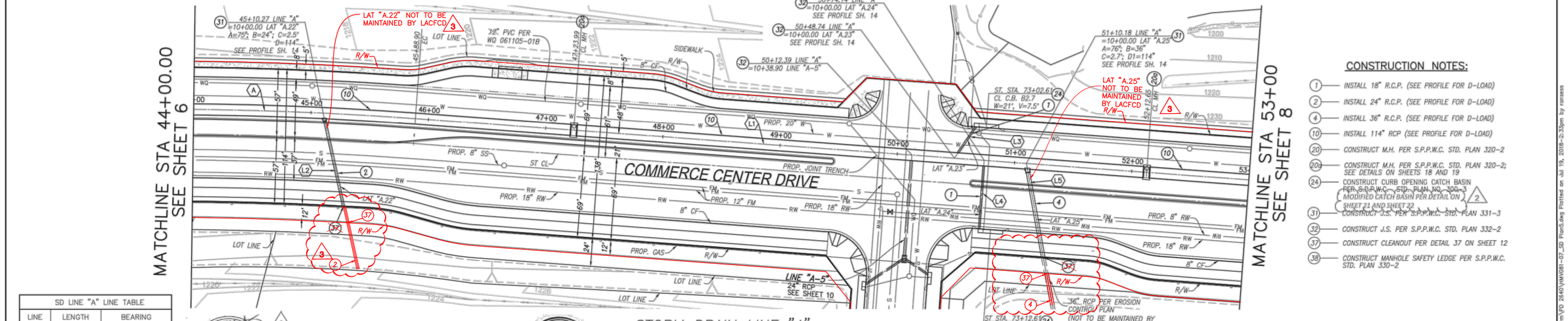
DWG | SHEET 6 OF 19 20 22

DDN# 43-F546-1-19

G:\Vikwatt Ranch\61105 Mission Village\61105-01\Storm\PD 2640\VAV081-06_SD Plan4.dwg Plotted on Jul 19, 2018--2:17pm by ronsess

SCALE: HOR. 1"=40'
VERT. 1"=8'





CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" RCP (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
20a. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2; SEE DETAILS ON SHEETS 18 AND 19
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22 2
31. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
32. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 12
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	~~711.19'~~	S38°47'36"E
L2	~~95.64'~~ 81.11'	N34°39'44"E
L3	32.12'	S81°18'54"W
L4	70.25'	S51°12'24"W
L5	~~95.24'~~ 80.78'	N36°49'11"E

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	03°34'56"	3021.25'	188.90'	94.48'

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1709 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING XUE No. 2622 Exp. 6/30/20 GEOTECHNICAL STATE OF CALIFORNIA

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
7/31/2018 DATE

STORM DRAIN LINE "A"

3 EXTENDED SD LAT. A.22 AND LAT. A.25 TO TOP OF SLOPE

M.D. Engrd 11/09/2020

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		M.D. Engrd	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	No.40695	M.D. Engrd	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS ADDED LATERAL A.31 ADDED LINE DATA			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
7-20-18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-0890

DWG

SHEET 7 OF ~~19~~ 20 22

DDN# 43-F546-.1-.19

C:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HM1081-07_SD Plan5.dwg Plotted on Jul 19, 2018--2:33pm by ronsess

SCALE: HOR. 1"=40'
VERT. 1"=8'

MATCHLINE STA. 53+00 (SEE SHT. 7)

MATCHLINE STA. 61+88.30 (SEE SHT. 9)

Q= 1557.8 cfs
V_{MAX}= 25.0 fps

FINISHED SURFACE OVER PIPE

57+01.31 CL MH

1236.06 RIM

1241.82 RIM 61+85.97

1222.23 LEDGE EL

1217.73 LEDGE EL

EXISTING GRADE AT CLPIPE

H.G.L.

1198.44 INV.

S=0.0116

1196.46 INV. LAT "A.A1" 24" INLET

1194.08 INV. 56+98.38

57+03.64 1194.13 INV.

INST 398.98 L.F. 114" RCP (4400-D) WITH RUBBER GASKET JOINTS
ADDITIONAL 0.5" OF CONC. COVER OVER INVERT STEEL

1202.82 INV. LAT "A.26" 30" INLET

1204.79 INV. LAT "A.28" 18" INLET

1207.20 INV. LAT "A.27" 18" INLET

S=0.0116

61+17.48 BC INV. 1198.94

1199.71 INV. 61+83.64

INST 480.00 L.F. 114" RCP (4400-D) WITH RUBBER GASKET JOINTS
ADDITIONAL 0.5" OF CONC. COVER OVER INVERT STEEL

Q = 9.5 cfs
V_{MAX} = 23.5 fps

10+00.00 LAT "A.31" =55+80.97 LINE "A"

FINISHED SURFACE OVER PIPE

1228.35 INV. 8" RW

1227.44 INV. 18" RW

1225.87 INV. 12" FM

1221.23 INV. 8" SS

1223.75 INV.

1231.76 INV.

S=0.0116

1196.94 INV. 8" SS

1191.71 F.I.

10+92.25 END RCP

11+13.80 END RCP

10+04.25 BEGIN RCP

EXISTING GRADE AT ℄ PIPE
INST. 87.50 L.F.
24" R.C.P. (5750-D)

4.75'

INST 21.63' L.F. 24" RCP (5750-D)

3 NOT TO BE MAINTAINED BY LACFCD

ADDITIONAL 0.5" OF CONC. COVER OVER INVERT STEEL WITH RUBBBER GASKET

STORM DRAIN LINE "A"

SD LAT "A.31"

MATCHLINE STA 53+00.00 SEE SHEET 7

MATCHLINE STA 61+88.30 SEE SHEET 9

55+80.97 LINE "A" =10+00.00 LAT "A.31" SEE PROFILE HEREON

8" PVC PER WQ 061105-01B 8" CF

LOT LINE

PROP. 20" W

ST CL

PROP. 8" RW

PROP. 18" RW

PROP. 12" FM

PROP. GAS

8" CF

LAT "A.31"

LAT "A.26" NOT TO BE MAINTAINED BY LACFCD

LAT "A.28"

8" PVC PER WQ 061105-01B

LAT "A.27"

RCP PER EROSION CONTROL PLAN (NOT TO BE MAINTAINED BY LACFCD)

24" RCP PER EROSION CONTROL PLAN (NOT TO BE MAINTAINED BY LACFCD)

60+79.53 LINE "A" =10+00.00 LAT "A.28" SEE PROFILE SH. 15

60+07.80 LINE "A" =10+00.00 LAT "A.26" SEE PROFILE SH. 14

60+63.51 LINE "A" =10+00.00 LAT "A.27" SEE PROFILE SH.15

ST. STA. 83+10.00 CL C.B. B2.10 W=7' V=7.5'

ST. STA. 83+10.00 CL C.B. B2.10 W=7' V=9.0'

83+11.50

COMMERCE CENTER DRIVE

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" R.C.P. (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2 SEE DETAILS ON SHEETS 18 AND 19
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 32
32. CONSTRUCT G.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL ON SHEET 12
38. CONSTRUT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L5	92.25'	S51°12'24"W

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	~~817.45'~~ 93.52' ~~72.43'~~	S38°47'36"E
L2	32.04'	S81°12'24"W
L3	70.25'	N51°12'24"E

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	01°20'35"	3021.25'	70.82'	35.41'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY M. D. Espinoza 7/31/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATED CATCH BASIN STATIONS AND WIDTHS.		M.D. Espinoza	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	Jason H. Fukumitsu No.40695	M.D. Espinoza	06/11/2019
	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS ADDED LATERAL A.31			
3	EXTENDED SD LAT. A.26 TO TOP OF SLOPE AND ADD MAINTENANCE RESPONSIBILITY		M.D. Espinoza	11/09/2020

JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA 7-20-18
JASON H. FUKUMITSU DATE

ANDREW A. PRICE No. 1709 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

VINCENT PING-XIEN No. 2592 Exp. 2-29-20 REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

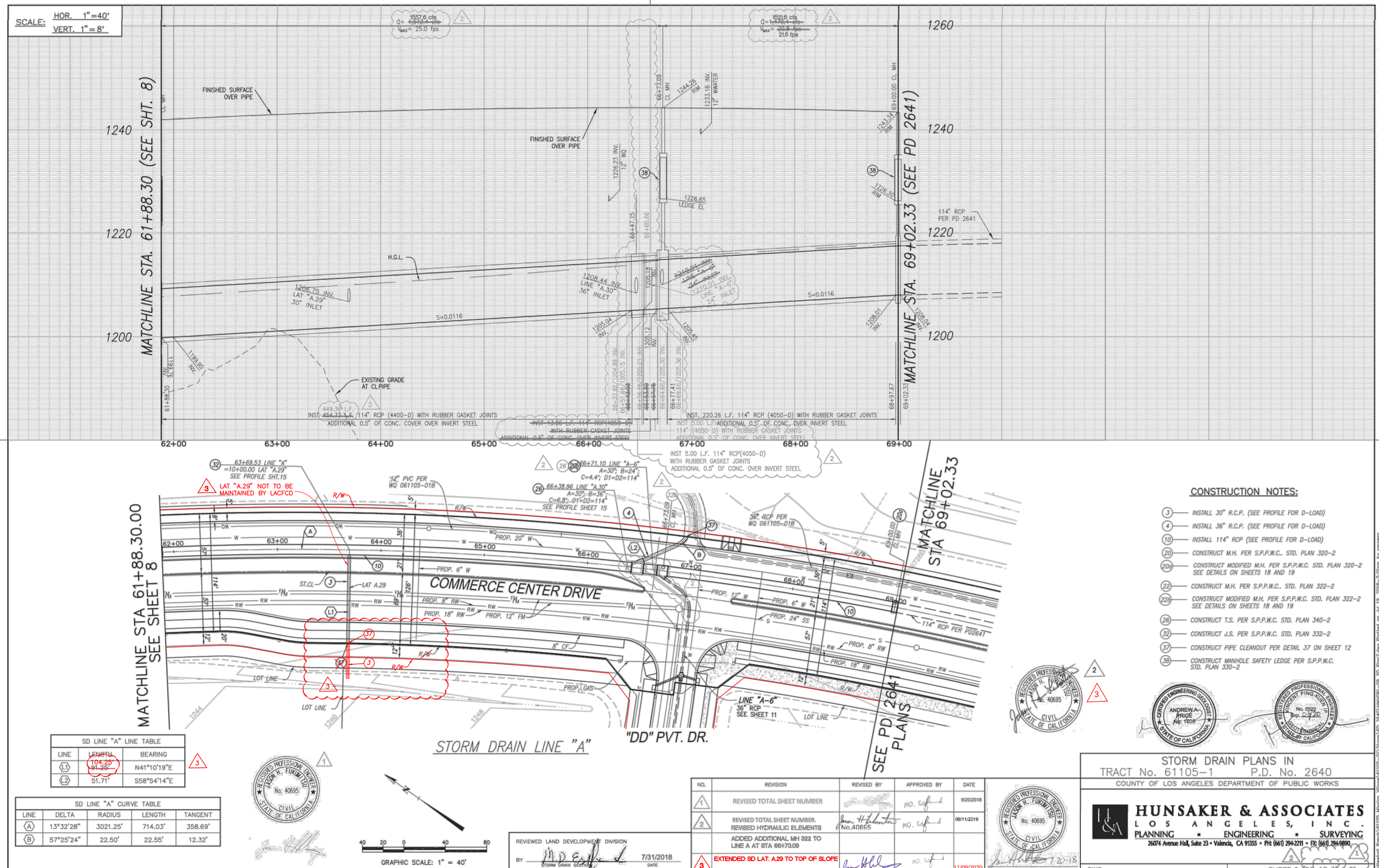
DWG

SHEET 8 OF ~~19~~ 22

DDN# 43-F546-1-1-19

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HW\08-SD Plan6.dwg Plotted on Jul 19, 2018--2:46pm by rsnares

SCALE: HOR. 1"=40'
VERT. 1"=8'



SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	104.25' 91.25'	N41°10'19"E
L2	51.71'	S58°54'14"E

SD LINE "A" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	13°32'28"	3021.25'	714.03'	358.69'
B	57°25'24"	22.50'	22.55'	12.32'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 7/31/2018 DATE

CONSTRUCTION NOTES:

3 INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
4 INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
10 INSTALL 114" RCP (SEE PROFILE FOR D-LOAD)
20 CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 320-2
20a CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 320-2 SEE DETAILS ON SHEETS 18 AND 19
22 CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
22a CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 322-2 SEE DETAILS ON SHEETS 18 AND 19
26 CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
32 CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37 CONSTRUCT PIPE CLEANOUT PER DETAIL 37 ON SHEET 12
38 CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-XUEN IP No. 2522 Exp. 2-21-20 GEOTECHNICAL STATE OF CALIFORNIA

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		MD.	9/20/2018
2	REVISED TOTAL SHEET NUMBER. REVISED HYDRAULIC ELEMENTS	No.40695	MD.	06/11/2019
	ADDED ADDITIONAL MH 322 TO LINE A AT STA 66+73.09			
3	EXTENDED SD LAT. A.29 TO TOP OF SLOPE		MD.	11/09/2020

JASON H. FUKUMITSU DATE 7-20-18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

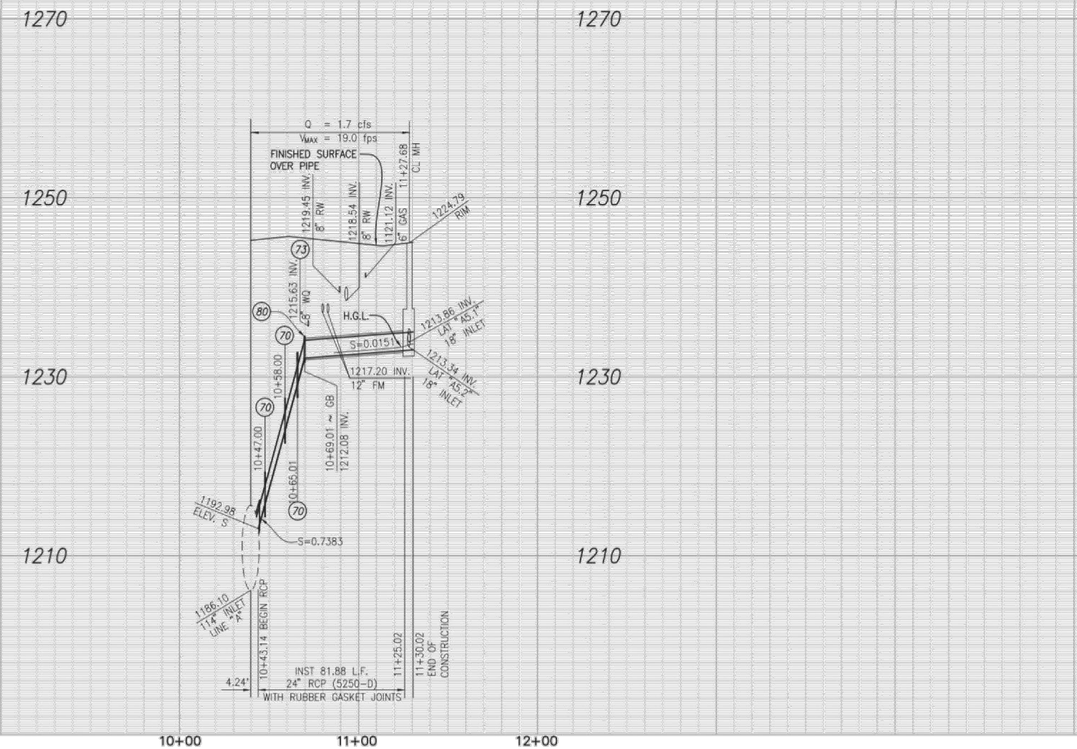
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

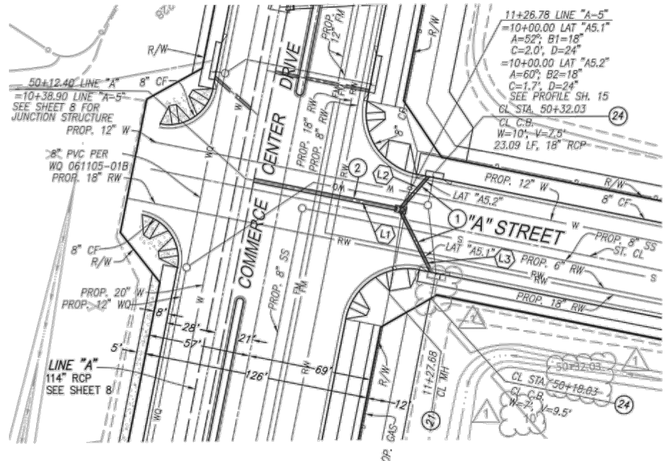
DWG SHEET 9 OF ~~19~~ 20 ~~22~~

DDN# 43-F546-1-6-1-19

G:\Newhall Ranch\061105 Mission Village\061105-01\Storm\VPD 2640\HM\061-09_SD Plan7.dwg Plotted on Jul 19, 2018--3:09pm by ranseas

SCALE: HOR. 1"=40'
VERT. 1"=8'





STORM DRAIN LINE "A-5"

SD LINE "A-5" LINE TABLE		
LINE	LENGTH	BEARING
L1	90.78'	N51°12'24"E
L2	24.25'	N08°47'36"W
L3	39.28'	N76°41'00"W

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY M.D. STORM DRAIN SECTION 7/31/2018 DATE

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
21. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22 (2)
70. CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2
80. CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATED CATCH BASIN STATION AND WIDTH		M.D.	9/20/2018
2	ADDED STRUCTURAL DETAIL SHEETS 21 AND 22. REVISED CONSTRUCTION NOTE 24.	No.40695	M.D.	06/11/2019
	REVISED TOTAL SHEET NUMBER.			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 7-20-18

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-0890

DWG | SHEET 10 OF 19 20 22

DDN# 43-F546-1-19

G:\Vistatul Ranch\61105 Mission Village\61105-01\Storm\PD 2640\VM1091-10_SD Plan5.dwg Plotted on Jul 19, 2018 - 3:10pm by rondess

SCALE: HOR. 1"=40'
VERT. 1"=8'

MATCHLINE STA. 42+86.62 (SEE SHT. 10)

Q = 3.1 cfs
V_{MAX} = 15.0 fps

Q = 2.1 cfs
V_{MAX} = 6.2 fps

Q = 1.1 cfs
V_{MAX} = 6.6 fps

EXISTING GRADE AT CL PIPE

FINISHED SURFACE OVER PIPE

H.G.L.

1238.25 INV. 8" RW
1237.36 INV. 18" RW
1243.17 RIM
44+07.79 CL MH
1240.02 INV. 12" GAS
1228.89 INV. 24" SEWER
1231.33 INV. LAT "A6.1" 18" INLET
1231.23 INV. LAT "A6.2" 8" INLET
1230.68 INV. 18"
1230.87 BC
44+17.00 ~ EC 1231.05 INV.
S=0.1859
S=0.0262
1238.35 INV. LAT "A6.3" 8" INLET
1238.49 INV.
1238.77 INV. LAT "A6.4" 8" INLET
1230.31 8" SEWER
MAX. OVEREXCAVATION
47+00.30 CL MH
1248.88 RIM
49+93.14 CL MH
1257.61 RIM
1254.16 INV. 12" WATER
1253.30 INV. 8" RW
1260.91 T.C.
1252.91 F.L.
S=0.0196
S=0.0505
1244.14 INV.
1244.23 INV.
51+23.24 ~ PRC 1250.20 INV.
51+40.28 ~ EC 1251.54 INV.

1211.71 ELEV. R
1210.01 ELEV. S
1205.38 114" INLET LINE "A"
43+00.53 BC
43+19.04 ~ BC 1215.15 INV.
43+42.82 ~ EC 1219.57 INV.
44+02.59
44+10.11
46+95.98
47+02.14
49+90.30
49+94.97
51+67.01

INST 102.06 L.F. 24" RCP (4000-D) WITH RUBBER GASKET JOINTS
INST 285.37 L.F. 24" RCP(1500-D) WITH RUBBER GASKET JOINTS
INST 288.17 L.F. 24" RCP (1750-D) WITH RUBBER GASKET JOINTS
INST 172.04 L.F. 24" RCP (1750-D) WITH RUBBER GASKET JOINTS

VOID

FOR PLAN CHECK ONLY

44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00

1280 1260 1240 1220

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
21. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3

LOT LINE
PROP. 6" RW
PROP. 8" RW
PROP. 12" RW
PROP. 18" RW
PROP. 8" SS
ST. CL.
6" CF
R/W
"EE" PRIVATE DRIVE
"DD" PRIVATE DRIVE
12" PVC PER WQ 061105-01B

CL ST. STA. 10+82.51 (~~10+92.96~~) CL C.B. W=7', V=8.0' 10'
CL ST. STA. 11+05.44 (~~11+05.44~~) CL C.B. W=7', V=8.0' 10'
CL ST. STA. 13+98.22 (~~13+97.25~~) CL C.B. W=7', V=8.0' 10'
CL ST. STA. 18+30.90 (~~18+29.43~~) CL C.B. W=7', V=8.0' 10'

44+05.00 LINE "A-6" =10+00.00 LAT "A6.1" A=61° B1=18" C=1.7', D=24" =10+00.00 LAT "A6.2" A=80° B2=18" C=1.2', D=24" SEE PROFILE SH. 15

46+97.29 LINE "A-6" =10+00.00 LAT "A6.3" A=44° B1=18" C=2.5', D=24" SEE PROFILE SH. 15

66+63.767 LINE "A" =42+86.62 LINE "A-6"

SD LINE "A-6" LINE TABLE		
LINE	LENGTH	BEARING
L1	32.42'	N01°39'53"E
L2	74.18'	N62°18'20"E
L3	15.25'	S17°21'51"E
L4	26.48'	N57°15'60"W
L5	36.37'	S31°34'56"W
L6	26.73'	N52°22'53"E

SD LINE "A-6" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	60°33'26"	22.50'	23.78'	13.14'
B	33°34'51"	1205.00'	706.24'	363.59'
C	43°22'29"	22.50'	17.03'	8.95'

STORM DRAIN LINE "A-6"

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TE No. 2522 Exp. 9-30 GEOTECHNICAL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY M.D. STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER, UPDATED CATCH BASIN STATION AND WIDTH.		M.D.	9/20/2018
2	VOIDED SHEET 11 AND REPLACED WITH SHEET 11A	Jason H. Fukumitsu No.40695	M.D.	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

7-20-18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

1

N

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

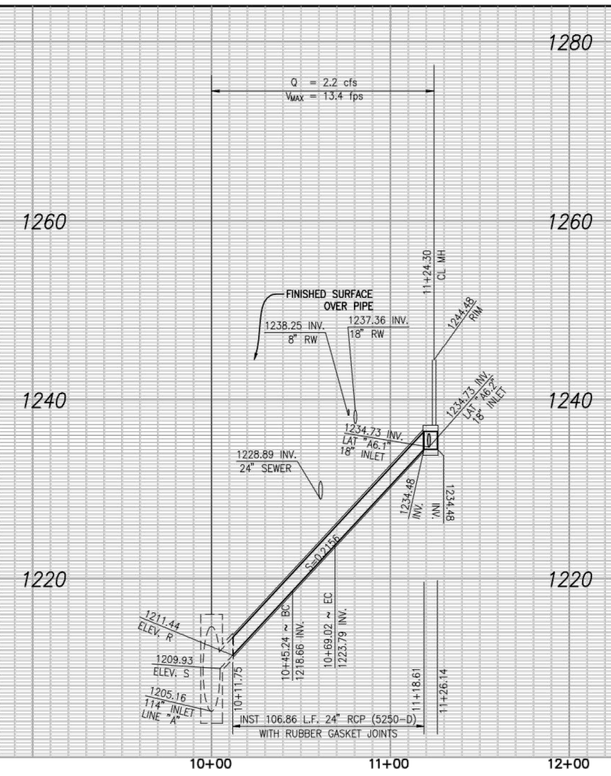
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

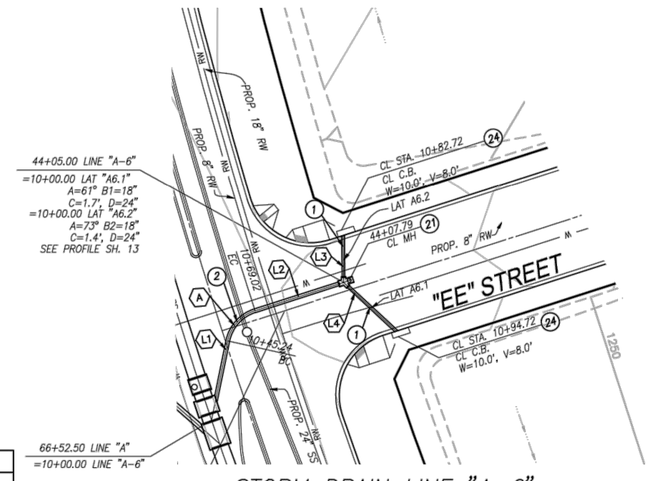
DWG | SHEET 11 OF ~~19~~ 20

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\VM\081-11_SD Plan5.dwg Plotted on Jul 19, 2018--3:18pm by ronness

DDN# 43-F546-.1-.19

SCALE: HOR. 1"=40'
VERT. 1"=8'





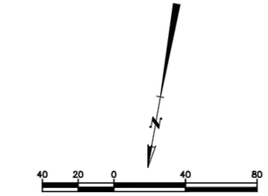
STORM DRAIN LINE "A-6"

SD LINE "A-6" LINE TABLE		
LINE	LENGTH	BEARING
L1	45.24'	N01°39'53"E
L2	57.12'	N62°13'19"E
L3	26.19'	S10°28'21"E
L4	40.21'	N57°16'00"W

SD LINE "A-6" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	60°33'28"	22.50'	23.78'	13.14'

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
21. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
24. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 21 AND SHEET 22



GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED LINE A-6 ADDED SHEET 11A	Jason H. Fukumitsu No.40695	MO. Cifuentes	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

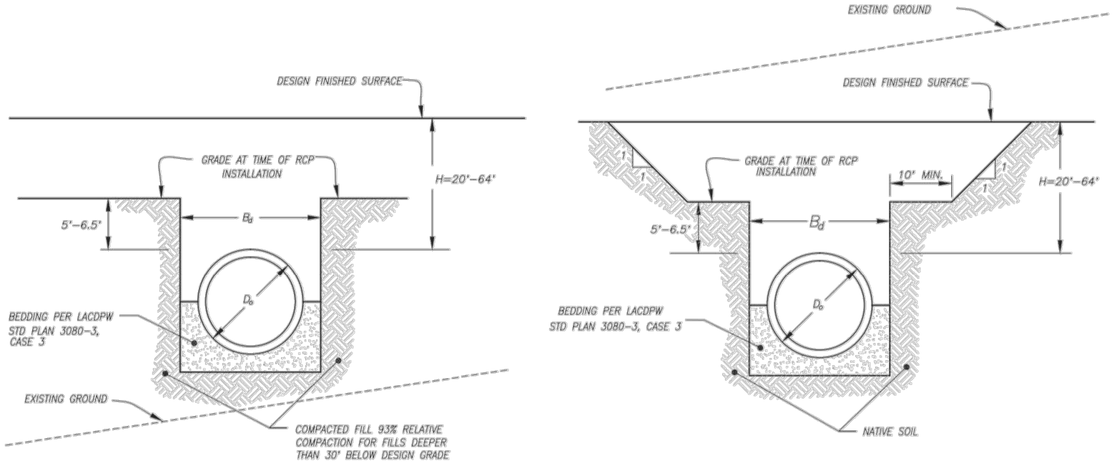
Jason H. Fukumitsu 5/1/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

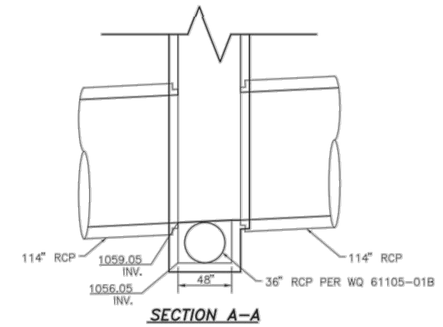
DWG | SHEET 11A OF 22

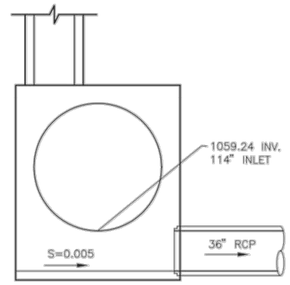
G:\Vikenhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HW\061-11_SD Plan9_REV.dwg Plotted on Apr 30, 2019-3:27pm by heidye



DETAIL FOR RCP INSTALLATION WHERE DEPTH OF COVER IS MORE THAN 20 FEET

N.T.S.

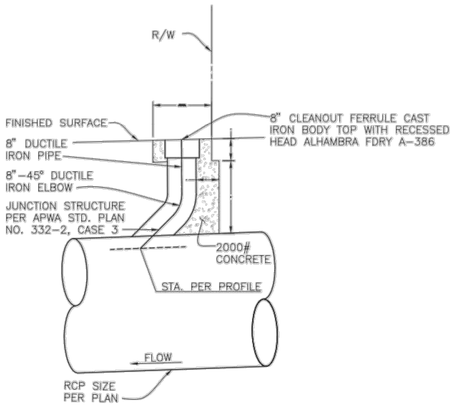




DETAIL– MODIFIED MANHOLE STANDARD PLAN No. 322–2 (MH AT LINE "A" STA 21+80.27)

22a

N.T.S.



37 CLEANOUT

N.T.S.

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		M.D. Esq.	9/20/2018
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu No.40695	M.D. Esq.	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

JASON H. FUKUMITSU DATE 7-20-18

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING KUO No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105–1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

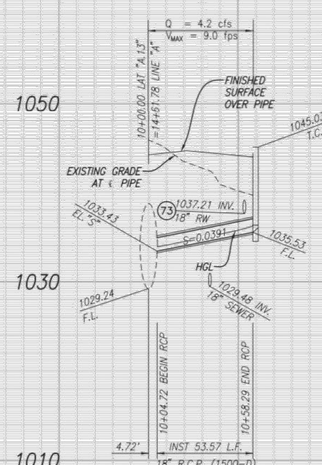
DWG

SHEET 12 OF 19 20 22

DDN# 43-F546-1-19

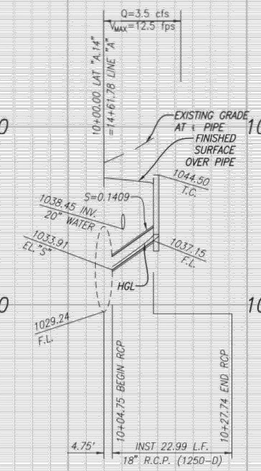
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HM0081-12_Detail.dwg Plotted on Jul 19, 2018–3:18pm by ranseas

SCALE: HOR. 1"=40'
VERT. 1"=8'



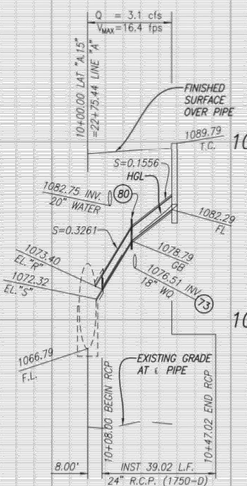
SD LAT "A.13"

SEE SHEET 3 FOR PLAN VIEW



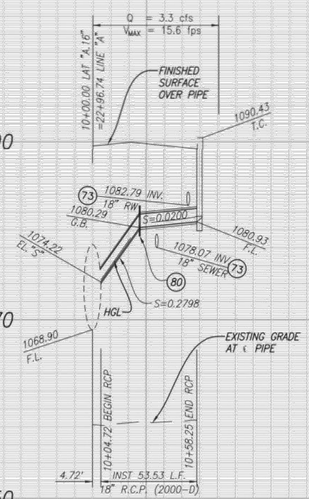
SD LINE "A.14"

SEE SHEET 3 FOR PLAN VIEW



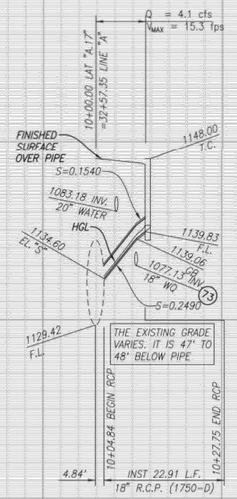
SD LINE "A.15"

SEE SHEET 4 FOR PLAN VIEW



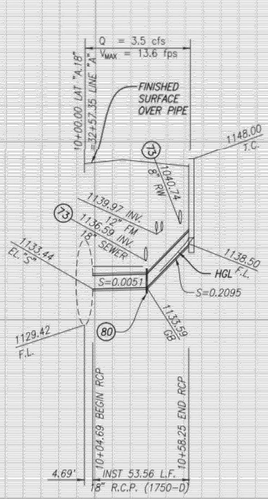
SD LAT "A.16"

SEE SHEET 4 FOR PLAN VIEW



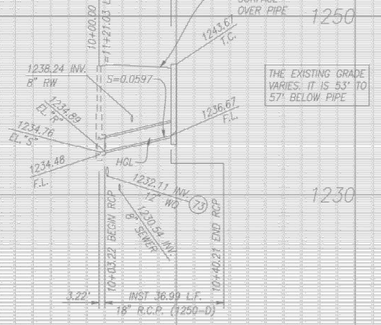
SD LAT "A.17"

SEE SHEET 5 FOR PLAN VIEW



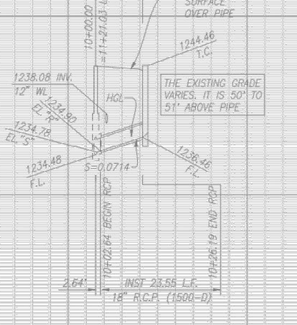
SD LAT "A.18"

SEE SHEET 5 FOR PLAN VIEW



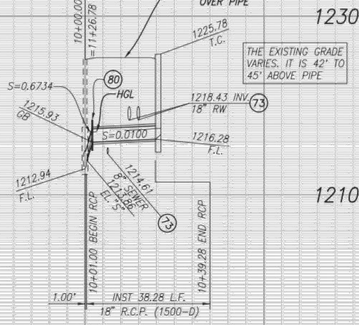
SD LAT "A6.1"

SEE SHEET 11 FOR PLAN VIEW



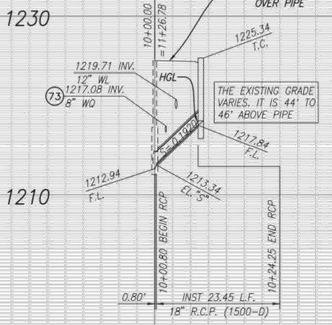
SD LAT "A6.2"

SEE SHEET 11 FOR PLAN VIEW



SD LAT "A5.1"

SEE SHEET 10 FOR PLAN VIEW



SD LAT "A5.2"

SEE SHEET 10 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2

(80) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN YU No. 2522 Exp. 6-30 GEOTECHNICAL STATE OF CALIFORNIA

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		AD.	9/20/2018
2	REVISED TOTAL SHEET NUMBER. ADD LATERALS A6.1 AND A6.2	No.40695	AD.	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

JASON H. FUKUMITSU 7-20-18 DATE

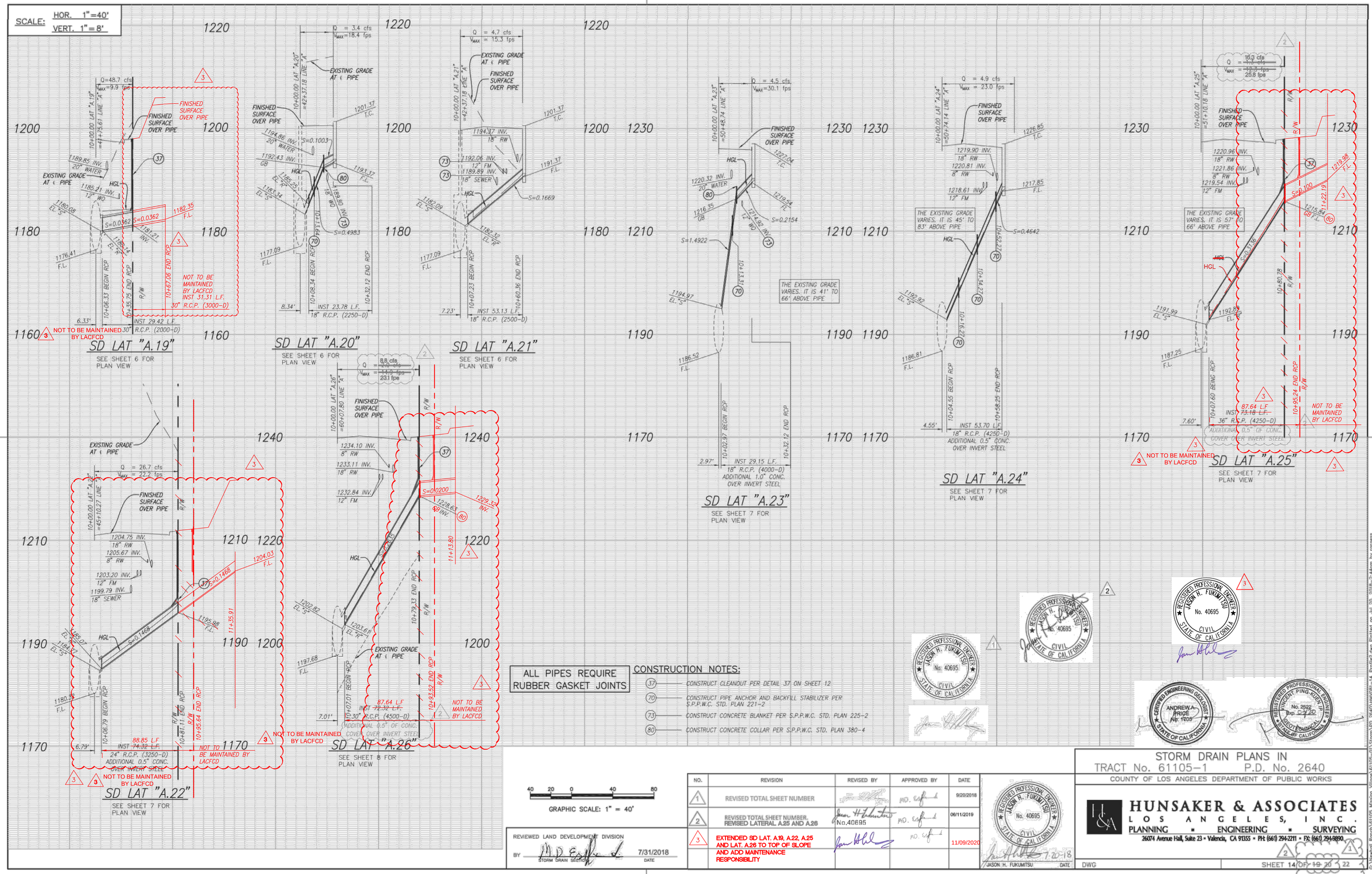
STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-0990

DWG

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HM\081-13_Profile1.dwg Plotted on Jul 20, 2018 - 2:45pm by ronsess

SCALE: HOR. 1"=40'
VERT. 1"=8'



ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

(37) CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 12

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2

(80) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY M. D. E. STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		M.D. Eng'd	9/20/2018
2	REVISED TOTAL SHEET NUMBER, REVISED LATERAL A.25 AND A.26	No.40695	M.D. Eng'd	08/11/2019
3	EXTENDED SD LAT. A.19, A.22, A.25 AND LAT. A.26 TO TOP OF SLOPE AND ADD MAINTENANCE RESPONSIBILITY		M.D. Eng'd	11/09/2020

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

JASON H. FUKUMITSU DATE 7-20-18

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2622 Exp. 6-30 CIVIL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-2850

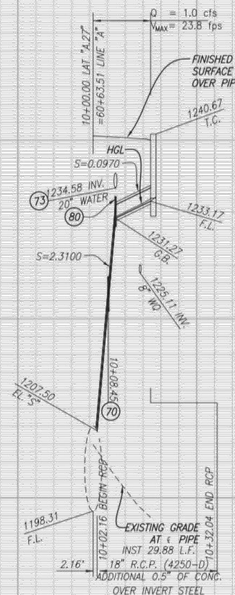
DWG

SHEET 14 OF 19 20 22

DDN# 43-F546-1-19

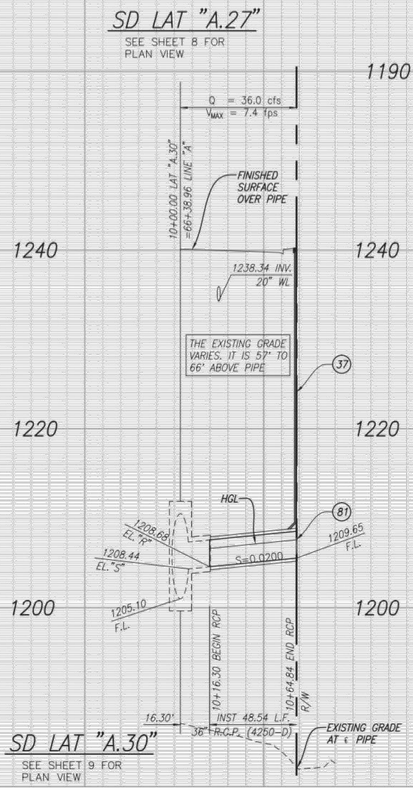
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\VM\081-14_Profile2.dwg Plotted on Jul 20, 2018--2:44pm by ronsess

SCALE: HOR. 1"=40'
VERT. 1"=8'



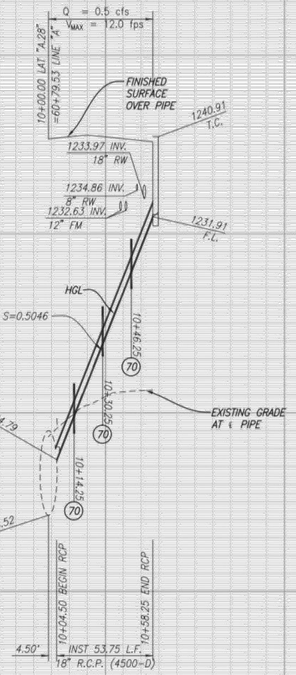
SD LAT "A.27"

SEE SHEET 8 FOR PLAN VIEW



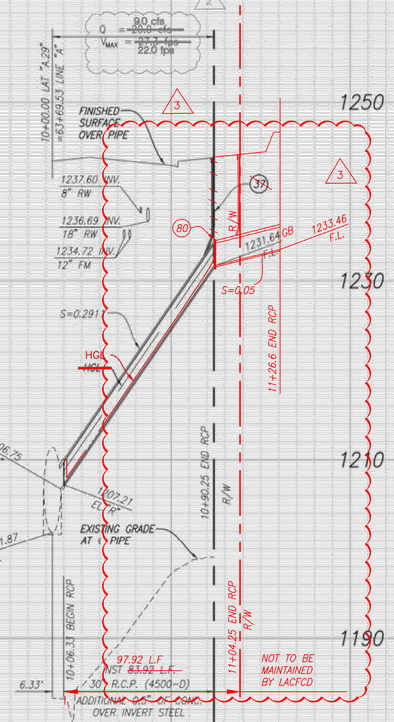
SD LAT "A.30"

SEE SHEET 9 FOR PLAN VIEW



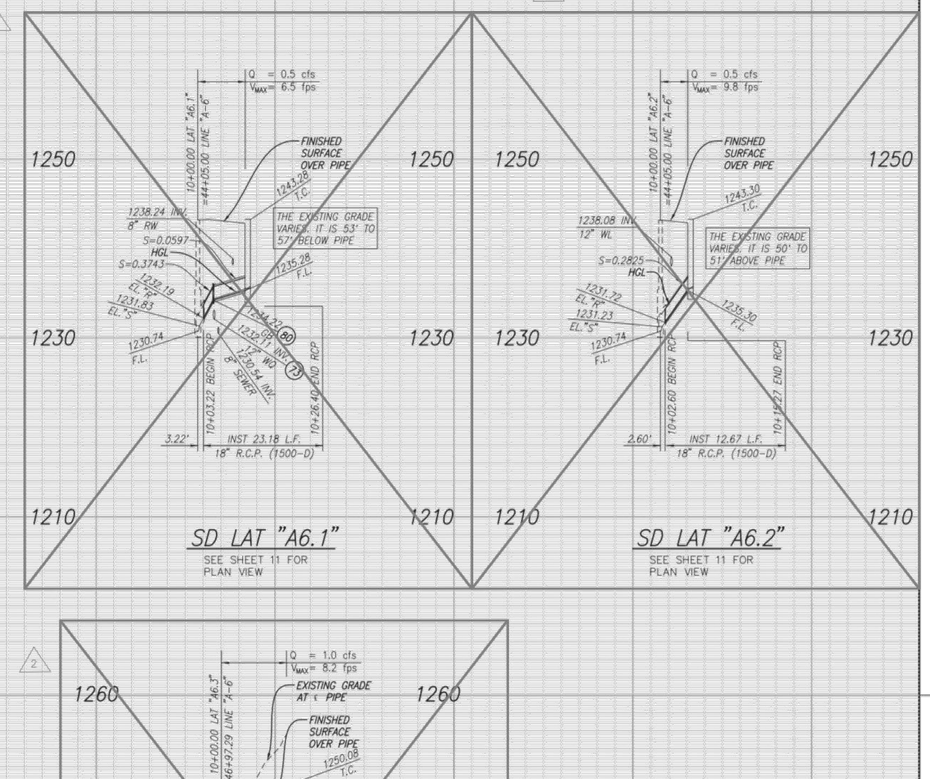
SD LAT "A.28"

SEE SHEET 8 FOR PLAN VIEW



SD LAT "A.29"

SEE SHEET 9 FOR PLAN VIEW

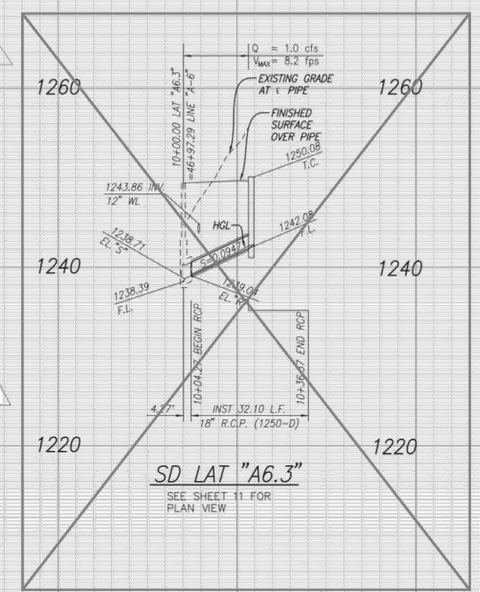


SD LAT "A6.1"

SEE SHEET 11 FOR PLAN VIEW

SD LAT "A6.2"

SEE SHEET 11 FOR PLAN VIEW



SD LAT "A6.3"

SEE SHEET 11 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

37 CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 12

70 CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

73 CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2

80 CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

81 CONSTRUCT 8" BRICK AND MORTAR PLUG

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KOEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY M. D. Esfandiari 7/31/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED TOTAL SHEET NUMBER		M.D.	9/20/2018
2	REVISED TOTAL SHEET NUMBER, REMOVE LATERALS A6.1 AND A6.2	No.40695	M.D.	06/11/2019
3	EXTENDED SD LAT. A29 TO NEW R/W ADD MAINTENANCE RESPONSIBILITY		M.D.	11/09/2020

JASON H. FUKUMITSU DATE 7-20-18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

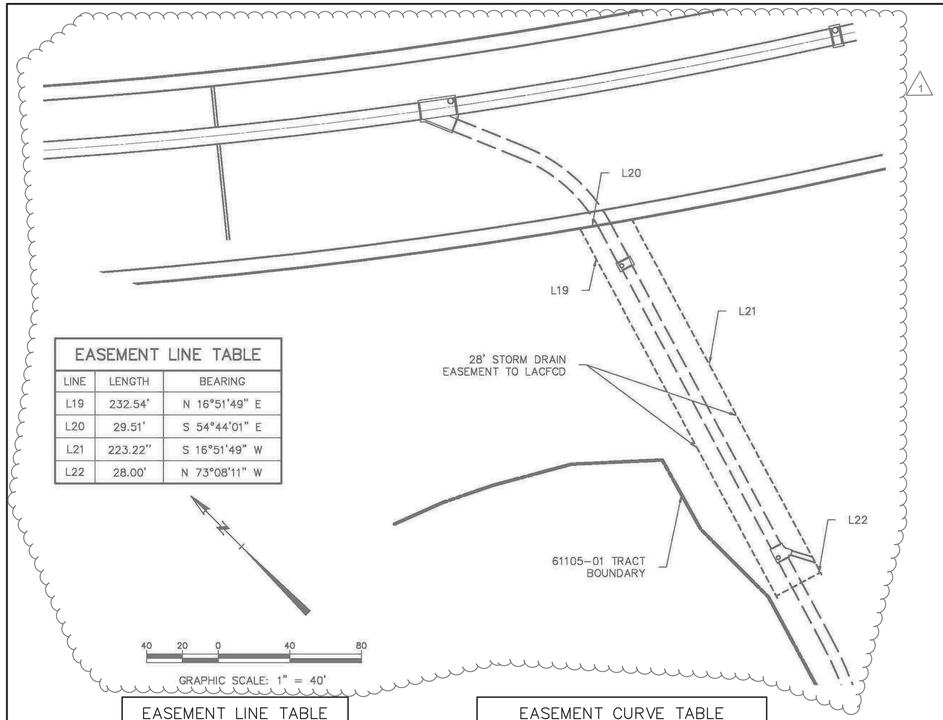
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-8890

DWG

SHEET 15 OF 19 20 22

DDN# 43-F546-1-19

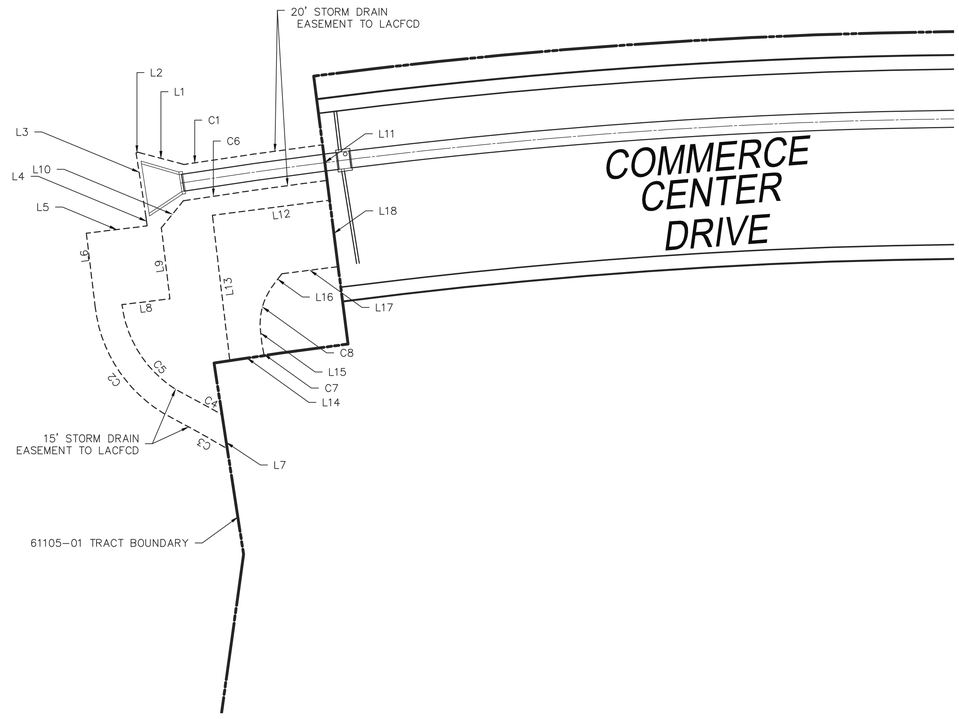
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HM061-15_Profile3.dwg Plotted on Jul 20, 2018 - 2:44pm by ranness

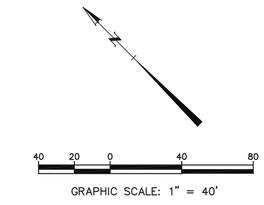


EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L19	232.54'	N 16°51'49" E
L20	29.51'	S 54°44'01" E
L21	223.22"	S 16°51'49" W
L22	28.00'	N 73°08'11" W

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L1	26.81'	S 30°14'15" E
L2	1.01'	S 73°42'38" E
L3	35.85'	S 36°10'59" W
L4	5.32'	S 38°06'45" W
L5	34.22'	N 51°53'15" W
L6	42.00'	S 38°06'45" W
L7	19.30'	S 36°11'52" W
L8	27.00'	N 51°53'15" W
L9	40.00'	S 38°06'45" W
L10	19.49'	N 84°10'15" E
L11	20.00'	N 37°40'50" E
L12	66.05'	N 52°19'13" W
L13	81.77'	N 38°10'20" E
L14	19.42'	N 53°26'18" W
L15	7.76'	S 38°09'10" W
L16	7.62'	S 82°40'47" W
L17	31.70'	S 52°19'13" E
L18	37.36'	N 37°40'47" E

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	78.15'	3031.25'	01°28'38"	39.08'
C2	77.86'	80.05'	55°43'38"	42.32'
C3	35.60'	606.59'	03°21'45"	17.80'
C4	24.19'	621.59'	02°13'48"	12.10'
C5	63.27'	65.05'	55°43'38"	34.39'
C6	81.14'	3011.25'	01°32'38"	40.57'
C7	5.73'	40.00'	08°12'37"	2.87'
C8	27.98'	36.00'	44°31'36"	14.74'





REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY M.D. Espinoza STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	Added easement for Line B and revise sheet number		M.D. Espinoza	9/20/2018
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu No.40695	M.D. Espinoza	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 Ccivil STATE OF CALIFORNIA
JASON H. FUKUMITSU 7-20-18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 16 OF 19 20 22

DDN# 43-F546-1-19

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HMV081-16_SD Easement Map.dwg Plotted on Jul 19, 2018--3:33pm by rankess

FOUNDATION NOTES:

1. BUILDING CODE MINIMUM RECOMMENDATION IS USED IN THIS PROJECT 1806.2 CLASS 5 MATERIAL.
2. FOOTINGS ARE DESIGNED FOR A BEARING PRESSURE OF 1500 PSF AND EXPANSION INDEX 21–50.3. WHERE SLAB–ON–GRADE OCCURS, EXISTING LOOSE SURFACE SOILS AND FILL PLACED WITHIN THE SLAB AREA SHALL BE RECOMPACTED TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION.
4. THE CONTRACTOR SHALL SUBMIT TO THE CITY OR COUNTY FOUNDATION EXCAVATIONS AND RECOMPACTION REPORTS PRIOR TO PLACING ANY STRUCTURAL AND NON–STRUCTURAL CONCRETE AND REBAR AT THE SUBJECT AREAS.
5. CONTRACTOR SHALL PROVIDE FOR DE–WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE.
6. FOOTING AND UTILITY TRENCH BACK FILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS. FLOODING WILL NOT BE PERMITTED.
7. ALL FOOTINGS SHALL BE FOUNDED IN UNDISTURBED NATURAL SOIL PER CODE.
8. IF SOIL IS FOUND TO BE EXPANSIVE, THE FOOTINGS MUST MEET THE FOLLOWING MINIMUM REQUIREMENTS.
   A. DEPTH OF FOOTINGS BELOW THE NATURAL AND FINISH GRADES SHALL NOT BE LESS THAN 27 INCHES FOR EXTERIOR AND 18 INCHES FOR INTERIOR FOOTINGS.
   B. EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL BE SUPPORTED ON CONTINUOUS FOOTINGS.
   C. FOOTINGS SHALL BE REINFORCED WITH MINIMUM (4) #4 DEFORMED REINFORCING BARS. TWO BARS SHALL BE PLACED 4 INCHES OF THE BOTTOM OF THE FOOTING AND TWO BARS WITHIN 4 INCHES OF THE TOP OF THE FOOTINGS.
   D. THE SOIL BELOW AN INTERIOR CONCRETE SLAB SHALL BE SATURATED WITH MOISTURE TO A DEPTH OF 18 INCHES PRIOR TO PLACING THE CONCRETE.
9. IN THE EVENT EXCAVATIONS REVEAL UNFAVORABLE CONDITIONS, THE SERVICES OF A SOILS ENGINEER AND/OR GEOLOGIST MAY BE REQUIRED.
10. CONTRACTOR FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.
11. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW–STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANOR THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL.
    EXCEPTION: CLSM NEED NOT BE COMPACTED.
12. THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN ONE UNIT VERTICAL IN 20 UNITS HORIZONTAL (5–PERCENT SLOPE) FOR A MINIMUM DISTANCE OF 10 FEET (3048 MM) MEASURED PERPENDICULAR TO THE FACE OF THE WALL. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET (3048 MM) OF HORIZONTAL DISTANCE, A 5–PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATIVE METHOD OF DIVERTING WATER AWAY FROM FOUNDATION. SWALES USED FOR THIS PURPOSE SHALL BE SLOPED A MINIMUM OF 2 PERCENT WHERE LOCATED WITHIN 10 FEET (3048 MM) OF THE BUILDING FOUNDATION. IMPERVIOUS SURFACES WITHIN 10 FEET (3048 MM) OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2 PERCENT AWAY FROM THE BUILDING.
    EXCEPTION: WHERE CLIMATIC OR SOIL CONDITIONS WARRANT, THE SLOPE OF THE GROUND AWAY FROM THE BUILDING FOUNDATION SHALL BE PERMITTED TO BE REDUCED TO NOT LESS THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL (2–PERCENT SLOPE).
    THE PROCEDURE USED TO ESTABLISH THE FINAL GROUND LEVEL ADJACENT TO THE FOUNDATION SHALL ACCOUNT FOR ADDITIONAL SETTLEMENT OF THE BACKFILL.

ABBREVIATIONS

AB	ANCHOR BOLT	FH	FULL HEIGHT	R&R	REMOVE & REPLACE
ABV	ABOVE	FN	FIELD NAILING	SCHED	SCHEDULE
ADDL	ADDITIONAL	FL	FLOOR	SF	SQUARE FOOT
ADHES	ADHESIVE	FS	FAR SIDE	SHT	SHEET
ALT	ALTERNATE	FDN	FOUNDATION	SIM	SIMILAR
ARCH	ARCHITECT, ARCHITECTURAL	FOC	FACE OF CONCRETE	SN	SOLE ₹ NAILING
BTWN	BETWEEN	FOS	FACE OF STUD	SPEC	SPECIFICATION
BLW	BELOW	FT	FOOT, FEET	SQ	SQUARE
BLDG	BUILDING	FTG	FOOTING	STD	STANDARD
BLKG	BLOCKING	GA	GAGE	STL	STEEL
BM	BEAM	GALV	GALVANIZED	STRUCT	STRUCTURAL
BN	BOUNDARY NAILING	GND	GROUND	SYM	SYMMETRICAL
BOT	BOTTOM	GRD	GRADE	THK	THICK
BS	BOTH SIDES	GT	GIRDER TRUSS	THRD	THREADED
BSMT	BASEMENT	HT	HEIGHT	T&B	TOP & BOTTOM
CF	CUBIC FOOT	HORIZ	HORIZONTAL	TN	TOE NAIL
CJ	CONTROL JOINT, CEILING JOIST	HS	HIGH STRENGTH	TOF	TOP OF FOOTING
CLG	CEILING	INFO	INFORMATION	TOS	TOP OF STEEL
CLR	CLEAR	INT	INTERIOR	TL	TOP OF LEDGER
CMU	CONCRETE MASONRY UNIT	JT	JACK TRUSS	TOW	TOP OF WALL
CNTRSNK	COUNTERSINK/COUNTERSUNK	KP	KING POST	TRANSV	TRANSVERSE
COL	COLUMN	KSI	KIPS PER SQUARE INCH	TS	TUBE STEEL
CONC	CONCRETE	LBS	POUNDS	TYP	TYPICAL
CONN	CONNECTION	LG	LONG	UNO	UNLESS NOTED OTHERWISE
CONST	CONSTRUCTION	LOC'S	LOCATIONS	VERT	VERTICAL
CONT	CONTINUOUS	LONG	LONGITUDINAL	WF	WIDE FLANGE BEAM
CONTR	CONTRACTOR	LT WT	LIGHT WEIGHT	W/	WITH
CVR	COVER	MAX	MAXIMUM	W/O	WITHOUT
DIA	DIAMETER	MB	MACHINE BOLT	WT	WEIGHT
DIR	DIRECTION	MD	METAL DECK	WP	WORKING POINT
D.O.	DO OVER	MECH	MECHANICAL	WWF	WELDED WIRE FABRIC
DSA	DEPARTMENT OF STATE ARCHITECTS	MANUF	MANUFACTURER	WWO	WALL W/ OPENING AND/OR PERFORATED S.W.
DWG	DRAWING	MIN	MINIMUM		
(E)	EXISTING	MISC	MISCELLANEOUS		
EA	EACH	MTL	METAL		
EF	EACH FACE	(N)	NEW		
ELEC	ELECTRICAL	NS	NEAR SIDE, NELSON STUD		
EL	ELEVATION	NW	NORMAL WEIGHT		
EN	EDGE NAILING	OC	ON CENTER		
ENGR	ENGINEER	OH	OPPOSITE HAND		
ES	EDGE SCREW	OPP	OPPOSITE		
EXP JT	EXPANSION JOINT	PSF	POUNDS PER SQUARE FOOT		
EQ	EQUAL	PSI	POUNDS PER SQUARE INCH		
EXT	EXTERIOR	PT	PLATE TRUSS		
FF	FINISHED FLOOR	REINF	REINFORCEMENT		
FG	FINISHED GRADE	REQ	REQUIRE		

SYMBOLS

∠	ANGLE
@	AT
℄	CENTERLINE
ℙ	PLATE / PROPERTY LINE
#	POUNDS
ø	DIAMETER
⊥	PERPENDICULAR
//	PARALLEL

REINFORCED CONCRETE NOTES CONT.:

26. TOLERANCE FOR d AND MINIMUM CONCRETE COVER IN FLEXURAL MEMBERS, WALLS, AND COMPRESSION MEMBERS SHALL BE AS FOLLOWS:

	TOLERANCE ON d	TOLERANCE ON MINIMUM CONCRETE COVER
d ≤ 8 IN.	±⅜ IN.	–⅜ IN.
d > 8 IN.	±½ IN.	–½ IN.

EXCEPT THAT TOLERANCE FOR THE CLEAR DISTANCE TO FORMED SOFFITS SHALL BE MINUS ¼ IN. AND TOLERANCE FOR COVER SHALL NOT EXCEED MINUS ⅓ THE MINIMUM CONCRETE COVER REQUIRED IN THE DESIGN DRAWINGS AND SPECIFICATIONS.

27. MAXIMUM CHLORIDE ION CONTENT FOR CORROSION PROTECTION OF REINFORCEMENT:

TYPE OF MEMBER	MAXIMUM WATER SOLUBLE CHLORIDE ION (Cl⁻) IN CONCRETE, PERCENT BY WEIGHT OF CEMENT
PRESTRESSED CONCRETE	0.06
REINFORCED CONCRETE EXPOSED TO CHLORIDE IN SERVICE	0.15
REINFORCED CONCRETE THAT WILL BE DRY OR PROTECTED FROM MOISTURE IN SERVICE	1.00
OTHER REINFORCED CONCRETE CONSTRUCTION	0.30

28. TOLERANCE FOR LONGITUDINAL LOCATION OF BEND AND ENDS OF REINFORCEMENT SHALL BE ± 2 IN., EXCEPT THE TOLERANCE SHALL BE ± ½ IN. AT THE DISCONTINUOUS ENDS OF BRACKETS AND CORBELS, AND ± 1 IN. AT THE DISCONTINUOUS ENDS OF OTHER MEMBERS.
29. REINFORCEMENT RESISTING EARTHQUAKE–INDUCED FLEXURAL AND AXIAL FORCES IN FRAME MEMBERS AND IN STRUCTURAL WALL BOUNDARY ELEMENTS SHALL COMPLY WITH ASTM A 706. ASTM A 615 GRADE 60 REINFORCEMENT SHALL BE PERMITTED IN THESE MEMBERS IF:
    A. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED f_y BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI): AND
    B. THE RATION OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25,THE VALUE OF f_y FOR TRANSVERSE REINFORCEMENT INCLUDING SPIRAL REINFORCEMENT SHALL NOT EXCEED 60,000 PSI.
30. CONCRETE FLOOR FLATNESS SHALL BE A MINIMUM OF ⅜" : 10 FT. TYP. U.N.O.
31. WHERE CORROSION–RESISTANT REINFORCEMENT (CRR) IS SPECIFIED, USE MMFX2 REBAR ASTM A1035 GRADES 690 AND 830.
32. WELDING OF ELECTRICAL CONDUCTORS TO REINFORCING STEEL IS PROHIBITED WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
33. PERFORMANCE OF SHOTCRETE SHALL BE PER ACI 506.2 SPECIFICATIONS.
34. ACI 318 TABLE 26.4.1.1.1(a) – SPECIFICATIONS FOR CEMENTITIOUS MATERIALS

CEMENTITIOUS MATERIALS	SPECIFICATION
PORTLAND CEMENT	ASTM C150
BLENDED HYDRAULIC CEMENTS	ASTM C595, EXCLUDING TYPE IS (≥70) AND TYPE IT (S≥70)
EXPANSIVE HYDRAULIC CEMENTS	ASTM C845
HYDRAULIC CEMENT	ASTM C1157
FLY ASH AND NATURAL POZZOLAN	ASTM C618
SLAG CEMENT	ASTM C989
SILICA FUME	ASTM C1240

35. AGGREGATES – COMPLIANCE REQUIREMENTS:
    A. AGGREGATES SHALL CONFORM TO (1) OR (2):
        1. NORMALWEIGHT AGGREGATE: ASTM C33.
        2. LIGHTWEIGHT AGGREGATE: ASTM C330
    B. AGGREGATES NOT CONFORMING TO ASTM C33 OR ASTM C330 ARE PERMITTED IF THEY HAVE BEEN SHOWN BY TEST OF ACTUAL SERVICE TO PRODUCE CONCRETE OF ADEQUATE STRENGTH AND DURABILITY AND ARE APPROVED BY THE BUILDING OFFICIAL.
    C. MAXIMUM AGGREGATE SIZE:
        1. FOOTINGS.....1" MAX.
        2. SLAB ON GRADE, GRADE BEAMS.....¾" MAX.
        3. ELEVATED STRUCT. SLABS, BEAMS, FRAMED COLUMNS.....⅜" MAX.
        4. REMAINDER.....¾" MAX.
36. WATER – COMPLIANCE REQUIREMENTS:
    A. MIXING WATER SHALL CONFORM TO ASTM C1602.
    B. MIXING WATER, INCLUDING THAT PORTION OF MIXING WATER CONTRIBUTED IN THE FORM OF FREE MOISTURE ON AGGREGATES, SHALL NOT CONTAIN DELETERIOUS AMOUNTS OF CHLORIDE ION WHEN USED FOR PRESTRESSED CONCRETE, FOR CONCRETE THAT WILL CONTAIN ALUMINUM EMBEDMENTS, OR FOR CONCRETE CAST AGAINST STAY–IN–PLACE GALVANIZED STEEL FORMS.
37. ADMIXTURES – COMPLIANCE REQUIREMENTS:
    A. ADMIXTURES SHALL CONFORM TO (1) THROUGH (4):
        1. WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494.
        2. PRODUCING FLOWING CONCRETE: ASTM C1017.
        3. AIR ENTRAINMENT: ASTM C260.
        4. INHIBITING CHLORIDE–INDUCED CORROSION: ASTM C1582.
    B. ADMIXTURES THAT DO NOT CONFORM TO THESE SPECIFICATIONS SHALL BE SUBJECT TO PRIOR REVIEW BY THE LICENSED DESIGN PROFESSIONAL.
    C. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE FROM SOURCES OTHER THAN IMPURITIES IN ADMIXTURE INGREDIENTS SHALL NOT BE USED IN PRESTRESSED CONCRETE, IN CONCRETE CONTAINING EMBEDDED ALUMINUM, OR IN CONCRETE CAST AGAINST STAY–IN–PLACE GALVANIZED STEEL FORMS.
    D. ADMIXTURES USED IN CONCRETE CONTAINING EXPANSIVE CEMENTS CONFORMING TO ASTM C845 SHALL BE COMPATIBLE WITH THE CEMENT AND PRODUCE NO DELETERIOUS EFFECTS.
38. STEEL FIBER REINFORCEMENT – COMPLIANCE REQUIREMENTS:
    A. STEEL FIBER REINFORCEMENT USED FOR SHEAR RESISTANCE SHALL SATISFY (1) AND (2):
        1. BE DEFORMED AND CONFORM TO ASTM A820.
        2. HAVE A LENGTH–TO–DIAMETER RATIO OF AT LEAST 50 AND NOT EXCEEDING 100.

3

2

REINFORCED CONCRETE NOTES:

1. CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LABORATORY AND COPIES OF THE DESIGN SHALL BE SENT TO THE ARCHITECT AND THE ENGINEER. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND THE ARCHITECT. ALL CONCRETE EXCEPT FOUNDATION CONCRETE SHALL CONTAIN POLYMER BASED WATER REDUCING ADMIXTURE.
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C–150. TYPE II. AGGREGATE FOR STONE CONCRETE SHALL CONFORM TO ASTM C–33. NON–REACTIVE AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL CONFORM ASTM C–330.
3. ALL REINFORCING BARS, ANCHOR BOLTS, PRE STRESSING TENDONS, AND ALL OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
4. THE MAXIMUM SLUMP SHALL NOT EXCEED 4" +/– 1" FOR FOOTINGS, SLABS ON EARTH, AND MASS CONCRETE, AND 5" +/– 1" FOR OTHER CONCRETE. SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED, PROVIDED THAT ADMIXTURE–TREATED CONCRETE HAS THE SAME OR LOWER WATER: CEMENT OR WATER: CEMENTITIOUS MATERIAL RATIO. (ACI 211 TABLE 6.3.1)
5. MINIMUM COMPRESSIVE STRENGTH:
   PROVIDE CONCRETE WITH THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (f'_c) AT 28 DAYS UNLESS NOTED OTHERWISE (MINIMUM 5 SACKS OF CEMENT PER CUBIC YARD) (MAXIMUM WATER/CEMENT RATIO BY WEIGHT SHALL BE .65 FOR BALANCE):
   A. STRUCTURAL SLABS..... 3000 P.S.I.*(HARDROCK)
   B. COLUMNS..... 3000 P.S.I.*(HARDROCK)
   C. BEAMS..... 3000 P.S.I.*(HARDROCK)
   * 2500 PSI STRENGTH USED FOR DESIGN, SPECIAL INSPECTION NOT REQUIRED.
6. THE COMPRESSIVE STRENGTH OF EXTERIOR SLABS AND FLAT WORK SHALL BE INCREASED FOR MODERATE AND SEVERE WEATHERING EXPOSURE PER TABLE 1904.2.2 OF THE CBC.
7. ALL STRUCTURAL CONCRETE IS TO BE REINFORCED.
8. CONTRACTOR SHALL SUBMIT SLAB CONSTRUCTION JOINT LAYOUT DRAWINGS TO THE ARCHITECT AND ENGINEER FOR REVIEW. THE MAXIMUM SPACING OF CONTROL JOINTS IN SLAB ON GRADE EACH WAY SHALL BE 30X THE SLAB THICKNESS BEFORE 7 DAYS OF CURING. SLABS REQUIRE AT LEAST 7 DAYS CURING (14 DAYS WHERE FLY ASH OR POZOLAN IS USED), AND THE ENVIRONMENT (HUMIDITY AND TEMPERATURE) OF ROOM SHALL BE ACCLIMATED TO LONG TERM CLIMATE CONDITIONS PRIOR TO INSTALLATION OF FLOORING. THE SLAB TEMPERATURE SHALL BE WITHIN 5 DEGREES OF DEW POINT DURING CURING. NO CURING COMPOUND SHALL BE USED, ONLY WET CURED. MOISTURE AND HUMIDITY TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY HIRED BY THE OWNER, AND TESTS RESULTS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF FLOORING.
9. PROJECTING CORNERS OF BEAMS, COLUMNS, WALLS, ETC.. SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS DETAILED OTHERWISE.
10. IF EXPOSURE TO SULFATES, OR SPECIAL EXPOSURE CONDITIONS OCCUR, THE CONCRETE STRENGTH, WATER CEMENT RATIOS, AND OTHER PROPERTIES OF THE CONCRETE MIX SHALL BE IN ACCORDANCE WITH ACI 318 SECTION 4.3. VERIFY WITH SOILS REPORT FOR CURING IN THE SOILS.
11. DO NOT POUR CONCRETE WHEN THE TEMPERATURE EXCEEDS 90°F OR 80°F WHEN THE WIND EXCEEDS 12MPH. START CURING AS SOON AS HARD TRAWLING IS DONE. ALL CURING SHALL BE WET CURING BY USING BURLAP FOR A MINIMUM OF 7 DAYS. BURLAP MUST BE PLACED WITHIN 2 HOURS OF POURING (NO SPRAY CURING). WHEN WIND, TEMPERATURE AND HUMIDITY CONDITIONS CAUSE EARLY DISAPPEARANCE OF BLEED WATER, STEPS SHALL BE TAKEN TO USE A FOG SPRAY. CURING SHALL COMMENCE IMMEDIATELY AFTER FINISHING TRAWLING.
12. WHERE AIR ENTRAINED CONCRETE IS SPECIFIED, THE VOLUME OF AIR IN THE MORTAR FRACTION OF CONCRETE MIX DESIGN SHALL BE 9% ±1%.
13. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A–615 GRADE 60 FOR NO.5 AND LARGER, ASTM A–615 GRADE 40 FOR NO.4 AND SMALLER. AT GRADE BEAMS & CONCRETE FRAMES ALL REINF. SHALL CONFORM TO ASTM A706 REBAR. U.N.O.
14. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
15. REINFORCING STEEL SHALL BE SPLICED WITH CLASS B SPLICES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
16. LOW HYDROGEN ELECTRODES SHALL BE USED WHEREVER REINFORCING STEEL IS WELDED. BARS SHALL BE A706 GRD. 60 MIN. FOR WELD ABILITY.
17. AT THE TIME CONCRETE IS PLACED, REINFORCEMENT SHALL BE FREE FROM MUD, OIL, OR OTHER NONMETALLIC COATINGS THAT DECREASE BOND. WHERE SPECIFIED IN THE DETAILS, EPOXY–COATING OF STEEL REINFORCEMENT IN ACCORDANCE WITH ACI STANDARDS. EXCEPT FOR PRESTRESSING STEEL, STEEL REINFORCEMENT WITH RUST, MILL SCALE, OR A COMBINATION OF BOTH SHALL BE CONSIDERED SATISFACTORY, PROVIDED THE MINIMUM DIMENSIONS (INCLUDING HEIGHT OF DEFORMATIONS) AND WEIGHT OF A HAND–WIRE–BRUSHED TEST SPECIMEN COMPLY WITH APPLICABLE ASTM SPECIFICATIONS.
18. THE MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL BE d_b BUT NOT LESS THAN 1 IN. WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER WITH CLEAR DISTANCE BETWEEN LAYERS NOT LESS THAN 1 IN. 21. CLEAR DISTANCE LIMITATION BETWEEN BARS SHALL APPLY ALSO TO THE CLEAR DISTANCE BETWEEN A CONTACT LAP SPLICE AND ADJACENT SPLICES OR BARS.
19. IN SPIRALLY REINFORCED OR TIED REINFORCED COMPRESSION MEMBERS, CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL BE NOT LESS THAN 1.5d_b NOR LESS THAN 1½ IN.
20. IN WALLS AND SLABS OTHER THAN CONCRETE JOIST CONSTRUCTION, PRIMARY FLEXURAL REINFORCEMENT SHALL NOT BE SPACED FARTHER APART THAN THREE TIMES THE WALL OR SLAB THICKNESS, NOR FARTHER APART THAN 18 IN.
21. WHERE CONCRETE MUST BE INSTALLED AND CURED IN COLD WEATHER, THE GENERAL REQUIREMENTS AND SPECIFICATIONS OF ASTM STD C–31 SHALL BE IMPLEMENTED.
22. CAST–IN–PLACE CONCRETE (NON–PRESTRESSED)
    THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
    A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EART.....3" MIN.
    B. CONCRETE EXPOSED TO EARTH OR WEATHER:
        - NO.6 THROUGH NO.18 BARS.....2" MIN.
        - NO.5 BAR, W31 OR D31 WIRE, AND SMALLER.....1½" MIN.
    C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
        SLABS, WALLS, JOISTS:
        - NO.14 AND NO.18 BARS.....1½" MIN.
        - NO.11 BAR AND SMALLER.....¾" MIN.

        BEAMS, COLUMNS:
        - PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS.....1½" MIN.

        SHELLS, FOLDED PLATE MEMBERS:
        - NO.6 BAR AND LARGER.....¾" MIN.
        - NO.5 BAR, W31 OR D31 WIRE, AND SMALLER.....½" MIN.
23. BUNDLED BARS:
    FOR BUNDLED BARS, MINIMUM CONCRETE COVER SHALL BE EQUAL TO THE EQUIVALENT DIAMETER OF THE BUNDLE, BUT NEED NOT TO BE GREATER THAN 2 IN.; EXCEPT FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, WHERE MINIMUM COVER SHALL BE 3 IN. GROUPS OF PARALLEL REINFORCING BARS BUNDLED IN CONTACT TO ACT AS A UNIT SHALL BE LIMITED TO FOUR IN ANY ONE BUNDLE. BUNDLED BARS SHALL BE ENCLOSED WITHIN STIRRUPS OR TIES. BARS LARGER THAN NO. 11 SHALL NOT BE BUNDLED IN BEAMS. INDIVIDUAL BARS WITHIN A BUNDLE TERMINATED WITHIN THE SPAN OF FLEXURAL MEMBERS SHALL TERMINATE AT DIFFERENT POINTS WITH AT LEAST 40d_b STAGGER.
24. CORROSIVE ENVIRONMENTS:
    IN CORROSIVE ENVIRONMENTS OR OTHER SEVERE EXPOSURE CONDITIONS, AMOUNT OF CONCRETE PROTECTION SHALL BE SUITABLY INCREASED, AND DENSENESS AND NONPOROSITY OF PROTECTING CONCRETE SHALL BE CONSIDERED, OR OTHER PROTECTION SHALL BE PROVIDED. "COVER" WHERE NOTED ON PLANS AND DETAILS IS NOT A MINIMUM, UNLESS NOTED AS "MIN." THE COVER SHALL BE AS NOTED WITH TOLERANCE.
25. MINIMUM DIAMETER OF BEND:

MINIMUM DIAMETERS OF BEND	
BAR SIZE	MINIMUM DIAMETER
NO.3 THROUGH NO.8	6d_b
NO.9, NO.10, AND NO.11	8d_b
NO.14 AND NO.18	10d_b

GENERAL STRUCTURAL NOTES:

1. THIS DOCUMENT IS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY ROSE INC. ALTERATION OF THIS DOCUMENT BY ANY PARTY OTHER THAN ROSE INC. IS A VIOLATION OF LAW THAT WILL BE PROSECUTED TO ITS FULLEST EXTENT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & CONDITIONS AT THE JOB SITE PRIOR TO STARTING CONSTRUCTION AND THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
3. AT ANY DISCREPANCIES OR CONFLICTS BETWEEN PLAN AND ELEVATION DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS AND THE STRUCTURAL DRAWINGS, THE ARCHITECTURAL DIMENSIONS SHALL GOVERN. IF ANY OF THESE DIMENSIONS DIFFER BY MORE THAN 5%, THE ENGINEER SHALL BE NOTIFIED OF THE CONFLICT, AND THE CONTRACTOR SHALL WAIT FOR INSTRUCTIONS.
4. THE CONTRACT CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO: BRACING, ALL SHORING, FORMS, AND SCAFFOLDING.
5. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN SLABS BEAMS, COLUMNS, WALLS, ETC., UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
6. ALL ASTM SPECIFICATIONS NOTED ON THESE DRAWINGS SHALL BE OF THE LATEST REVISION.
7. IN THE EVENT THAT CERTAIN FEATURES OF CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE NOTES OR SPECIFICATIONS. NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY & WAIT FOR INSTRUCTIONS.
8. COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION NOT DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION, SHALL BE BORN BY THE CONTRACTOR.
9. WHERE DESIGN AND DETAILS OF PLATE GIRDERS, TRUSSES, ETC., IS TO BE PROVIDED BY FABRICATOR, CONTRACTOR SHALL SUBMIT CALCULATIONS PREPARED BY A CIVIL OR STRUCTURAL ENGINEER, TO THE ENGINEER AND TO THE BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION.
10. UNLESS AN ITEM ON THE PLANS OR DETAILS IS SPECIFICALLY MARKED AS AN EXISTING ITEM, THE CONTRACTOR IS TO ASSUME THAT IT IS NEW, AND INCLUDE IT IN THE CONSTRUCTION BUDGET.
11. WHERE SOIL REPORT IS CITED, ITS REQUIREMENTS ADOPTED HEREIN.
12. ALL MANUFACTURED PRODUCTS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.
13. WHILE EVERY REASONABLE EFFORT HAS BEEN MADE TO PROVIDE A BUILDABLE SET ON CONTRACT DOCUMENTS WITH MINIMAL ERRORS OR OMISSIONS, THE CONTRACTOR ACKNOWLEDGES AND UNDERSTANDS THAT THE CONTRACT DOCUMENTS MAY REPRESENT IMPERFECT DATA AND MAY CONTAIN ERRORS, OMISSIONS, CONFLICTS, INCONSISTENCIES, CODE VIOLATIONS AND IMPROPER USE OF MATERIALS. SUCH DEFICIENCIES WILL BE CORRECTED BY THE ARCHITECT OR HIS CONSULTANTS WHEN IDENTIFIED. THE CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING TO THE ARCHITECT ANY DEFICIENCIES THE CONTRACTOR MAY DISCOVER. THE CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND TO REPORT AT ONCE ANY DEFICIENCIES DISCOVERED. THE CONSULTANT AND ARCHITECT, TOGETHER WITH CONTRACTOR SHALL RESOLVE ALL REPORTED DEFICIENCIES PRIOR TO STARTING ANY WORK. ANY QUESTIONABLE WORK PERFORMED PRIOR TO RESOLUTION OF CONFLICTS OR ERRORS OR FURTHER CLARIFICATION FROM THE ARCHITECT WILL BE DONE AT THE CONTRACTOR'S RISK.
14. OPTIONS, IF PROVIDED HEREIN, ARE FOR CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY, SHALL COORDINATE ALL DETAILS, AND SHALL OBTAIN ALL REQUIRED APPROVALS.
15. ANY MECHANICAL AND ELECTRICAL EQUIPMENT, STORAGE RACKS, SAFES, AND ANY OBJECT EXPECTED TO BE IN THE BUILDING THAT HAS AN OPERATIONAL WEIGHT (FULLY LOADED) GREATER THEN 400 LB. FLOOR OR ROOF MOUNTED, OR GREATER THEN 200 LB. SUSPENDED FROM A FLOOR, CEILING OR WALL SHALL BE SHOWN ON THESE DRAWINGS. IF THEY ARE NOT SHOWN ON THESE DRAWINGS, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER, AND A CUT SHEET FOR THE SPECIFIC ITEM SHALL BE MADE AVAILABLE.
16. CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE LATEST ADOPTED CALIFORNIA GREEN BUILDING CODE.
17. CONTRACTOR IS TO VERIFY THAT NO EXISTING STEEL REINFORCING, OR TENSION CABLES ARE DAMAGED WHEN INSTALLING POST INSTALLED WEDGE OR CHEMICAL ANCHORS. MECHANICAL ANCHORS ARE ONLY APPROVED FOR INTERIOR DRY USE, OTHERWISE CHEMICAL ANCHORS MUST BE USED.

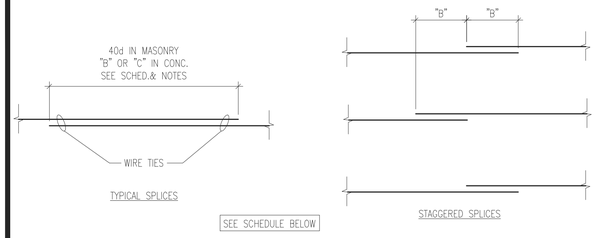
SPECIAL INSPECTIONS:

1. SPECIAL INSPECTION U.N.O. BY A REGISTERED DEPUTY INSPECTOR APPROVED BY THE ARCHITECT AND/OR ENGINEER AND THE BUILDING DEPARTMENT SHALL BE EMPLOYED BY THE OWNER FOR THE FOLLOWING TYPES OF WORK:
   A. SEE C.B.C. VOL.II, SECTION 1704 FOR ADDITIONAL REQUIREMENTS. DEPUTY INSPECTION MAY BE WAVED FOR WORK THAT IS MINOR IN NATURE AS INTERPRETED BY THE BUILDING OFFICIAL.
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. TH

-

SCALE: 1"=1'-0"

7



SEE SCHEDULE BELOW

SCHED. OF MIN. SPLICE LENGTH "B" FOR ACI CLASS B LAP SPLICE		
BAR SIZE	3,000 PSI	4,000 PSI
#4	24"	24"
#5	24"	24"
#6	25"	24"
#7	34"	30"
#8	45"	39"
#9	57"	49"
#10	72"	63"
#11	89"	77"

NOTE

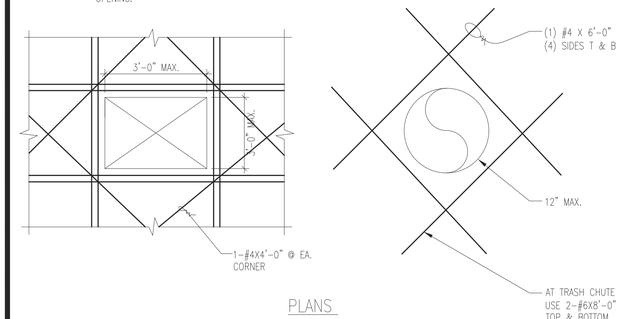
1. FOR TOP BARS USE SPLICE LENGTH SHOWN ABOVE X 1.3.
2. d=NORMAL DIAMETER OF SPLICE BAR.
3. SPLICES OF REPETITIVE REINF. IN CONC. SHALL BE STAGGERED PER ACI CLASS B SPLICES AS SHOWN ABOVE.
4. FOR NON-REPETITIVE REINF. IN CONC. OR WHERE SPLICES CAN NOT BE STAGGERED, USE ACI CLASS C SPLICES.
5. SPLICES SHALL BE MADE AWAY FROM POINTS OF MAX. STRESS OR AT LOCATIONS SHOWN ON THE DWG'S.
6. NO LAP SHALL BE LESS THAN TWO FEET.

TYPICAL REINFORCING SPLICES SCALE: 1"=1'-0"

5

NOTE

1. SCHEDULED REINF. NOT SHOWN FOR CLARITY.
2. SEE SLAB SCHEDULE FOR REINFORCING.
3. DO NOT CUT BARS UNLESS ABSOLUTELY NECESSARY.
4. REPLACE EA. INTERRUPTED BAR W/(2) BARS OF THE SAME SIZE & LENGTH, ONE ON EA. SIDE OF OPENING.



PLANS

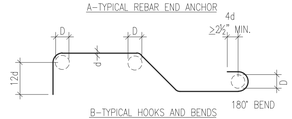
TYP. REINFORCING SLAB AT OPNG. SCALE: 1"=1'-0"

3

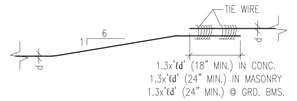
REBAR END ANCHORS SHALL HAVE AN EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH THE CURRENT ACCEPTABLE CRITERIA UNDER THE REFERENCED DESIGN CODE.

TENSION DEVELOPMENT LENGTH SCHEDULE (ld)				
BAR SIZE	f'c=3000 PSI		f'c=4000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	22	17	19	15
#4	29	22	25	19
#5	36	28	31	24
#6	43	33	37	29
#7	63	48	54	44
#8	72	55	62	55

A-TYPICAL REBAR END ANCHOR

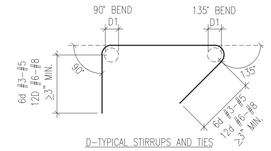


B-TYPICAL HOOKS AND BENDS



MINIMUM BEND DIAMETERS
D=6d FOR #3 THRU #8
D=8d FOR #9 THRU #11
D=10d FOR #14 THRU #18
MINIMUM INSIDE

C-OFFSETS AND SPLICES



D-TYPICAL STIRRUPS AND TIES

STIRRUP & TIES
MIN BEND DIAMETERS
D = 4d FOR #3 THRU #5
D = 6d FOR #6 THRU #8

NOTE:
135° BENDS REQUIRED @ ROUND HOOP TIES SPLICES.

REINFORCING DETAIL SCALE: 1"=1'-0"

1

DDN# 43-F546-1-19

-

SCALE: 1"=1'-0"

8

-

SCALE: 1"=1'-0"

6

-

SCALE: 1"=1'-0"

4

-

SCALE: 1"=1'-0"

2

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC. JOB# 18118

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS

BY _____ ASSISTANT DIVISION ENGINEER DATE

RECOMMENDED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION DATE

SUBMITTED

BY M.D. Espinoza STORM DRAIN SECTION 7/31/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	PC CORRECTIONS			07/16/18
2	REVISED TOTAL SHEET NUMBER		M.D. Espinoza	9/20/2018
3	REVISED TOTAL NUMBER OF SHEETS	No.40695	M.D. Espinoza	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON GARCIA No. 45915 STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

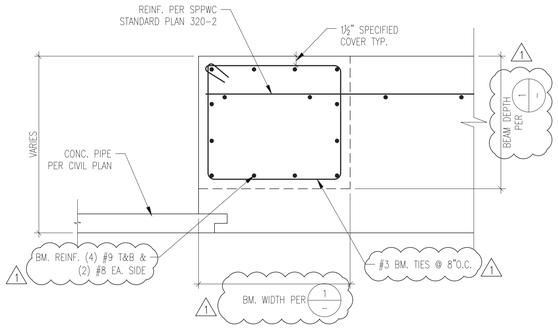
STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 18 OF ~~19~~ 20 ~~22~~

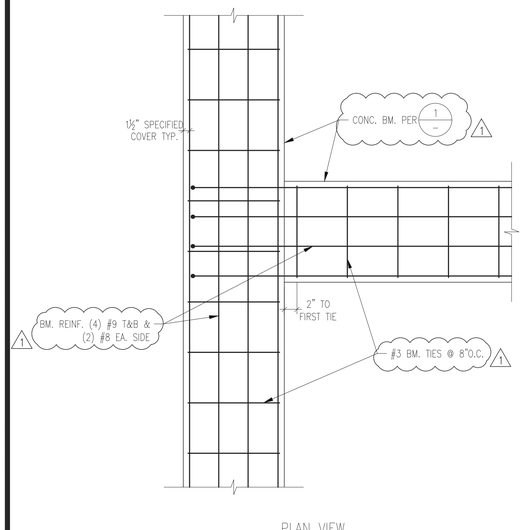
7/17/2018 5:16:09 PM



-	SCALE: 1"=1'-0"	7

CONC. BEAM SECTION

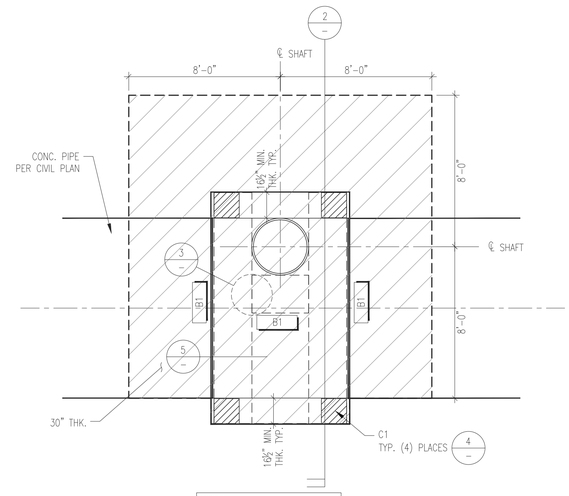
SCALE: 1"=1'-0" | 5



PLAN VIEW

CONC. REINF. @ INTERSECTION OF BMS.

SCALE: 1"=1'-0" | 3



NOTE:
FOR INFO NOT SHOWN SEE (SPPWC) STANDARD PLAN 320-2

LEGEND:

B1 = 24" SQ. CONC. BM. W/ (4) #9 T&B & (2) #8 EA. SIDE W/ #3 TIE @ 8"O.C.

C1 = 16" SQ. MIN. CONC. COL. W/ (8) #6 VERT. & #3 TIES @ 6"O.C.

MANHOLE PIPE PLAN

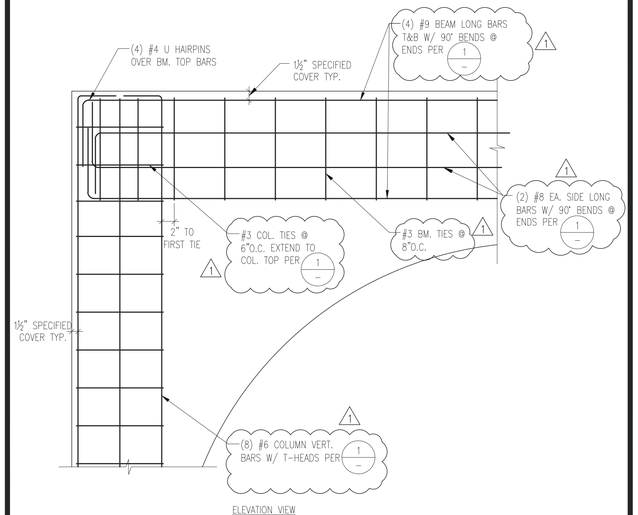
SCALE: 1/4"=1'-0" | 1

-	SCALE: 1"=1'-0"	8

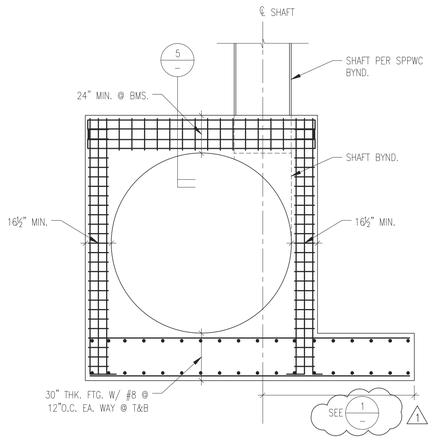
-	SCALE: 1"=1'-0"	6

BM. - COL. CORNER JOINT

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



ELEVATION VIEW



SECTION

SCALE: 1/4"=1'-0" | 2

-	SCALE: 1"=1'-0"	8

-	SCALE: 1"=1'-0"	6

BM. - COL. CORNER JOINT	SCALE: 1"=1'-0"	4

SECTION	SCALE: 1/4"=1'-0"	2

DDN# 43-F546-1-19

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC. JOB# 18118

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS
BY ASSISTANT DIVISION ENGINEER DATE

RECOMMENDED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION DATE

SUBMITTED
BY M.D. Esquivel 7/31/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	PC CORRECTIONS			07/16/18
2	REVISED TOTAL SHEET NUMBER		M.D. Esq	9/20/2018
3	REVISED TOTAL NUMBER OF SHEETS	No.40695	M.D. Esq	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON GARCIA No. 45915 STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

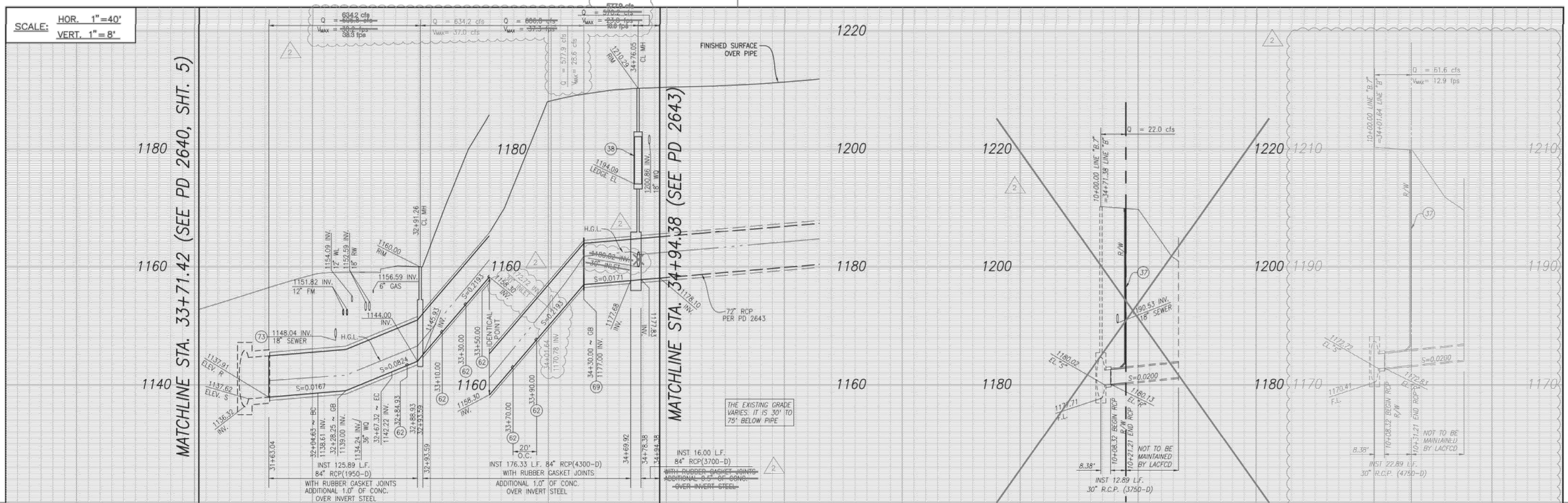
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 19 OF ~~19~~ 20 22

7/17/2018 5:16:10 PM

SCALE: HOR. 1"=40'
VERT. 1"=8'



CONSTRUCTION NOTES

(3) INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)

(6) INSTALL 84" R.C.P. (SEE PROFILE FOR D-LOAD)

(20) CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2

(37) CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 14

(38) CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2

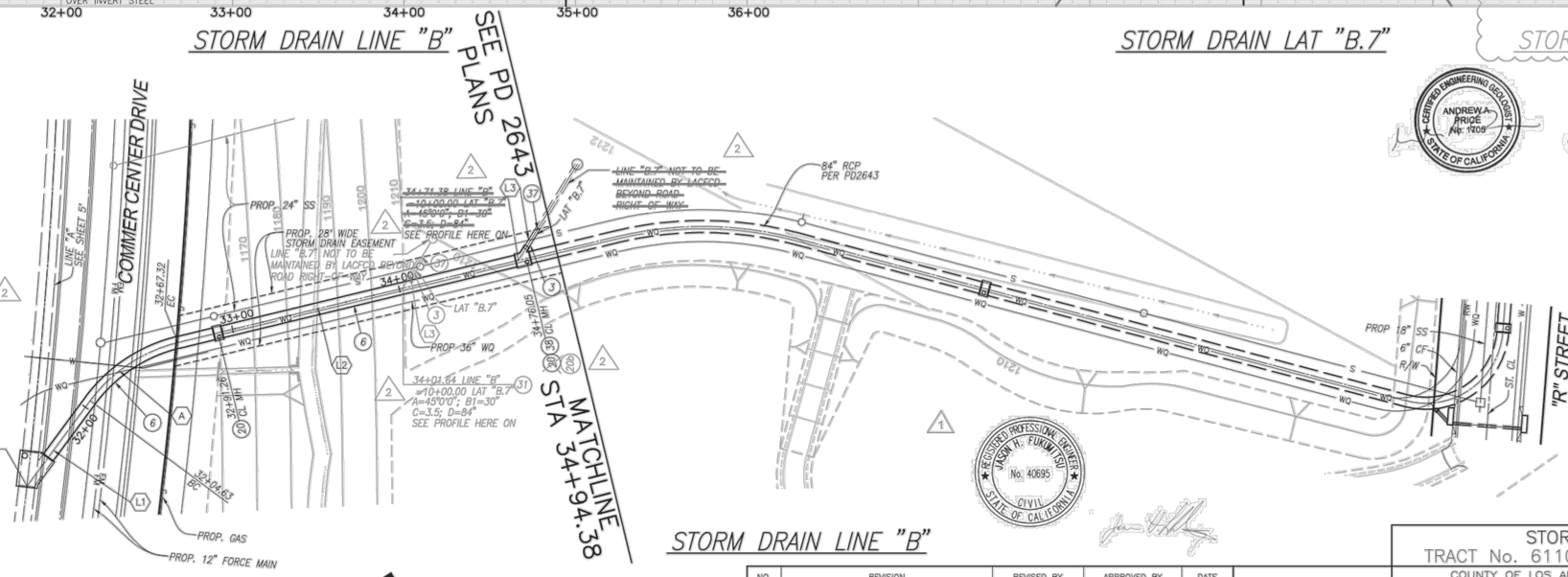
(62) CONSTRUCT VELOCITY CONTROL RINGS PER S.P.P.W.C. STD. PLAN 383-2; H=3"

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

(80) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(208) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 322-2; SEE DETAILS ON SHEET 18 AND 19

(31) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3



SD LINE "B" LINE TABLE		
LINE	LENGTH	BEARING
L1	61.96'	S23°02'35"E
L2	227.06'	N16°51'49"E
L3	21.21'	N28°08'11"W
L3	31.21'	N28°08'11"W

LINE "B" CURVE TABLE			
DELTA	RADIUS	LENGTH	TANGENT
A 39°54'25"	90.00'	62.69'	32.67'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ DATE _____
STORM DRAIN SECTION

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	Added 84" RCP Line B for grading purposes			
2	REVISED TOTAL SHEET NUMBER, REVISED LATERAL LOCATION AND LATERAL DESIGN REVISED HYDRAULIC ELEMENTS REVISED LATERAL B.7	Jason H. Fukumitsu No.40695	M.D. Esplana	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 8-16-19

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

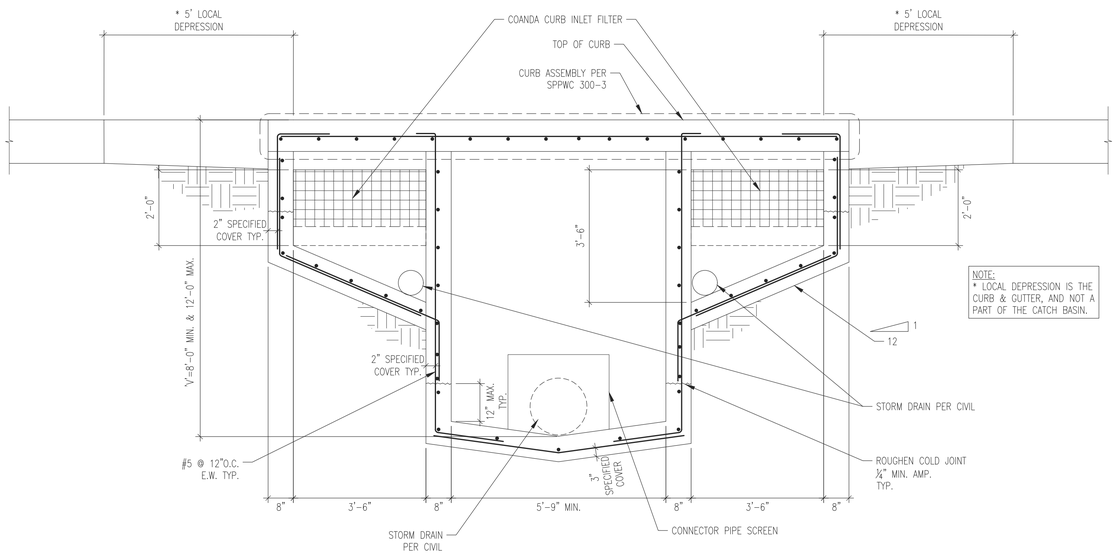
DWG | SHEET 20 OF 20 22

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1109 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 3-31-20 CIVIL ENGINEERING STATE OF CALIFORNIA

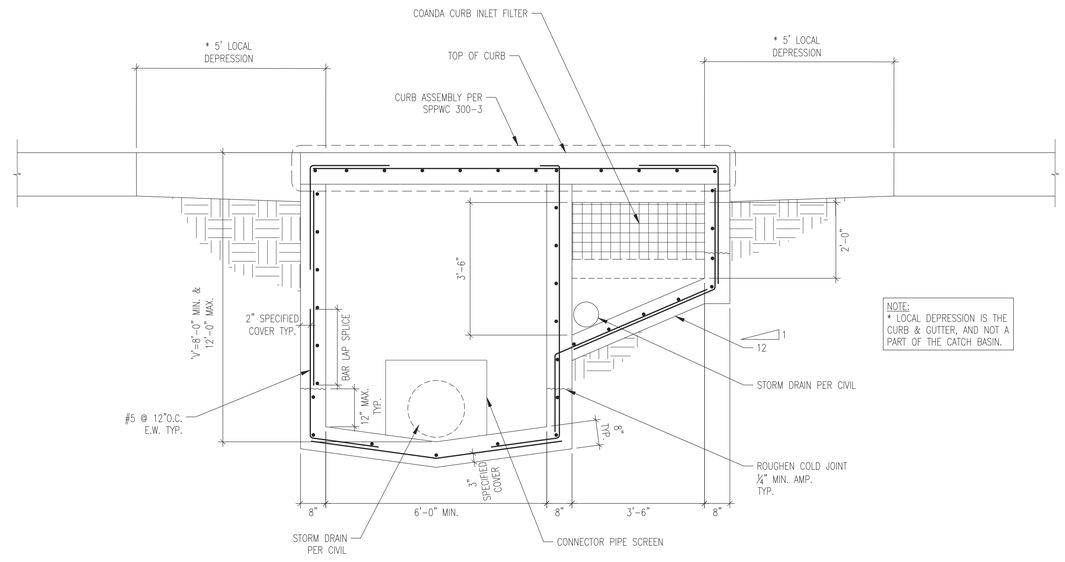
REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

© Viewhall Ranch\61105 Mission Village\61105-01\Storm\PD 2640\HW1081-20_SD Plan 20.dwg Plotted on Aug 31, 2018-4:52pm by dmar



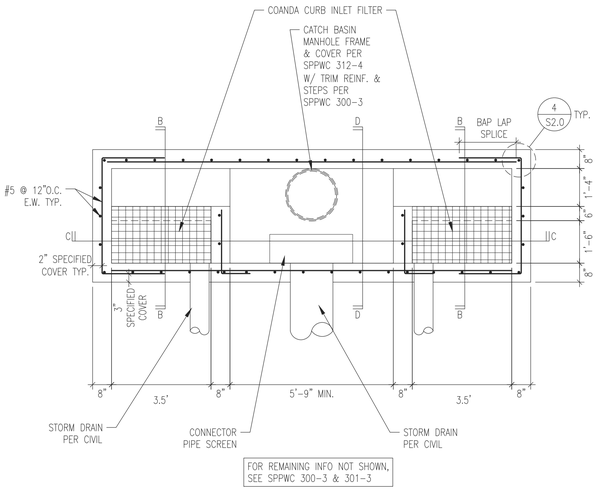
SECTION C-C

SCALE: 1/2"=1'-0" | 5



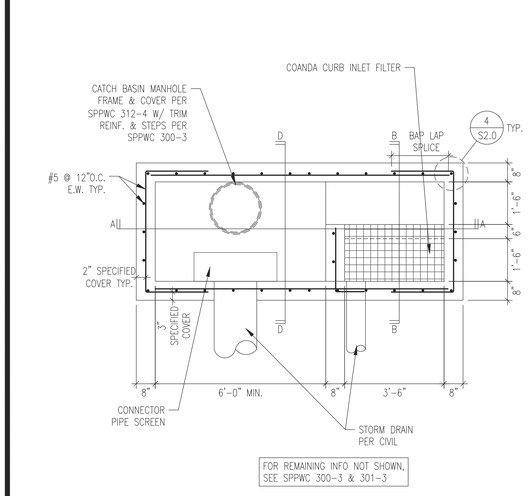
SECTION A-A

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



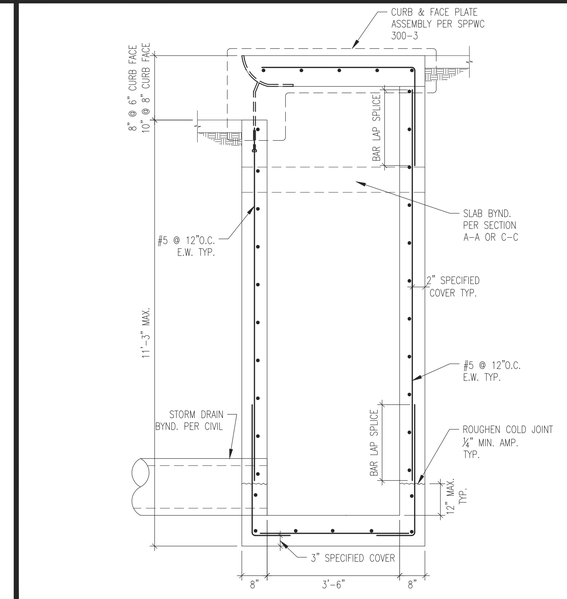
PLAN VIEW (SUMP CONDITION)

SCALE: 3/8"=1'-0" | 8



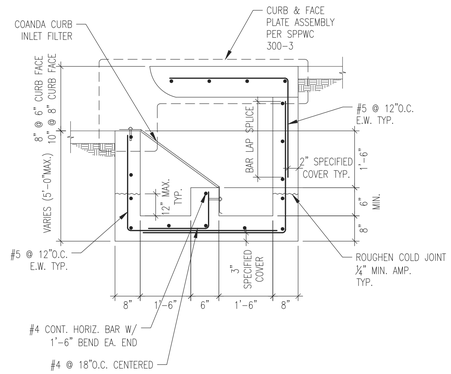
PLAN VIEW (BY-PASS CONDITION)

SCALE: 3/8"=1'-0" | 6



SECTION D-D

SCALE: 1/2"=1'-0" | 4



SECTION B-B

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

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED SHEET	No.40695	MD. Esfandi	06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON H. FUNG No. 40695 CIVIL STATE OF CALIFORNIA

SUBMITTED
BY _____
STORM DRAIN SECTION DATE

REGISTERED PROFESSIONAL ENGINEER JASON GARCIA No.45495 STRUCTURAL STATE OF CALIFORNIA
DATE 6/18/18

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC.
JOB# 18118B

DWG | SHEET 21 OF 22

2/8/2019 3:07:12 PM

-

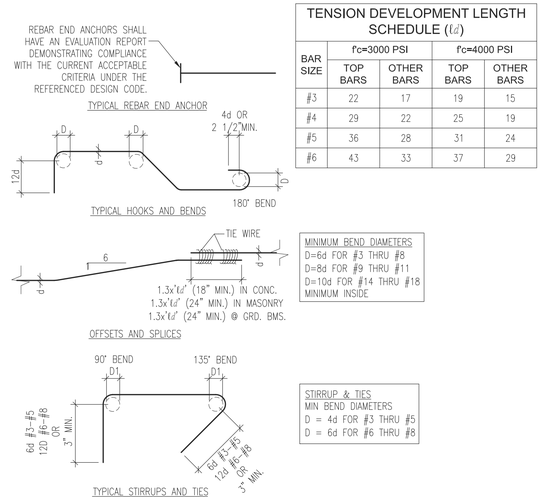
SCALE: 1"=1'-0" | 7

-

SCALE: 1"=1'-0" | 8

-

SCALE: 1"=1'-0" | 5



TENSION DEVELOPMENT LENGTH SCHEDULE (ℓd)

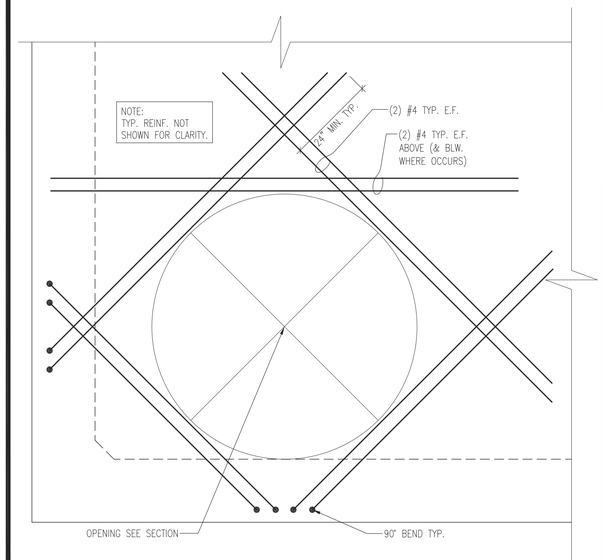
BAR SIZE	f'c=3000 PSI		f'c=4000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	22	17	19	15
#4	29	22	25	19
#5	36	28	31	24
#6	43	33	37	29

MINIMUM BEND DIAMETERS
D=6d FOR #3 THRU #8
D=8d FOR #9 THRU #11
D=10d FOR #14 THRU #18
MINIMUM INSIDE

STIRRUP & TIES
MIN BEND DIAMETERS
D = 4d FOR #3 THRU #5
D = 6d FOR #6 THRU #8

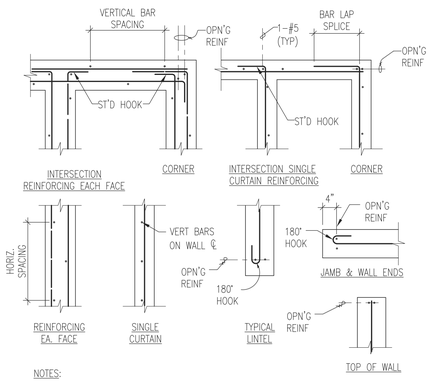
REINFORCING DETAIL

SCALE: 1"=1'-0" | 3



REINF. AT OPENING

SCALE: 1"=1'-0" | 1



NOTES:

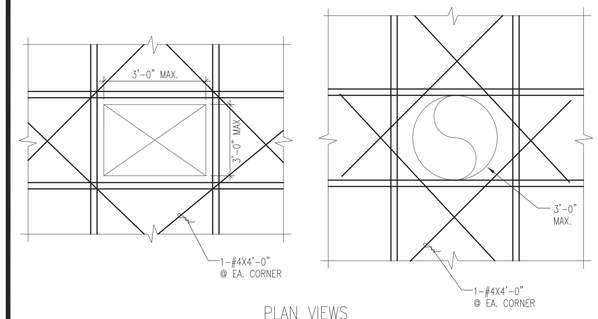
1. REFER TO TYPICAL CONC. WALL REINFORCING SCHEDULE.
2. AT DOUBLE CURTAIN REINFORCING STAGGER VERTICAL AND HORIZONTAL BARS. PLACE VERTICAL REBAR AS CLOSE TO CONC. SURFACE AS THE MINIMUM CLEARANCES WILL PERMIT

TYPICAL CONC. WALL DETAIL

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

NOTE

1. SCHEDULED REINF. NOT SHOWN FOR CLARITY.
2. SEE SLAB SCHEDULE FOR REINFORCING.
3. DO NOT CUT BARS UNLESS ABSOLUTELY NECESSARY.
4. REPLACE EA. INTERRUPTED BAR W/(2) BARS OF THE SAME SIZE & LENGTH, ONE ON EA. SIDE OF OPENING.



PLAN VIEWS

REINFORCING SLAB AT OPNG.

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

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUTSU No. 40695 CIVIL STATE OF CALIFORNIA

SUBMITTED

BY _____ STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED SHEET	No.40695		06/11/2019

REGISTERED PROFESSIONAL ENGINEER JASON GARCIA No. 45995 STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2640

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC.
JOB# 18118B

DWG

SHEET 22 OF 22

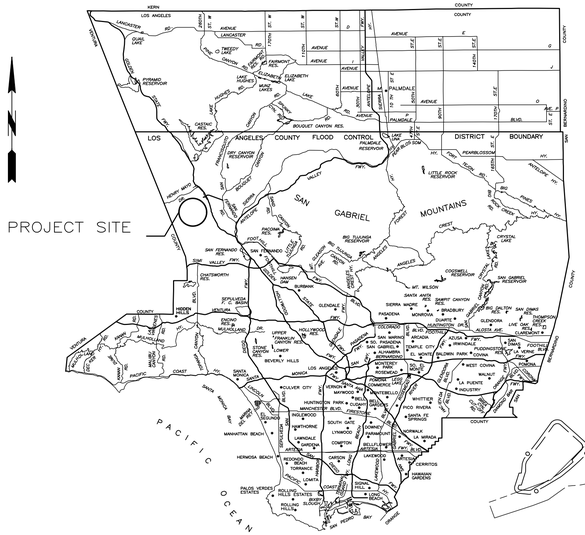
D-6: PD 2641

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

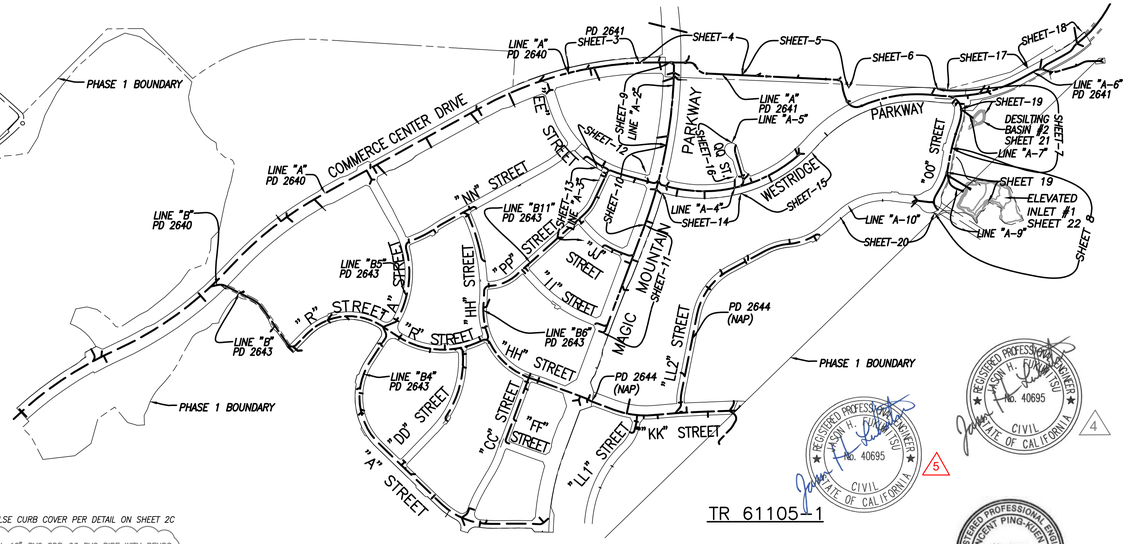
EIMP2014000167

PRIVATE DRAIN NO 2641

TRACT NO 61105-01



LOCATION MAP



TR 61105-1

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
5. INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
6. INSTALL 48" R.C.P. (SEE PROFILE FOR D-LOAD)
7. INSTALL 54" R.C.P. (SEE PROFILE FOR D-LOAD)
8. INSTALL 60" R.C.P. (SEE PROFILE FOR D-LOAD)
9. INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
10. INSTALL 114" R.C.P. (SEE PROFILE FOR D-LOAD)
13. CONSTRUCT DESILTING INLET PER DETAILS ON SHEET 21
14. CONSTRUCT 6" THICK CONC. ACCESS ROAD OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAILS HEREON (WIDTH PER PLAN)
15. CONSTRUCT CONC. FACING/SLOPE PROTECTION PER DETAILS ON SHEET 21
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
16a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 321-2 PER DETAIL ON SHEET 33
17. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
17a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 320-2 PER DETAILS ON SHEETS 36 AND 37
17b. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 320-2 PER DETAILS ON SHEET 33
18. CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
18a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2 PER DETAILS ON SHEETS 36 AND 37
19. CONSTRUCT OUTLET TOWER PIPE PER PROFILE ON SHEET 23
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39 (2)
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
34. CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL ON SHEET 22 (WIDTH PER PLAN)
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C. STD. PLAN 330-2
67. INSTALL 84" R.C.P. (SEE PROFILE FOR D-LOAD)
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
69. CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4
70. CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2
83. CONSTRUCT CHAIN LINK FENCE PER S.P.P.W.C. ST.D PLAN NO 600-3
84. CONSTRUCT DOUBLE DRIVE GATE PER S.P.P.W.C. STD. PLAN NO 600-3 (W=12' PER LEAF)
85. CONSTRUCT CUT OF WALL PER DETAIL ON SHEET 21
87. CONSTRUCT SLOPE PROTECTION BARRIER PER S.P.P.W.C. STD. PLAN 360-2
88. CONSTRUCT HEADWALL PER CALTRANS STANDARD D90 (SHEET 25)
89. INSTALL INCLINED TRASH RACK PER S.P.P.W.C. 361-2
90. CONSTRUCT BRICK AND MORTAR PLUG

3 / 2 — 92. INSTALL 8" FALSE CURB COVER PER DETAIL ON SHEET 2C

4 / 2 — 93. INSTALL 12" PVC SDR-26 PVC PIPE WITH BENDS AND FITTINGS AS REQUIRED

91. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3

INDEX TO STANDARD DRAWINGS

LOS ANGELES COUNTY DEPT. OF PUBLIC WORKS

STD. PLAN	TITLE
2032-2	CRADLING AND ENCASEMENT
3080-2	PIPE BEDDING
6008-1	MINIMUM PUBLIC SAFETY REQUIREMENTS FOR OPEN EXCAVATIONS

STANDARD PLANS FOR PUBLIC WORK CONSTRUCTION

STD. PLAN	TITLE
221-2	PIPE ANCHORS AND BACKFILL STABILIZERS
225-2	CONCRETE BLANKET
300-3	CURB OPENING CATCH BASIN
313-3	LOCAL DEPRESSIONS AT CATCH BASINS
320-2	MANHOLE - PIPE TO PIPE (36" OR LARGE)
321-2	MANHOLE - PIPE TO PIPE (33" OR SMALL)
322-2	MANHOLE - PIPE TO PIPE (LARGE INSIDE INLET)
330-2	MANHOLE SHAFT SAFETY LEDGE
331-3	JUNCTION STRUCTURE - PIPE TO PIPE
332-2	JUNCTION STRUCTURE - PIPE TO PIPE (ID < 24")
340-2	TRANSITION STRUCTURE - PIPE TO PIPE
360-2	SLOPE PROTECTION BARRIER
361-2	TRASH RACK (INCLINED)
380-4	CONCRETE COLLAR
600-3	CHAIN LINK FENCE AND GATES

CALIFORNIA DEPARTMENT OF TRANSPORTATION

STD. PLAN	TITLE
A73A	OBJECT MARKERS
D90	PIPE HEADWALLS

INDEX TO PROJECT DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2A	GENERAL NOTES
2C	HYDRAULIC ELEMENTS
3	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 69+02.33 TO 75+00.00
4	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 75+00.00 TO 84+00.00
5	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 84+00.00 TO 93+00.00
6	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 93+00.00 TO 102+00.00
7A	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 102+00.00 TO 108+00.00
8A	STORM DRAIN PLAN AND PROFILE - LINE "A" FROM STA. 108+00.00 TO 113+49.38
9	STORM DRAIN PLAN AND PROFILE - LINE "A2" FROM STA. 09+89.50 TO 17+00.00
10	STORM DRAIN PLAN AND PROFILE - LINE "A2" FROM STA. 17+00.00 TO 24+00.00
11A	STORM DRAIN PLAN AND PROFILE - LINE "A2" FROM STA. 24+00.00 TO 34+01.95
12A	STORM DRAIN PLAN AND PROFILE - LINE "A3" FROM STA. 10+00.00 TO 15+00.00 - LINE "A12" FROM STA. 10+02.29 TO 12+53.16
13A	STORM DRAIN PLAN AND PROFILE - LINE "A3" FROM STA. 15+00.00 TO 19+60.79
14	STORM DRAIN PLAN AND PROFILE - LINE "A4" FROM STA. 09+93.12 TO 17+03.65
15	STORM DRAIN PLAN AND PROFILE - LINE "A4" FROM STA. 17+03.65 TO 22+90.40
16A	STORM DRAIN PLAN AND PROFILE - LINE "A5" FROM STA. 10+00.00 TO 13+63.48
17	STORM DRAIN PLAN AND PROFILE - LINE "A6" FROM STA. 10+00.00 TO 17+00.00
18	STORM DRAIN PLAN AND PROFILE - LINE "A6" FROM STA. 17+00.00 TO 23+08.35 - LINE "A6.7" FROM STA. 10+00.00 TO 13+63.43
19A	STORM DRAIN PLAN AND PROFILE LINE "A7" FROM STA. 10+00.00 TO 11+20.31 - LINE "A9" FROM STA. 10+00.00 TO 12+17.71
20A	STORM DRAIN PLAN AND PROFILE - LINE "A10" FROM STA. 10+00.00 TO 11+85.11 - LINE "A11" FROM STA. 10+03.53 TO 12+84.02
21A'B	DEBRIS BASIN
22A	DEBRIS BASIN
23	DETAILS
24	DETAILS
25	DETAILS
26	CATCH BASIN LATERAL PROFILES
27	CATCH BASIN LATERAL PROFILES
28A	CATCH BASIN LATERAL PROFILES
29	CATCH BASIN LATERAL PROFILES
30	CATCH BASIN LATERAL PROFILES
31A	CATCH BASIN LATERAL PROFILES
32	CATCH BASIN LATERAL PROFILES
33	DETAILS
34AB	STORM DRAIN EASEMENTS
35	STRUCUTRE NOTES
36	STRUCTURE DETAIL
37	STRUCTURE DETAILS
38	STRUCTURE DETAILS
39	STRUCTURE DETAILS

PD 2641 IS NOT ELIGIBLE FOR TRANSFER TO THE FLOOD CONTROL DISTRICT FOR MAINTENANCE UNTIL PD 2640 IS TRANSFERRED

PD 2640 MUST BE CONSTRUCTED BEFORE OR CONCURRENT WITH PD 2641

KEY MAP
SCALE: 1"=600'

CATCH BASIN STENCIL DETAIL
NTS

THIS DETAIL SHOULD APPEAR ON TOP OF ALL CATCH BASINS

ALL CATCH BASINS AND INLETS THAT DISCHARGE INTO AN EXISTING OR PROPOSED STORM DRAIN MUST BE STENCILED TO DISCOURAGE ILLEGAL DUMPING OFPOLLUTANTS. THIS STENCIL SHALL HAVE A MINIMUM DIAMETER OF 30 INCHES.

BENCH MARK: NEWHALL QUAD (2009) NAVD88
LADPW L 5210
DPW BM TAG IN E CB 3' N/O END @ SE COR RYE CYN RD & THE OLD ROAD 85' S & 55' E/O C/L INT.

ELEV. 1061.448 FEET **ADJUSTMENT** 2009

SURVEYOR'S NOTE: TOPO & DESIGN ELEV ARE BASED ON 1995 ADJUSTMENT. TO ACQUIRE 2009 ADJUSTMENT ELEV, SUBTRACT 0.120 FT FROM ALL ELEVATIONS DEPICTED ON THESE PLANS.

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

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 this map. The contractor is required to take due precautionary measures to protect the utility lines shown and any other lines not of record or shown on this drawing.

JASON H. FUKUMITSU — 8/29/2018 DATE

APPROVED	MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS	
BY	ASSISTANT DIVISION ENGINEER	10/9/2018 DATE
RECOMMENDED	LAND DEVELOPMENT DIVISION	
BY	STORM DRAIN SECTION	10/04/2018 DATE
SUBMITTED		
BY	STORM DRAIN SECTION	10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REMOVED CONDITION BULK FLOW DRAIN WILL BE CONSTRUCTED AS PART OF ROUGH GRADING PLAN			11/7/18
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39 ADDED CONSTRUCTION NOTE 91 REVISED CONSTRUCTION NOTE 21 REVISE TOTAL NUMBER OF SHEETS REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERAL 8/MAINLINE REVISED "00" PRIVATE DRIVE		AYM	8/14/19
3	REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE REVISED "00" PRIVATE DRIVE		MD. Esp.	3/15/2021
4	REVISE LAT A4.2, A.8 AND LINE A10, ADDED LAT A10-2, REVISED DEBRIS BASIN 2 AND ADDED EASEMENT SHEET		MD. Esp.	9/28/2021
5	ADDED LAT D AND LAT D1, UPDATED HYDRAULICS FOR LINE A			01/18/2022

JASON H. FUKUMITSU — 8/29/18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 Valencia, CA 91355▪ PH: (661) 294-2211 FX: (661) 294-9890

DWG | SHEET 1 OF ~~37~~ 39

FOR PLAN CHECK ONLY

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MW080-01_TitleSheet-REV4.dwg Plotted on Sep 21, 2021 - 8:34am by amonobb

GENERAL NOTES:

1. A PERMIT SHALL BE OBTAINED AND ALL FEES AND DEPOSITS FOR CONSTRUCTION INSPECTION SHALL BE PAID TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE 3RD FLOOR, ALHAMBRA, PRIOR TO STARTING WORK UNDER THIS CONTRACT. ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION PERMITS, MUST BE OBTAINED PRIOR TO STARTING WORK.

2. WHEN WORK IS WITHIN A CONTRACT CITY, CONTRACTOR MUST CONTACT THE DIRECTOR OF PUBLIC WORKS OF THAT CITY TO DETERMINE THE LOCATION TO PAY THE INSPECTION DEPOSIT.

3. THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE LISTED ON THE "APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION FORM I" TO ARRANGE FOR AN ACCEPTABLE CONSTRUCTION START DATE.

4. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.

5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.

6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 6008.

7. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929, UNLESS OTHERWISE INDICATED.

8. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.

9. ALL STRUCTURAL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. UNLESS OTHERWISE NOTED.

10. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.

11. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2-1/2 INCH CLEARANCE UNLESS OTHERWISE SPECIFIED.

12. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL PER A.S.T.M. A-615-GRADE 60.

13. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE."

14. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER LINE OF STEEL UNLESS OTHERWISE NOTED.

15. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18 INCHES WHICHEVER IS GREATER.

16. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.

17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4 INCH CHAMFER.

18. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.

19. CONCRETE BACKFILL IS REQUIRED WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX, PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.

20. ALL PIPES SHALL BE PLACED IN TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE THE TOP OF THE PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS.

21. ALL BACKFILL AND FILLS OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE COMPACTED TO MIN. 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D 1557-91 METHOD "D" UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE COUNTY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.

22. ALL BACKFILL AND FILLS WITHIN STREET RIGHT-OF-WAY SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 306-1.3.4 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED AND INSPECTED BY THE COUNTY. CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS IN ADVANCE FOR SOIL TESTING AS REQUIRED BY THE INSPECTOR.

23. PIPE BEDDING SHALL BE:

    IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN NO. 3092 UNLESS OTHERWISE NOTED.

    ACCORDING TO STANDARD PLAN NO. 3080-0, CASE 3, EXCEPT BELL AND SPIGOT PIPE WHICH SHALL BE CASE 2 BEDDING, UNLESS OTHERWISE SHOWN. "W" VALUES SHALL BE AS SPECIFIED ON STANDARD PLAN 3080-0 FOR CASE 3 BEDDING, NOTES 3 (A), 3 (B), AND 3 (C). IF THE "W" VALUE AT THE TOP OF THE PIPE IS EXCEEDED, THE BEDDING SHALL BE MODIFIED, AND/OR PIPE OF ADDITIONAL STRENGTH SHALL BE PROVIDED. THE PROPOSED MODIFICATION SHALL BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.

24. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND OUTLET HEADWALLS, UNLESS OTHERWISE SPECIFIED.

25. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN PRECAST CONCRETE PIPE SHALL BE 1 INCH IN PIPE HAVING A WALL THICKNESS OF 2 1/2 INCHES OR GREATER AND 3/4 INCH IN PIPE HAVING A WALL THICKNESS OF LESS THAN 2 1/2 INCHES.

26. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.

27. THE CONTRACTOR SHALL PROVIDE TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS A DRAINAGE SYSTEM FOR OPERABLE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE. THE DESIGN OF THE DRAINAGE SYSTEM MUST BE PREPARED UNDER THE DIRECTION OF A CIVIL ENGINEER.

GENERAL NOTES (Cont'd)

28. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE ELEMENTS OF THE DEPARTMENT OF PUBLIC WORKS.

29. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.

30. UNLESS OTHERWISE INDICATED CROSSING UTILITIES ARE TO BE SUPPORTED IN ACCORDANCE WITH STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION NO. 224-2

31. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.

32. MANHOLES SHALL USE THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 630-2 FOR THE "FRAME AND COVER" AND 635-2 FOR THE "STANDARD DROP STEP."

33. THIS STORM DRAIN WILL NOT BE FIELD ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE AND THE SYSTEM CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.

34. AN NPDES PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD IS REQUIRED BEFORE ANY DISCHARGE OF NON-STORM WATER INTO THE STORM DRAIN IS ALLOWED.

35. THE LATEST REVISED STANDARD PLAN OR DRAWING SHALL BE USED UNLESS OTHERWISE NOTED.

36. THE SOILS ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.

37. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 630, 631, 632 AND 633 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.

38. STORM DRAIN MANHOLE COVERS CONSTRUCTED PER S.P.P.W.C. STANDARD PLANS 312 SHALL BE CAST WITH THE LETTERS "L.A.C.F.C.D.". THE LETTERS SHALL BE 1 INCH IN HEIGHT AND PLACED BELOW THE LETTER "D" IN THE CENTER OF THE COVER.

39. ALL ABOVE GROUND FACILITIES SHALL BE STAMPED WITH THE DRAIN AND LINE NAME. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND.

40. EVERY 100 FEET STATIONS SHALL BE LABELED ON THE INSIDE OF ALL STORM DRAINS AND WALL OF OPEN CHANNELS. THE LETTERING SHOULD BE 4" BLACK TEXT ON A YELLOW BACKGROUND AND SHOULD BE PLACED IN THE SOFFIT OF PIPES AND THE TOP 2 FEET OF A CHANNEL WALL.

41. FOR ALL DEBRIS BASINS, THE 0%, 5% AND 25% DEBRIS CONE ELEVATIONS SHALL BE LABELED ON THE CONCRETE FACING SLAB AND THE STAND PIPE.

42. PRIOR TO ORDERING PIPES, CONTACT GEOTECHNICAL & MATERIALS DIVISION AT (626) 458-1707 TO SCHEDULE FOR D-LOAD INSPECTION. FEES PAYABLE AT LAND DEVELOPMENT DIVISION PUBLIC COUNTER WILL BE REQUIRED.

STORMWATER POLLUTION CONTROL REQUIREMENTS FOR STORM DRAIN CONSTRUCTION

A. NOTES:

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
3. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
4. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
5. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
6. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
7. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

B. THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CALIFORNIA BMP HANDBOOK (CONSTRUCTION) OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL), MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICIAL):

EROSION CONTROL

EC1 – SCHEDULING
EC2 – PRESERVATION OF EXISTING VEGETATION
EC3 – HYDRAULIC MULCH
EC4 – HYDROSEEDING
EC5 – SOIL BINDERS
EC6 – STRAW MULCH
EC7 – GEOTEXTILES & MATS
EC8 – WOOD MULCHING
EC9 – EARTH DIKES & DRAINAGE SWALES
EC10 – VELOCITY DISSIPATION DEVICES
EC11 – SLOPE DRAINS
EC12 – STREAMBANK STABILIZATION
EC13 – RESERVED
EC14 – COMPOST BLANKETS
EC15 – SOIL PREPARATION/ROUGHENING
EC16 – NON-VEGETATED STABILIZATION

TEMPORARY SEDIMENT CONTROL

SE1 – SILT FENCE
SE2 – SEDIMENT BASIN
SE3 – SEDIMENT TRAP
SE4 – CHECK DAM
SE5 – FIBER ROLLS
SE6 – GRAVEL BAG BERM
SE7 – STREET SWEEPING AND VACUUMING
SE8 – SAND BAG BARRIER
SE9 – STRAW BALE BARRIERS
SE10 – STORM DRAIN INLET PROTECTION
SE11 – ACTIVE TREATMENT SYSTEMS
SE12 – TEMPORARY SILT DIKE
SE13 – COMPOST SOCKS & BERMS
SE14 – BIOFILTER BAGS

WIND EROSION CONTROL

WE1 – WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL

TC1 – STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC2 – STABILIZATION CONSTRUCTION ROADWAY
TC3 – ENTRANCE/OUTLET TIRE WASH

NON-STORMWATER MANAGEMENT

NS1 – WATER CONSERVATION PRACTICES
NS2 – DEWATERING OPERATIONS
NS3 – PAVING AND GRINDING OPERATIONS
NS4 – TEMPORARY STREAM CROSSING
NS5 – CLEAR WATER DIVERSION
NS6 – ILLICIT CONNECTION/DISCHARGE
NS7 – POTABLE WATER/IRRIGATION
NS8 – VEHICLE AND EQUIPMENT CLEANING
NS9 – VEHICLE AND EQUIPMENT FUELING
NS10 – VEHICLE AND EQUIPMENT MAINTENANCE
NS11 – PILE DRIVING OPERATIONS
NS12 – CONCRETE CURING
NS13 – CONCRETE FINISHING
NS14 – MATERIAL AND EQUIPMENT USE
NS15 – DEMOLITION ADJACENT TO WATER
NS16 – TEMPORARY BATCH PLANTS

WASTE MANAGEMENT AND MATERIAL POLUTION CONTROL

WM-1 – MATERIAL DELIVERY AND STORAGE
WM-2 – MATERIAL USE
WM-3 – STOCKPILE MANAGEMENT
WM-4 – SPILL PREVENTION AND CONTROL
WM-5 – SOLID WASTE MANAGEMENT
WM-6 – HAZARDOUS WASTE MANAGEMENT
WM-7 – CONTAMINATION SOIL MANAGEMENT
WM-8 – CONCRETE WASTE MANAGEMENT
WM-9 – SANITARY/SEPTIC WASTE MANAGEMENT
WM-10 – LIQUID WASTE MANAGEMENT

P.D. NO. 2641

Dwg No. 43-F553.1-38

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION 10/04/2018 DATE

REGISTERED PROFESSIONAL ENGINEER – VINCENT PING-AUN IP – No. 2522 – Exp. 03/20 – GEOTECHNICAL – STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST – ANDREW A. PRIDE – No. 1705 – STATE OF CALIFORNIA

NO.	REVISION	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER – JASON H. FUKUMITSU – No. 40695 – CIVIL – STATE OF CALIFORNIA
JASON H. FUKUMITSU 8/29/18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 2A OF 37

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM080-02_Notes.dwg Plotted on Jun 15, 2018–6:02pm by joshuoy

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q_{50}	DIA	Vmax (FPS)	REMARKS
"A"	69+00.00	70+59.87	1476.4	114"	20.8	1
	70+59.87	70+83.93	1476.4	114"	20.8	1
	70+83.93	71+16.85	1476.4	114"	20.8	1
	71+16.85	73+96.85	1476.4	114"	20.8	1
	73+96.85	75+00.00	1476.4	114"	20.8	1
	75+00.00	76+61.16	1476.4	114"	20.8	1
	76+61.16	76+69.44	1476.4	114"	20.8	1
	76+69.44	77+72.66	1476.4	114"	20.8	1
	77+72.66	78+84.62	1335.6	96"	35.8	2
	78+84.62	81+00.00	1335.6	96"	35.8	2
	81+00.00	84+00.00	1335.6	96"	35.8	2
	84+00.00	85+20.74	1335.6	96"	35.8	2
	85+20.74	86+00.00	1303.1	96"	30.3	2
	86+00.00	88+64.77	1303.1	102"	30.3	2
	88+64.77	91+00.00	1295.6	102"	29.4	1
	91+00.00	92+06.06	1295.6	102"	29.4	1
	92+06.06	93+00.00	1269.6	102"	27.0	1
	93+00.00	94+04.87	1269.6	102"	27.0	1
	94+04.87	95+50.00	1186.1	102"	20.9	1
	95+50.00	99+00.00	1186.1	102"	20.9	1
	99+00.00	101+47.22	1186.1	102"	20.9	1
	101+47.22	102+00.00	1186.1	102"	28.0	1
	102+00.00	103+31.30	1186.1	102"	20.9	1
	103+31.30	103+56.56	983.9	102"	17.3	
	103+56.56	103+86.23	983.9	102"	17.3	
	103+86.23	104+12.09	983.9	102"	17.3	
	104+12.09	104+24.90	983.9	102"	17.3	
	104+24.90	104+62.25	983.9	102"	17.3	
	104+62.25	107+20.97	969.2	102"	17.1	
	107+20.97	108+00.00	965.1	102"	17.0	
	108+00.00	110+58.62	965.1	102"	17.0	
	110+58.62	113+49.87	935.5	96"	18.6	
	113+49.87	114+14.51	900.0	96"	17.9	
"A2"	09+89.50	10+90.74	99.5	48"	7.9	
	10+90.74	11+16.43	96.5	48"	7.7	
	11+16.43	11+33.99	90.9	48"	7.2	
	11+33.99	16+25.02	84.2	48"	6.7	
	16+25.02	17+00.00	84.2	48"	6.7	
	17+00.00	20+09.41	84.2	48"	6.7	
	20+09.41	20+86.06	23.8	36"	3.4	
	20+86.06	24+00.00	18.6	36"	10.1	
	24+00.00	24+44.41	18.6	36"	10.1	
	24+44.41	28+18.75	18.6	36"	10.1	
	28+18.75	29+11.63	17.6	36"	8.3	
	29+11.63	29+35.66	8.8	36"	6.9	
"A3"	10+05.90	10+83.25	16.7	30"	3.4	
	10+83.25	11+01.81	11.5	30"	2.3	
	11+01.81	13+49.93	10.2	30"	8.6	
	13+49.93	15+00.00	10.2	30"	8.6	
	15+00.00	15+17.64	10.2	30"	8.6	
	15+17.64	15+31.59	9.8	30"	7.1	
	15+31.59	15+85.07	9.2	30"	8.2	
	15+85.07	18+44.03	6.7	24"	8.9	
	18+44.03	19+82.20	2.8	24"	6.0	

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q_{50}	DIA	Vmax (FPS)	REMARKS
"A4"	09+93.12	10+80.50	44.9	36"	6.4	
	10+80.50	14+00.00	27.6	36"	12.0	
	14+00.00	16+61.72	27.6	36"	12.0	
	16+61.72	17+03.65	25.2	36"	11.2	
	17+03.65	17+15.33	25.2	24"	11.2	
	17+15.33	18+13.00	15.8	24"	11.6	
	18+13.00	20+00.00	14.8	24"	11.7	
	20+00.00	22+39.69	14.8	24"	11.7	
	22+39.69	22+62.97	14.5	24"	6.3	
	22+62.97	22+74.55	4.5	24"	1.6	
	22+74.55	22+88.57	4.5	24"	1.6	
"A5"	10+00.00	10+62.25	19.2	30"	7.2	
	10+62.25	10+91.56	5.2	30"	1.2	
	10+91.56	13+00.00	4.40	30"	7.2	
	13+00.00	14+57.01	4.40	30"	7.2	
"A6"	10+00.00	11+16.15	372.1	60"	39.2	2
	11+16.15	11+19.75	371.3	60"	37.6	2
	11+19.75	12+35.72	370.3	60"	37.6	2
	12+35.72	13+00.00	370.2	60"	33.1	2
	13+00.00	13+08.55	367.6	60"	32.2	2
	13+08.55	15+00.00	364.3	60"	32.5	2
	15+00.00	17+00.00	364.3	60"	27.6	1
	17+00.00	18+05.93	364.3	60"	27.6	1
	18+05.93	23+08.35	207.4	60"	10.6	
"A7"	10+00.00	11+20.31	49.4	42"	27.6	1
"A8"	10+00.00	13+11.42	1.8	24"	9.8	
"A9"	10+00.00	11+75.54	574.8	84"	19.7	1
"A9–B"	10+03.09	11+96.76		42"		
"A10"	10+00.00	12+65.10	24.8	30"	18.5	
	12+65.10	12+89.15	22.4	30"	15.2	
	12+89.15	15+52.81	22.2	30"	13.0	
	15+52.81	15+63.63	21.9	30"	10.6	
	15+63.63	15+91.04	21.6	30"	10.2	
	15+91.04	18+00.00	13.9	30"	11.4	
	18+00.00	18+56.65	13.9	30"	11.4	

HYDRAULIC ELEMENTS

LATERALS	PIPE FROM STA.	REACH TO STA.	Q	DIA	Vmax (FPS)	REMARKS
"A.1"	10+00.00	10+83.90	1.3	18"	14.2	
"A.2"	10+00.00	10+80.69	0.5	36"	0.1	
"A.3"	10+00.00	10+35.34	0.5	18"	12.7	
"A.4"	10+00.00	10+28.85	0.2	18"	4.9	
"A.5"	10+00.00	10+68.36	0.3	18"	4.6	
"A.6"	10+00.00	10+50.27	10.0	24"	3.2	
"A.7"	10+00.00	10+25.74	20.2	24"	6.4	
"A.8"	10+00.00	10+20.42	3.3	18"	21.0	1
"A.9"	10+00.00	10+26.90	3.6	18"	21.9	1
"A.10"	10+00.00	10+30.50	13.9	36"	7.9	
"A.11"	10+00.00	10+39.00	0.5	18"	13.2	
"A.12"	10+00.00	10+13.86	0.5	18"	17.0	
"A.13"	10+00.00	10+63.69	66.0	42"	12.3	
"A.14"	10+00.00	10+42.00	36.0	36"	5.1	
"A.15"	10+00.00	10+22.39	8.0	24"	2.6	
"A.16"	10+00.00	10+32.34	25.0	30"	5.1	
"A.17"	10+00.00	10+27.45	82.0	48"	6.5	
"A2.1"	10+00.00	10+55.43	4.0	18"	2.3	
"A2.2"	10+00.00	10+49.26	3.7	18"	2.1	
"A2.3"	10+00.00	10+66.28	13.9	24"	4.4	
"A2.4"	10+00.00	10+78.03	0.3	24"	0.1	
"A2.5"	10+00.00	10+76.64	0.5	24"	0.2	
"A2.6"	10+00.00	10+46.27	2.5	18"	16.1	
"A2.7"	10+00.00	10+49.39	2.7	18"	17.6	
"A2.8"	10+00.00	10+52.02	1.0	24"	11.0	
"A2.9"	10+00.00	10+53.99	8.3	24"	9.1	
	10+53.99	11+01.40	5.1	24"	8.8	
"A2.10"	10+00.00	10+34.13	3.3	18"	18.4	
"A2.11"	10+00.00	10+48.20	0.4	24"	8.5	
"A2.12"	10+00.00	10+42.33	14.1	18"	23.3	1
"A2.13"	10+00.00	10+53.00	0.5	18"	9.4	
"A2.14"	10+00.00	10+48.34	0.5	18"	9.6	
"A3.1"	10+00.00	10+65.87	5.3	24"	1.7	
"A3.2"	10+00.00	10+16.82	0.5	18"	13.4	
"A3.3"	10+00.00	10+28.89	0.8	18"	12.0	
"A3.4"	10+00.00	10+55.35	2.5	18"	14.0	
"A3.5"	10+00.00	10+40.17	1.0	24"	4.3	
"A3.6"	10+00.00	10+40.41	1.5	24"	4.5	
"A3.7"	10+00.00	10+19.17	14.1	18"	23.5	1
"A3.8"	10+00.00	10+28.87	3.3	24"	6.2	

HYDRAULIC ELEMENTS

LATERALS	PIPE FROM STA.	REACH TO STA.	Q	DIA	Vmax (FPS)	REMARKS
"A4.1"	10+00.00	10+30.35	15.5	18"	24.6	1
"A4.2"	10+00.00	10+39.83	1.8	18"	14.7	
"A4.3"	10+00.00	10+48.49	2.4	24"	6.0	
"A4.4"	10+00.00	10+39.55	1.0	18"	12.7	
"A4.5"	10+00.00	10+86.58	0.3	18"	5.7	
"A4.6"	10+00.00	10+67.72	15.0	24"	9.6	
"A4.7"	10+00.00	10+53.47	2.4	18"	12.5	
"A4.8"	10+00.00	10+29.23	2.1	18"	15.6	
"A4.9"	10+00.00	10+60.63	1.0	18"	10.4	
"A4.10"	10+00.00	10+35.80	1.0	18"	11.1	
"A4.11"	10+00.00	10+34.00	1.0	18"	11.8	
"A5.1"	10+00.00	10+43.29	18.4	24"	9.9	
"A5.2"	10+00.00	10+21.47	0.4	24"	10.2	
"A5.3"	10+00.00	10+30.20	2.4	24"	16.7	
"A5.4"	10+00.00	10+53.88	12.0	30"	18.1	
"A6.1"	10+00.00	10+40.31	0.8	18"	12.4	
"A6.2"	10+00.00	10+27.00	1.0	18"	15.0	
"A6.3"	10+00.00	10+29.95	3.3	18"	14.8	
"A6.4"	10+00.00	10+47.55	2.6	18"	18.7	
"A6.6"	10+00.00	10+70.63	12.0	24"	9.1	
"A6.7"	10+00.00	13+63.43	145.5	42"	28.9	1
"A6.8"	10+00.00	10+69.08	12.0	42"	1.3	
"A8.1"	10+00.00	10+64.67	0.8	18"	4.3	
"A10.1"	10+00.00	10+48.56	1.3	18"	10.7	
"A10.2"	10+00.00	10+25.96	0.2	18"	7.3	
"A10.3"	10+00.00	10+20.64	0.3	18"	10.1	
"A10.4"	10+00.00	10+08.29	0.3	18"	13.8	
"A10.5"	10+00.00	10+60.80	12.9	30"	8.4	
	10+60.80	10+75.24	12.9	30"	7.7	
"A10.6"	10+00.00	10+22.10	1.0	18"	17.0	
"A10.7"	10+00.00	10+11.90	1.0	18"	15.0	
"A10.8"	10+00.00	10+39.47	6.0	24"	7.3	
"A10.9"	10+00.00	10+27.52	6.0	24"	7.0	

P.D. NO. 2641

PIPE LENGTHS CHART:

PIPE SIZE	TOTAL LENGTHS
18"	1380'
24"	2229'
30"	1925'
36"	1705'
42"	780'
48"	987'
60"	1263'
84"	151'
96"	1155'
102"	2355'
114"	792'
TOTAL	14,722'

TOTAL SQ. FT. OF EASEMENT ACQUIRED = 198,562 SQ.FT.

1 ADD AN ADDITIONAL 0.5" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 20 FPS.

2 ADD AN ADDITIONAL 1.0" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 30 FPS.

VOID

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET	Jason H Fukumitsu		8/14/19

REGISTERED PROFESSIONAL ENGINEER — JASON H. FUKUMITSU — No. 40695 — CIVIL — STATE OF CALIFORNIA — 8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER — VINCENT PING-NUEN — No. 2522 — Exp. 07/20 — GEOTECHNICAL — STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST — ANDREW A. PRICE — No. 1906 — STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG | SHEET 28 OF 37

Dwg No. 43-F553.1-.38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HMV080-02B_Table.dwg Plotted on Jun 26, 2018-2:35pm by ronsess

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q_{50}	DIA	Vmax (FPS)	REMARKS
"A"	69+02.33	75+00.00	1485.6	114"	21.0	1
	75+00.00	77+72.66	1485.6	114"	21.0	1
	77+72.66	81+00.00	1306.2	96"	35.5	2
	81+00.00	84+00.00	1306.2	96"	30.9	2
	84+00.00	85+20.74	1306.2	96"	30.8	2
	85+20.74	86+00.00	1273.7	96"	30.2	2
	86+00.00	88+64.77	1273.7	102"	30.2	2
	88+64.77	91+00.00	1266.2	102"	29.2	1
	91+00.00	92+06.06	1266.2	102"	27.3	1
	92+06.06	93+00.00	1240.7	102"	26.8	1
	93+00.00	94+04.87	1240.7	102"	26.8	1
	94+04.87	95+50.00	1157.2	102"	20.4	1
	95+50.00	102+00.00	1157.2	102"	20.4	1
	~~102+00.00~~	~~103+31.30~~	~~1157.2~~	~~102"~~	~~20.4~~	
	103+31.30	104+61.91	929.1 (939.9)	102"	16.4 (16.6)	
	104+61.91	107+34.51 / 108+06.00	914.9 (924.6)	102"	16.1 (16.3)	
	107+34.51 / 108+00.00	110+17.53	914.9	102"	16.1	
	110+17.53	113+49.38	900.0	96"	17.9	
"A2"	9+89.50	10+90.74	182.3	48"	14.5	
	10+90.74	11+16.43	182.3	48"	14.5	
	11+16.43	11+33.99	144.5	48"	11.5	
	11+33.99	16+25.02	119.3	48"	9.5	
	16+25.02	17+00.00	119.3	48"	9.5	
	17+00.00	20+09.41	119.3	48"	9.5	
	20+09.41	20+86.06	44.1	36"	6.2	
	20+86.06	24+00.00	44.1	36"	6.2	
	24+00.00	29+35.66	44.1	36"	6.2	
	29+35.66	32+92.65	44.1	36"	19.8	
	32+92.65	34+01.95	44.1	36"	20.7	1
"A3"	10+09.62	12+05.51	32.3	30"	6.6	
	12+05.51	14+45.22	32.3	30"	4.7	
	14+45.22	15+05.90	15.4	30"	3.1	
	15+05.90	16+86.57	15.4	24"	4.9	
	16+86.57	19+60.79	15.4	24"	4.9	
"A12"	10+02.29	12+53.16	7.8	24"	8.5	

HYDRAULIC ELEMENTS

LINE	PIPE FROM STA.	REACH TO STA.	Q_{50}	DIA	Vmax (FPS)	REMARKS
"A4"	09+93.12	10+80.50	44.9	36"	6.4	
	10+80.50	14+00.00	27.6	36"	3.9	
	14+00.00	16+61.72	27.6	36"	3.9	
	16+61.72	17+03.65	25.2	36"	11.6	
	17+03.65	17+15.33	25.2	24"	11.6	
	17+15.33	18+13.00	15.8	24"	11.7	
	18+13.00	20+00.00	14.8	24"	11.7	
	20+00.00	22+39.69	14.8	24"	11.7	
	22+39.69	22+62.97	14.5	24"	6.3	
	22+62.97	22+74.55	4.5	24"	1.6	
	22+74.55	22+88.57	4.5	24"	1.6	
"A5"	10+00.00	10+62.25	19.2	30"	7.2	
	10+62.25	10+91.56	5.2	30"	1.2	
	10+91.56	12+95.80	4.40	30"	10.8	
	12+95.80	13+63.48	4.40	24"	9.9	
"A6"	10+00.00	11+16.15	372.1	60"	39.2	2
	11+16.15	11+19.75	371.3	60"	37.6	2
	11+19.75	12+35.72	370.3	60"	37.6	2
	12+35.72	13+00.00	370.2	60"	33.1	2
	13+00.00	13+08.55	367.6	60"	32.2	2
	13+08.55	15+00.00	364.3	60"	32.5	2
	15+00.00	17+00.00	364.3	60"	27.6	1
	17+00.00	18+05.93	364.3	60"	27.6	1
	18+05.93	23+08.35	207.4	60"	10.6	
"A7"	10+00.00	11+20.31	56.8	42"	29.1	1
"A9"	10+00.00	12+17.71	584.2	84"	27.9	1
"A9–B"	10+00.00	12+11.98				
"A10"	10+00.00	11+37.22	8.8	24"	~~15.4~~	~~18.1~~
	11+37.22	11+85.11	7.3	24"	~~16.4~~	~~16.6~~
"A11"	10+00.00	12+84.02	11.9	24"	12.9	

HYDRAULIC ELEMENTS

LATERALS	PIPE FROM STA.	REACH TO STA.	Q	DIA	Vmax (FPS)	REMARKS
"A.1"	10+00.00	10+58.26	1.3	18"	14.2	
"A.2"	10+00.00	~~10+95.14~~ 11+19.29	0.5	36"	0.1	
"A.3"	10+00.00	10+35.34	0.5	18"	12.7	
"A.4"	10+00.00	10+43.63	0.2	18"	4.9	
"A.5"	10+00.00	10+60.21	0.3	18"	4.6	
~~"A.6"~~	~~10+00.00~~	~~10+59.88~~	~~10.0~~ 9	~~24"~~	~~3.2~~	
"A.7"	10+00.00	10+40.73	~~20.2~~ 19.35	24"	~~6.4~~ 6.1	
~~"A.8"~~	~~10+00.00~~	~~10+20.42~~ 10+26.90	~~3.3~~	~~18"~~	~~21.0~~	~~20.6~~ 1
"A.9"	10+00.00	~~10+26.90~~	3.6	18"	~~21.9~~	21.6 1
"A.10"	10+00.00	10+30.50	13.9	36"	7.9	
"A.13"	10+00.00	10+63.69	66.0	42"	12.3	
"A.14"	10+00.00	10+42.00	36.0	36"	5.1	
"A.15"	10+00.00	10+22.39	8.0	24"	2.6	
"A.16"	10+00.00	10+32.34	25.0	30"	5.1	
"A.17"	10+00.00	10+27.45	82.0	48"	6.5	
"A2.1"	10+00.00	10+55.45	4.0	18"	2.3	
"A2.2"	10+00.00	10+49.26	3.7	18"	2.1	
"A2.3"	10+00.00	10+71.28	13.9	24"	4.4	
"A2.4"	10+00.00	10+93.02	0.3	24"	0.1	
"A2.5"	10+00.00	10+91.35	0.5	24"	0.2	
"A2.6"	10+00.00	10+46.27	2.5	18"	16.1	
"A2.7"	10+00.00	10+49.39	2.7	18"	17.6	
"A2.8"	10+00.00	10+48.00	1.0	24"	11.5	
"A2.9"	10+00.00	11+10.14	3.3	18"	16.6	
"A2.12"	10+00.00	10+42.33	14.1	18"	23.3	1
"A2.13"	10+00.00	10+58.00	0.5	18"	9.4	
"A2.14"	10+00.00	10+53.34	0.5	18"	9.6	
"A3.1"	10+00.00	10+38.17	5.2	24"	1.7	
"A3.2"	10+00.00	10+16.17	2.1	18"	1.2	
"A3.3"	10+00.00	10+30.02	1.8	18"	1.0	
"A3.4"	10+00.00	~~10+20.00~~ 10+26.90	1.3	18"	0.7	
"A3.5"	10+00.00	10+38.00	7.7	24"	2.5	
"A3.6"	10+00.00	10+26.00	5.2	24"	1.7	
"A3.7"	10+00.00	10+20.00	0.4	18"	8.7	
"A3.8"	10+00.00	10+08.00	0.4	18"	10.6	
"A3.9"	10+00.00	10+51.23	0.4	18"	6.6	
"A.8"	10+00.00	10+36.58	3.3	18"	20.1	1

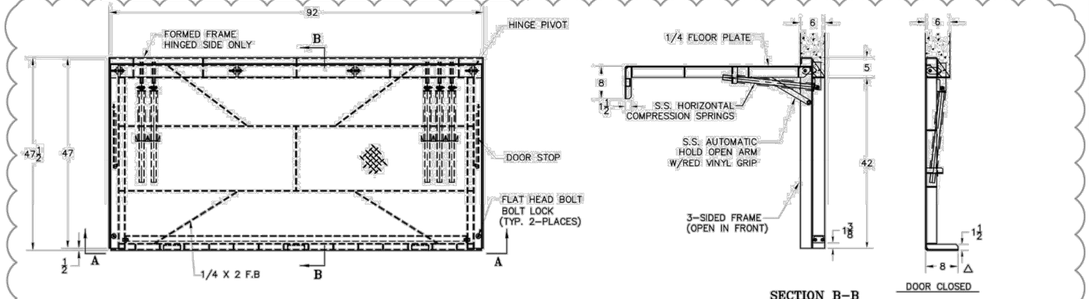
HYDRAULIC ELEMENTS

LATERALS	PIPE FROM STA.	REACH TO STA.	Q	DIA	Vmax (FPS)	REMARKS
"A4.1"	10+00.00	10+30.35	15.5	18"	24.6	1
"A4.2"	10+00.00	10+39.83	1.8	18"	~~14.7~~	16.8
"A4.3"	10+00.00	10+65.43	2.4	24"	6.0	
"A4.4"	10+00.00	10+39.55	1.0	18"	12.7	
"A4.6"	10+00.00	10+59.01	15.0	24"	9.4	
"A4.7"	10+00.00	10+53.47	~~3.2~~ 2.4	18"	~~12.5~~	13.5
"A4.8"	10+00.00	10+32.81	2.1	18"	15.6	
"A4.9"	10+00.00	10+60.63	1.0	18"	1.0	
"A4.10"	10+00.00	10+59.80	1.0	18"	11.0	
"A4.11"	10+00.00	10+58.00	1.0	18"	11.8	
"A5.1"	10+00.00	10+63.38	18.4	24"	9.9	
"A5.2"	10+00.00	10+21.47	0.4	24"	10.2	
"A5.3"	10+00.00	10+30.20	2.4	24"	16.7	
"A6.1"	10+00.00	10+40.31	0.8	18"	12.4	
"A6.2"	10+00.00	10+24.37	1.0	18"	15.0	
"A6.3"	10+00.00	10+29.95	3.3	18"	14.8	
"A6.4"	10+00.00	10+47.55	2.6	18"	18.7	
"A6.6"	10+00.00	10+70.53	12.0	24"	9.1	
"A6.7"	10+00.00	13+68.43	145.5	42"	28.9	1
"A6.8"	10+05.63	10+75.41	12.0	42"	1.3	
"A10.1"	10+00.00	10+44.01	1.5	18"	12.0	
"A11–1"	10+00.00	10+14.00	1.0	18"	15.2	
"A11–2"	10+00.00	10+26.00	10.9	24"	8.2	
"A12–1"	10+00.00	10+08.00	1.8	18"	9.4	
~~"A12–2"~~	~~10+00.00~~	~~10+35.02~~	~~4.0~~	~~24"~~	~~7.2~~	
"D"	10+00.00	10+30.55	28.0	18"	36.4	2
	10+30.55	11+01.47	28.0	24"	9.3	
"D1"	10+00.00	10+10.98	0.6	18"	7.0	

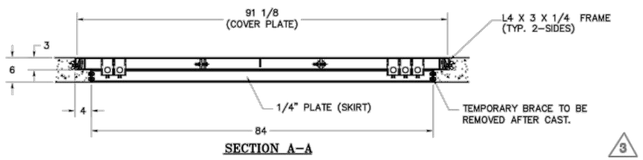
PIPE LENGTHS CHART:

PIPE SIZE	TOTAL LENGTHS
18"	1351'
24"	2535'
30"	768'
36"	2177'
42"	802'
48"	986'
60"	1263'
84"	200'
96"	1138'
102"	2335'
114"	854'
TOTAL	14,409

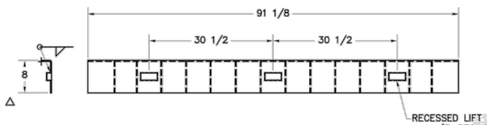
TOTAL SQ. FT. OF EASEMENT ACQUIRED = 198,562 SQ.FT.



SECTION B–B



SECTION A–A



COVER FRONT VIEW FOR RECESSED LIFT POCKETS CLARITY

NOTES:
1– MATERIAL: STEEL A36, HOT DIP GALVANIZED AFTER FABRICATION
2– LOADING: 300 LBS. PER SQ. FT.
3– APPROXIMATE COVER WEIGHT: 390 LBS.

REV.	DATE	BY	CHK.	DESCRIPTION
1	07/07/20	A.Q.	A.Q.	FRONT LIP FROM 6 TO 8"

THIS DOCUMENT IS THE PROPERTY OF U.S.F. FABRICATION, INC AND CONTAINS PROPRIETARY INFORMATION. IT SHALL NOT BE MODIFIED, COPIED, FURNISHED NOR DISTRIBUTED (IN WHOLE OR IN PART) WITHOUT PROPER AUTHORIZATION OF U.S.F. FABRICATION, INC.

INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M
BREAK ALL SHARP CORNERS & EDGES
TOLERANCES, UNLESS OTHERWISE SPECIFIED:
INCHES AND FRACTIONS:
<10" = ± 1/8
>10" = ± 1/4

COPYRIGHT © 2020 ALL RIGHTS RESERVED

U.S.F. FABRICATION INC.
HIALEAH, FLORIDA

HATCH FOR CURB 42 X 84 STEEL
W/. OPEN SPRINGS, GALVANIZED & BOLTED

DRAWN BY: A.Q. SCALE: 1:12 SHEET 1 of 1 DATE: 11/10/20
APP'D BY: A.Q. ENG. NO. 1000167315 EDP C REV. 1

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ 8/14/19 DATE
STORM DRAIN SECTION

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 2B			8/14/19
3	UPDATE HYDRAULIC TABLE AND ADD FALSE CURB COVER DETAIL			3/15/2021
4	UPDATE HYDRAULIC TABLE			9/28/2021
5	UPDATE HYDRAULIC TABLES			01/18/2022

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
5/14/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105–01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 2C OF 39

P.D. NO. 2641
FOR PLAN CHECK ONLY

1 ADD AN ADDITIONAL 0.5" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 20 FPS.

2 ADD AN ADDITIONAL 1.0" OF CONCRETE COVER OVER THE INVERT STEEL FOR V > 30 FPS.

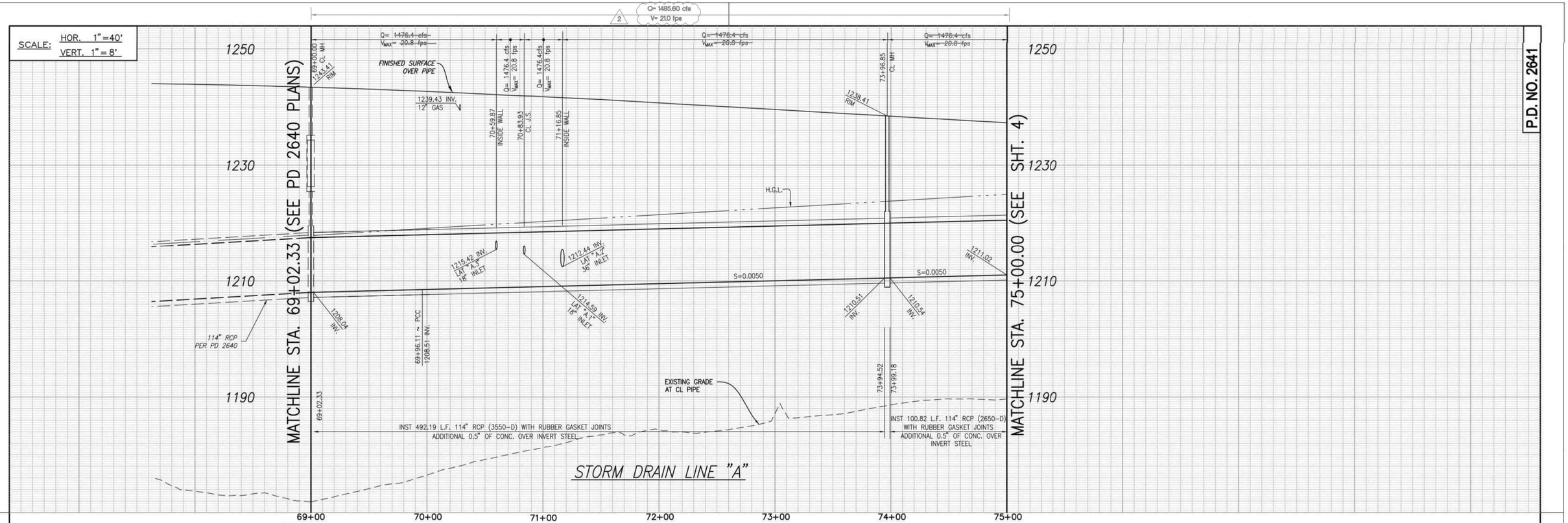
REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KEN No. 2522 Exp. 6-30-22 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

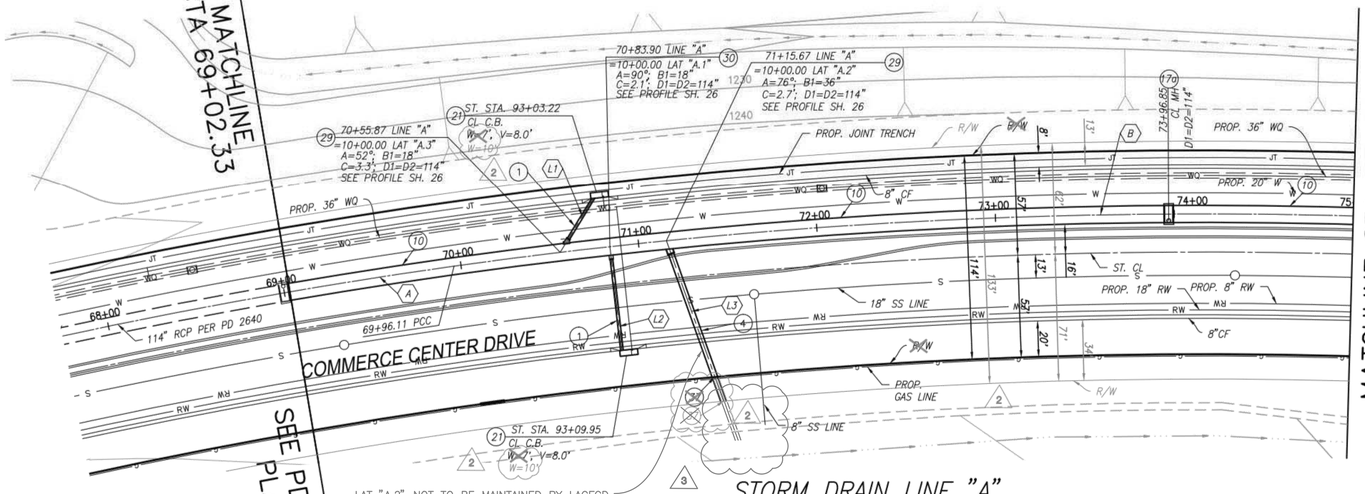
Dwg No. 43-F553.1:38
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HWO80-02BL_Table-REV4.dwg Plotted on Jul 29, 2021 - 9:59am by ajlinw

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A"



LAT "A.2" NOT TO BE MAINTAINED BY LACFCD

STORM DRAIN LINE "A"

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	35.34'	N72°31'08"W
L2	58.26'	N69°10'43"E
L3	~~80.69'~~ 95.14'	N56°12'40"E

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	01°49'22"	3021.25'	96.11'	48.06'
B	09°33'21"	3021.25'	503.89'	252.53'

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY Ken Mc 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.	Jason H Fukumitsu		8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
	REVISED "00" PRIVATE DRIVE			
3	EXTENDED LAT. A.2 - 5' BEYOND R/W AND ADD MAINTENANCE RESPONSIBILITY NOTE	Jason H Fukumitsu	M.D. Eff	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU 8/29/18 DATE

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P (SEE PROFILE FOR D- LOAD)
4. INSTALL 36" R.C.P (SEE PROFILE FOR D- LOAD)
10. INSTALL 114" R.C.P (SEE PROFILE FOR D- LOAD)
17a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C.. STD. PLAN 320-2, PER DETAILS ON SHEETS 36 AND 37
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 (2) MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA
CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

Dwg No. 43-F553.1.-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG SHEET 3 OF 27 39

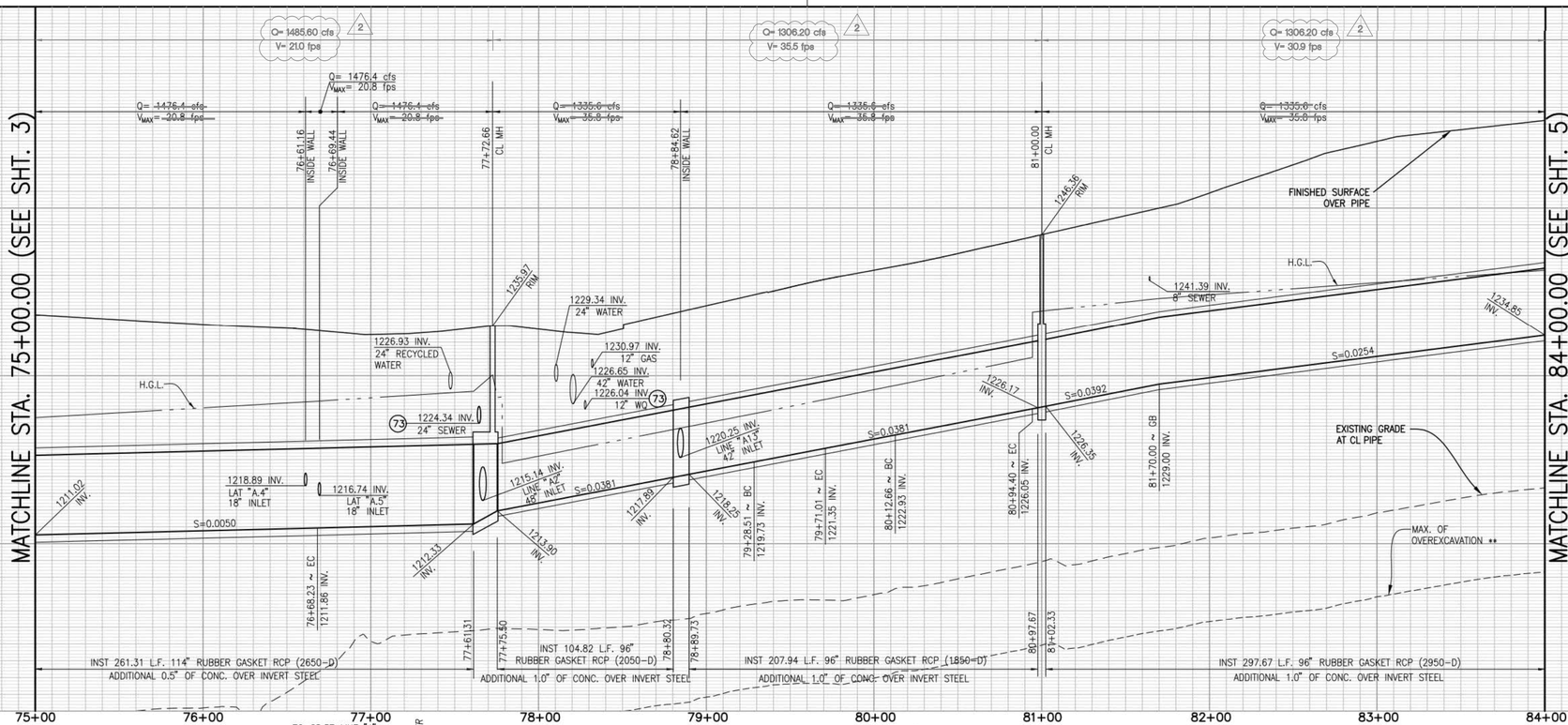
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\NM\085-03_SD_Plan.dwg Plotted on Aug 23, 2018-4:27pm by joshuay

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

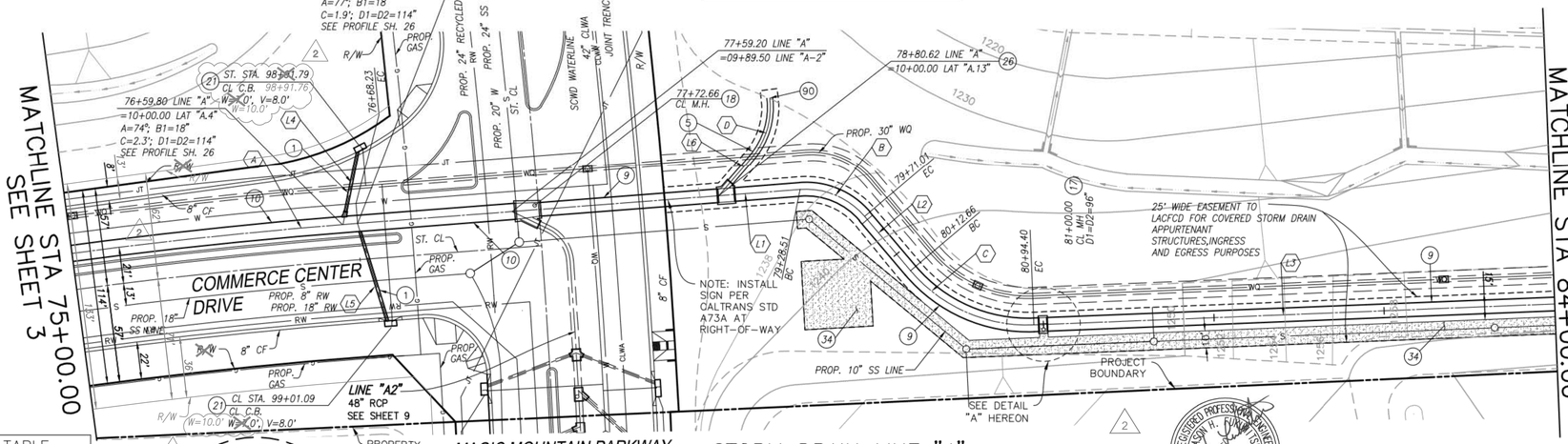
MATCHLINE STA. 75+00.00 (SEE SHT. 3)

MATCHLINE STA. 84+00.00 (SEE SHT. 5)



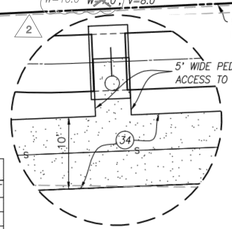
** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS OR 24" MIN. EACH SIDE)

STORM DRAIN LINE "A"



SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	260.28'	S09°23'04"E
(L2)	41.65'	S44°43'48"W
(L3)	305.60'	S07°18'15"E
(L4)	43.63'	S83°37'10"E
(L5)	60.21'	S67°59'26"W
(L6)	29.83'	S54°23'04"E

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	31°14'48"	3016.00'	168.23'	85.48'
(B)	54°06'42"	45.00'	42.50'	22.99'
(C)	52°02'03"	90.00'	81.74'	43.93'
(D)	47°50'04"	45.00'	37.57'	19.96'



DETAIL "A"
N.T.S

GRAPHIC SCALE: 1" = 40'
40 20 0 40 80

REVIEWED LAND DEVELOPMENT DIVISION
BY Steve Mig 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.	Jason H Fukumitsu		8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERAL B/MAINLINE			
	REVISED "00" PRIVATE DRIVE			

(1) INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
(5) INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
(9) INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
(10) INSTALL 114" R.C.P. (SEE PROFILE FOR D-LOAD)
(17) CONST. M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
(18) CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
(21) CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
(2) MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
(26) CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
(30) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
(34) CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL ON SHEET 22 (WIDTH PER PLAN)
(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2
(90) CONSTRUCT BRICK AND MORTAR PLUG

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 8/29/18

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG
SHEET 4 OF 37 39

2

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HW1085-04_SD_Plan.dwg Plotted on Jul 06, 2018 - 3:35pm by wdilani

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

MATCHLINE STA. 84+00.00 (SEE SHT. 4)

MATCHLINE STA. 93+00.00 (SEE SHT. 6)

Q= 1306.20 cfs
Q= ~~1335.6~~ cfs
V_{MAX}= ~~35.6~~ fps
V= 30.8 fps

Q= 1273.70 cfs
Q= ~~1303.10~~ cfs
V_{MAX}= ~~30.3~~ fps
V= 30.2 fps

Q= 1273.70 cfs
Q= ~~1303.10~~ cfs
V_{MAX}= ~~30.3~~ fps
V= 30.2 fps

Q= 1268.20 cfs
Q= ~~1295.6~~ cfs
V_{MAX}= ~~29.4~~ fps
V= 29.2 fps

Q= 1268.20 cfs
Q= ~~1295.6~~ cfs
V_{MAX}= ~~29.4~~ fps
V= 27.9 fps

Q= 1240.70 cfs
Q= ~~1269.60~~ cfs
V_{MAX}= ~~27.0~~ fps
V= 26.8 fps

85+20.74 INSIDE WALL

86+00.00 CL MH 1269.41 RIM

88+64.77 INSIDE WALL

FINISHED SURFACE OVER PIPE

91+00.00 CL MH 1279.45 RIM

92+06.06 INSIDE WALL

6" SEWER 1268.59 INV.

1260.10 INV. 8" SEWER

1252.20 INV. 8" SEWER

1249.38 INV. LINE "A15" 24" INLET

1256.97 INV. LINE "A16" 30" INLET

1256.13 INV.

S=0.0230

S=0.0231

H.G.L.

1251.45 INV.

1251.56 INV.

1253.90 INV.

1254.05 INV.

91+94.98 ~ BC 1253.70 INV.

92+58.74 ~ PRC 1255.17 INV.

1234.85 INV.

S=0.0258

1240.40 INV. LINE "A14" 36" INLET

1239.88 INV.

1240.00 INV.

EXISTING GRADE AT CL PIPE

MAX. OF OVEREXCAVATION**

90+97.67

91+02.33

91+03.68

92+10.21

85+97.67

86+02.33

INST 197.67 L.F. 96" RUBBER GASKET RCP (2950-D)
ADDITIONAL 1.0" OF CONC. OVER INVERT STEEL

INST 495.34 L.F. 102" RUBBER GASKET RCP (2950-D)
ADDITIONAL 1.0" OF CONC. OVER INVERT STEEL

INST 101.35 L.F. 102" RUBBER GASKET RCP (2850-D)
ADDITIONAL 0.5" OF CONCRETE OVER INVERT STEEL

INST 89.79 L.F. 102" RUBBER GASKET RCP (2850-D)
ADDITIONAL 0.5" OF CONCRETE OVER INVERT STEEL

** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS OR 24' MIN. EACH SIDE)

STORM DRAIN LINE "A"

84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00

1270 1250 1230

SEE SHEET 4
MATCHLINE STA 84+00.00

30 88+63.68 LINE "A" =10+00.00 LAT. "A.15" A=76°; B=24" D=102" SEE PROFILE SH. 32

29 85+17.81 LINE "A" =10+00.00 LAT. "A.14"

PROP. 36" WQ

PROP. 30" WQ

SEE DETAIL "A" HEREON

PROP. 10" SS LINE

PROJECT BOUNDARY

25' WIDE EASEMENT TO LACFCD FOR COVERED STORM DRAIN APPURTENANT STRUCTURES, INGRESS AND EGRESS PURPOSES

17a 86+00.00 CL MH

17 91+00.00 CL MH

92+00.02 LINE "A" =10+00.00 LAT. "A.16"

91+94.99 BC

92+58.74 PRC

LOT LINE

MATCHLINE STA 93+00.00
SEE SHEET 6

2 INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3 INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
9 INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
17 CONST. M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
17a CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN 320-2, PER DETAILS ON SHEETS 36 AND 37
26 CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29 CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30 CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
34 CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL ON SHEET 22 (WIDTH PER PLAN)
68 INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
90 CONSTRUCT BRICK AND MORTAR PLUG

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	794.98'	S07°18'15"E
L2	37.83'	S37°18'15"E
L3	22.49'	S82°52'01"W
L4	11.24'	N30°55'18"W

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	81°10'35"	45.00'	63.76'	38.55'
B	05°25'22"	436.00'	41.26'	20.65'
C	10°37'28"	22.50'	4.17'	2.09'
D	53°43'22"	22.50'	21.10'	11.40'

5' WIDE PEDESTRIAN ACCESS TO MH (TYP.)

DETAIL "A"
N.T.S

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS			8/14/19
3	ADDED CONSTRUCTION NOTE AND LABELS			3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU 8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1205 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

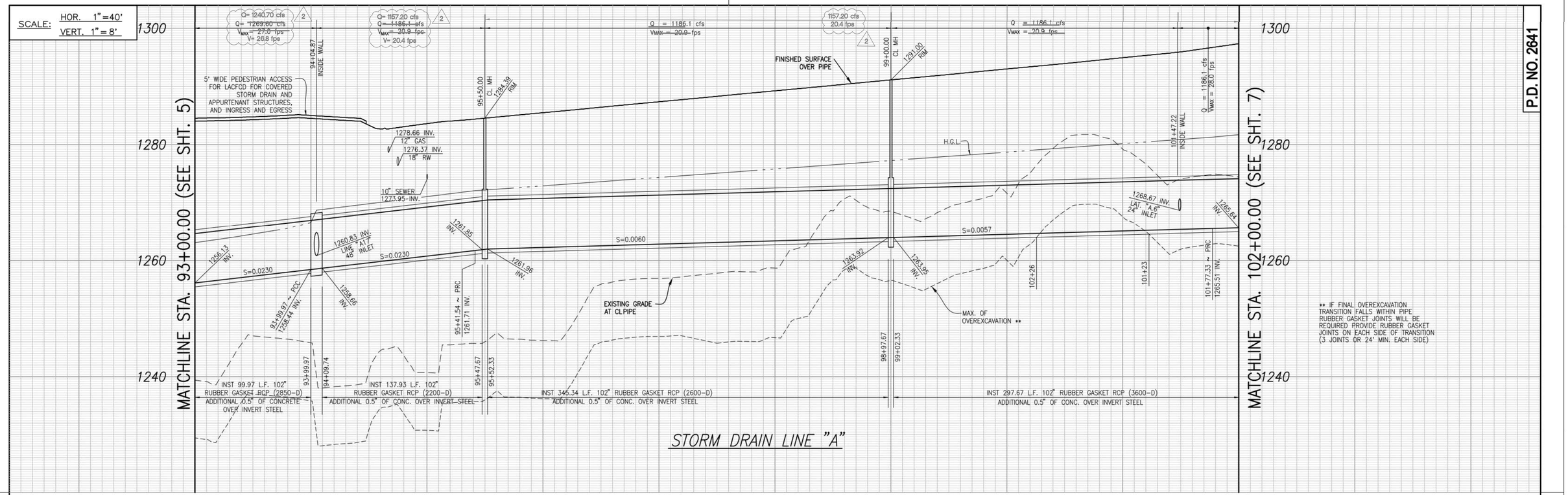
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG SHEET 5 OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WM108C-05_SD_Plan.dwg Plotted on Jul 06, 2018-3:46pm by wolioni

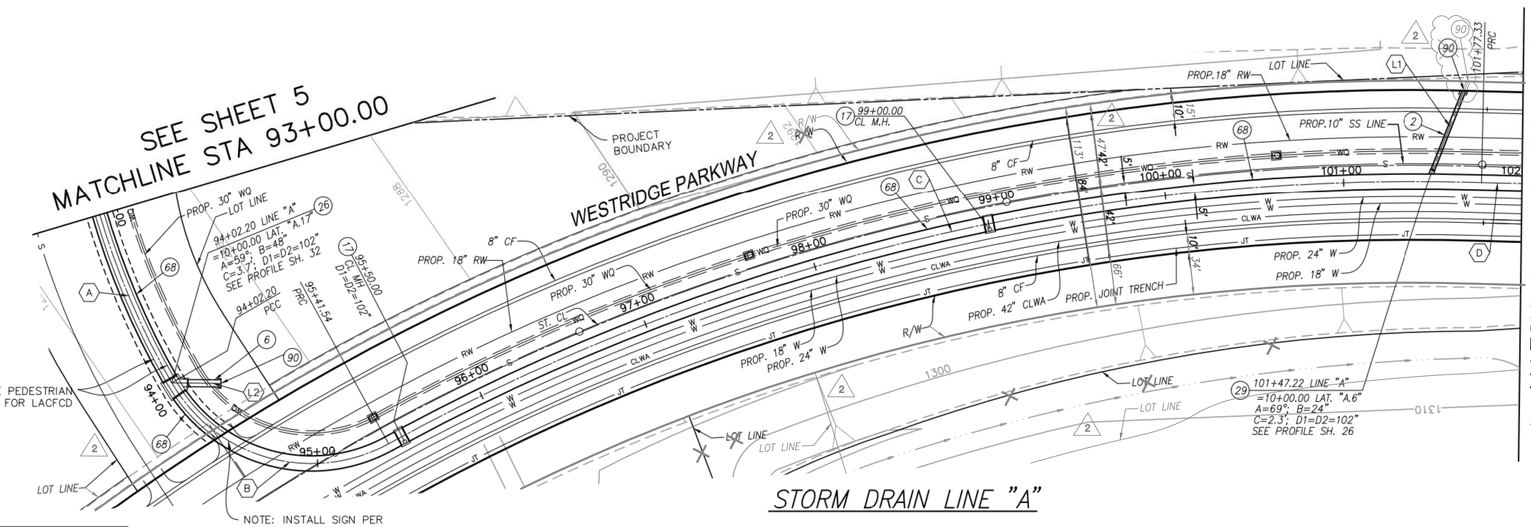
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED. PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS OR 24' MIN. EACH SIDE)

STORM DRAIN LINE "A"



STORM DRAIN LINE "A"

CONSTRUCTION NOTES

(2) INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
(6) INSTALL 48" R.C.P. (SEE PROFILE FOR D-LOAD)
(17) CONST. M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
(26) CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
(29) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
(68) INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
(90) CONSTRUCT BRICK AND MORTAR PLUG

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	~~54.56'~~ 59.89'	S73°25'35"E
(L2)	27.45'	N04°17'30"W

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	13°25'45"	436.00'	102.20'	51.33'
(B)	88°42'27"	90.00'	139.34'	87.99'
(C)	30°29'02"	1195.00'	635.79'	325.61'
(D)	01°04'41"	1205.00'	22.67'	11.34'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY Ken Ng 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS	Jason H Fukumitsu		8/14/19
	REVISE AND ADD LATERALS/MAINLINE REVISED "00" PRIVATE DRIVE			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN LO No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

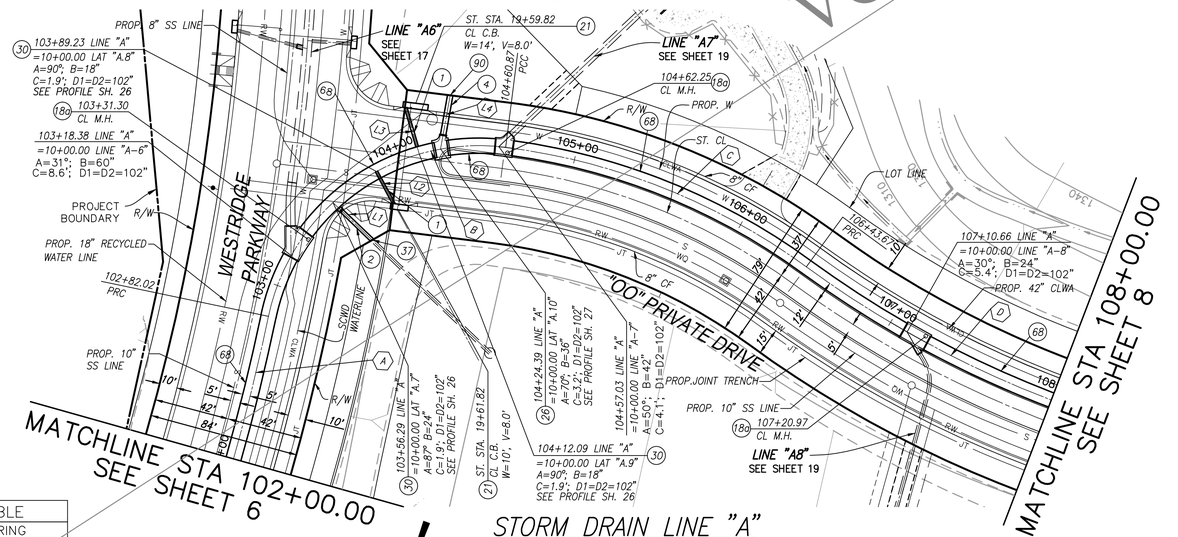
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 6 OF 37 39

C:\Meetball Ranch\61105 Mission Village\61105-01\Storm\Prj 2641\MM\080-06_SD_Plan.dwg Plotted on Jun 25, 2018 - 2:16pm by Jonga

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
18a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2, PER DETAILS ON SHEETS 36 AND 37
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C STD PLAN 330-2
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
90. CONSTRUCT BRICK AND MORTAR PLUG

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	30.29'	S66°12'58"E
L2	20.42'	S48°25'21"E
L3	26.90'	S36°04'37"E
L4	30.50'	S09°57'26"E

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	03°53'58"	1205.00'	82.02'	41.02'
B	85°23'39"	120.00'	178.85'	110.72'
C	28°56'02"	362.00'	182.80'	93.40'
D	15°14'01"	588.00'	156.33'	78.63'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU 8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KOEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

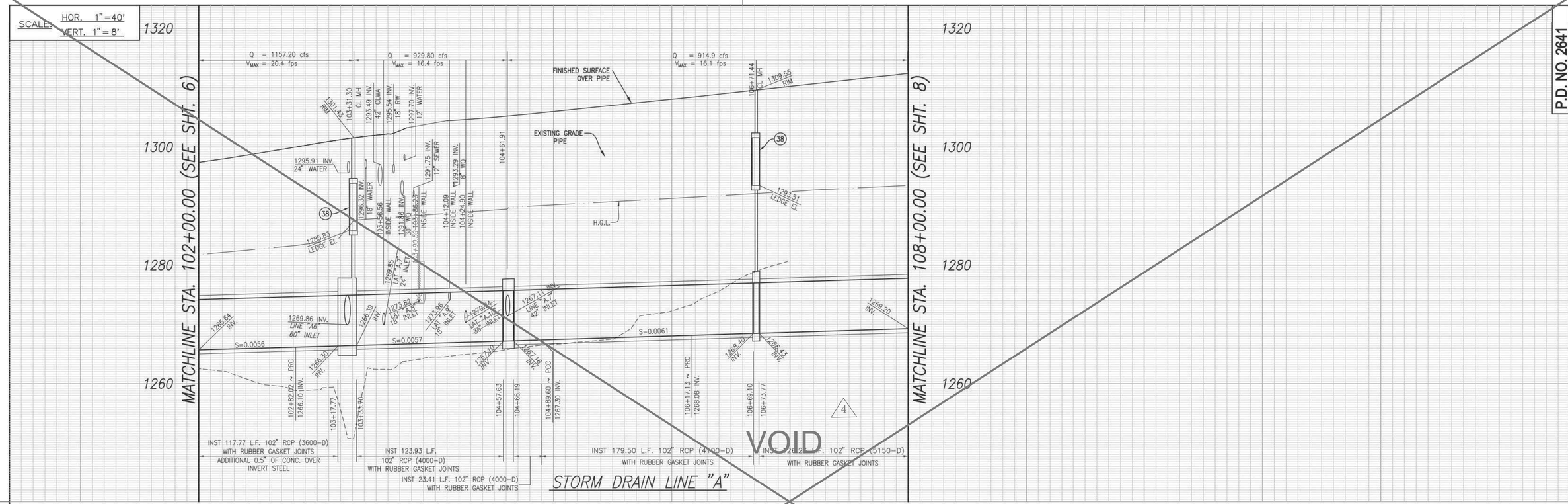
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

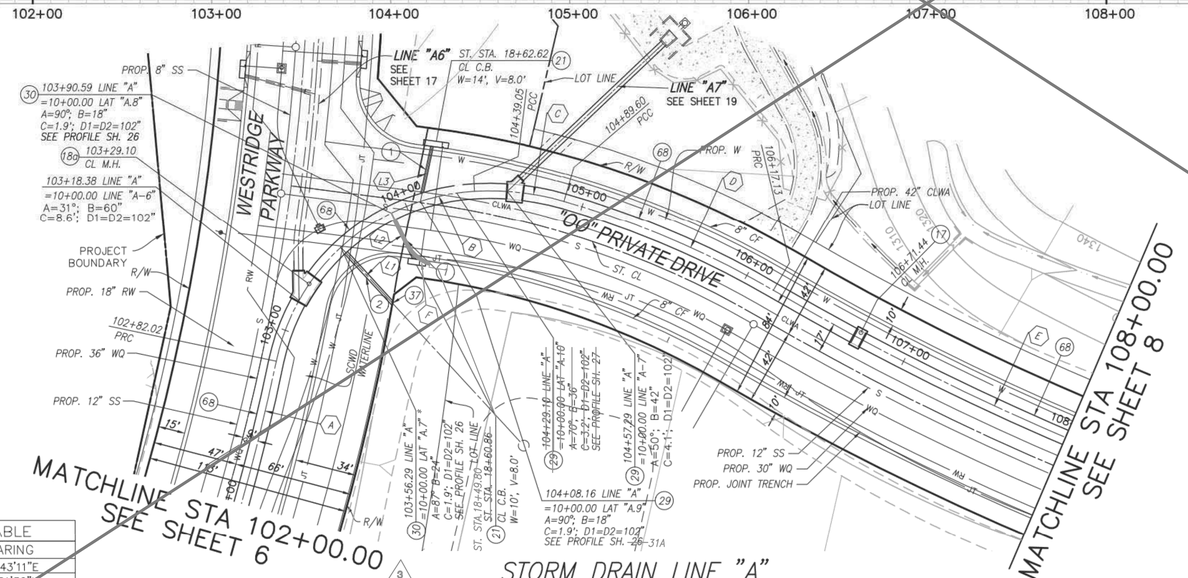
DWG | SHEET 7 OF 37

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HMV080-07_SD_Plan.dwg Plotted on Jun 25, 2018-5:38pm by jpinga

SCALE: HOR. 1"=40'
VERT. 1"=8'





*"LAT"A.7" NOT TO BE MAINTAINED BY LACFCD

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	42.55'	S62°43'11"E
L2	~~28.82'~~ 19.01'	S46°21'30"W
L3	31.40'	S07°57'12"W

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	03°53'47"	1205.00'	81.95'	40.99
B	74°58'41"	120.00'	157.03'	92.04'
C	19°18'25"	150.00'	50.55'	25.51'
D	14°08'00"	517.00'	127.53'	64.09'
E	07°03'55"	1483.00'	182.87'	91.55'
F	44°44'47"	22.50'	17.57'	9.26'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ 8/14/19
STORM DRAIN SECTION DATE

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
18. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2, PER DETAILS ON SHEETS 36 AND 37
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND 39
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C STD PLAN 330-2
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
90. CONSTRUCT BRICK AND MORTAR PLUG

GRAPHIC SCALE: 1" = 40'

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-NIEN CHEN No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 7 AND REPLACED WITH SHEET 7A.	Jason H. Fukumitsu		8/14/19
3	RELOCATE CATCH BASIN PER REVISED STREET PLAN, ADD MAINTENANCE RESPONSIBILITY	Jason H. Fukumitsu	M.D. Esplund	3/15/2021
4	VOID SHEET 7A AND REPLACED WITH SHEET 7B	Jason H. Fukumitsu	M.D. Esplund	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
Jason H. Fukumitsu 5/14/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX (661) 294-9890

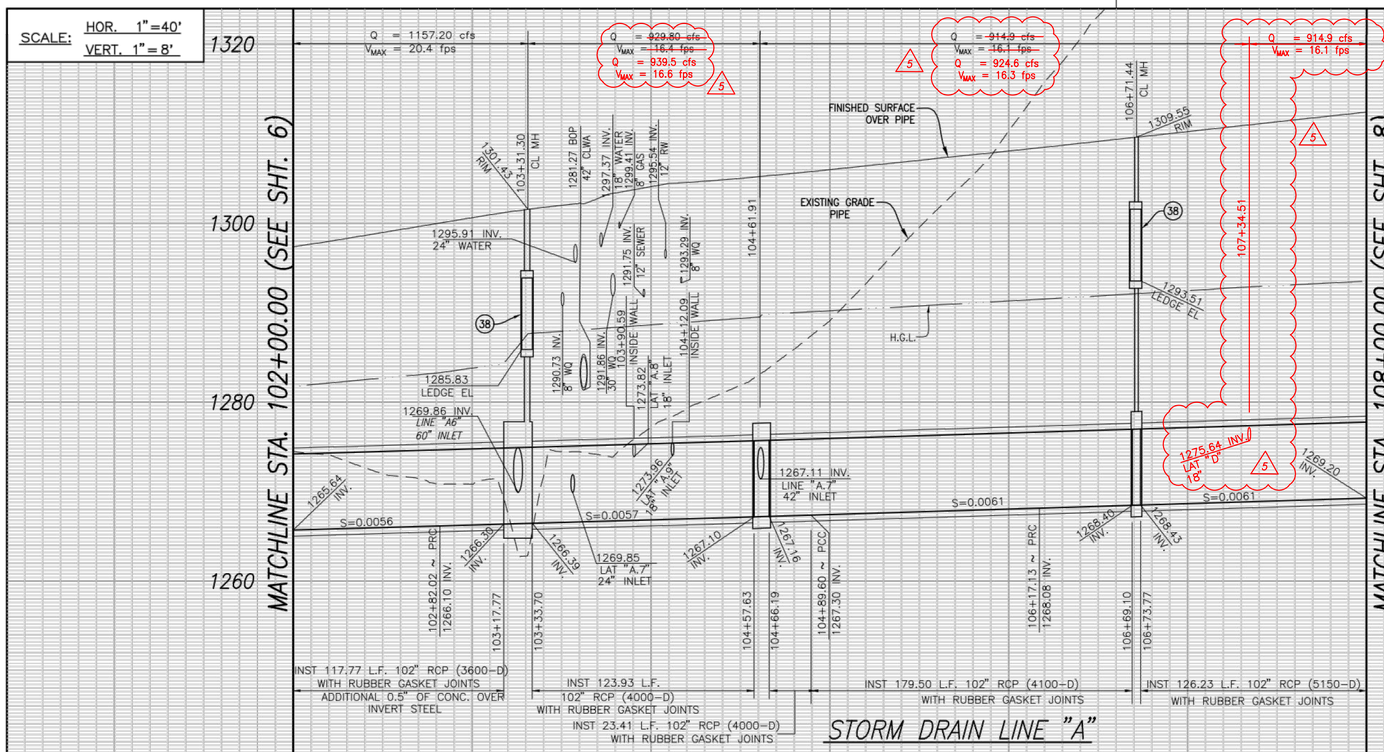
DWG | SHEET 7A OF 39

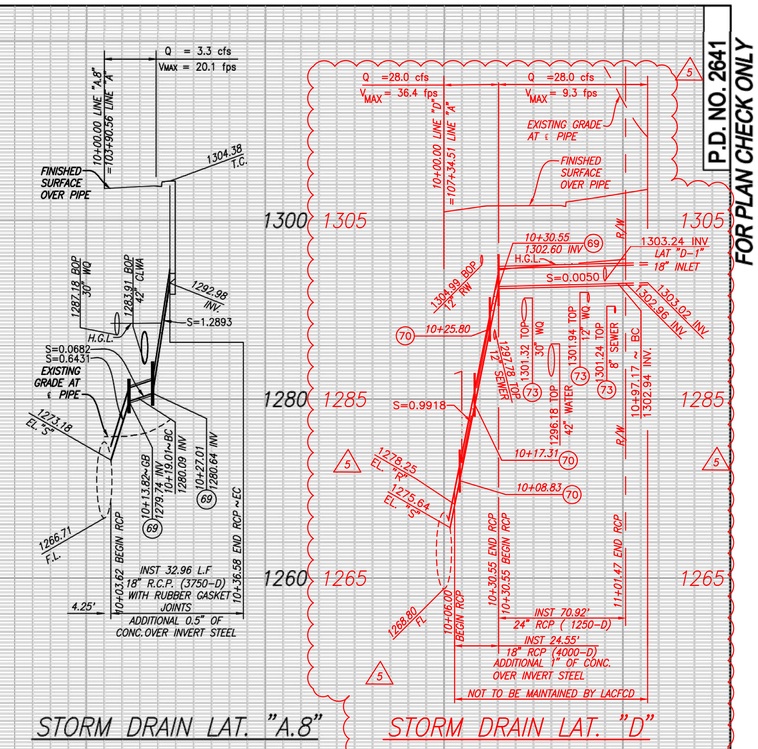
P.D. NO. 2641
FOR PLAN CHECK ONLY

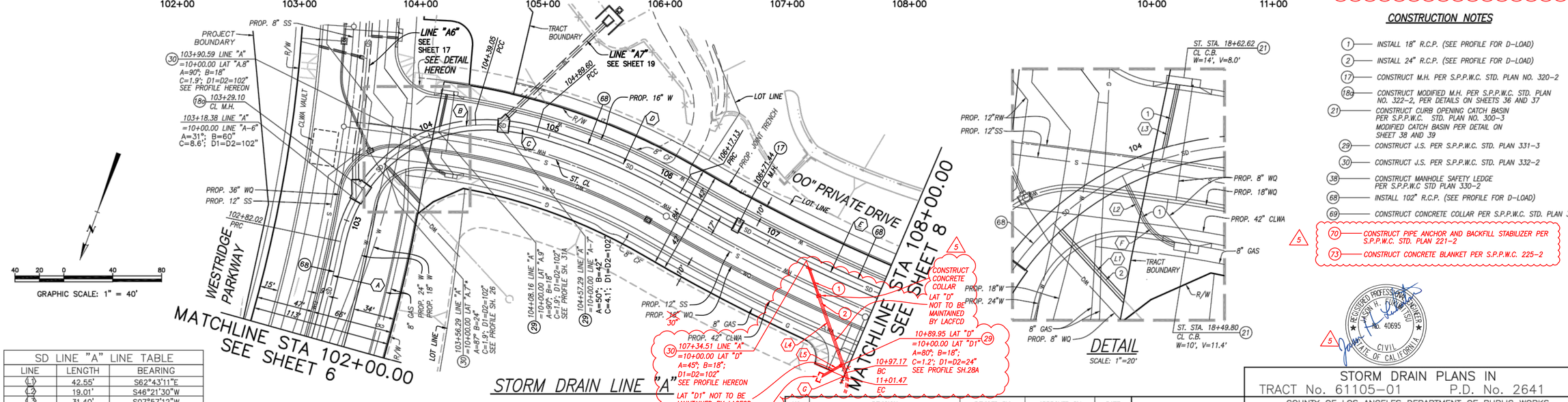
Dwg No. 43-F553.1-38

C:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM1080-07_SD_Plan-REV 00 STREET.dwg Plotted on May 13, 2019 - 1:19pm by heidye

SCALE: HOR. 1"=40'
VERT. 1"=8'







CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
18. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2, PER DETAILS ON SHEETS 36 AND 37
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND 39
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C STD PLAN 330-2
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
69. CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4
5 — 70. CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	42.55'	S62°43'11"E
L2	19.01'	S46°21'30"W
L3	31.40'	S07°57'12"W

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	03°53'47"	1205.00'	81.95'	40.99
B	74°58'41"	120.00'	157.03'	92.04'
C	19°18'25"	150.00'	50.55'	25.51'
D	14°08'00"	517.00'	127.53'	64.09'
E	07°03'55"	1483.00'	182.87'	91.55'
F	44°44'47"	22.50'	17.57'	9.26'

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L4	97.17'	S39°17'52"E
L5	19.26'	N40°42'08"E

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
6	10°56'06"	22.50'	4.29'	2.15'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
4	VOIDED SHEET 7A AND REPLACED WITH SHEET 7B AND ADDED LAT A.8 AND CROSSING LOCATIONS WERE			9/28/2021
5	MODIFIED. ADDED LAT D, LAT D1, PROFILE FOR LAT D, CHANGED HYDRAULICS FOR LINE A			01/18/2022

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/16/21
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

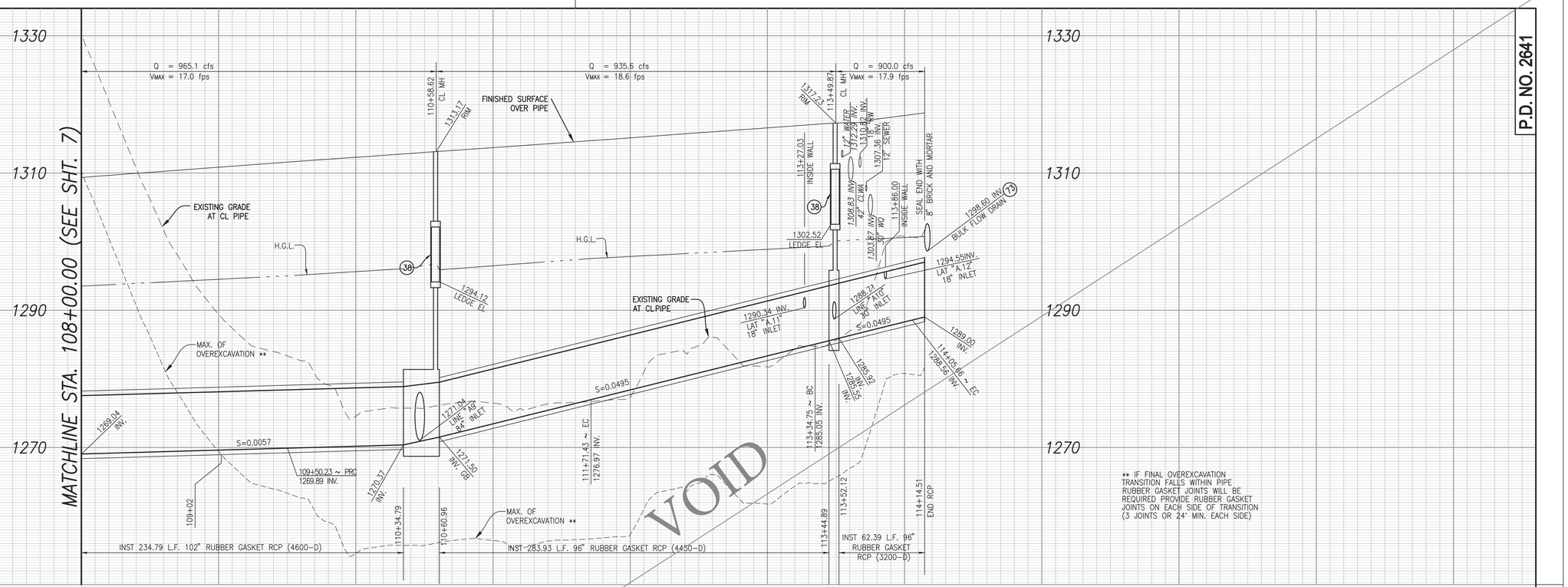
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

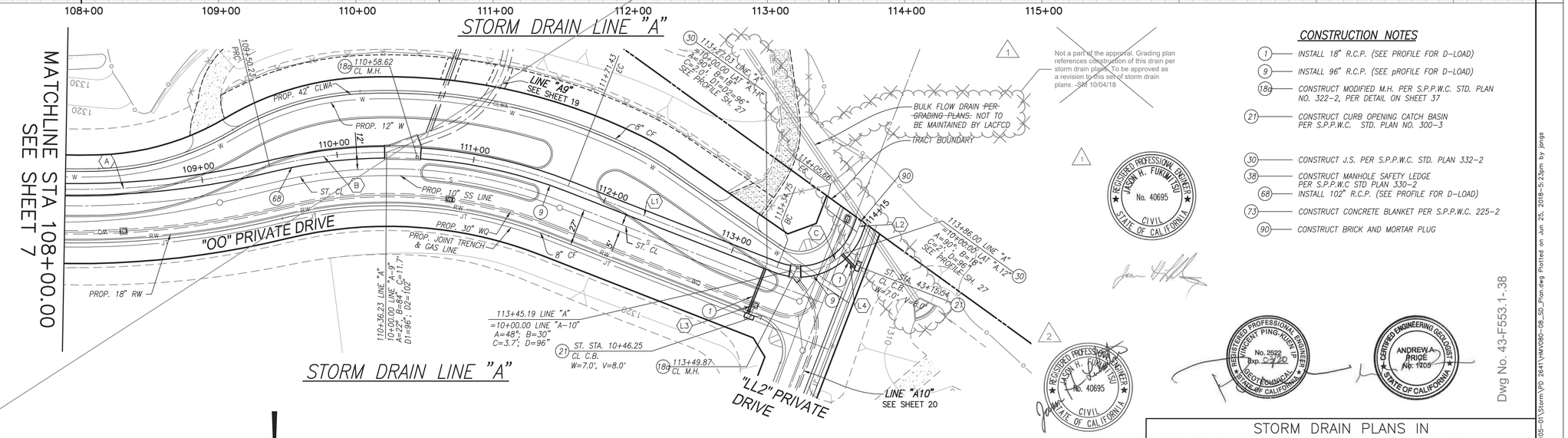
DWG | SHEET 7B OF 39

D:\Vtwehall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HM7B05-07_SD_Plan-REV 00 STREET_REV 4.dwg Plotted on Aug 03, 2021-@:25am by sjjhw

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641





CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
9. INSTALL 96" R.C.P. (SEE pROFILE FOR D-LOAD)
18a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2, PER DETAIL ON SHEET 37
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
38. CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C STD PLAN 330-2
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2
90. CONSTRUCT BRICK AND MORTAR PLUG

Not a part of the approval. Grading plan references construction of this drain per storm drain plans. To be approved as a revision to this set of storm drain plans. SM 10/04/18

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
L1	163.32'	N68°42'54"W
L2	8.85'	S20°59'58"W
L3	39.00'	S21°17'06"W
L4	13.47'	S43°58'21"E

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	14°38'17"	588.00'	150.23'	75.52'
B	35°00'35"	362.00'	221.20'	114.17'
C	90°17'07"	45.00'	70.91'	45.22'

N

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY Pete Mig 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REMOVE CONDITION; BULK FLOW DRAIN WILL BE CONSTRUCTED AS PART OF ROUGH GRADING PLAN			11/7/18
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER
VINCENT PING-KUEN LI
No. 2592
Exp. 6-30-20
GEOTECHNICAL
STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST
ANDREW A. PRIDE
No. 1205
STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

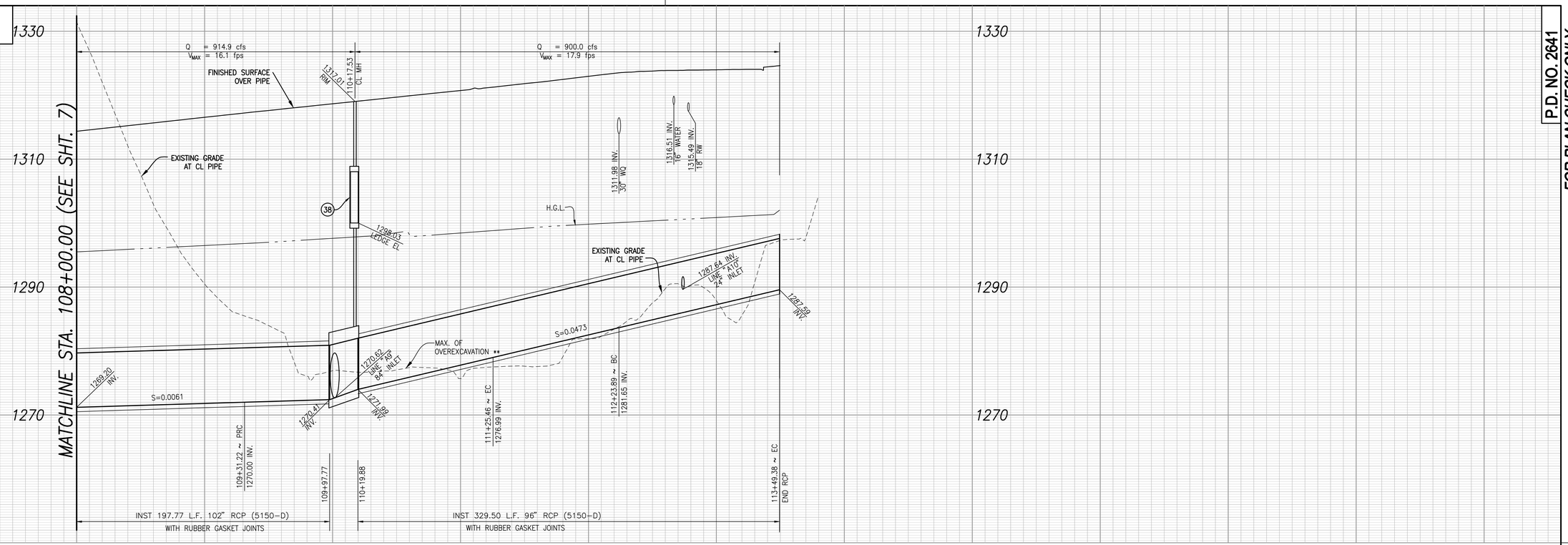
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

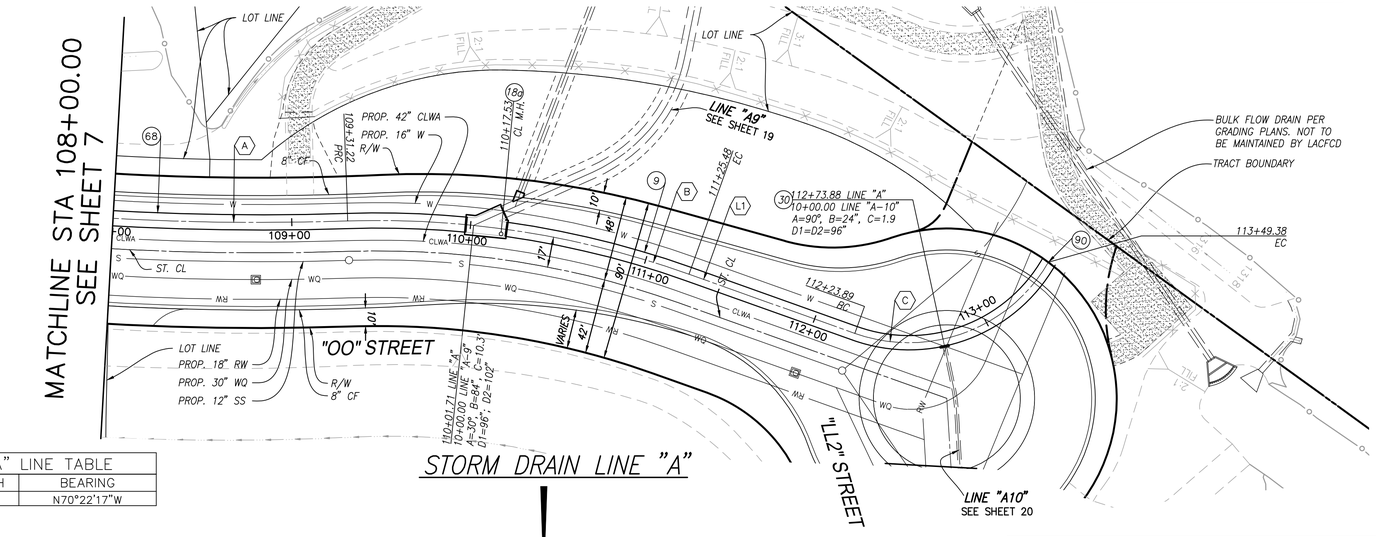
DWG SHEET 8 OF 37

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\NM1080-08_SD_Plan.dwg Plotted on Jun 25, 2018--5:23pm by jonqs

SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "A"



STORM DRAIN LINE "A"

GRAPHIC SCALE: 1" = 40'

SD LINE "A" LINE TABLE		
LINE	LENGTH	BEARING
(L)	98.42'	N70°22'17"W

LINE "A" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	05°04'011"	1483.00'	131.21'	65.65'
(B)	21°31'35"	517.00'	194.24'	98.28'
(C)	79°53'16"	90.00'	125.49'	75.37'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ 8/14/19
STORM DRAIN SECTION DATE

CONSTRUCTION NOTES

(9) INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
(18a) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 322-2, PER DETAIL ON SHEET 37
(30) CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
(38) CONSTRUCT MANHOLE SAFETY LEDGE PER S.P.P.W.C STD PLAN 330-2
(68) INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)
(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2
(90) CONSTRUCT BRICK AND MORTAR PLUG

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 8 AND REPLACED WITH 8A	Jason H. Fukumitsu		8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
5/14/2019
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 8A OF 39

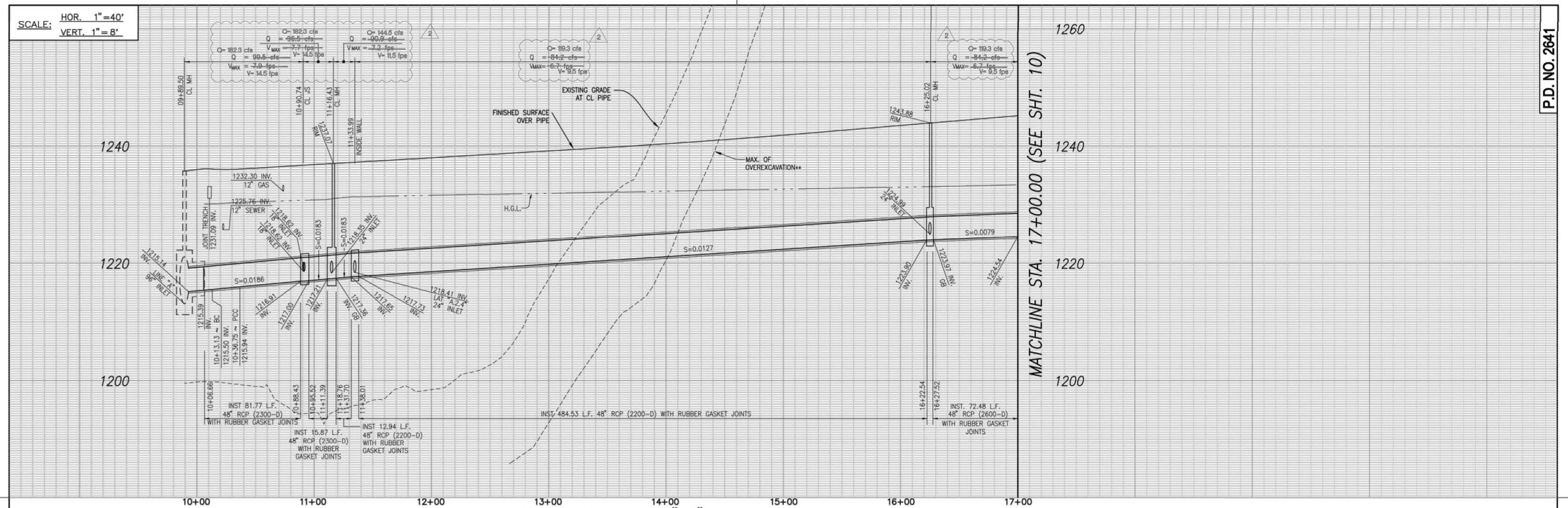
P.D. NO. 2641
FOR PLAN CHECK ONLY

Dwg No. 43-F553.1-38

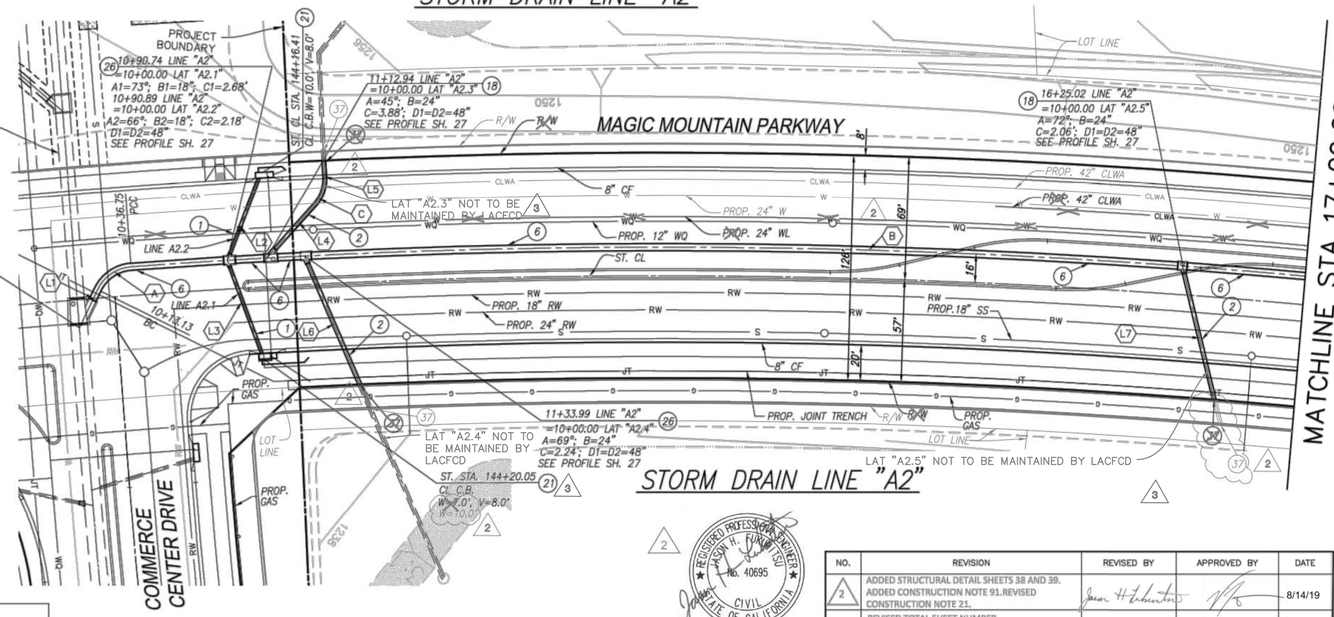
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM1080-08_SD_Plan-REV 00 STREET.dwg Plotted on May 13, 2019-3:31pm by wallani

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A2"



STORM DRAIN LINE "A2"

SD LINE "A2" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	23.63'	S20°36'56"W
(L2)	49.26'	N15°41'41"E
(L3)	55.45'	N25°23'42"W
(L4)	39.62'	N07°39'50"W
(L5)	~~9.14'~~ 14.14'	N36°56'48"E
(L6)	~~78.03'~~ 93.02'	S28°20'25"E
(L7)	~~76.64'~~ 91.36'	N18°24'25"W

LINE "A2" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	60°08'39"	22.50'	23.62'	13.03'
(B)	09°27'45"	4016.00'	663.25'	332.38'
(C)	44°36'38"	22.50'	17.52'	9.23'

CONSTRUCTION NOTES
CONSTRUCTION NOTES

1. INSTALL 18" R.C.P (SEE PROFILE FOR D- LOAD)
2. INSTALL 24" R.C.P (SEE PROFILE FOR D- LOAD)
6. INSTALL 48" R.C.P. (SEE PROFILE FOR D-LOAD)
18. CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
3	REVISED "00" PRIVATE DRIVE ADDED MAINTENANCE RESPONSIBILITY NOTE		MD.	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-XUEN IP No. 2622 Exp. 12/20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

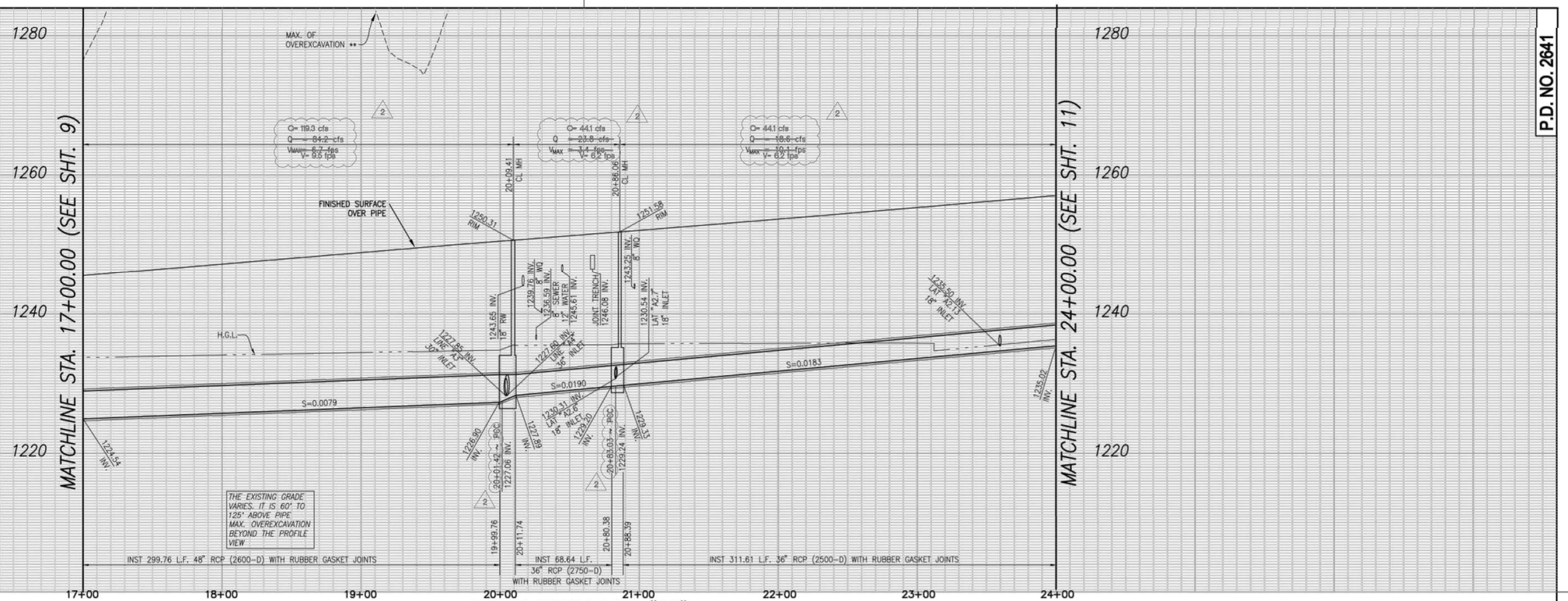
DWG

SHEET 9 OF 39

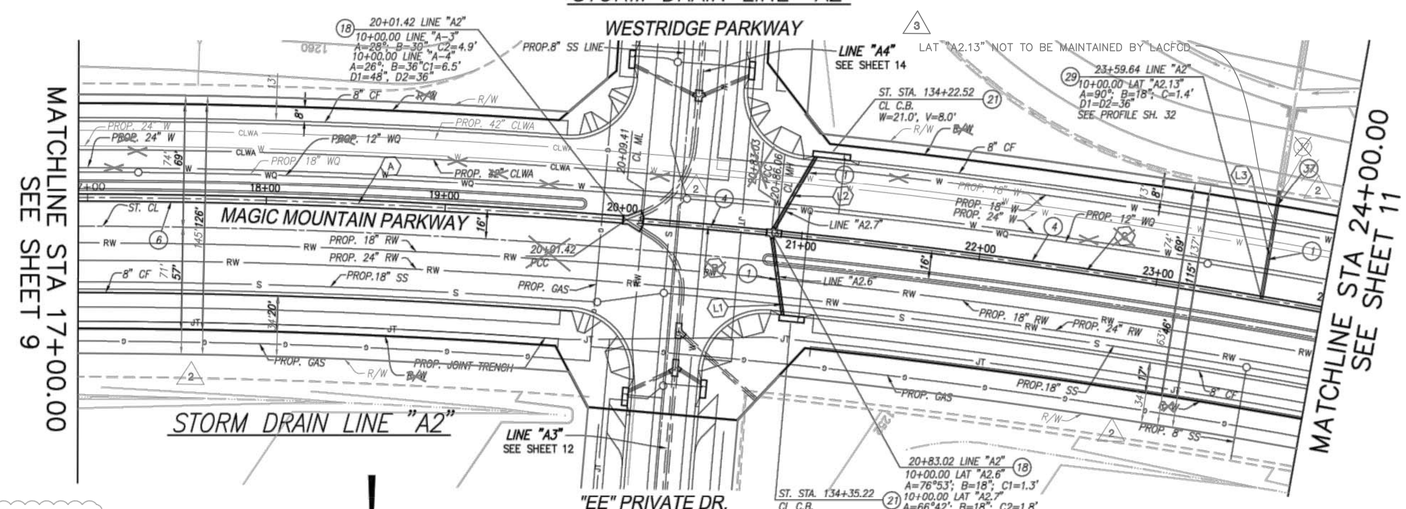
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WM085-09_SD_Plan.dwg Plotted on Aug 27, 2018 -10:00am by jsahuoy

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A2"



SD LINE "A2" LINE TABLE		
LINE	LENGTH	BEARING
L1	46.27'	N07°41'09"W
L2	49.39'	N30°09'34"E
L3	53.00'	N09°38'00"E

58.00'

09°59'13" 700.00' 350.89'

LINE "A2" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	04°18'01"	4016.00'	301.42'	150.78'
B	01°09'53"	4016.00'	81.64'	40.82'
C	04°31'18"	4016.00'	316.94'	158.55'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
6. INSTALL 48" R.C.P. (SEE PROFILE FOR D-LOAD)
18. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 9-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
3	REVISED "00" PRIVATE DRIVE ADDED MAINTENANCE RESPONSIBILITY NOTE		MD.	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

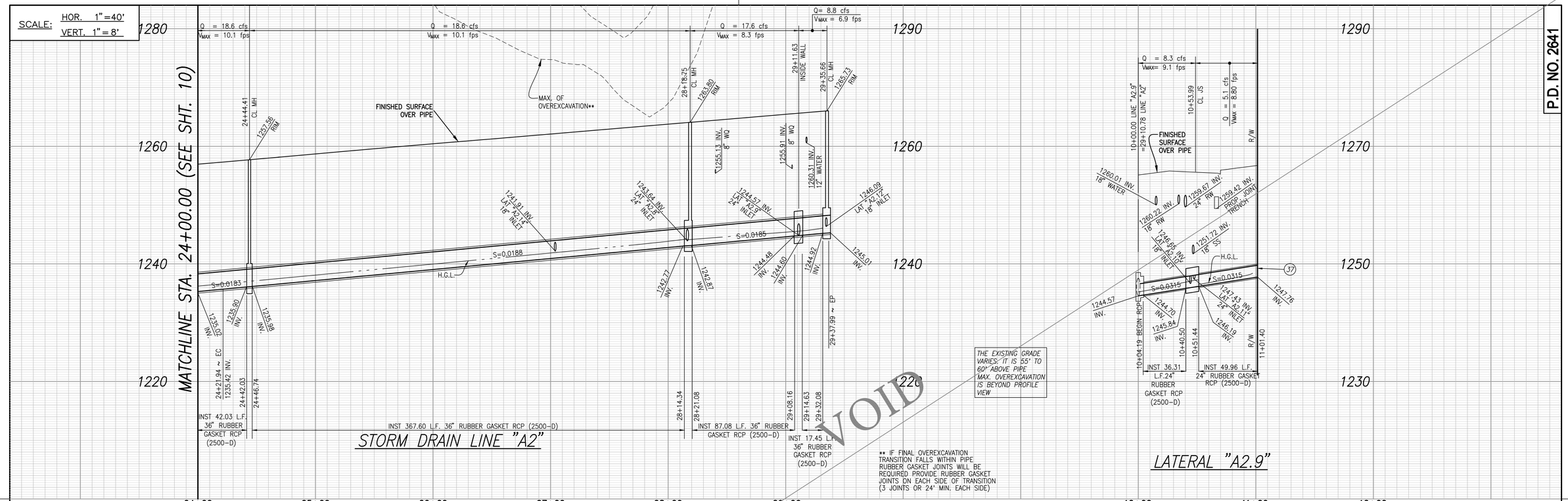
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MW080-10_SD_Plan.dwg Plotted on Aug 23, 2018--4:14pm by joshuay

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONST. M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
18. CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A2" LINE TABLE		
LINE	LENGTH	BEARING
L1	515.61'	N79°28'41"W
L2	52.02'	S19°35'17"E
L3	101.40'	N18°47'19"E
L4	48.20'	N18°54'30"E
L5	34.85'	S58°15'41"E
L6	42.33'	N62°17'29"E
L7	48.34'	N10°31'19"E

LINE "A2" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	00°18'47"	4016'	21.94'	10.97'

REVIEWED LAND DEVELOPMENT DIVISION
BY Pete Mis STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 11 OF 37

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TP No. 2522 Exp. 9/30 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1709 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM1080-11_SD_Plan.dwg Plotted on Jun 25, 2018-6:29pm by jonas

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641
FOR PLAN CHECK ONLY

MATCHLINE STA. 24+00.00 (SEE SHT. 10)

Q = 44.1 cfs
V_{MAX} = 6.2 fps

Q = 44.1 cfs
V_{MAX} = 19.8 fps

Q = 44.1 cfs
V_{MAX} = 20.7 fps

MAX. OF OVEREXCAVATION**

FINISHED SURFACE OVER PIPE

H.G.L.

24+44.41 CL MH 1257.56 RIM

28+18.75 CL MH 1263.80 RIM

29+11.63 INSIDE WALL

29+35.66 CL MH 1265.73 RIM

32+92.65 CL MH 1271.35 RIM

1272.90 TC

1264.54 INV. 18" WATER
1265.06 INV. 8" WATER

1267.10 INV. 12" WATER

1260.80 INV.

S=0.0025

S=0.0196

S=0.0185

S=0.0188

S=0.0183

1240.67 INV. 24" A2.1 INLET

1241.91 INV. LINE "B" A2.2 INLET

1256.68 INV. 12" WATER

1243.33 INV. LAT "A2.8" 24" INLET

1255.13 INV. 8" WQ

1255.91 INV. 8" WQ

1260.31 INV. 12" WATER

1246.09 INV. LAT "A2.12" 18" INLET

1251.88 INV.

1252.09 INV.

33+41.10 ~ BC 1256.27 INV.

33+76.45 ~ EC 1259.54 INV. 18" SEWER

1258.58 INV.

1235.20 INV.

1235.89 INV.

1236.98 INV.

24+21.94 ~ EC 1235.42 INV.

24+42.03

24+46.74

1242.77 INV.

1242.78 INV.

1244.48 INV.

1244.60 INV.

1244.92 INV.

1245.01 INV.

THE EXISTING GRADE VARIES, IT IS 55' TO 60' ABOVE PIPE MAX. OVEREXCAVATION IS BEYOND PROFILE VIEW

INST 42.03 L.F. 36" RCP (2500-D) WITH RUBBER GASKET JOINTS

INST 367.60 L.F. 36" RCP (2500-D) WITH RUBBER GASKET JOINTS

28+14.34

28+21.08

INST 87.08 L.F. 36" RCP (2500-D) WITH RUBBER GASKET JOINTS

29+08.16

29+14.63

29+32.08

29+37.55

INST 17.45 L.F. 36" RCP (2500-D) WITH RUBBER GASKET JOINTS

INST 351.37 L.F. 36"RCP (2500-D) WITH RUBBER GASKET JOINTS

32+88.92

32+94.98

INST 106.97 L.F. 36"RCP (2500-D) WITH RUBBER GASKET JOINTS ADDITIONAL 0.5" OF CONC. OVER INVERT STEEL

34+01.95

STORM DRAIN LINE "A2"

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00

1280 1260 1240 1220 1290

MATCHLINE STA 24+00.00
SEE SHEET 10

LOT LINE

27+04.45 LINE "A2" =10+00.00 LAT "A2.14" A=90°; B=18" C=2.0'; D=36" SEE PROFILE SH. 32

LAT "A2.14" NOT TO BE MAINTAINED BY LACFCD 3

26+64.58 LINE "A2" =10+00.00 LINE "A11" A=60°, B1=24", C=2.0'; D1=D2=36" SEE PROFILE SH. 20

27+39.65 LINE "A2" =10+00.00 LAT "A2.8" A=90°; B=18" C=1.2'; D=36" SEE PROFILE SH. 28

29+32.74 LINE "A2" =10+00.00 LINE "A2.12" A=90°, B1=18", C=1.2'; D1=D2=36" SEE PROFILE SH. 28

32+90.32 LINE "A2" =10+00.00 LINE "A2.9" A=45°, B1=24", C=2.7'; D1=D2=36" SEE PROFILE SH. 28

PROP. WQ SUBDRAIN
PROP. 12" WQ
R/W
PROP. 18" W
PROP. 24" W
ST. MEDIAN
ST. CL
PROP. 18" RW
PROP.18" SS
PROP. 24" RW
PROP. JOINT TRENCH
PROP. GAS
LOT LINE
NEV TRAVELWAY
PROP. WQ SUBDRAIN
8" CF
PROP. 12" SD PER ROUGH GRADING TO BE PRIVATELY MAINTAINED
ST. STA 125+57.38 CL C.B. W=28.0', V=8.0'
28+18.75 CL M.H.
29+35.66 CL M.H.
VARIES
72'
63'
135'
34'
16'

MAGIC MOUNTAIN PARKWAY

"JJ" PRIVATE DRIVE

"II" PRIVATE DRIVE

ST. STA 127+92.90 CL C.B. W=10.0', V=8.0'

ST. STA 121+69.78 CL C.B. W=10.0', V=8.0'

ST. STA 10+84.86 CL C.B. W=10.0', V=8.0'

STORM DRAIN LINE "A2"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONST. M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2
18. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
3 92. INSTALL 8" FALSE CURB COVER PER DEATIL ON SHEET 2C

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

LINE TABLE		
LINE	LENGTH	BEARING
L1	919.16'	N79°28'41"W
L2	25.50'	S10°31'19"W
L3	53.34'	N10°31'19"E
L4	48.00'	N10°31'19"E
L5	42.33'	N62°17'29"E
L6	14.41'	N34°28'41"W
L7	51.43'	N10°31'19"E

CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	00°18'47"	4016'	21.94'	10.97'
B	90°00'00"	22.50'	35.34'	22.50'
C	45°00'00"	22.50'	17.67'	9.32'
D	67°48'12"	22.50'	26.63'	15.12'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 11 AND REPLACE WITH SHEET 11A	Jason H Fukumitsu		8/14/19
3	ADDED FALSE CURB COVER AND ADDED MAINTENANCE RESPONSIBILITY NOTE	Jason H Fukumitsu	M.D. Cuff	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
5/14/2019 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

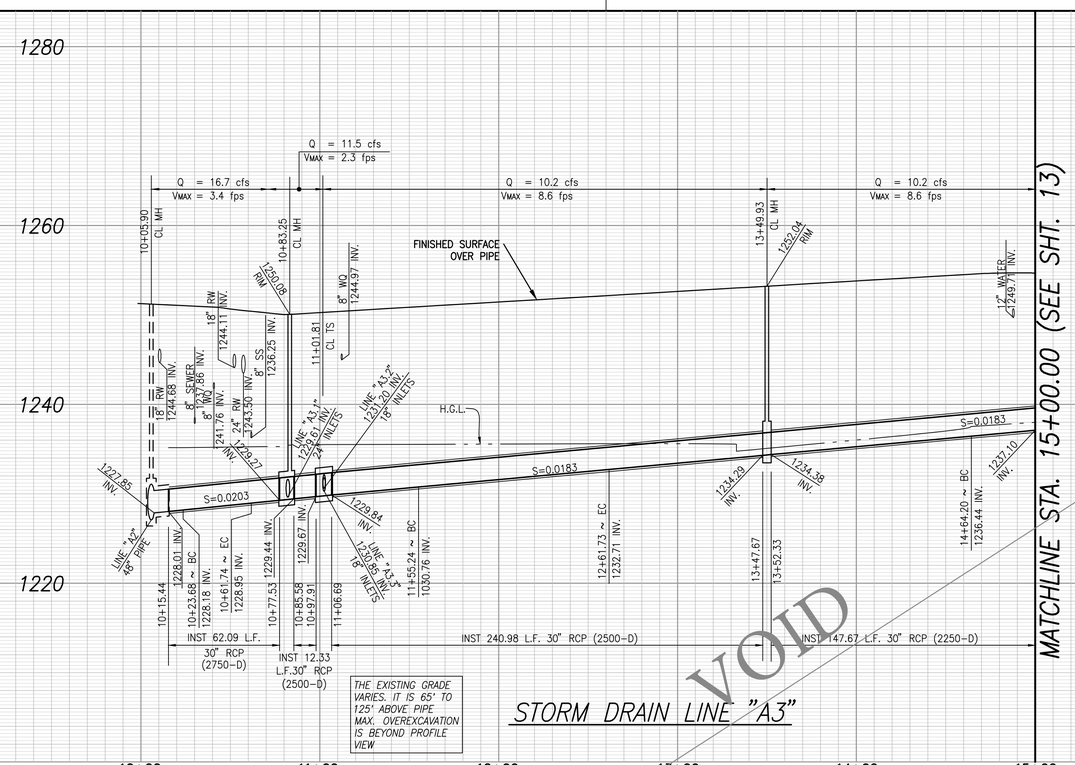
DWG | SHEET 11A OF 39

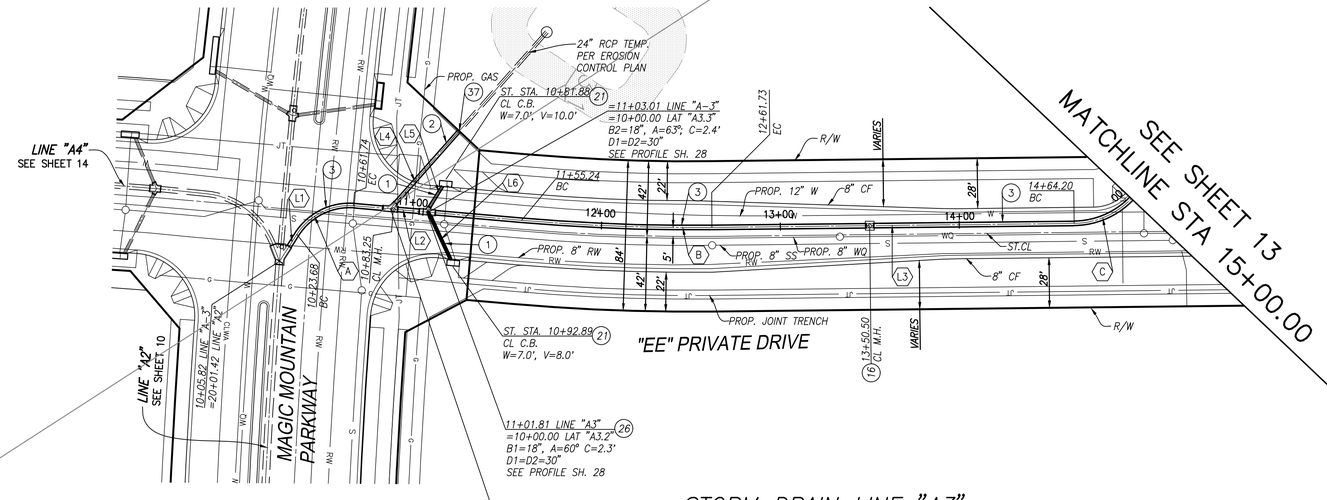
Dwg No. 43-F553.1-.38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HWA\080-11_SD_Plan-REV 3 MAP.dwg Plotted on May 13, 2019-5:42pm by heidys

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641





CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A3" LINE TABLE		
LINE	LENGTH	BEARING
L1	17.86'	N57°19'36"W
L2	93.51'	N04°58'04"E
L3	202.47'	N00°37'42"W
L4	65.87'	S44°20'53"E
L5	16.82'	N58°00'45"W
L6	28.89'	N64°56'36"E

LINE "A3" CURVE TABLE			
	DELTA	RADIUS	LENGTH	TANGENT
A	62°17'40"	35.00'	38.06'	21.15'
B	05°34'18"	1098.98'	106.48'	53.30'
C	45°34'38"	45.00'	35.80'	18.91'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 DATE
JASON H. FUKUMITSU

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6/30 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 12 OF 37

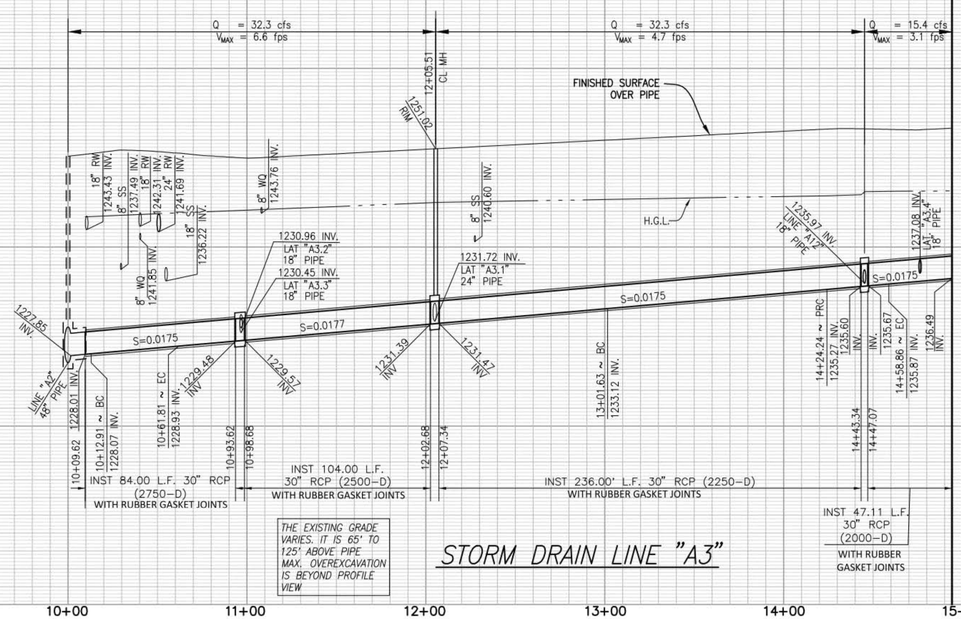
Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HM1080-12_SD_Plan.dwg Plotted on Jun 25, 2018-6:37pm by jonga

SCALE: HOR. 1"=40'
VERT. 1"=8'

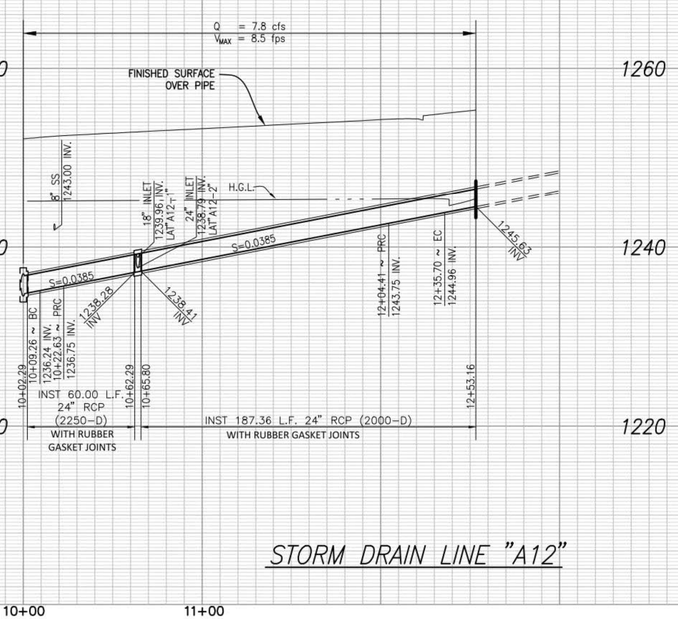
P.D. NO. 2641

FOR PLAN CHECK ONLY

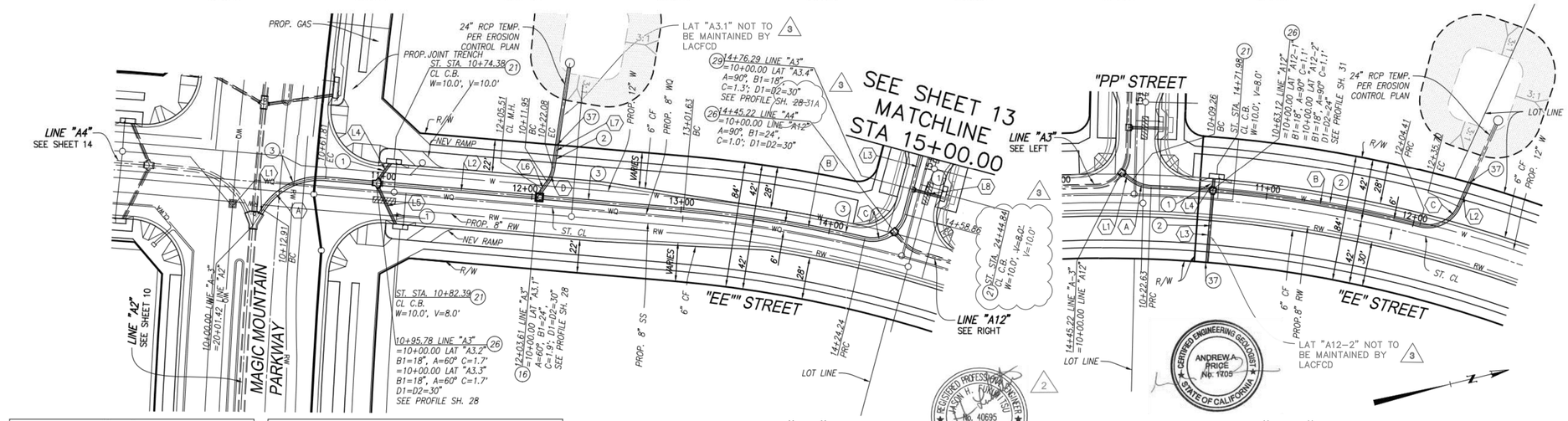


STORM DRAIN LINE "A3"

MATCHLINE STA. 14+94.18 (SEE SHT. 13)



STORM DRAIN LINE "A12"



STORM DRAIN LINE "A3"

STORM DRAIN LINE "A12"

GRAPHIC SCALE: 1" = 40'

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A11" LINE TABLE		
LINE	LENGTH	BEARING
L1	9.26'	N49°44'00"E
L2	17.45'	N51°49'32"W
L3	48.00'	N71°36'01"W
L4	8.00'	N71°36'01"W

LINE "A11" CURVE TABLE			
DELTA	RADIUS	LENGTH	TANGENT
A 34°02'38"	22.50'	13.37'	6.89'
B 12°10'02"	856.00'	181.78'	91.23'
C 79°40'56"	22.50'	31.29'	18.77'

SD LINE "A3" LINE TABLE		
LINE	LENGTH	BEARING
L1	12.91'	N57°19'36"W
L2	239.81'	N04°56'36"E
L3	41.14'	N74°59'25"W
L4	16.17'	N55°04'18"W
L5	30.02'	N64°56'36"E
L6	11.95'	N55°03'24"W
L7	16.10'	N80°50'36"W
L8	26.00'~~20.00'~~	N15°00'35"E

LINE "A3" CURVE TABLE			
DELTA	RADIUS	LENGTH	TANGENT
A 62°16'12"	45.00'	48.91'	27.18'
B 08°12'26"	856.00'	122.62'	61.41'
C 88°08'27"	22.50'	34.61'	21.78'
D 25°47'12"	22.50'	10.13'	5.15'

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN LI No. 2522 Exp. 9-30-20 GEOTECHNICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 12 AND REPLACED WITH SHEET 12A			8/14/19
3	EXTENDED AND UPDATED REFERENCE TO PROFILE FOR LAT. "A3.4", REVISED CB DEPTH. ADDED MAINTENANCE RESPONSIBILITY NOTE			3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

5/14/2019 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

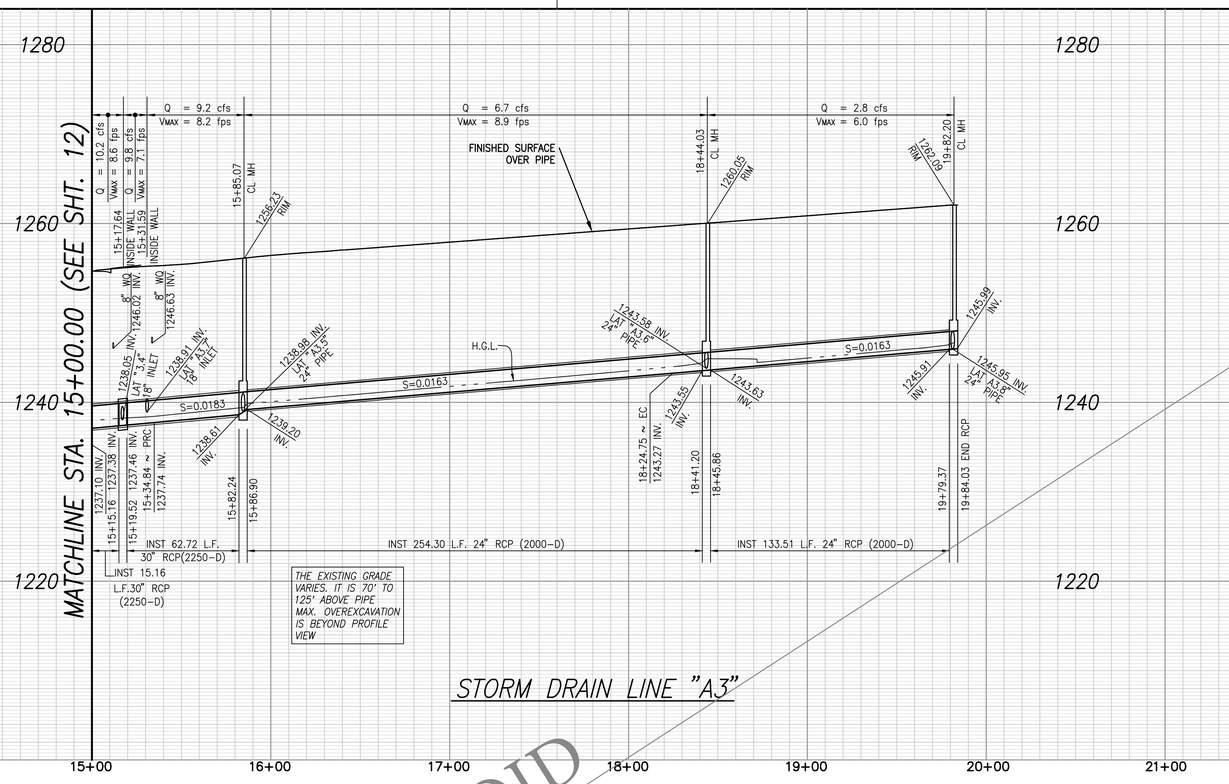
DWG | SHEET 12A OF 39

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HAVO80-12_SD_Plan-REV EE STREET.dwg Plotted on Jul 08, 2019--1:23pm by dmur

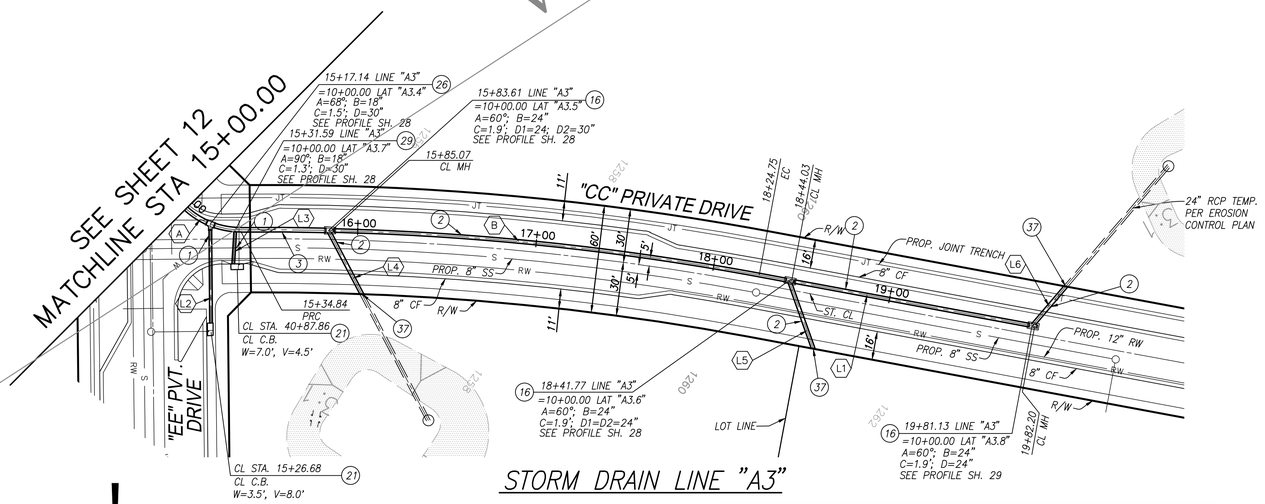
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A3"

VOID



STORM DRAIN LINE "A3"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

Dwg No. 43-F553.1-38

SD LINE "A3" LINE TABLE		
LINE	LENGTH	BEARING
L1	159.28'	N79°28'41"W
L2	55.35'	N00°30'17"W
L3	19.17'	N03°34'40"E
L4	40.17'	N27°43'48"W
L5	40.41'	S19°28'41"E
L6	28.87'	N40°31'19"E

LINE "A3" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	44°21'17"	45.00'	34.84'	18.34'
B	11°04'57"	1505.00'	289.91'	146.01'

N

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TIP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIGE No. 1209 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

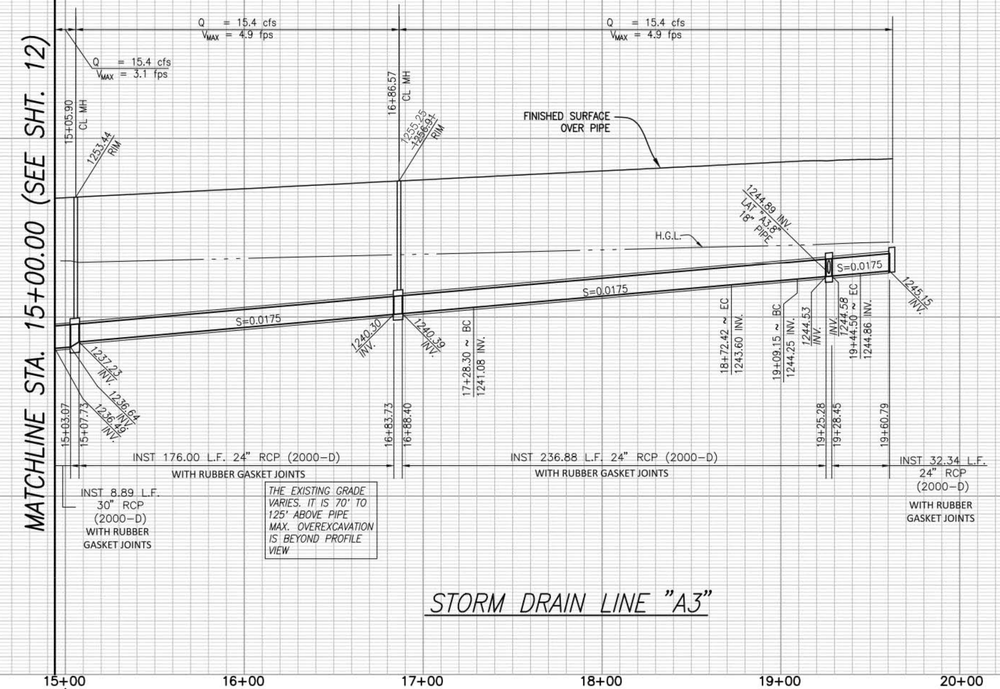
DWG | SHEET 13 OF 37

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM080-13_SD_Plan.dwg Plotted on Jun 25, 2018-6:39pm by jonga

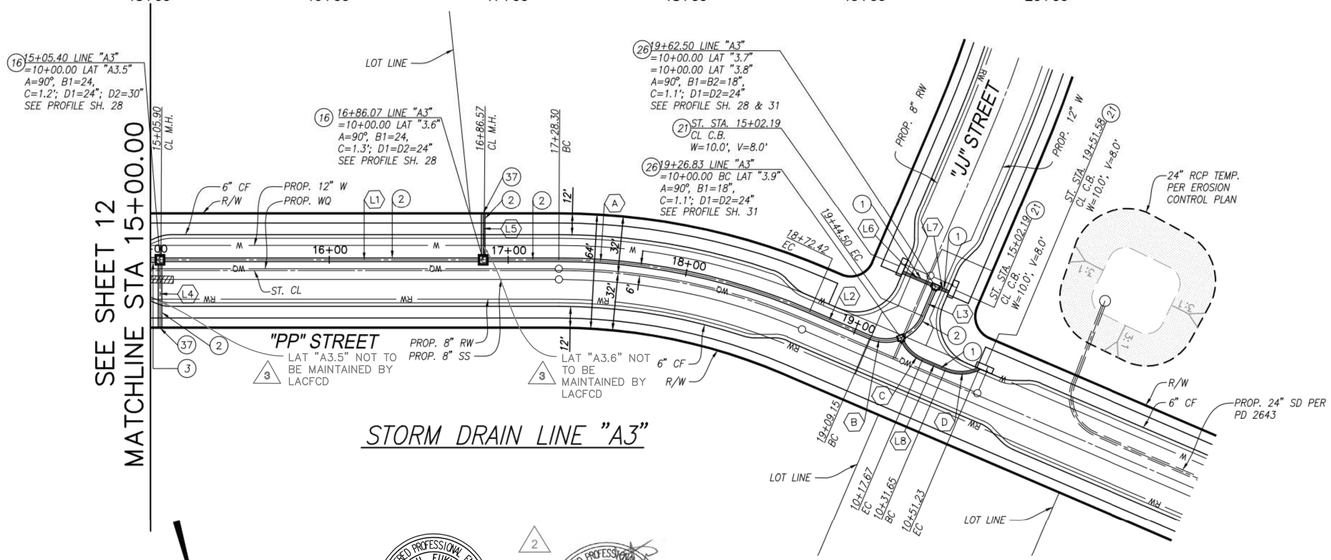
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

FOR PLAN CHECK ONLY



STORM DRAIN LINE "A3"



STORM DRAIN LINE "A3"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A3" LINE TABLE		
LINE	LENGTH	BEARING
L1	228.30'	N74°59'25"W
L2	36.73'	N51°47'43"W
L3	18.00'	N38°12'17"E
L4	38.00'	N15°00'35"E
L5	26.00'	N15°00'35"E
L6	20.00'	N51°47'43"W
L7	8.00'	N51°47'43"W
L8	13.98'	N51°47'43"W

LINE "A3" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	23°11'43"	356.00'	144.12'	73.06'
B	90°00'00"	22.50'	35.34'	22.50'
C	45°00'00"	22.50'	17.67'	9.32'
D	49°52'33"	22.50'	19.59'	10.46'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 13 AND REPLACED WITH SHEET 13A			8/14/19
3	ADDED MAINTENANCE RESPONSIBILITY NOTE			3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
5/14/2019
JASON H. FUKUMITSU DATE

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2622 Exp. 3/31/20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 13A OF 39

Dwg No. 43-F553.1-38

© Vlahcoll Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HW1080-13_SD_Plan-REV PP STREET.dwg Plotted on May 08, 2019 - 12:58pm by kyle@hsi

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

1280 1260 1240 1220 1300

Q = 44.9 cfs
Vmax = 6.5 fps
V= 6.4 fps

Q = 27.6 cfs
Vmax = 12.0 fps
V= 3.9 fps

Q = 27.6 cfs
Vmax = 12.0 fps
V= 3.9 fps

Q = 25.2 cfs
Vmax = 11.2 fps

09+93.12 CL MH
10+80.50 CL JS
14+00.00 CL MH
16+61.72 CL JS
1255.69 RIM
1260.44 RIM
EXISTING GRADE AT CLPIPE
FINISHED SURFACE OVER PIPE
MAX. OF OVEREXCAVATION**
H.G.L.
S=0.0220
S=0.0242
1241.83 INV. 42" CLWA
1229.03 INV. 12" WQ
1239.35 INV. 8" WQ
1236.60 INV. 8" SEWER
1227.60 INV. LINE "A2" 48" PIPE
1227.07 INV. 36" PIPE
1231.13 INV. LINE "A4.1" 18" INLET
1239.42 INV. 8" WQ
1230.86 INV. LINE "A4.2" 18" INLET
1232.97 INV. LINE "A4.3" 18" INLET
1237.42 INV. LINE "A4.4" 18" INLET
1242.96 INV. 24" LINE "A4.5" INLET
1243.38 INV.
1242.51 INV.
1242.38 INV.
1236.68 INV.
1236.78 INV.
1229.83 INV.
1229.78 INV.
10+02.75
10+03.19 ~ BC
1227.81 INV.
10+53.55 ~ PCC
1229.03 INV.
10+78.43
10+84.06
11+80.33
13+97.67
14+02.35
14+07.11
16+58.35
16+64.05
INST 75.68 L.F. 36" RCP (2500-D)
INST 313.61 L.F. 36" RUBBER GASKET RCP (2500-D)
INST 256.01 L.F. 36" RUBBER GASKET RCP (2250-D)
INST 39.60 L.F.36" RUBBER GASKET RCP (2250-D)

VOID 4

STORM DRAIN LINE "A4"

MATCHLINE STA. 17+03.65 (SEE SHT. 15)

** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS OR 24' MIN. EACH SIDE)

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

LINE "A2" SEE SHEET 10

09+93.12 LINE "A4" =20+01.42 LINE "A2"

ST. STA. 11+06.31 CL C.B. W=10.0', V=8.0'

10+80.50 LINE "A4" =10+00.00 LAT "A4.1" B1=18", A=69°, C=1.6 =10+00.00 LAT "A4.2" B2=18", A=68° C=1.8 D1=D2=36" SEE PROFILE SH. 29

16+60.95 LINE "A4" =10+00.00 LAT "A4.3" A=76°, B1=24" C=1.5"; D1=D2=36" SEE PROFILE SH. 29

LAT "A4.3" NOT TO BE MAINTAINED BY LACFCD

WESTRIDGE PKWY

MAGIC MOUNTAIN PARKWAY

SEE SHEET 15 MATCHLINE STA 17+03.65

ST. STA. 11+13.43 CL C.B. W=7.0', V=8.0' W=10.0'

LAT "A4.9" NOT TO BE MAINTAINED BY LACFCD

11+80.33 LINE "A4" =10+00.00 LAT "A4.9" B=18", A=90°; C=1.6; D1=D2=36" SEE PROFILE SH. 32

14+07.11 LINE "A4" =10+00.00 LAT "A4.10" A=90°, B1=18" C=1.6; D1=D2=36" SEE PROFILE SH. 32

LAT "A4.10" NOT TO BE MAINTAINED BY LACFCD

PROP. 18" RW
PROP. 8" WQ
PROP. 8" SS
PROP 24" W
PROP 18" W
PROP 42" CLWA
PROP. JOINT TRENCH
LOT LINE
ST.CL.
6" CF
R/W
RW
W
WQ
S
JT
CLWA

STORM DRAIN LINE "A4"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
18. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT I.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

Dwg No. 43-F553.1-38

SD LINE "A4" LINE TABLE		
LINE	LENGTH	BEARING
L1	10.07'	S68°41'52"W
L2	39.83'	N63°47'01"W
L3	30.35'	S67°20'47"W
L4	36.63' (60.63')	S89°42'21"E
L5	65.43'	N89°25'05"E
L6	35.80' (59.81')	N79°30'41"E

LINE "A4" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	62°39'28"	45.00'	49.21'	27.39'
B	30°37'42"	1205.00'	644.00'	329.97'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

GRAPHIC SCALE: 1" = 40'

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
	REVISED "00" PRIVATE DRIVE			
3	ADDED MAINTENANCE RESPONSIBILITY NOTE		M.D. Cagle	3/15/2021
4	VOID SHEET 14 AND REPLACED WITH SHEET 14A		M.D. Cagle	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN P. No. 2522 Exp. 9/30/22 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1205 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

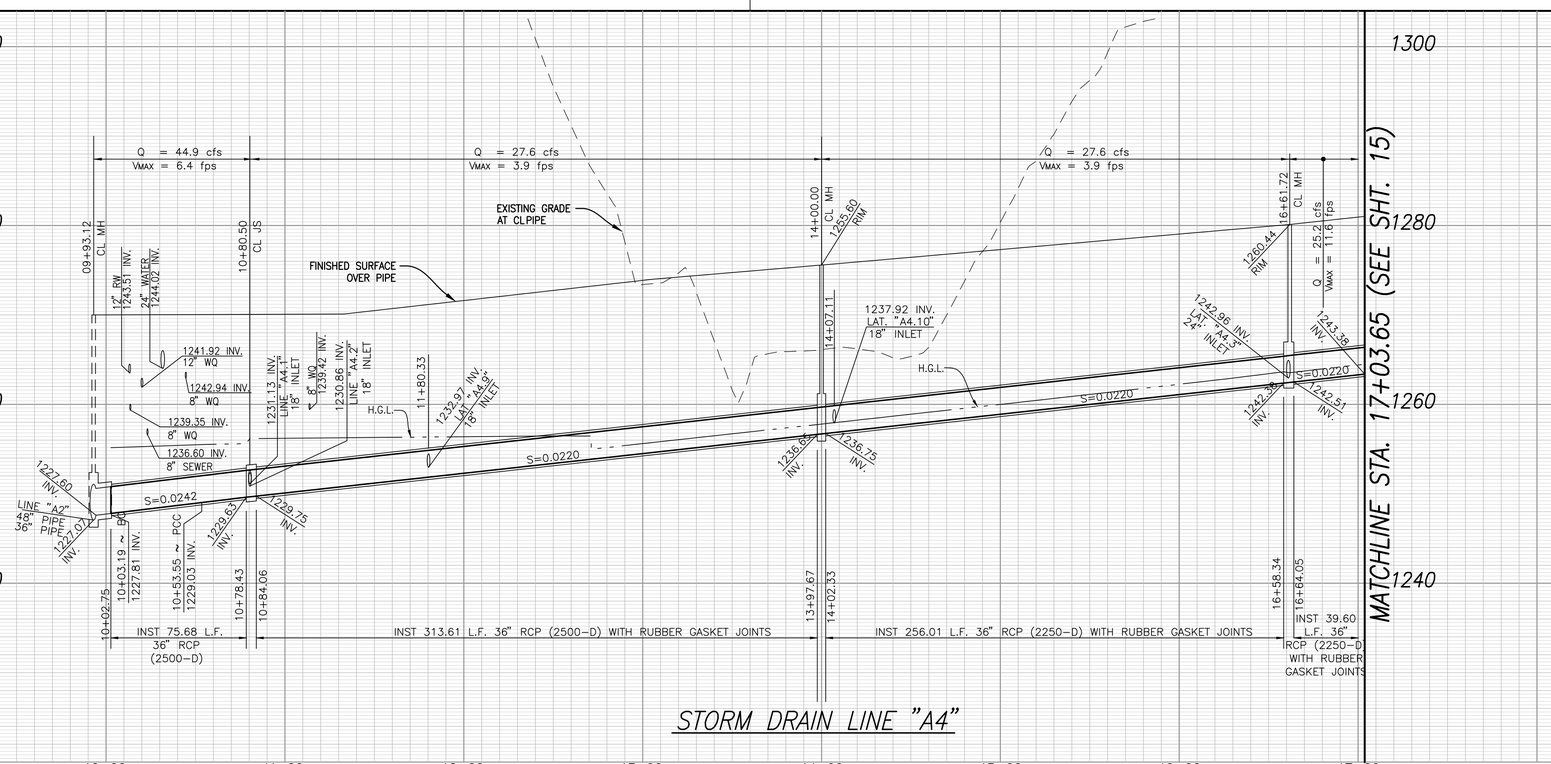
DWG | SHEET 14 OF 32 39

G:\Vlewhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WAVD80-14_SD_Plan.dwg Plotted on Jun 25, 2018--6:47pm by jjorge

SCALE: HOR. 1"=40'
VERT. 1"=8'

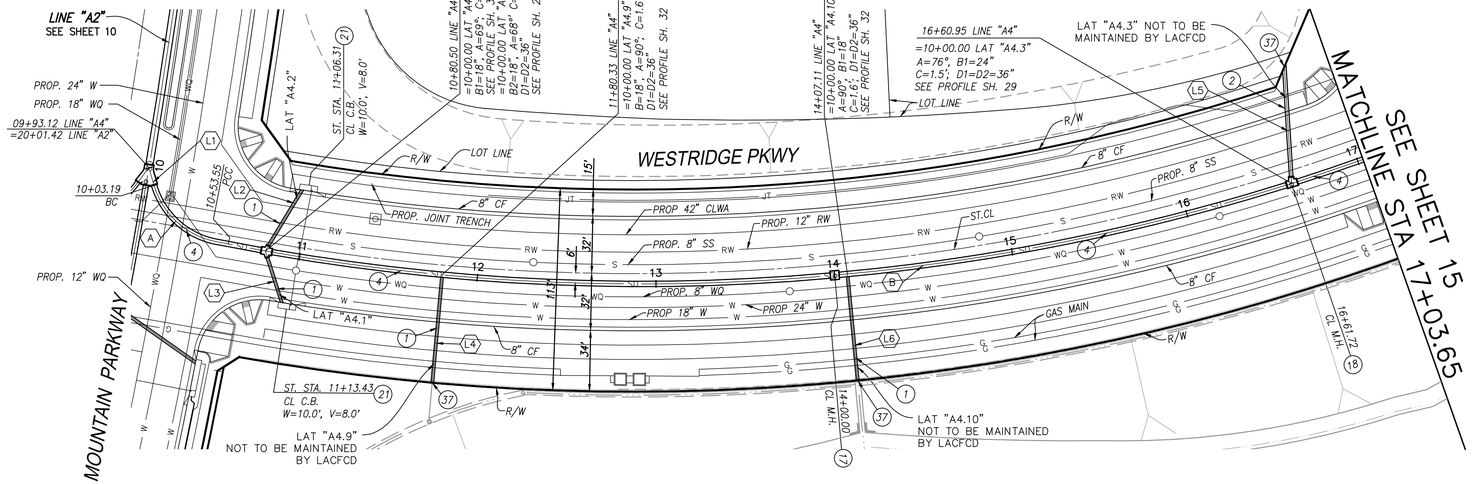
P.D. NO. 2641

FOR PLAN CHECK ONLY



STORM DRAIN LINE "A4"

MATCHLINE STA. 17+03.65 (SEE SHT. 15)



STORM DRAIN LINE "A4"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
4. INSTALL 36" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
18. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A4" LINE TABLE

LINE	LENGTH	BEARING
(1)	10.07'	S68°41'52"W
(2)	39.83'	N63°47'01"W
(3)	30.35'	S67°20'47"W
(4)	60.63'	S89°42'21"E
(5)	65.43'	N89°25'05"E
(6)	59.81'	N79°30'41"E

LINE "A4" CURVE TABLE

	DELTA	RADIUS	LENGTH	TANGENT
(A)	62°39'28"	45.00'	49.21'	27.39'
(B)	30°37'42"	1205.00'	644.00'	329.97'

N

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ DATE
STORM DRAIN SECTION

NO.	REVISION	REVISED BY	APPROVED BY	DATE
4	VOIDED SHEET 14 AND REPLACED WITH 14A.	Jason H Fukumitsu	MD. Eff	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

Jason H Fukumitsu 08/16/21
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

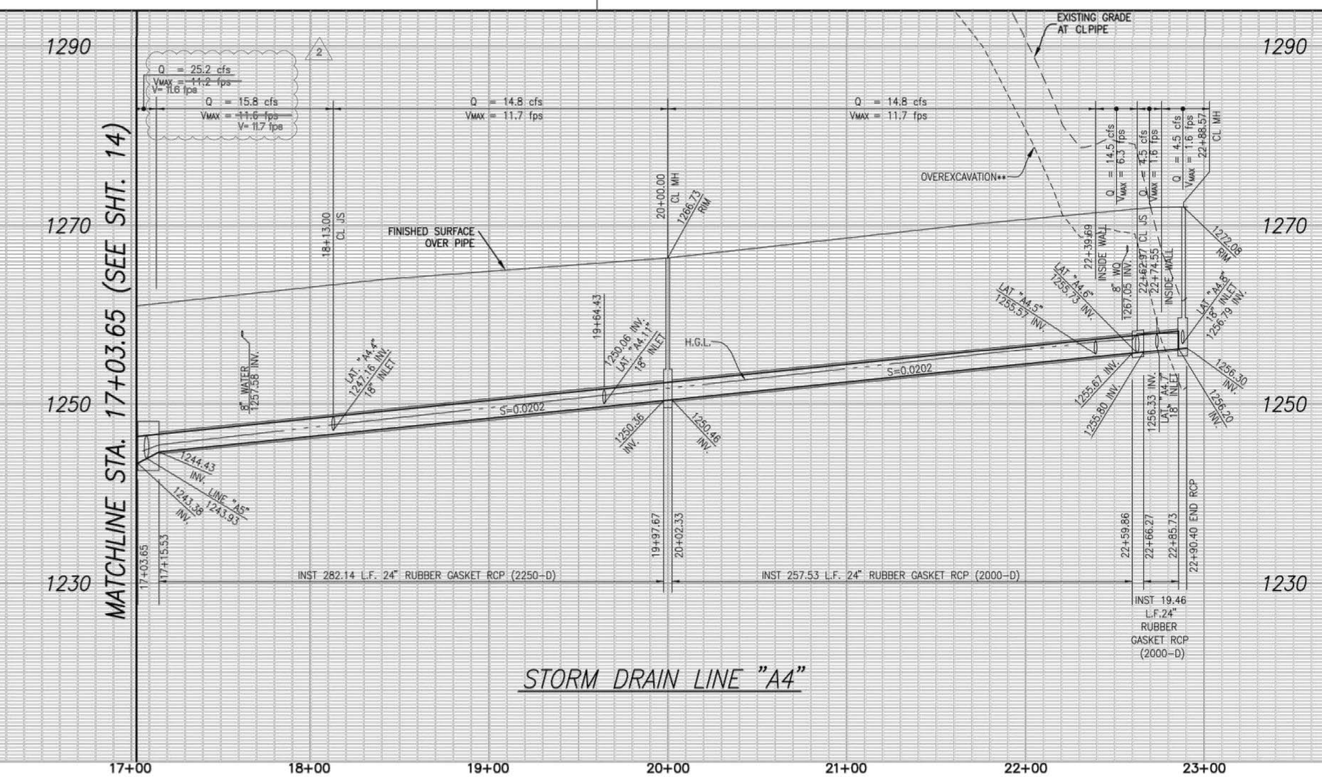
DWG

SHEET 14A OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HM\086-14_SD_Plan-REV4 WESTRIDGE PARKWAY.dwg Plotted on Jul 27, 2021-11:57am by sjlaw

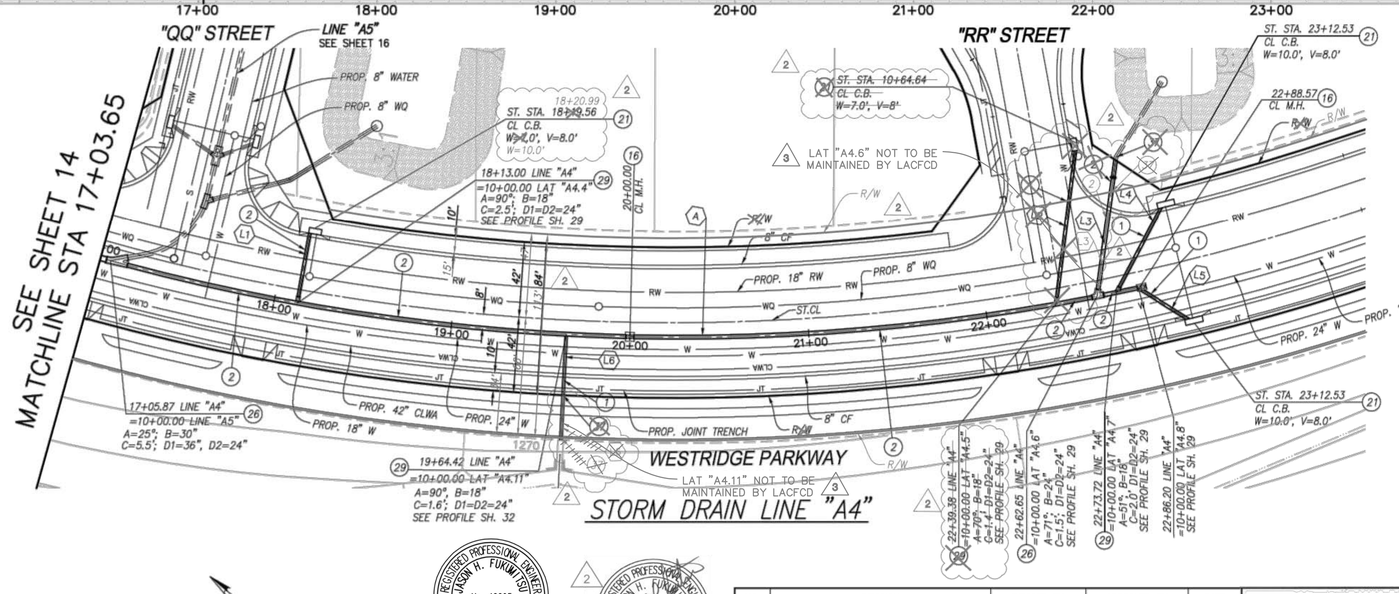
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A4"

17+00 18+00 19+00 20+00 21+00 22+00 23+00



STORM DRAIN LINE "A4"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL 'D' SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
3 / 37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25

SD LINE "A2" LINE TABLE		
LINE	LENGTH	BEARING
L1	39.55'	S60°13'26"W
L2	86.58'	S57°08'56"W
L3	77.00' 59.01'	S57°42'36"W
L4	53.47'	N77°45'11"E
L5	32.81'	N07°51'44"W
L6	34.01' 58.01'	N53°00'43"E

LINE "A4" CURVE TABLE			
DELTA	RADIUS	LENGTH	TANGENT
A 27°53'56"	1205.00'	586.75'	299.31'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
	REVISED '00' PRIVATE DRIVE			
3	ADDED MAINTENANCE RESPONSIBILITY NOTE			3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU 8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 22722 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG

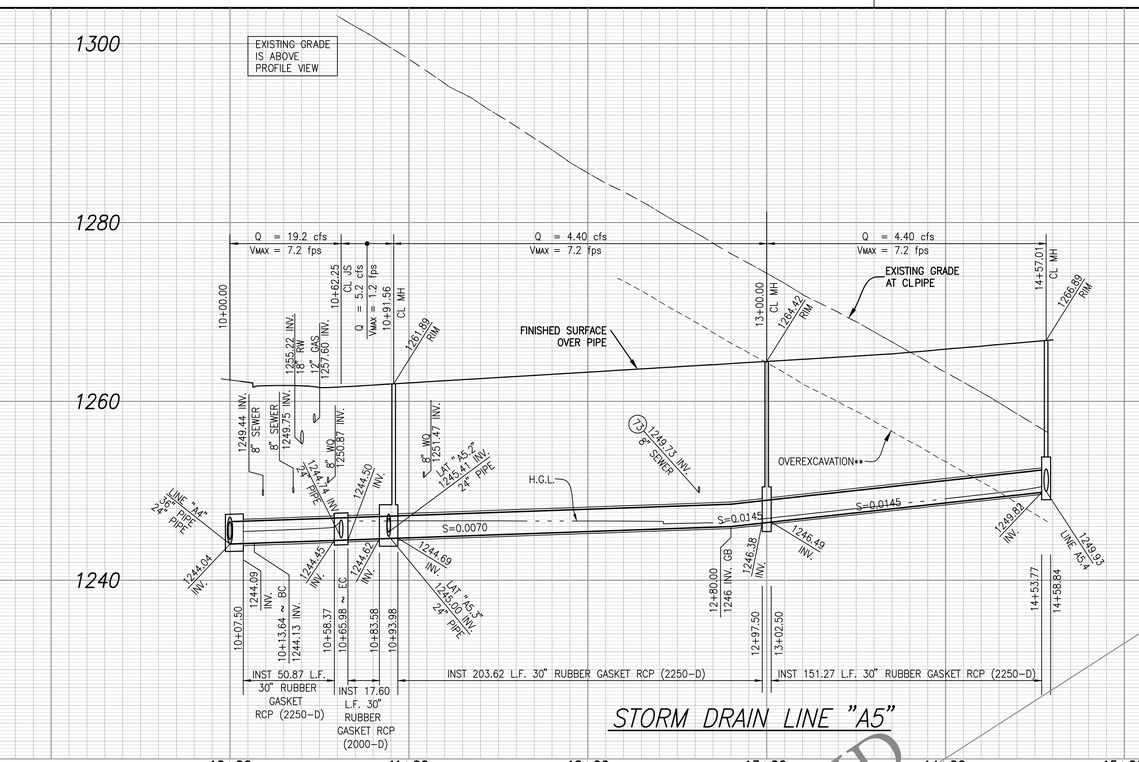
SHEET 15 OF 37 39

Dwg No. 43-F553.1-38

G:\Westhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WM0805-15_SD_Plan.dwg Posted on Jun 25, 2018-8:17pm by jorga

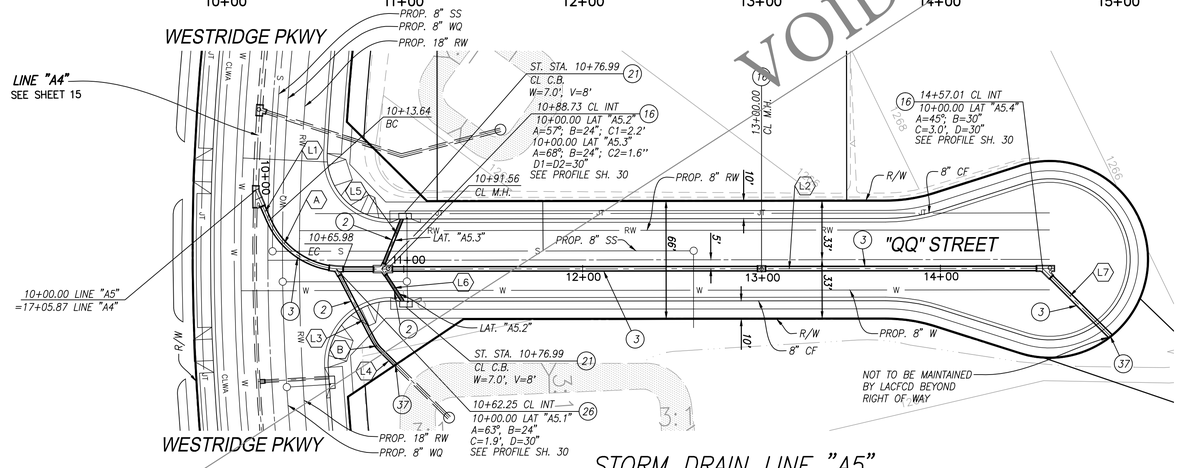
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A5"

** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED. PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS OR 24" MIN. EACH SIDE)



STORM DRAIN LINE "A5"

CONSTRUCTION NOTES

(2) INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
(3) INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
(16) CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
(21) CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
(26) CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
(37) CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
(73) CONSTRUCT CONCRTE BLANKET PER S.P.P.W.C. 225-2

Dwg No. 43-F553.1-38

SD LINE "A5" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	18.59'	S49°54'52"E
(L2)	397.47'	N63°26'25"E
(L3)	45.11'	N54°03'36"W
(L4)	11.47'	N71°49'28"W
(L5)	30.20'	N04°33'49"W
(L6)	21.47'	S59°36'08"E
(L7)	53.88'	S71°33'35"E

LINE "A5" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	66°38'43"	45.00'	52.34'	29.58'
(B)	17°45'52"	22.50'	6.98'	3.52'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KENT LO No. 2592 Exp. 6/30/20 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

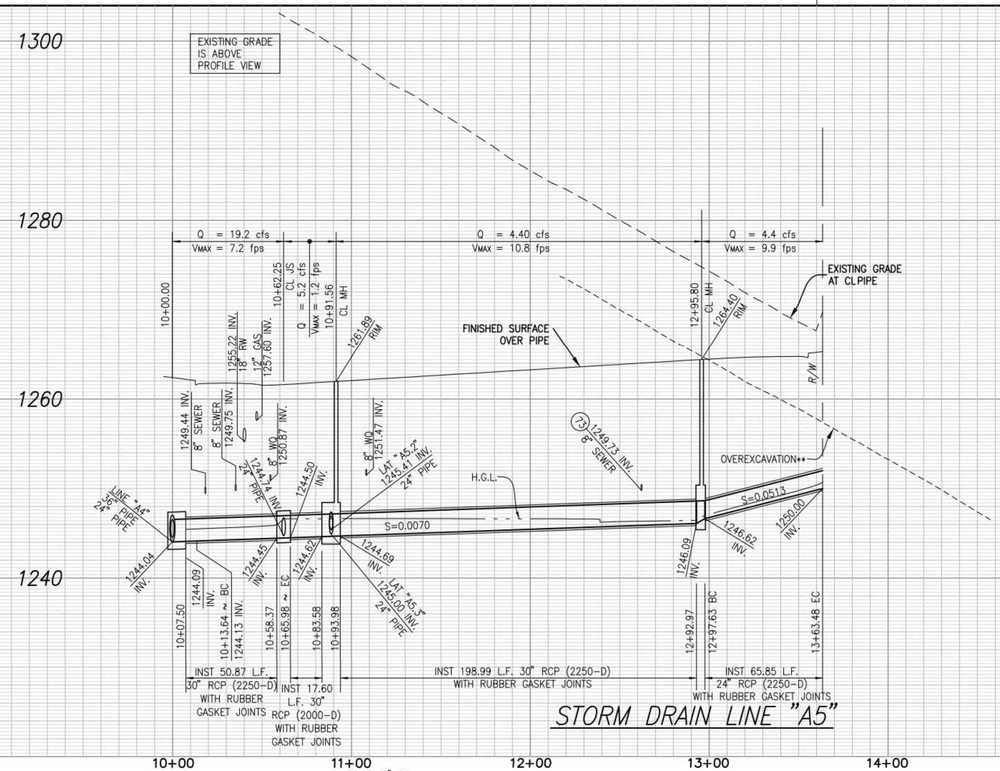
DWG | SHEET 16 OF 37

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\VM\080-15_SD_Plan.dwg Plotted on Jun 25, 2018-8:17pm by jpraps

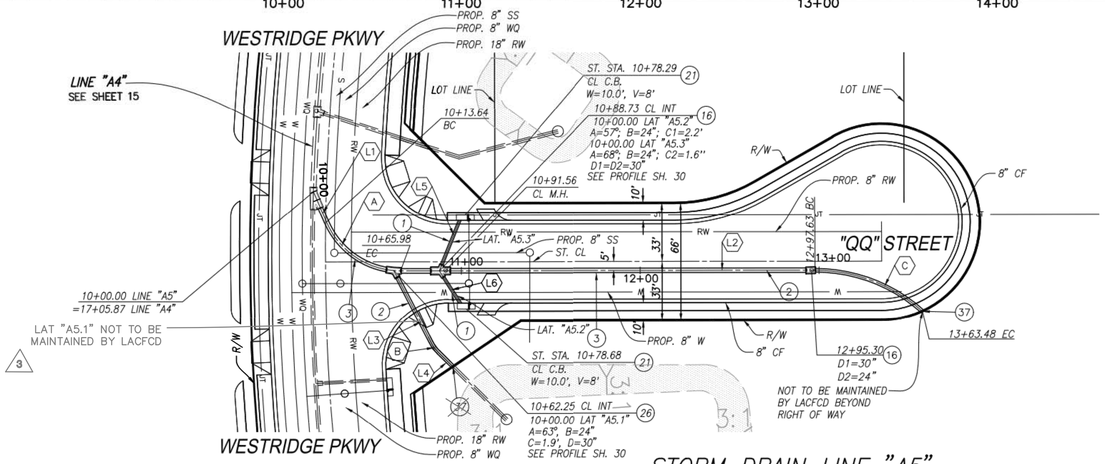
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

FOR PLAN CHECK ONLY



STORM DRAIN LINE "A5"



STORM DRAIN LINE "A5"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
3. INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
16. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
73. CONSTRUCT CONCRTE BLANKET PER S.P.P.W.C. 225-2

Dwg No. 43-F553.1-38

SD LINE "A5" LINE TABLE		
LINE	LENGTH	BEARING
(1)	18.59'	S49°54'52"E
(2)	231.65'	N63°26'25"E
(3)	45.11'	N54°03'36"W
(4)	11.47'	N71°49'28"W
(5)	30.20'	S04°32'57"E
(6)	21.47'	N59°35'08"W

LINE "A5" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	66°38'43"	45.00'	52.34'	29.58'
(B)	17°45'52"	22.50'	6.98'	3.52'
(C)	41°55'03"	90.00'	65.85'	34.47'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 16 AND REPLACED WITH 16A			8/14/19
3	ADDED MAINTENANCE RESPONSIBILITY NOTE			3/15/2021

JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA 5/14/2019 DATE

ANDREW A. PRIDE No. 1705 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

VINCENT PING-ROBERT TIP No. 2522 exp. 9/30 REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

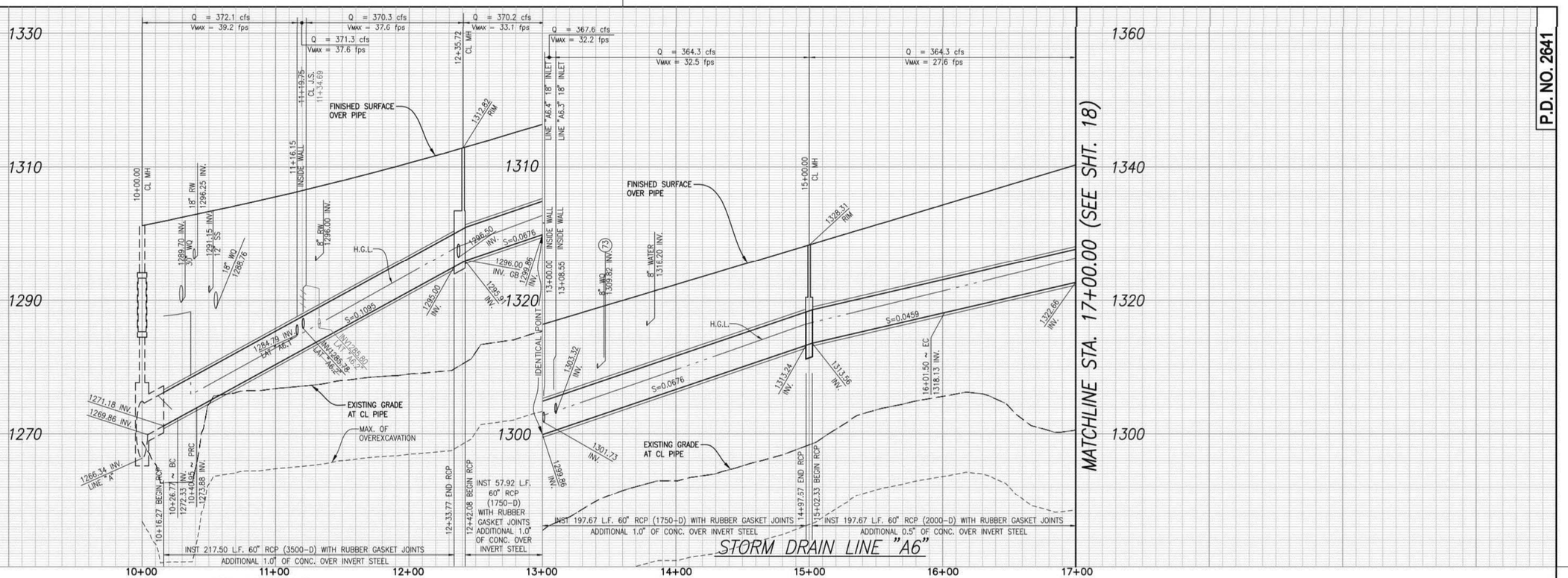
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 16A OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HMV085-16_SD_Plan-RECV2\00SDSHEETS\Dwgs\Prints\Revision\Map\SD3_20190313-02-PStorm Isay hallidge

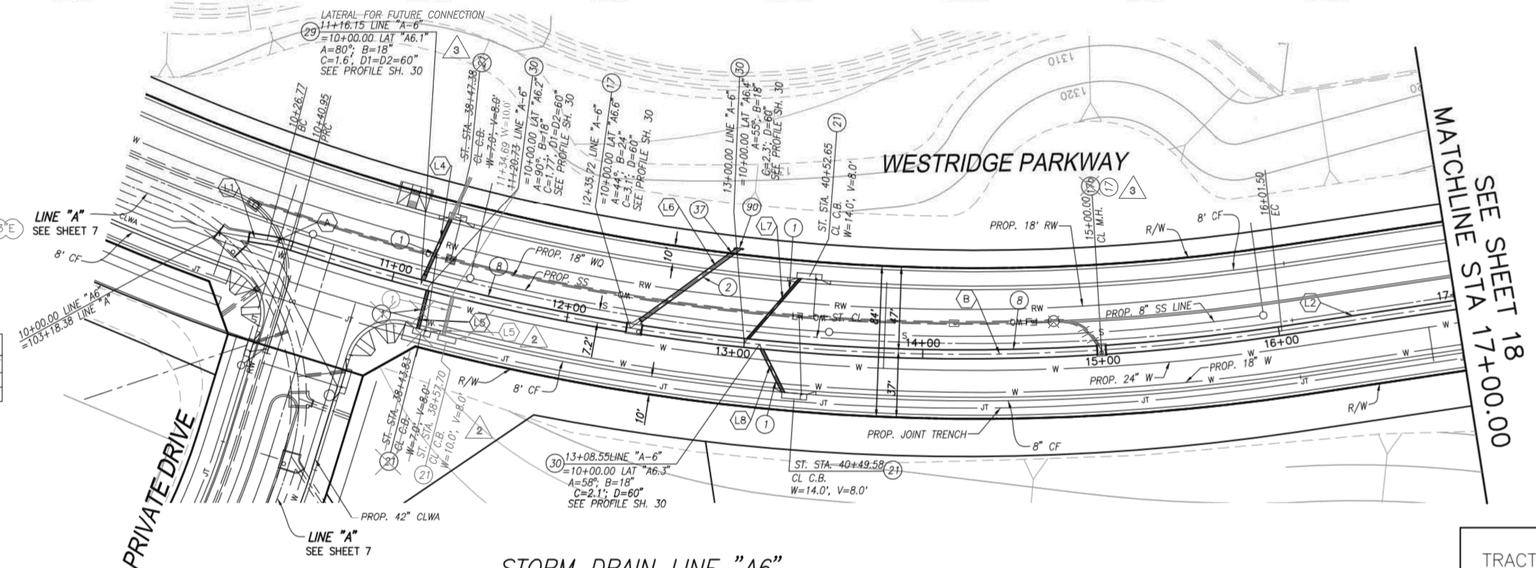
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



STORM DRAIN LINE "A6"

MATCHLINE STA. 17+00.00 (SEE SHT. 18)



LINE "A6" LINE TABLE		
LINE	LENGTH	BEARING
L1	26.77'	S20°49'22"E
L2	98.50'	S38°26'54"E
L3	41.31' 60.56'	S84°37'38"W
L4	24.29' 24.37'	N74°24'42"E
L5	70.53'	S66°03'22"E
L6	47.55'	S78°55'31"E
L7	29.95'	S33°28'52"W

LINE "A6" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	09°01'40"	90.00'	14.18'	7.11'
B	26°39'12"	1205.00'	560.55'	285.44'

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
8. INSTALL 60" R.C.P. (SEE PROFILE FOR D-LOAD)
9. INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C., STD. PLAN 320-2
17a. ~~CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2 PER DETAILS ON SHEET 33~~
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 (MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39)
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
90. CONSTRUCT BRICK AND MORTAR PLUG

Dwg No. 43-F553.1-38

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TIP No. 9522 Exp. 9-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY Steve Ng STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91. REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
	REVISED "00" PRIVATE DRIVE			
3	REMOVED CATCH BASIN ON WESTRIDGE PARKWAY, EXTENDED LAT A6.1, ADDED LABELS AND UPDATED WATER QUALITY LINE		M.D.	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA 8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

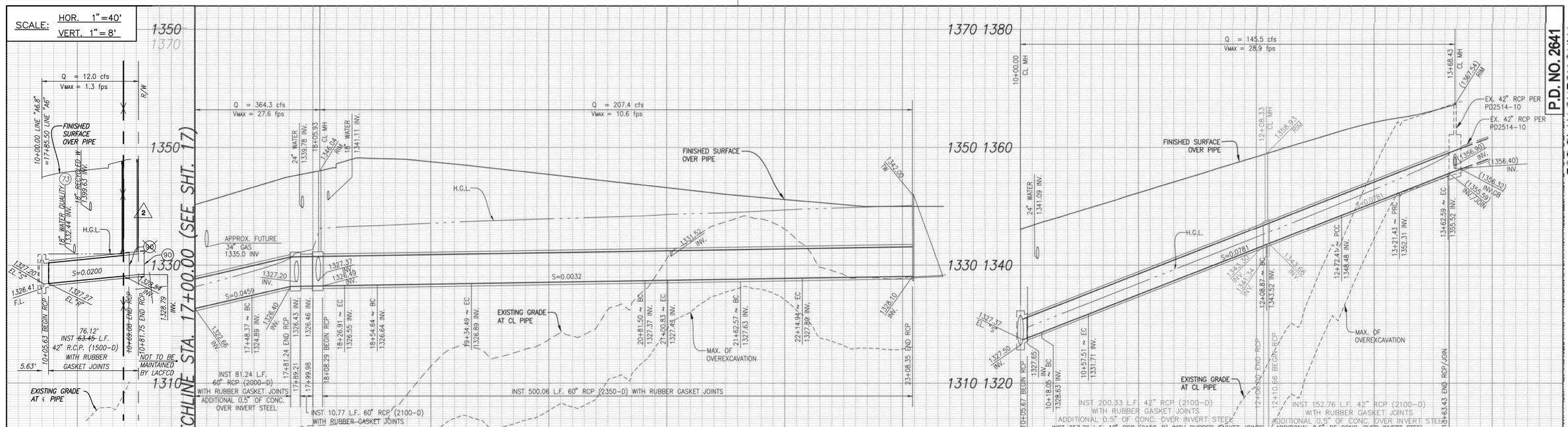
DWG | SHEET 17 OF 39

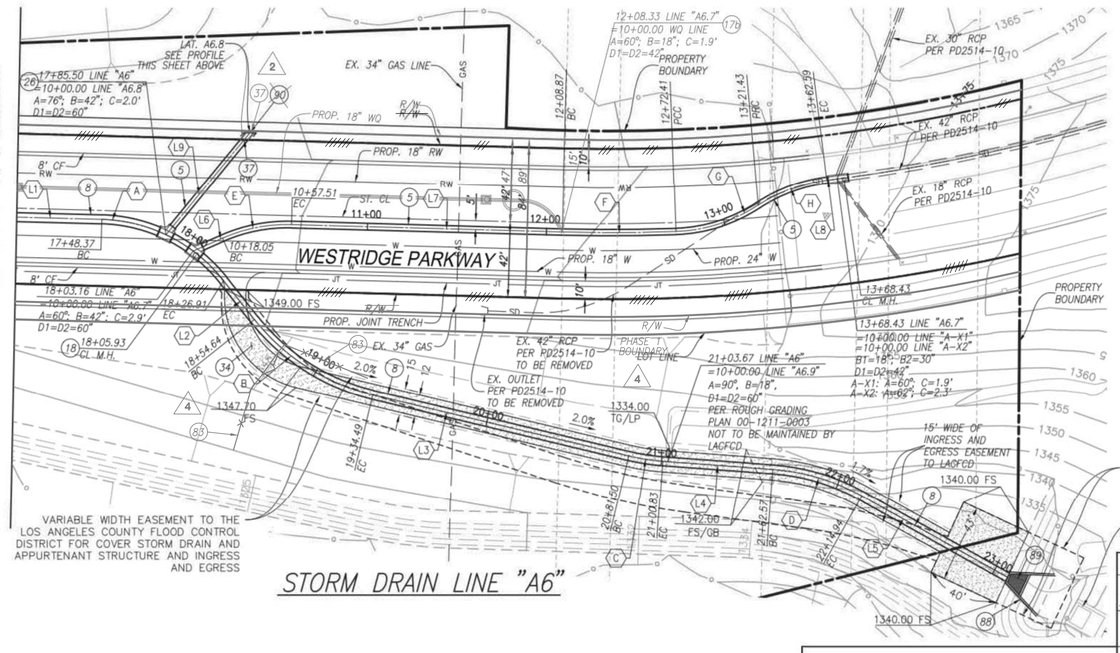
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HW0861-17_SD_Plan.dwg Plotted on Sep 21, 2018 - 2:40pm by joshuay

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

FOR PLAN CHECK ONLY





LINE "A6" LINE TABLE		
LINE	LENGTH	BEARING
L1	48.37'	S38°26'54"E
L2	27.73'	N11°33'06"E
L3	147.01'	N26°34'23"W
L4	61.74'	N35°48'19"W
L5	93.41'	N10°48'03"W

LINE "A6" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	50°00'00"	90.00'	78.54'	41.97'
B	38°07'29"	120.00'	79.85'	41.47'
C	09°13'56"	120.00'	19.34'	9.69'
D	25°00'16"	120.00'	52.37'	26.61'

LINE "A6.7" LINE TABLE		
LINE	LENGTH	BEARING
L6	18.05'	N63°33'50"W
L7	151.37'	S38°26'54"E
L8	0.84'	S47°04'02"E

LINE "A6.7" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
E	25°06'56"	90.00'	39.45'	20.05'
F	03°37'21"	1005.00'	63.54'	31.78'
G	31°12'04"	90.00'	49.01'	25.13'
H	26°12'18"	90.00'	41.16'	20.95'

LINE "A6.8" LINE TABLE		
LINE	LENGTH	BEARING
L9	74.08'	N89°25'59"E
	81.75'	

CONSTRUCTION NOTES

5 — INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
8 — INSTALL 60" R.C.P. (SEE PROFILE FOR D-LOAD)
18 — CONSTRUCT M.H. PER S.P.P.W.C., STD. PLAN 322-2
26 — CONSTRUCT T.S. PER S.P.P.W.C., STD. PLAN 340-2
34 — CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL ON SHEET 22 (WIDTH PER PLAN)
37 — CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
88 — CONSTRUCT HEADWALL PER CALTRANS STANDARD D90
89 — INSTALL INCLINED TRASH RACK PER S.P.P.W.C. 361-2
90 — CONSTRUCT BRICK AND MORTAR PLUG
176 — CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2 PER DETAIL ON SHEET 33
73 — CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225
83 — CONSTRUCT CHAIN LINK FENCE AND GATE PER S.P.P.W.C. 225

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

Dwg No. 43-F553.1-38

REVIEWED LAND DEVELOPMENT DIVISION
BY Steve Mig STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu		8/14/19
	REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE REVISED "00" PRIVATE DRIVE			
4	REVISE RIGHT OF WAY AND BOUNDARY LINE ADDED FENCING AND GATE	Jason H. Fukumitsu		9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

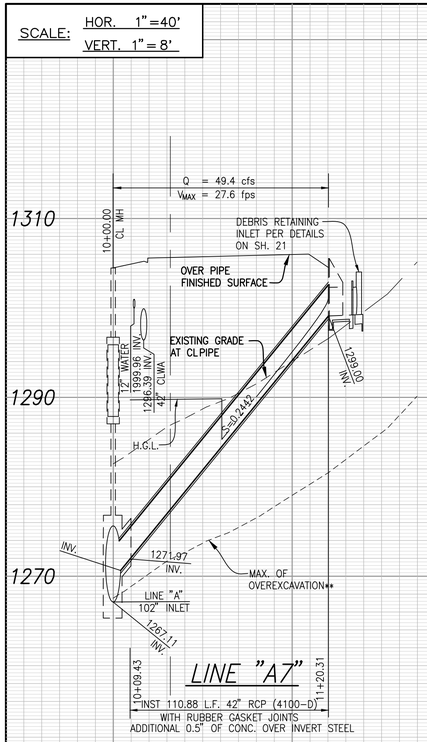
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

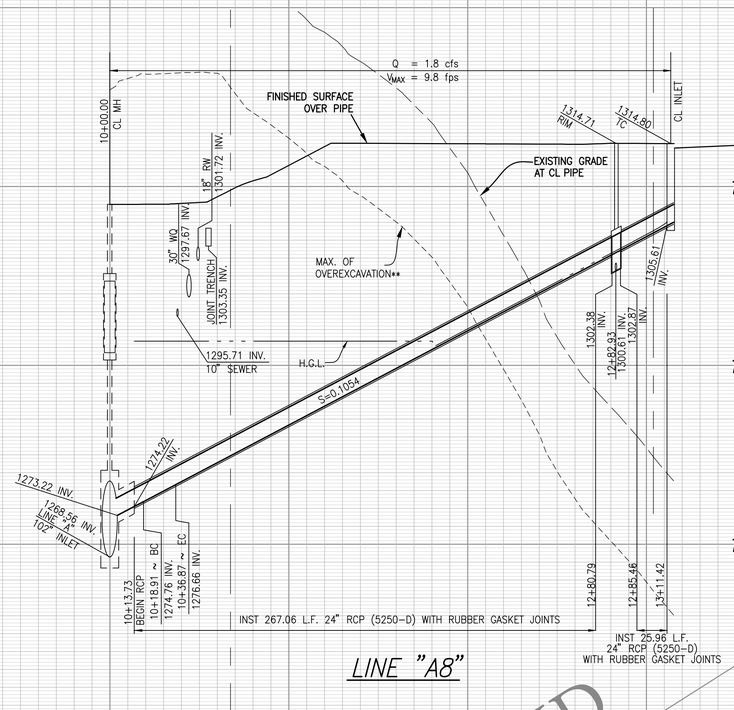
DWG | SHEET 18 OF 39

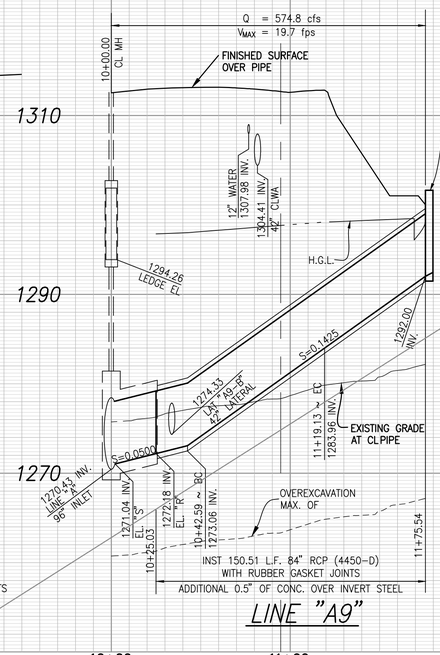
\\HPS\Project\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\NM0680-18_SD_Plan.dwg Plotted on Aug 28, 2018--1:51pm by wallonl

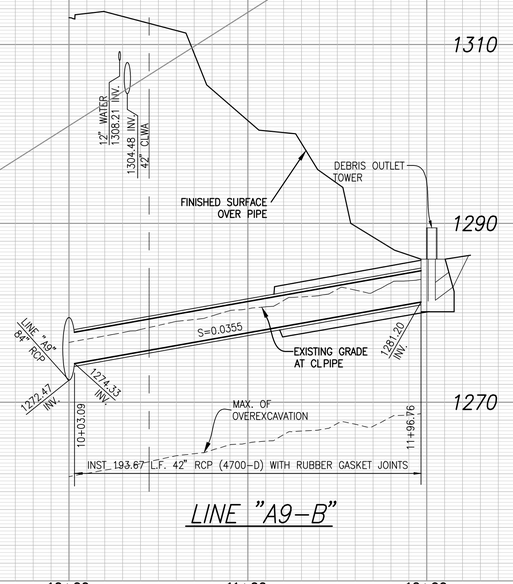
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



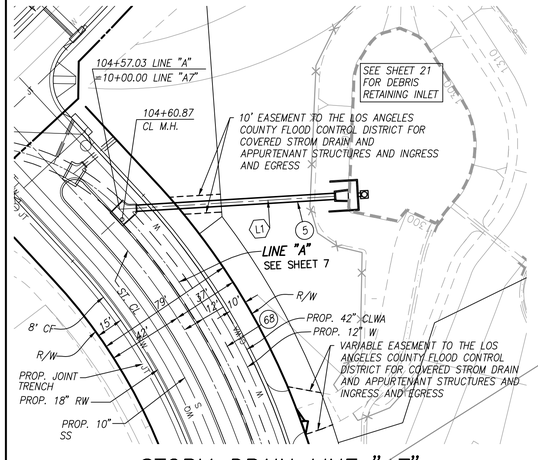






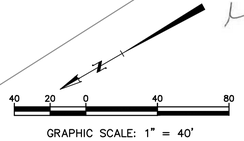
10+00 11+00 12+00 10+00 11+00 12+00 13+00 10+00 11+00 12+00 10+00 11+00 12+00

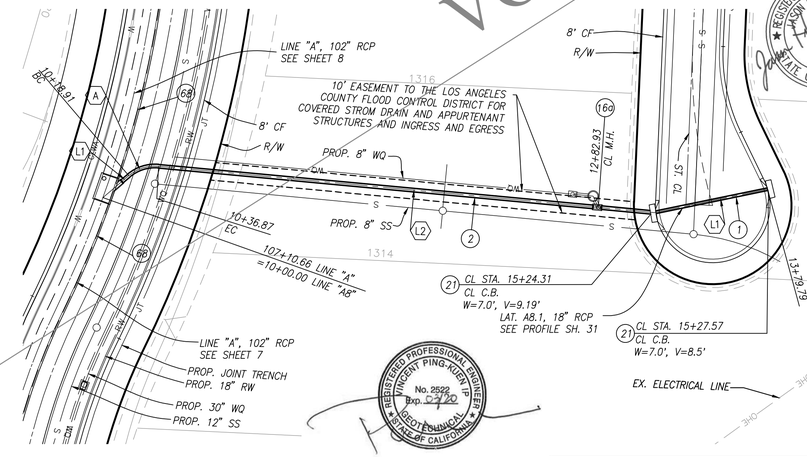
VOID



STORM DRAIN LINE "A7"

LINE "A7" LINE TABLE		
LINE	LENGTH	BEARING
L1	120.31'	N26°34'22"E



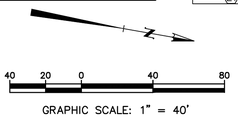


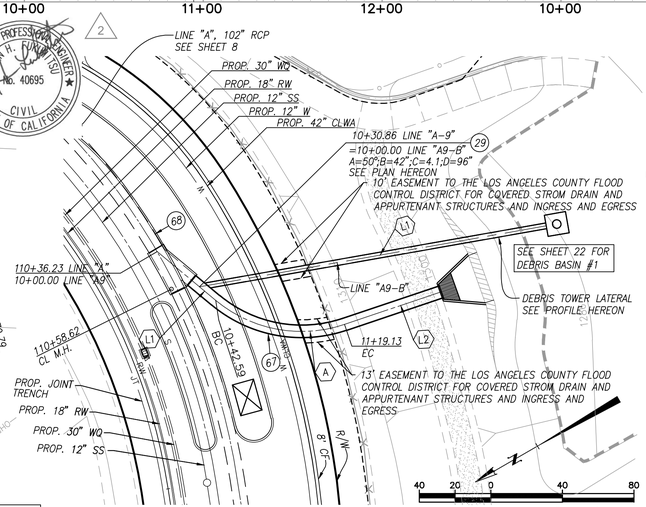
STORM DRAIN LINE "A8"

LINE "A8" LINE TABLE		
LINE	LENGTH	BEARING
L1	64.67'	S20°39'58"E
L2	278.24'	S04°39'21"E

LINE "A8" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	45°43'30"	22.50'	17.96'	9.49'

LINE "A8.1" LINE TABLE		
LINE	LENGTH	BEARING
L1	64.67'	S20°39'58"E





STORM DRAIN LINE "A9"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
5. INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
16a. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C., STD. PLAN 321-2 PER SHEET 33
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
67. INSTALL 84" R.C.P. (SEE PROFILE FOR D-LOAD)
68. INSTALL 102" R.C.P. (SEE PROFILE FOR D-LOAD)

LINE "A-9" LINE TABLE		
LINE	LENGTH	BEARING
L1	42.59'	N69°50'18"E
L2	56.40'	N11°22'16"E

LINE "A-9" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	58°28'02"	75.00'	76.53'	41.97'

LINE "A-9B" LINE TABLE		
LINE	LENGTH	BEARING
L1	196.76'	S20°01'12"W

Dwg No. 43-F553.1-38

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-NIEN CHI No. 2822 Exp. 9/30 GEOTECHNICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET	Jason H Fukumitsu		8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

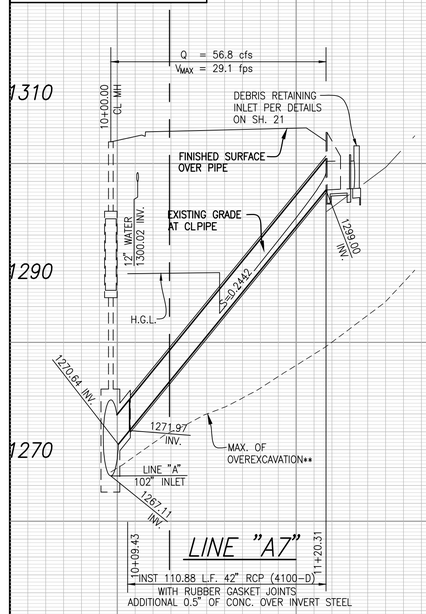
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

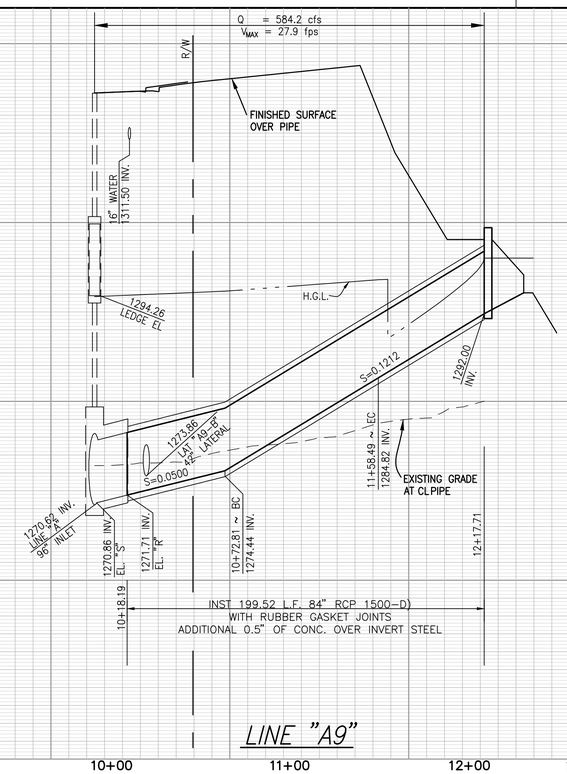
DWG | SHEET 19 OF 37

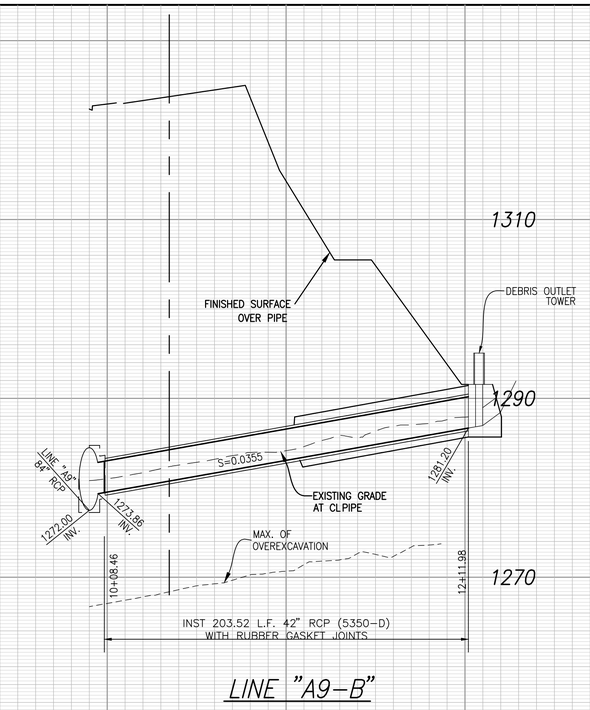
G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\VM\080-19_SD_Plan.dwg Plotted on Aug 23, 2018-4:10pm by pstivary

SCALE: HOR. 1"=40'
VERT. 1"=8'

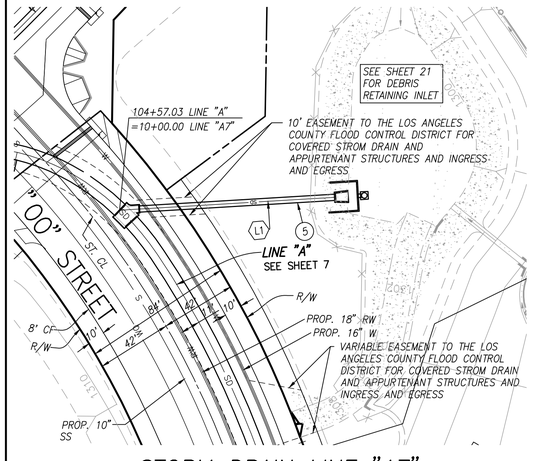
P.D. NO. 2641
FOR PLAN CHECK ONLY





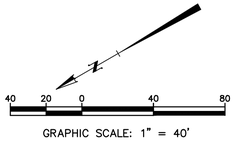


10+00 11+00 12+00 10+00 11+00 12+00 13+00 10+00 11+00 12+00

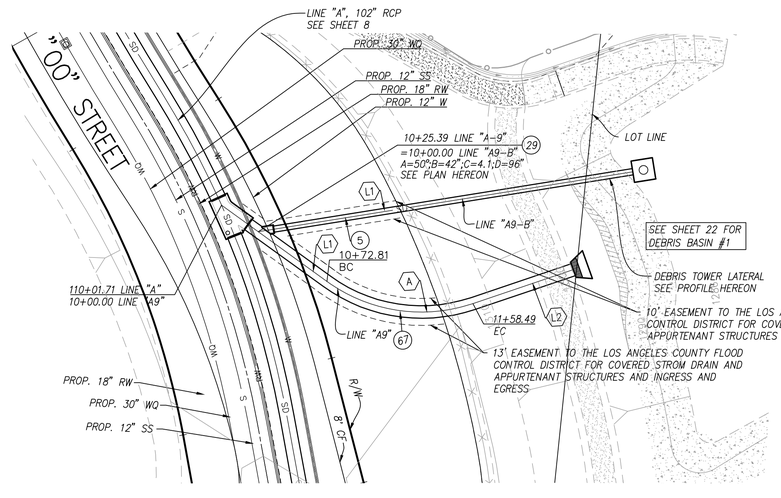


STORM DRAIN LINE "A7"

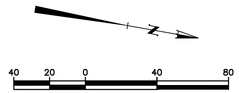
LINE "A7" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	120.31'	N26°34'22"E



GRAPHIC SCALE: 1" = 40'



STORM DRAIN LINE "A9"



GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 8/14/19
STORM DRAIN SECTION DATE

CONSTRUCTION NOTES

(1) INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
(2) INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
(5) INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
(16g) CONSTRUCT MODIFIED M.H. PER S.P.P.W.C.. STD. PLAN 321-2
(29) PER SHEET 33 CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
(67) INSTALL 84" R.C.P. (SEE PROFILE FOR D-LOAD)

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1709 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

LINE "A-9" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	72.81'	N65°54'50"E
(L2)	59.23'	N11°22'16"E

LINE "A-9" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	54°32'34"	90.00'	85.68'	46.40'

LINE "A-9B" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	211.98'	S20°54'50"W

Dwg No. 43-F553.1-38

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 20			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

5/14/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 19A OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HM\086-19_SD_Plan LINE A7-A9.dwg Plotted on Jul 08, 2019-10:05am by dinar

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

Q = 24.80 cfs
V_{MAX} = 18.5 fps

Q = 22.40 cfs
V_{MAX} = 15.2 fps

Q = 22.20 cfs
V_{MAX} = 13.0 fps

Q = 21.90 cfs
V_{MAX} = 10.6 fps

Q = 21.60 cfs
V_{MAX} = 10.2 fps

Q = 13.90 cfs
V_{MAX} = 11.4 fps

Q = 13.90 cfs
V_{MAX} = 11.4 fps

1350
1330
1310
1290

10+00.00 CL MH
1321.90 RIM
18" RW 1311.27 INV.
10" SEWER 1305.01 INV.
30" WC 1305.43 INV.
1288.71 INV.
1285.64 INV.
LINE "A" 96" INLET
10+09.58 BEGIN RCP
1289.20 INV.
JOINT TRENCH 1313.64 INV.
MAX. OF OVEREXCAVATION**
10+61.71 ~ EC 1293.39 INV.
11+12.29 ~ BC 1297.50 INV.
10+16.15 ~ BC 1289.70 INV.
FINISHED SURFACE OVER PIPE
EXISTING GRADE AT CL PIPE
H.G.L.
S=0.0811
S=0.0313
12+65.10 CL JS
12+89.15 CL MH
1326.24 RIM
6" WATER 1320.10 INV.
JOINT TRENCH 1320.90 INV.
12+24.93 1306.63 INV.
12+27.27 1304.82 INV.
12+28.80 1300.01 INV.
1310.66 INV. 18" LAT "A10.1"
1312.28 INV. 18" LAT "A10.2"
1311.74 INV.
1311.92 INV.
12+87.91
12+93.52
15+52.81 INSIDE WALL
15+63.63 INSIDE WALL
15+91.04 CL MH
1327.69 RIM
1322.35 INV. 18" LAT "A10.4"
1321.00 INV. 18" LAT "A10.3"
1320.24 INV. 18" LAT "A10.5"
8" WATER 1333.12 INV.
JOINT TRENCH 1333.91 INV.
15+49.59 ~ EC 1319.95 INV.
1321.15 INV.
15+99
1321.48 INV.
MAX. OF OVEREXCAVATION**
15+88.04
15+98.51
17+97.27
18+02.33
1344.09 RIM
18+00.00 CL M.H.
1335.77 INV. 42" CLWA
16" WATER 1339.47 INV.
JOINT TRENCH 1339.67 INV.
SEAL END WITH 8" BRICK & MORTAR
18+56.65 1329.57
1327.72 INV.
1327.87 INV. BC
18+21.17 ~ BC 1326.47 INV.
18+41.79 ~ EC 1329.11 INV.
18+56.65 END RCP
NOT TO BE MAINTAINED BY LACFCD

** IF FINAL OVEREXCAVATION TRANSITION FALLS WITHIN PIPE RUBBER GASKET JOINTS WILL BE REQUIRED. PROVIDE RUBBER GASKET JOINTS ON EACH SIDE OF TRANSITION (3 JOINTS MIN. EACH SIDE)

INST 277.33 L.F. 30" RUBBER GASKET RCP (3500-D)
ADDITIONAL 0.5" OF CONC. OVER INVERT STEEL

INST 294.53 L.F. 30" RUBBER GASKET RCP (2000-D)
ADDITIONAL 0.5" OF CONC. OVER INVERT STEEL

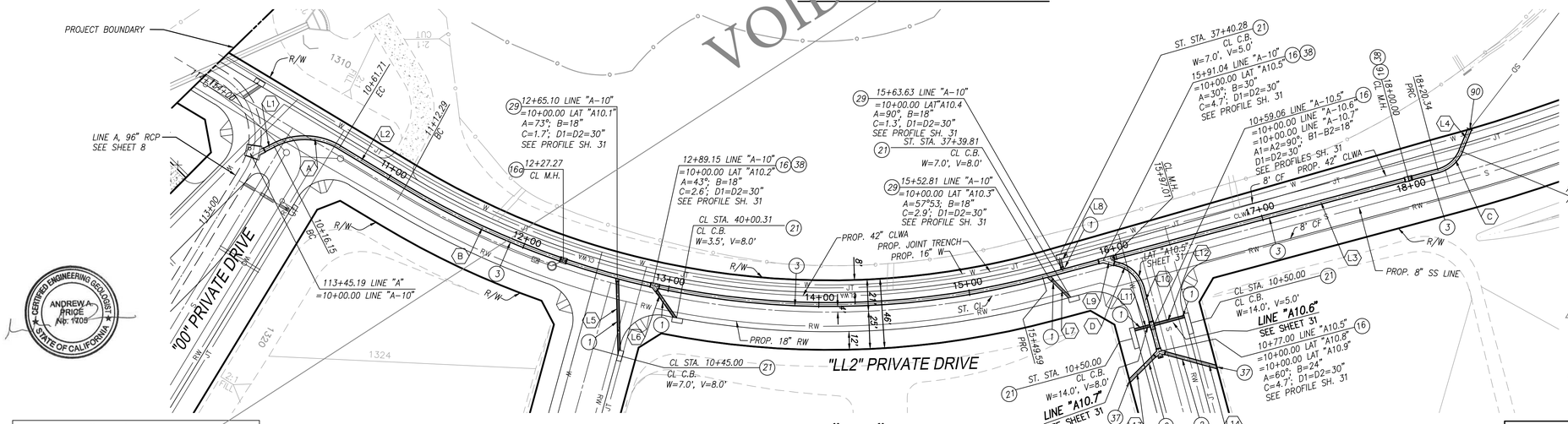
INST 198.76 L.F. 30"RUBBER GASKET RCP (2000-D)

INST 54.32 L.F. 30" RUBBER GASKET RCP (2000-D)

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

VOID

STORM DRAIN LINE "A10"



CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KENT LO No. 2522 Exp. 6/30/20 CIVIL STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

LINE "A10" LINE TABLE		
LINE	LENGTH	BEARING
L1	16.15'	S37°00'54.51"E
L2	50.58'	S21°00'03.16"W
L3	270.75'	S24°58'19.23"E
L4	29.17'	S77°30'11.17"E
L5	45.56'	S78°31'33"W
L6	25.96'	N45°17'35"E
L7	20.78'	N35°01'41"E
L8	9.48'	S64°50'59"W
L9	10.42'	S05°01'41"W
L10	47.07'	S65°09'07"W
L11	11.91'	N24°50'53"W

LINE "A10" LINE TABLE		
LINE	LENGTH	BEARING
L12	22.10'	N24°50'53"W
L13	27.52'	S54°50'53"E
L14	39.47'	N05°09'07"E

LINE "A10" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	58°00'58"	45.00'	45.57'	24.95'
B	45°58'22"	545.00'	437.30'	231.19'
C	52°31'52"	22.50'	20.63'	11.10'
D	60°07'26"	22.50'	23.61'	13.02'

STORM DRAIN LINE "A10"

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

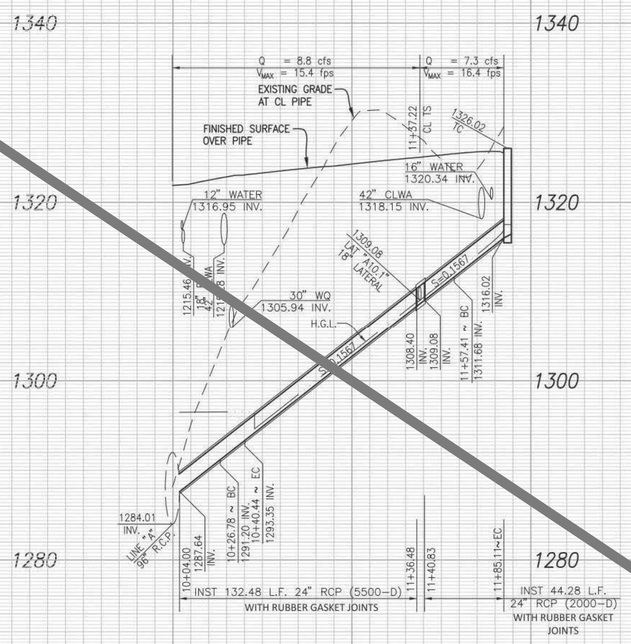
DWG | SHEET 20 OF 37

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM\080-20_SD_Plan.dwg Plotted on Jun 25, 2018-8:18pm by jonga

SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641

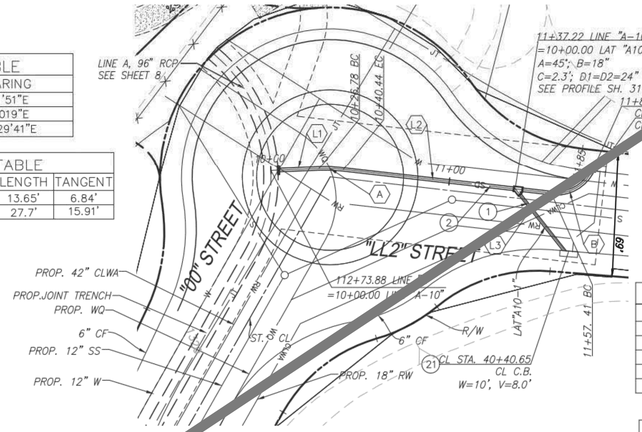
FOR PLAN CHECK ONLY



STORM DRAIN LINE "A10"

LINE "A10" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	26.78'	S12°11'51"E
(L2)	116.98'	S03°30'19"E
(L3)	44.01'	N41°29'41"E

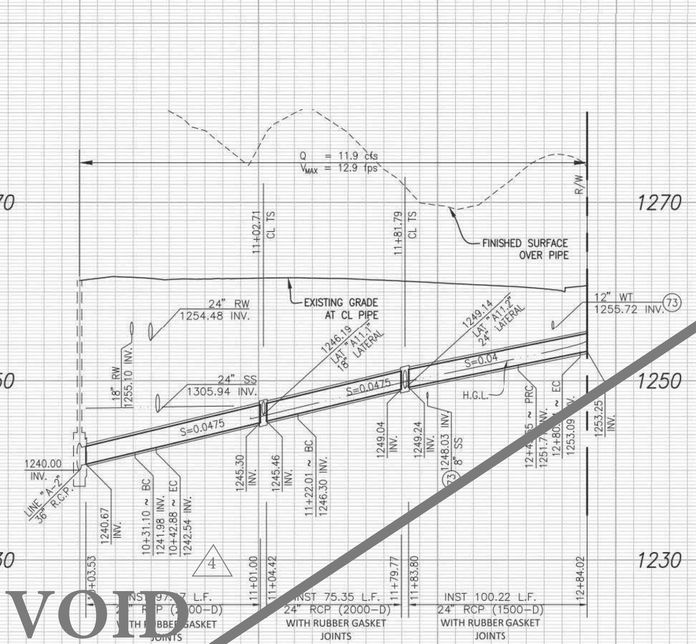
LINE "A10" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	08°41'32"	90'	13.65'	6.84'
(B)	70°31'44"	22.50'	27.7'	15.91'



STORM DRAIN LINE "A10"

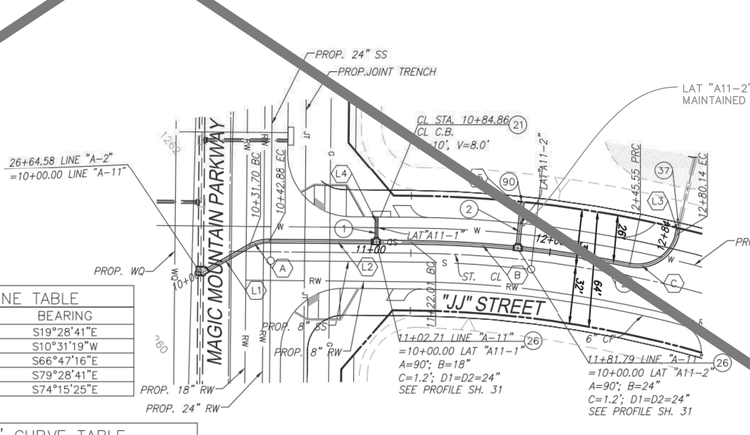
LINE "A11" LINE TABLE		
LINE	LENGTH	BEARING
(L1)	31.10'	S19°28'41"E
(L2)	79.13'	S10°31'19"W
(L3)	3.87'	S66°47'16"E
(L4)	14.00'	S79°28'41"E
(L5)	26.00'	S74°15'25"E

LINE "A11" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
(A)	30°00'00"	22.50'	11.78'	6.03'
(B)	10°47'23"	656.00'	123.54'	61.95'
(C)	88°05'59"	22.50'	34.60'	21.77'



VOID

STORM DRAIN LINE "A11"



STORM DRAIN LINE "A11"

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
90. CONSTRUCT BRICK AND MORTAR PLUG
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C 225-2

GRAPHIC SCALE: 1" = 40'

GRAPHIC SCALE: 1" = 40'

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-HSIEN LEE No. 2522 Exp. 6/30 GEOTECHNICAL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 8/14/19
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET 20 AND REPLACED WITH SHEET 20A			8/14/19
3	ADDED MAINTENANCE RESPONSIBILITY NOTE			3/15/2021
4	VOID SHEET 20A AND REPLACE WITH SHEET 20B			9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

5/14/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

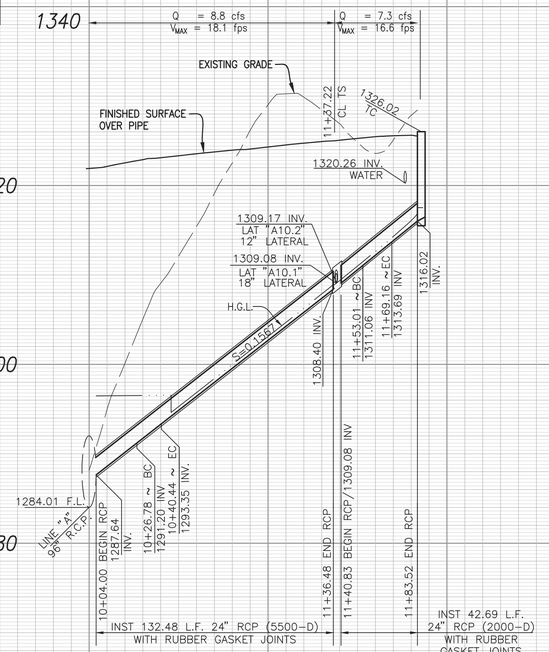
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-1771 ▪ FX: (661) 294-9890

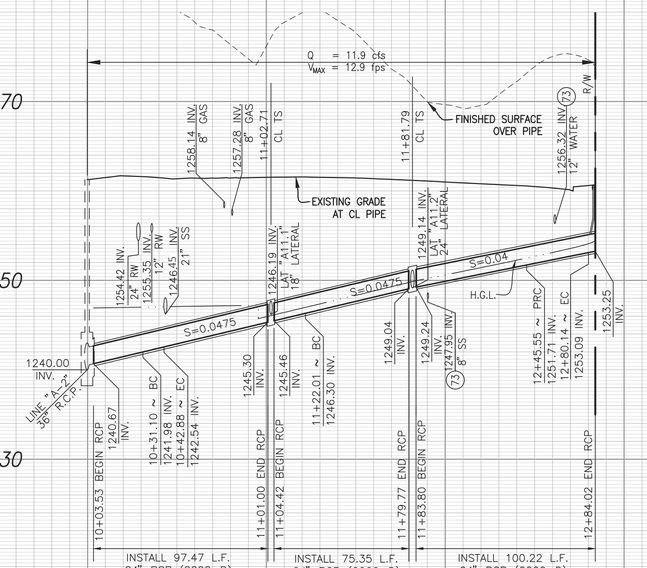
DWG | SHEET 20A OF 39

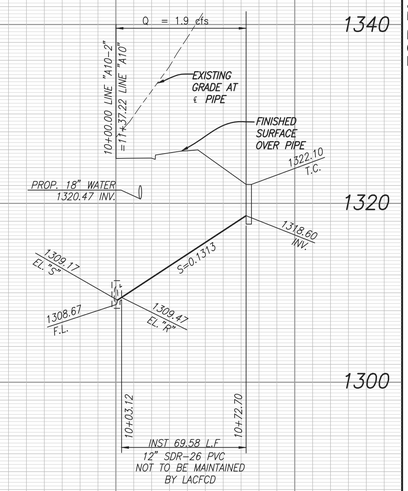
Dwg No. 43-F553.1-38

G:\Vikenhall Ranch\61105 Mission Village\61105-01\Storm_PD 2641\MAV060-20_SD_Plan-REVO.DGN 5/28/2021 2:49:43 PM by JBelmonte

SCALE: HOR. 1"=40'
VERT. 1"=8'



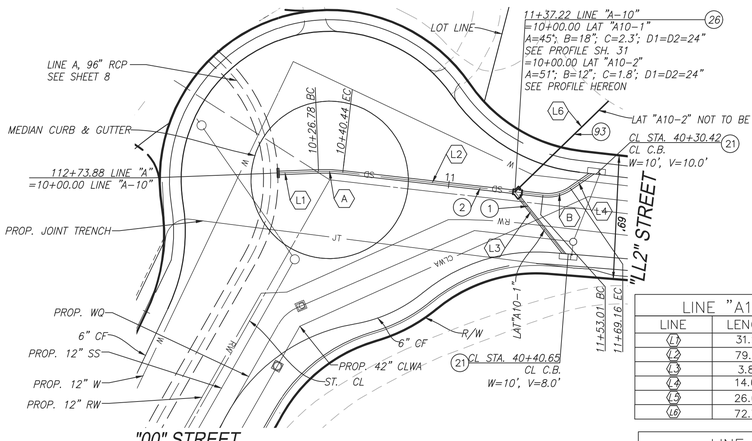




P.D. NO. 2641

FOR PLAN CHECK ONLY

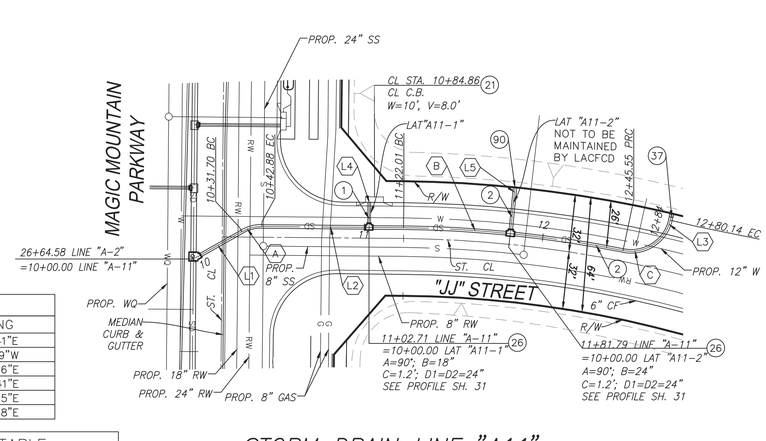
STORM DRAIN LINE "A10"



LINE "A11" LINE TABLE		
LINE	LENGTH	BEARING
L1	31.10'	S19°28'41"E
L2	79.13'	S10°31'19"W
L3	3.87'	S66°47'16"E
L4	14.00'	S79°28'41"E
L5	26.00'	S74°15'25"E
L6	72.70'	S54°13'28"E

LINE "A11" CURVE TABLE			
	DELTA	RADIUS	LENGTH	TANGENT
A	30°00'00"	22.50'	11.78'	6.03'
B	10°47'23"	656.00'	123.54'	61.95'
C	88°05'59"	22.50'	34.60'	21.77'

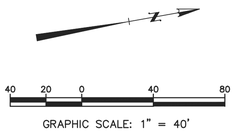
STORM DRAIN LINE "A11"



SD LINE "A10-2"

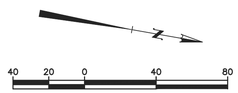
CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C 225-2
90. CONSTRUCT BRICK AND MORTAR PLUG
93. INSTALL 12" PVC SDR-26 PIPE WITH BENDS AND FITTINGS AS REQUIRED



GRAPHIC SCALE: 1" = 40'

STORM DRAIN LINE "A10"



GRAPHIC SCALE: 1" = 40'

LINE "A10" LINE TABLE		
LINE	LENGTH	BEARING
L1	26.78'	S12°11'51"E
L2	112.57'	S03°30'19"E
L3	44.01'	N41°29'41"E
L4	14.36'	N50°18'08"E

LINE "A10" CURVE TABLE			
	DELTA	RADIUS	LENGTH	TANGENT
A	08°41'32"	90'	13.65'	6.84'
B	41°08'09"	22.50'	16.15'	8.44'

STORM DRAIN LINE "A11"

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ DATE

STORM DRAIN SECTION

NO.	REVISION	REVISED BY	APPROVED BY	DATE
4	VOIDED SHEET 20A AND REPLACED WITH SHEET 20B AND ADDED LAT. A10-2 AND CROSSING LOCATIONS WERE MODIFIED.	Jason H Fukumitsu	M.D. Eff'd	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

Jason H Fukumitsu 8/16/21
JASON H. FUKUMITSU DATE

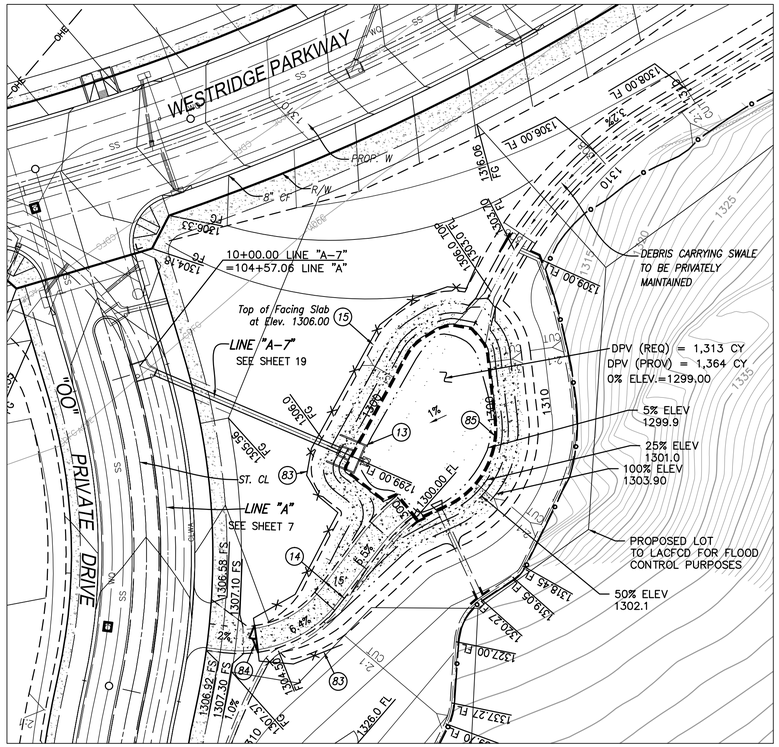
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM1080-20_SD_Plan-REV4 00 STREET.dwg Plotted on Aug 11, 2021-2:57pm by sjine

P.D. NO. 2641

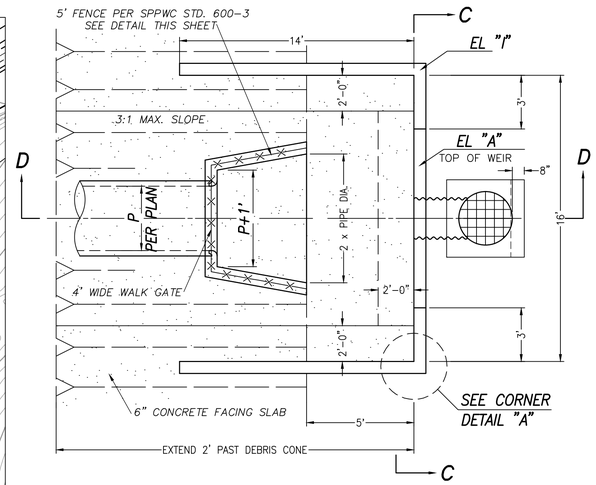


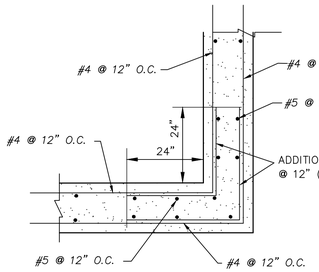
DEBRIS RETAINING INLET

SEE SHEET 19

N

GRAPHIC SCALE: 1" = 40'

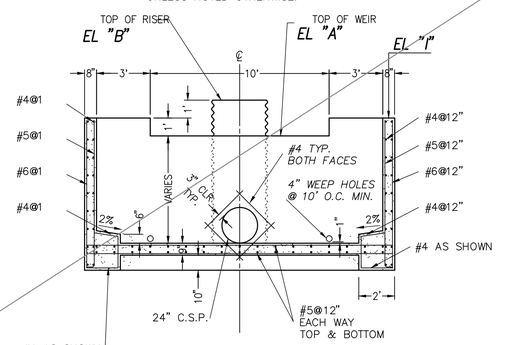




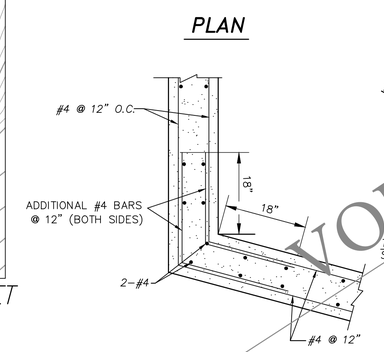
CORNER DETAIL "A"

N.T.S.

NOTE: STEEL SHALL BE 2 " CLEAR UNLESS NOTED OTHERWISE.

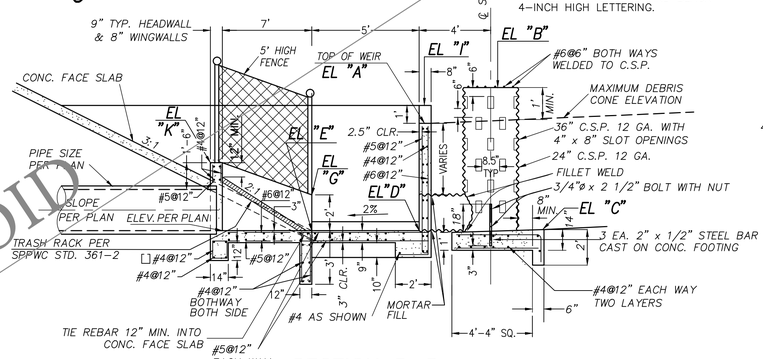


SECTION C-C



CORNER DETAIL "B"

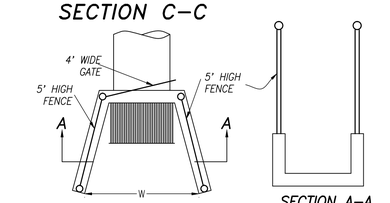
N.T.S.

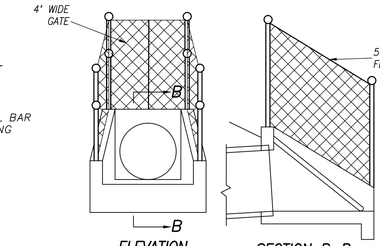


SECTION D-D

N.T.S.

INSTALL SEDIMENT GAUGE BOARDS PAINTED ON C.S.P. TOWER, MARK 0%, 5%, 25%, 50%, AND 100% LEVELS ON TOWER WITH WHITE PAINTED BACKGROUND AND BLACK 4-INCH HIGH LETTERING.



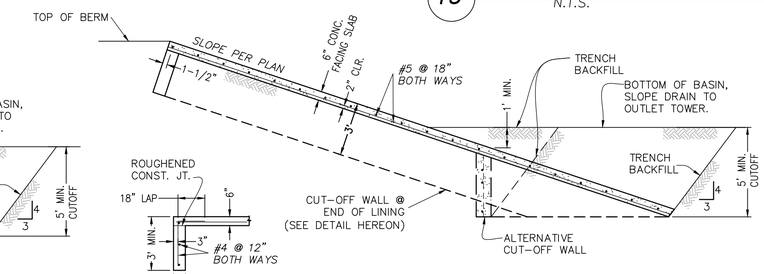


CHAIN LINK FENCE, GATE
NOT TO SCALE

DESILTING INLET DETAILS

13

N.T.S.



CUTOFF WALL DETAIL

85

N.T.S.

FRONT CUT OFF WALL

N.T.S.

NOTES:

1. SEE GRADING PLANS FOR GRADING DETAILS OF BASIN.

CONSTRUCTION NOTES:

13 CONSTRUCT DESILTING INLET PER DETAILS HEREON

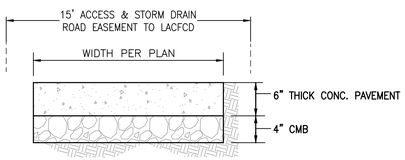
14 CONSTRUCT 6" THICK CONC. ACCESS ROAD OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAILS HEREON (WIDTH PER PLAN)

15 CONSTRUCT CONC. FACING/SLOPE PROTECTION PER DETAILS HEREON

83 CONSTRUCT CHAIN LINK FENCE PER S.P.PW.C. ST.D PLAN NO 600-3

84 CONSTRUCT DOUBLE DRIVE GATE PER S.P.P.W.C. STD. PLAN NO 600-3 (W=12' PER LEAF)

85 CONSTRUCT CUT OF WALL PER DETAIL HEREON



GEOTECHNICAL NOTES:

1. ALL RECOMMENDED MITIGATION MEASURES, PER THE GEOTECHNICAL ENGINEER.
2. THE SOIL ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.

*BRUSHED SURFACE IS REQUIRED FOR ACCESS ROAD WHEN RAMP EXCEEDS 10% IN SLOPE

CONCRETE ACCESS ROAD

14

N.T.S.

CONCRETE FACING SLAB

15

N.T.S.

DESILTING INLET STRUCTURE

		ELEVATIONS					
SHT. NO.	LINE	A	B	C	D	E	I
19	A-7	1303.90	1305.90	1299.65	1299.25	1299.15	1304.90

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION

10/04/2018 DATE

REGISTERED PROFESSIONAL ENGINEER — JASON H. FUKUMITSU — No. 40695 — CIVIL — STATE OF CALIFORNIA

8/29/18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

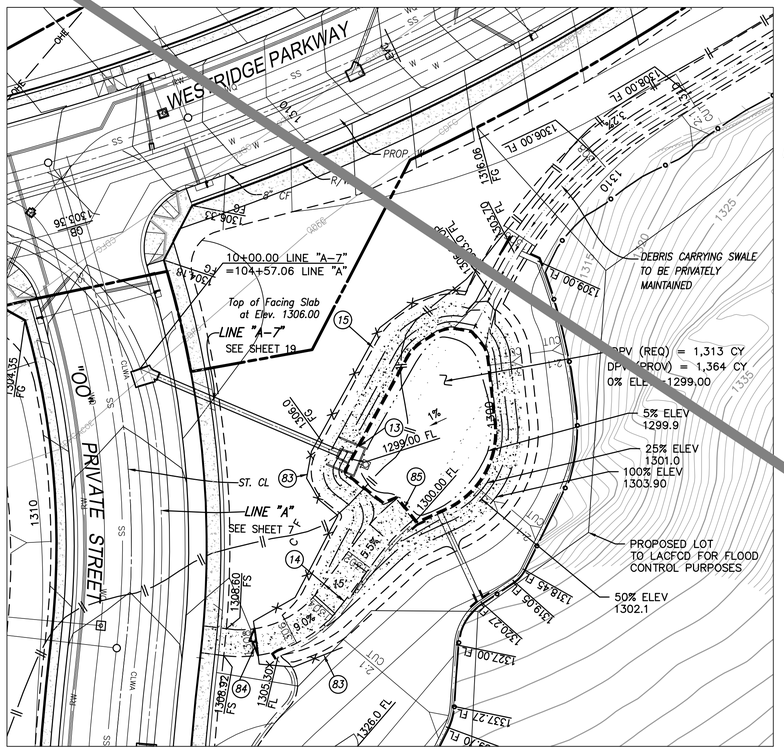
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 21 OF 37

Dwg No. 43-F553.1-38

VOID



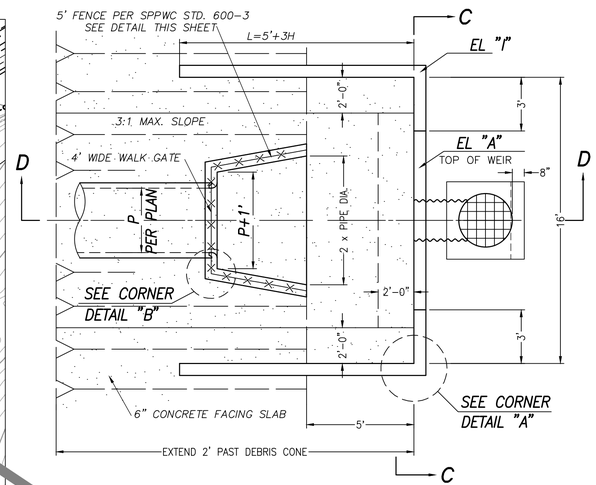
DEBRIS RETAINING INLET

SEE SHEET 19

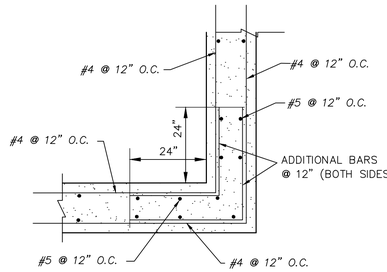
N

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

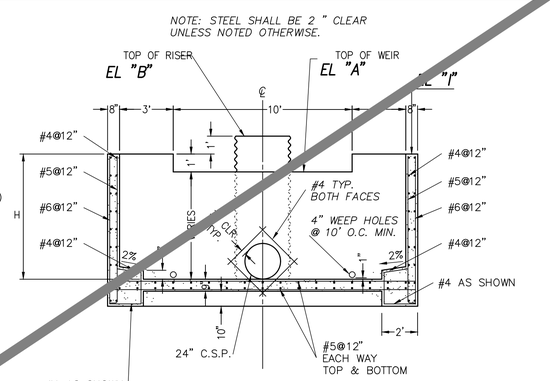


PLAN

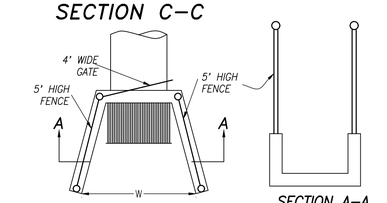


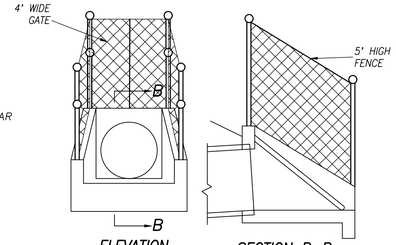
CORNER DETAIL "A"

N.T.S.



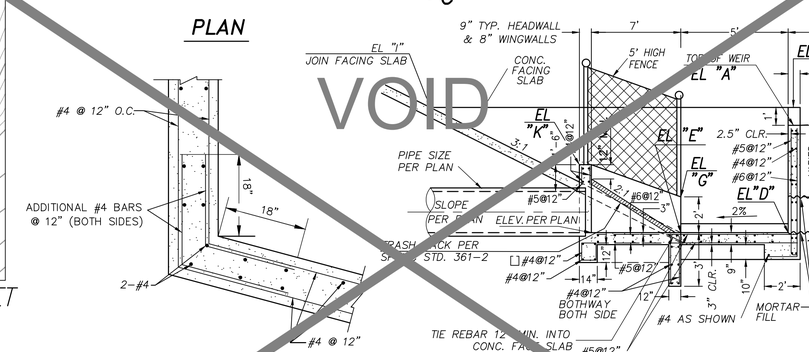
SECTION C-C





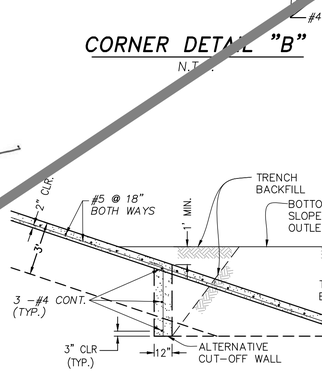
CHAIN LINK FENCE, GATE

NOT TO SCALE



SECTION D-D

N.T.S.



CORNER DETAIL "B"

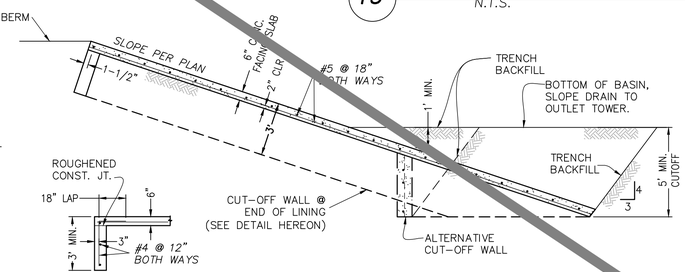
N.T.S.

13 DESILTING INLET DETAILS

N.T.S.

85 CUTOFF WALL DETAIL

N.T.S.



FRONT CUT OFF WALL

N.T.S.

NOTES:

1. SEE GRADING PLANS FOR GRADING DETAILS OF BASIN.

CONSTRUCTION NOTES:

13 CONSTRUCT DESILTING INLET PER DETAILS HEREON

14 CONSTRUCT 6" THICK CONC. ACCESS ROAD OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAILS HEREON (WIDTH PER PLAN)

15 CONSTRUCT CONC. FACING/SLOPE PROTECTION PER DETAILS HEREON

83 CONSTRUCT CHAIN LINK FENCE PER S.P.PW.C. ST.D PLAN NO 600-3

84 CONSTRUCT DOUBLE DRIVE GATE PER S.P.P.W.C. STD. PLAN NO 600-3 (W=12' PER LEAF)

85 CONSTRUCT CUT OF WALL PER DETAIL HEREON

GEOTECHNICAL NOTES:

1. ALL RECOMMENDED MITIGATION MEASURES, PER THE GEOTECHNICAL ENGINEER.
2. THE SOIL ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.

*BRUSHED SURFACE IS REQUIRED FOR ACCESS ROAD WHEN RAMP EXCEEDS 10% IN SLOPE

14 CONCRETE ACCESS ROAD

N.T.S.

15 CONCRETE FACING SLAB

N.T.S.

DESILTING INLET STRUCTURE

		ELEVATIONS					
SHT. NO.	LINE	A	B	C	D	E	I
19	A-7	1303.90	1305.90	1299.65	1299.25	1299.15	1304.90

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 8/14/19

STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 21			8/14/19
4	SUPERSED SHEET 21A FOR 21B			9/28/2021

JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

5/14/2019

JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2... FX: (661) 294-9890

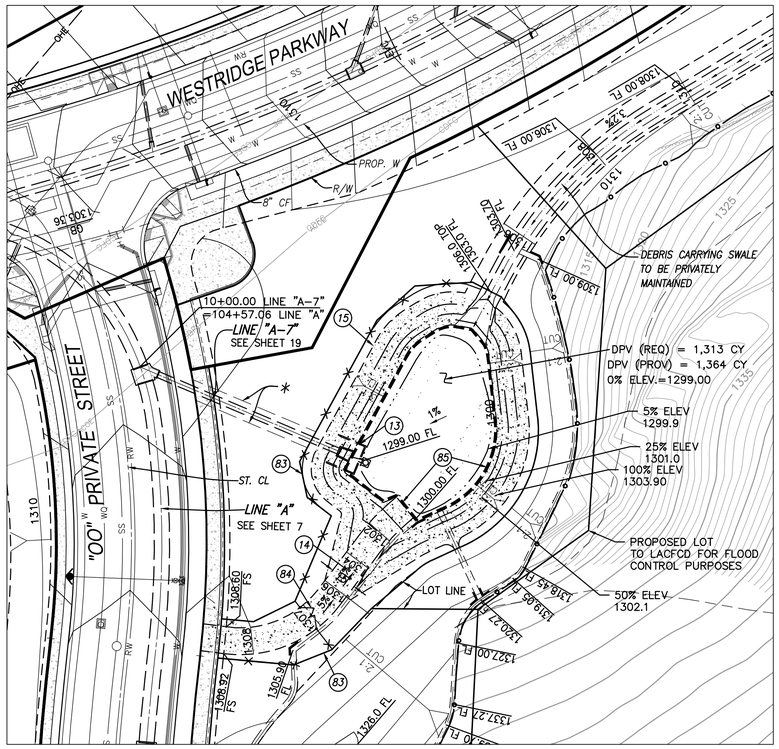
DWG SHEET 21A OF 39

P.D. NO. 2641
FOR PLAN CHECK ONLY

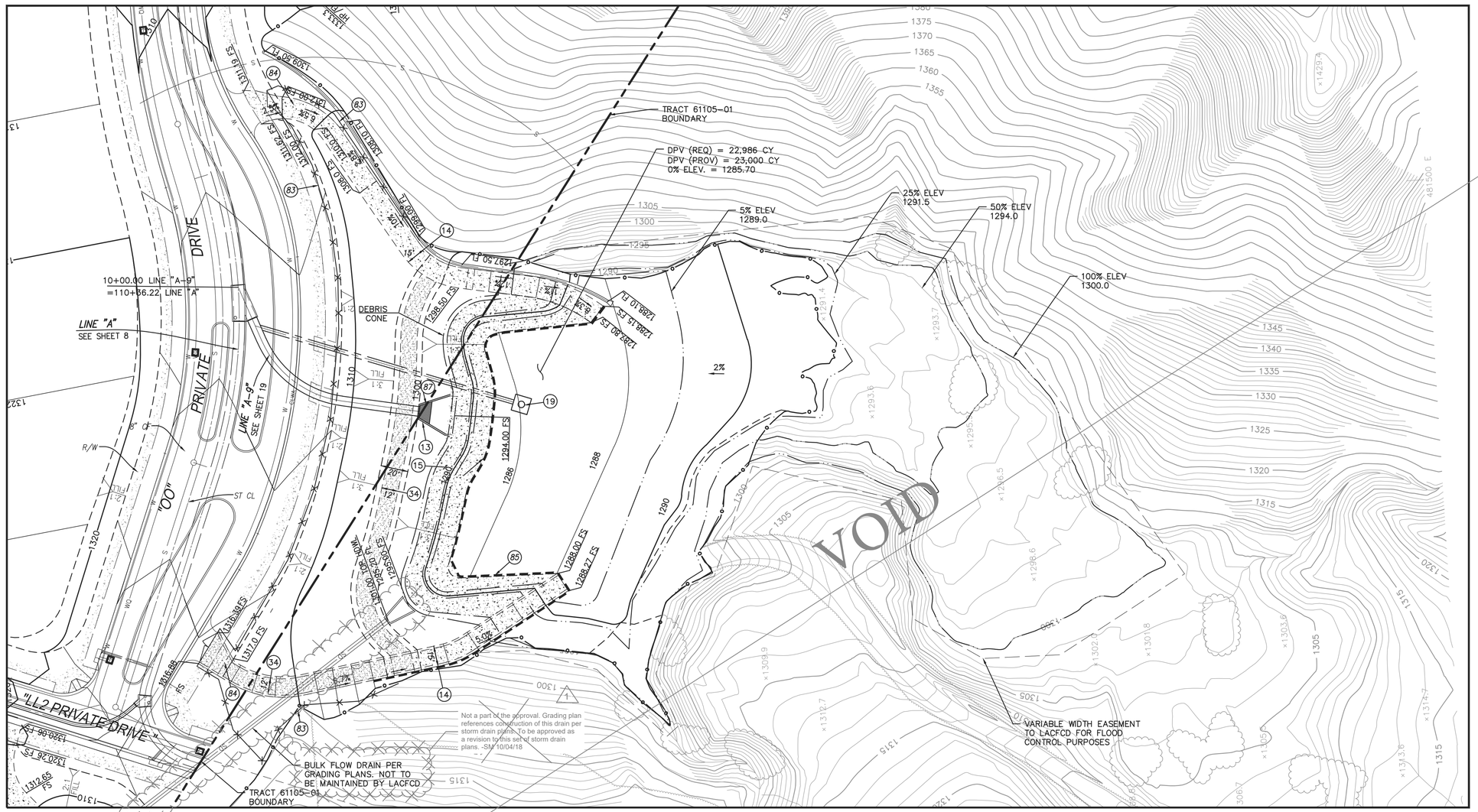
Dwg No. 43-F553.1-38

VOID

P.D. NO. 2641
FOR PLAN CHECK ONLY

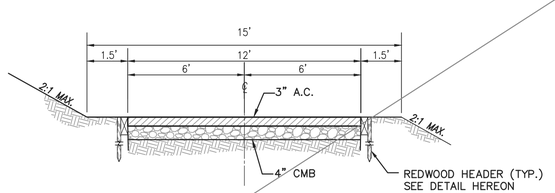

WESTRIDGE PARKWAY
"OO" PRIVATE STREET
PROP. W
R/W
8" CF
10+00.00 LINE "A-7"
=104+57.06 LINE "A"
LINE "A-7"
SEE SHEET 19
DEBRIS CARRYING SWALE TO BE PRIVATELY MAINTAINED
DPV (REQ) = 1,313 CY
DPV (PROV) = 1,364 CY
0% ELEV.=1299.00
5% ELEV 1299.9
25% ELEV 1301.0
100% ELEV 1303.90
ST. CL
LINE "A"
SEE SHEET 7
PROPOSED LOT TO LACFCD FOR FLOOD CONTROL PURPOSES
LOT LINE
50% ELEV. 1302.1
1299.00 FL
1300.00 FL
1306.60 FS
1308.00 FL
1309.00 FL
1310.00 FL
1319.85 FL
1320.27 FL
1327.00 FL
1337.27 FL
1326.0 FL
1305.56 FS
1306.92 FS
1308.30 FS
1310.00 FS
1305.36 FS
1308.00 TOP
1309.00 TOP
1310.00 TOP
1320.70 TOP
1325
1335
1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260
1258
1256
1254
1252
1250
1248
1246
1244
1242
1240
1238
1236
1234
1232
1230
1228
1226
1224
1222
1220
1218
1216
1214
1212
1210
1208
1206
1204
1202
1200
1198
1196
1194
1192
1190
1188
1186
1184
1182
1180
1178
1176
1174
1172
1170
1168
1166
1164
1162
1160
1158
1156
1154
1152
1150
1148
1146
1144
1142
1140
1138
1136
1134
1132
1130
1128
1126
1124
1122
1120
1118
1116
1114
1112
1110
1108
1106
1104
1102
1100
1098
1096
1094
1092
1090
1088
1086
1084
1082
1080
1078
1076
1074
1072
1070
1068
1066
1064
1062
1060
1058
1056
1054
1052
1050
1048
1046
1044
1042
1040
1038
1036
1034
1032
1030
1028
1026
1024
1022
1020
1018
1016
1014
1012
1010
1008
1006
1004
1002
1000
998
996
994
992
990
988
986
984
982
980
978
976
974
972
970
968
966
964
962
960
958
956
954
952
950
948
946
944
942
940
938
936
934
932
930
928
926
924
922
920
918
916
914
912
910
908
906
904
902
900
898
896
894
892
890
888
886
884
882
880
878
876
874
872
870
868
866
864
862
860
858
856
854
852
850
848
846
844
842
840
838
836
834
832
830
828
826
824
822
820
818
816
814
812
810
808
806
804
802
800
798
796
794
792
790
788
786
784
782
780
778
776
774
772
770
768
766
764
762
760
758
756
754
752
750
748
746
744
742
740
738
736
734
732
730
728
726
724
722
720
718
716
714
712
710
708
706
704
702
700
698
696
694
692
690
688
686
684
682
680
678
676
674
672
670
668
666
664
662
660
658
656
654
652
650
648
646
644
642
640
638
636
634
632
630
628
626
624
622
620
618
616
614
612
610
608
606
604
602
600
598
596
594
592
590
588
586
584
582
580
578
576
574
572
570
568
566
564
562
560
558
556
554
552
550
548
546
544
542
540
538
536
534
532
530
528
526
524
522
520
518
516
514
512
510
508
506
504
502
500
498
496
494
492
490
488
486
484
482
480
478
476
474
472
470
468
466
464
462
460
458
456
454
452
450
448
446
444
442
440
438
436
434
432
430
428
426
424
422
420
418
416
414
412
410
408
406
404
402
400
398
396
394
392
390
388
386
384
382
380
378
376
374
372
370
368
366
364
362
360
358
356
354
352
350
348
346
344
342
340
338
336
334
332
330
328
326
324
322
320
318
316
314
312
310
308
306
304
302
300
298
296
294
292
290
288
286
284
282
280
278
276
274
272
270
268
266
264
262
260
258
256
254
252
250
248
246
244
242
240
238
236
234
232
230
228
226
224
222
220
218
216
214
212
210
208
206
204
202
200
198
196
194
192
190
188
186
184
182
180
178
176
174
172
170
168
166
164
162
160
158
156
154
152
150
148
146
144
142
140
138
136
134
132
130
128
126
124
122
120
118
116
114
112
110
108
106
104
102
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
-32
-34
-36
-38
-40
-42
-44
-46
-48
-50
-52
-54
-56
-58
-60
-62
-64
-66
-68
-70
-72
-74
-76
-78
-80

P.D. NO. 2641

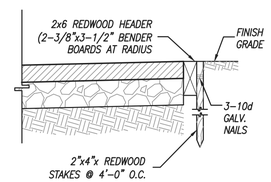


DEBRIS BASIN #1
SEE SHEET 19

GRAPHIC SCALE: 1" = 40'



34 A.C. ACCESS ROAD
N.T.S.



REDWOOD HEADER
N.T.S.

GEOTECHNICAL NOTES:
1. ALL RECOMMENDED MITIGATION MEASURES, PER THE GEOTECHNICAL ENGINEER.
2. THE SOIL ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.

NOTES:
1. SEE GRADING PLANS FOR GRADING DETAILS OF BASIN.

CONSTRUCTION NOTES:
(13) CONSTRUCT DESILTING INLET PER DETAILS ON SHEET 21
(14) CONSTRUCT 6" THICK CONC. ACCESS ROAD OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAILS HEREON (WIDTH PER PLAN)
(15) CONSTRUCT CONC. FACING/SLOPE PROTECTION PER DETAILS ON SHEET 21
(19) CONSTRUCT OUTLET TOWER PIPE PER PROFILE ON SHEET 23
(34) CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL HEREON
(83) CONSTRUCT CHAIN LINK FENCE PER S.P.P.W.C. ST.D PLAN NO 600-3
(84) CONSTRUCT DOUBLE DRIVE GATE PER S.P.P.W.C. STD. PLAN NO 600-3 (W=12' PER LEAF)
(85) CONSTRUCT CUT OF WALL PER DETAIL ON SHEET 21
(87) CONSTRUCT SLOPE PROTECTION BARRIER PER S.P.P.W.C. STD. PLAN 360-2

Dwg No. 43-F553.1-38

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REMOVE CONDITION: BULK FLOW DRAIN WILL BE CONSTRUCTED AS PART OF ROUGH GRADING PLAN			11/7/18
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
10/04/2018 DATE

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30-20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

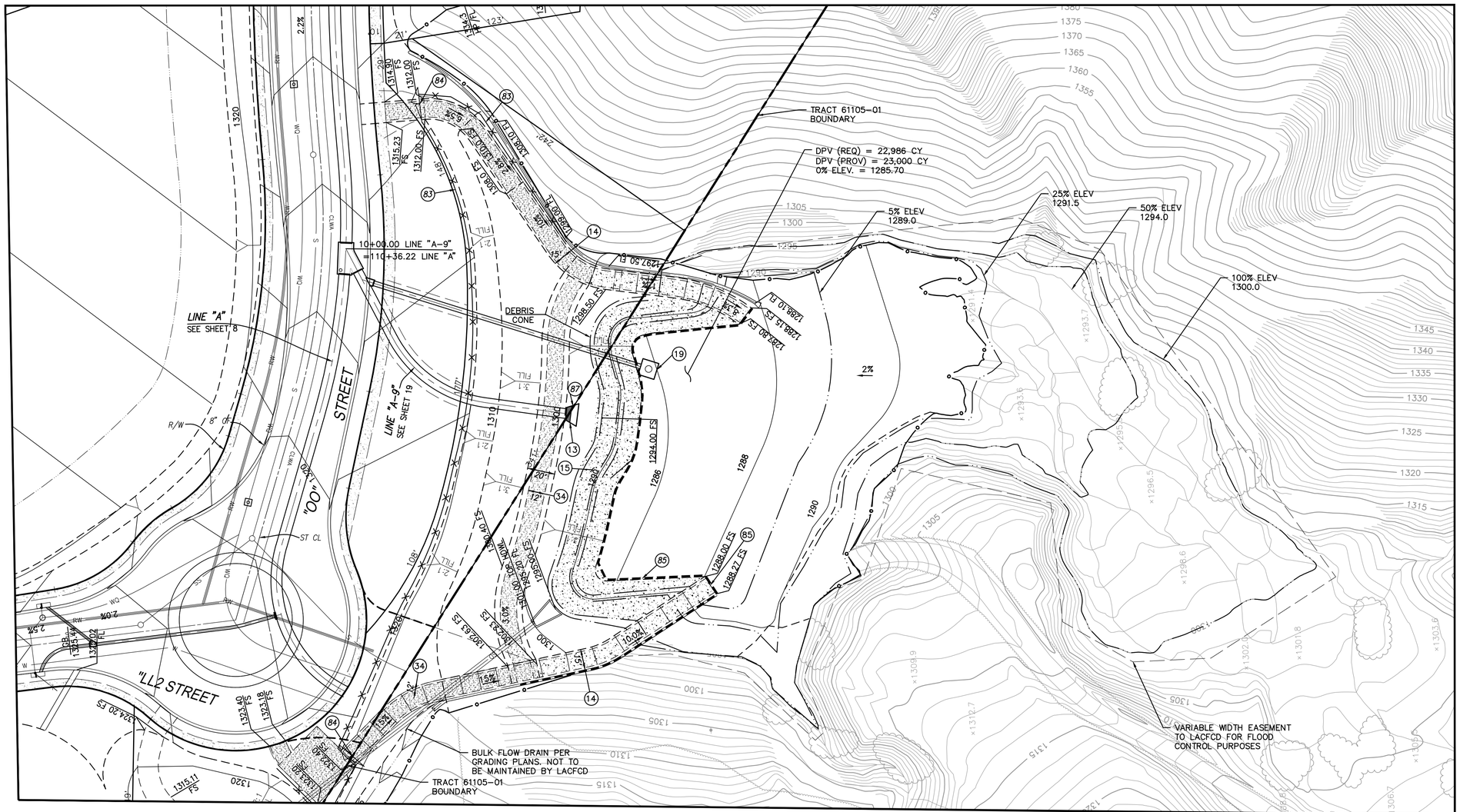
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

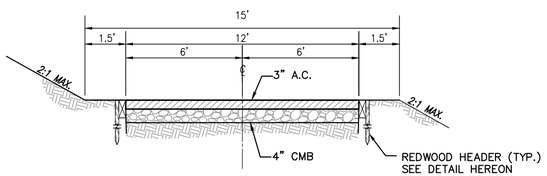
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

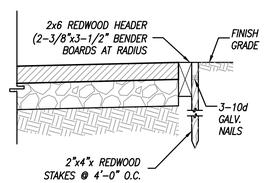
DWG | SHEET 22 OF 37

P.D. NO. 2641

FOR PLAN CHECK ONLY



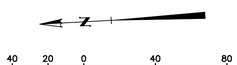




REDWOOD HEADER
N.T.S.

GEOTECHNICAL NOTES:

1. ALL RECOMMENDED MITIGATION MEASURES, PER THE GEOTECHNICAL ENGINEER.
2. THE SOIL ENGINEER OF RECORD SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS BEFORE STEEL OR CONCRETE IS PLACED.



GRAPHIC SCALE: 1" = 40'

2 REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

NOTES:

1. SEE GRADING PLANS FOR GRADING DETAILS OF BASIN.

CONSTRUCTION NOTES:

(13) CONSTRUCT DESILTING INLET PER DETAILS ON SHEET 21
(14) CONSTRUCT 6" THICK CONC. ACCESS ROAD OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAILS HEREON (WIDTH PER PLAN)
(15) CONSTRUCT CONC. FACING/SLOPE PROTECTION PER DETAILS ON SHEET 21
(19) CONSTRUCT OUTLET TOWER PIPE PER PROFILE ON SHEET 23
(34) CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL HEREON
(83) CONSTRUCT CHAIN LINK FENCE PER S.P.P.W.C. ST.D PLAN NO 600-3
(84) CONSTRUCT DOUBLE DRIVE GATE PER S.P.P.W.C. STD. PLAN NO 600-3 (W=12' PER LEAF)
(85) CONSTRUCT CUT OF WALL PER DETAIL ON SHEET 21
(87) CONSTRUCT SLOPE PROTECTION BARRIER PER S.P.P.W.C. STD. PLAN 360-2

Dwg No. 43-F553.1-38

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1209 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 2522 Exp. 6-30 GEOTECHNICAL STATE OF CALIFORNIA

34 A.C. ACCESS ROAD
N.T.S.

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 22	Jason H Fukumitsu		8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

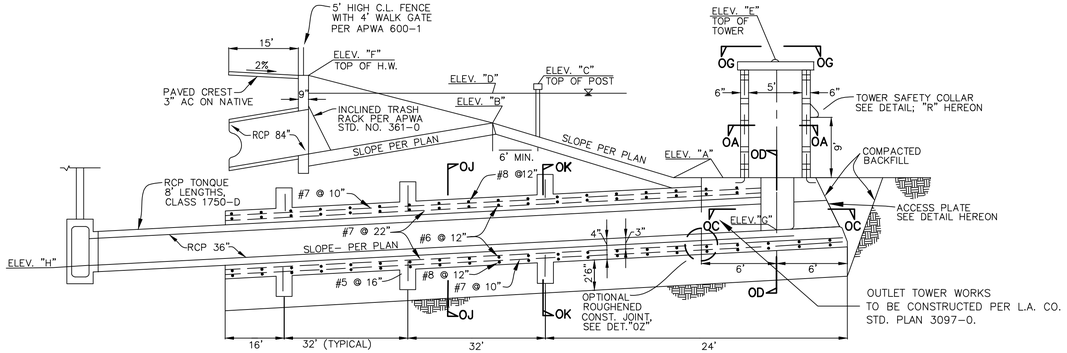
Jason H Fukumitsu 5/14/2019
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

P.D. NO. 2641

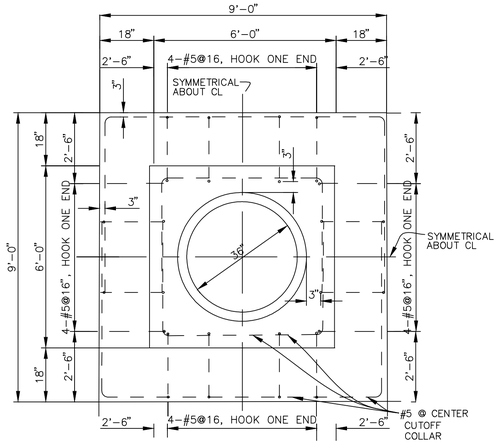


I OUTLET TOWER PROFILE LAT. "A-9" PER LACDPW STD. 3097-0 SECTION A-A
N.T.S.

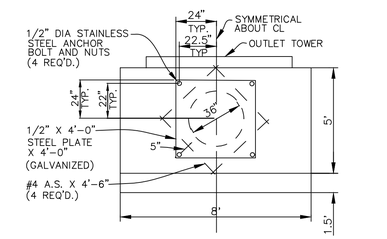
ENCASEMENT REINFORCEMENT

#8 @ 12" (OUTSIDE TRANSVERSE)
#6 @ 12" (INSIDE TRANSVERSE)
#7 @ 10" (OUTSIDE LONGITUDINAL- TOP AND BOTTOM)
#7 @ 22" (INSIDE LONGITUDINAL- TOP AND BOTTOM)
#7 @ 12" NOT SHOWN (OUTSIDE LONGITUDINAL- SIDES)
#7 @ 16" NOT SHOWN (INSIDE LONGITUDINAL- SIDES)

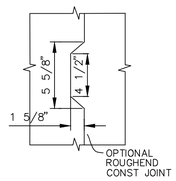
LINE	ELEV. "A"	ELEV. "B"	ELEV. "C"	ELEV. "D"	ELEV. "E"	ELEV. "F"	ELEV. "G"	ELEV. "H"
"A-9"	1286.00'	1294.00'	1298.00'	1297.00'	1299.00'	1300.50'	1280.75'	1276.63'



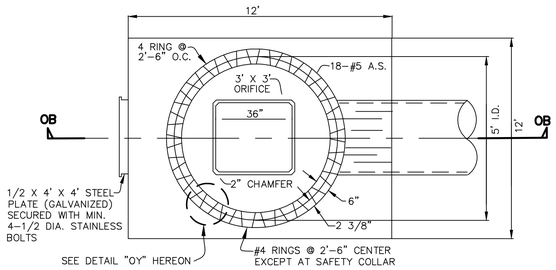
SECTION OK-OK
N.T.S.



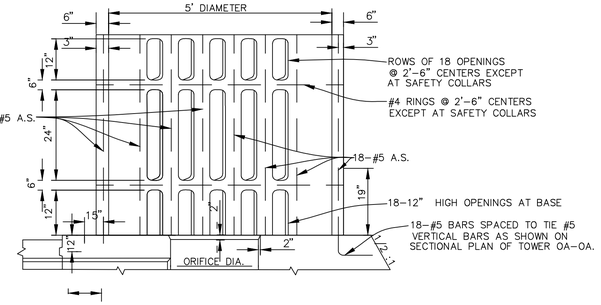
ACCESS PLATE DETAIL
N.T.S.



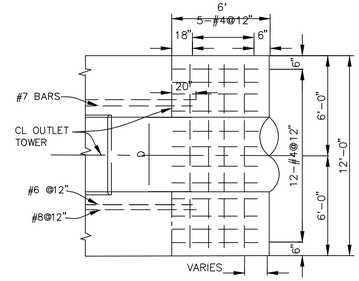
DETAIL "OZ"
N.T.S.



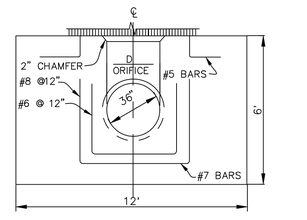
PLAN OA-OA SHOWING SECTIONAL PLAN OF TOWER
N.T.S.



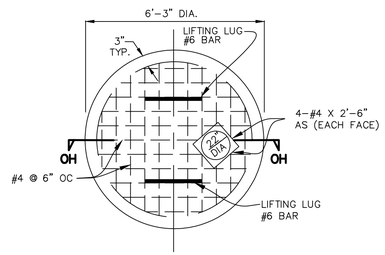
SECTION OB-OB
N.T.S.



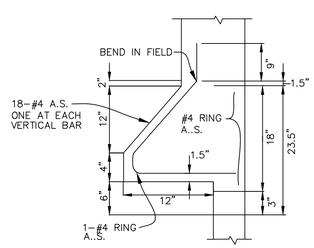
SECTION OC-OC
N.T.S.



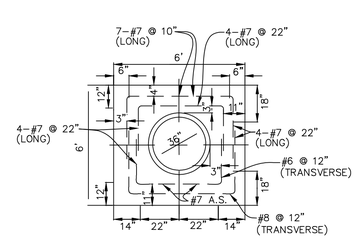
SECTION OD-OD
N.T.S.



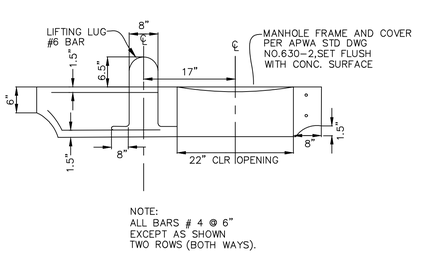
PLAN OG-OG SHOWING OUTLET TOWER COVER
N.T.S.



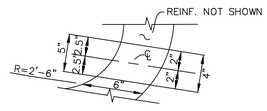
DETAIL "R" OUTLET TOWER SAFETY COLLAR
N.T.S.



SECTION OJ-OJ
N.T.S.



SECTION OH-OH
N.T.S.



DETAIL "OY"
N.T.S.

NOTE:

THE LONGITUDINAL #7 BARS SHOWN IN THE OUTLET PIPE ENCASEMENT ARE DESIGNED FOR HARD GRADE STEEL ONLY. IF MEDIUM GRADE STEEL IS USED IN PLACE OF HARD GRADE STEEL, THE SIZE OR NUMBER OF LONGITUDINAL BARS MUST BE INCREASED TO PROVIDE A TOTAL STEEL AREA EQUAL 1.275 TIMES THE TOTAL AREA OF LONGITUDINAL BARS SHOWN HEREON.

PROVIDE A STENCIL ON THE BASIN'S OUTLET STANDPIPE A GAUGE HEIGHT MEASUREMENT. THIS GAUGE SHALL INCLUDE, BUT NOT LIMITED TO, ONE FOOT INCREMENT MEASUREMENT, SEDIMENT REMOVAL HEIGHTS FOR 5% AND 25% CAPACITY. TO ENHANCE THE GAUGE'S VISIBILITY, FLORESCENT BLACK AND WHITE PAINT WILL BE USED. THE GAUGE'S SHALL BE VISIBLE FROM THE ENTRY GATE/ACCESS ROAD OF THE BASIN.

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

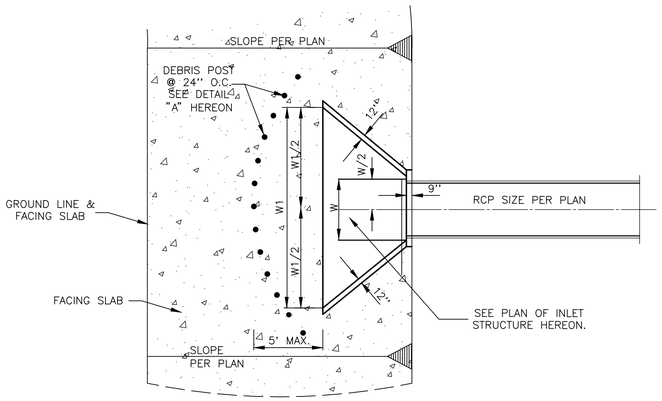
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

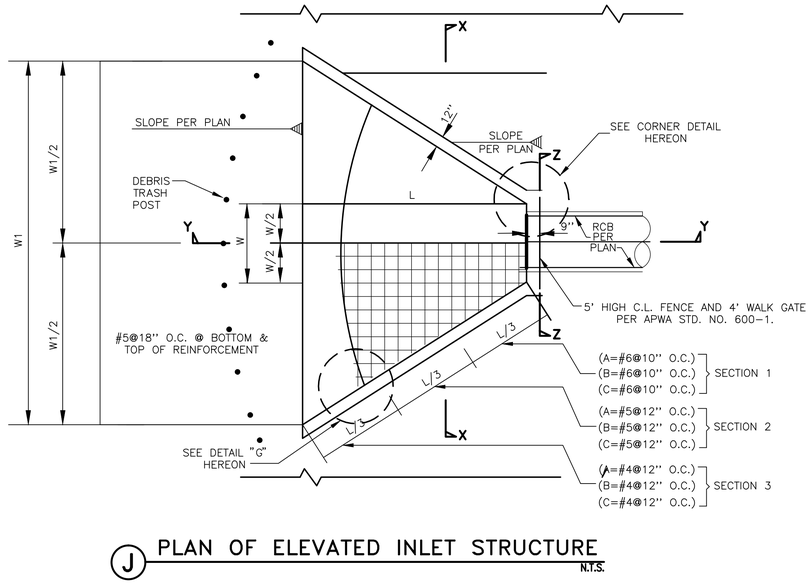
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 23 OF 37 39

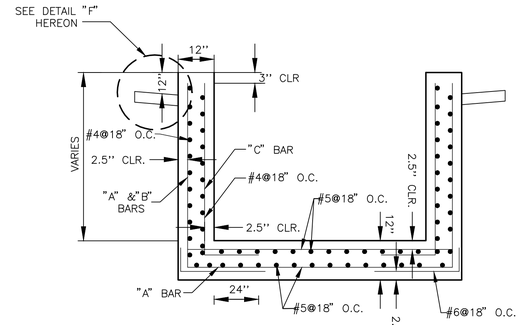
Dwg No. 43-F553.1-38

P.D. NO. 2641

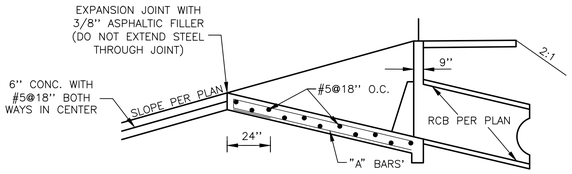




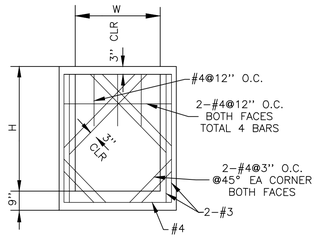
J PLAN OF ELEVATED INLET STRUCTURE
N.T.S.



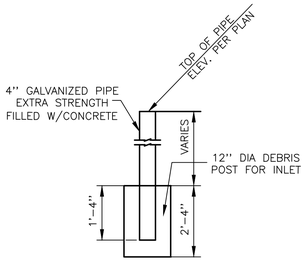
SECTION X – X
N.T.S.



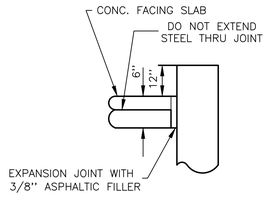
SECTION Y–Y
N.T.S.



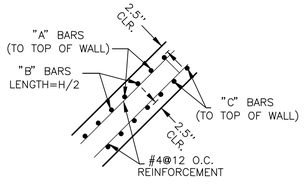
SECTION Z – Z
N.T.S.



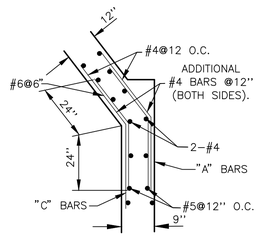
DETAIL "A"
N.T.S.



DETAIL "F"
N.T.S.



DETAIL "G"
N.T.S.



CORNER DETAIL
N.T.S.

DIMENSIONS TABLE

	W	W2	H	L
LINE A–9	9.0'	28.00'	9.5'	14.0'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19

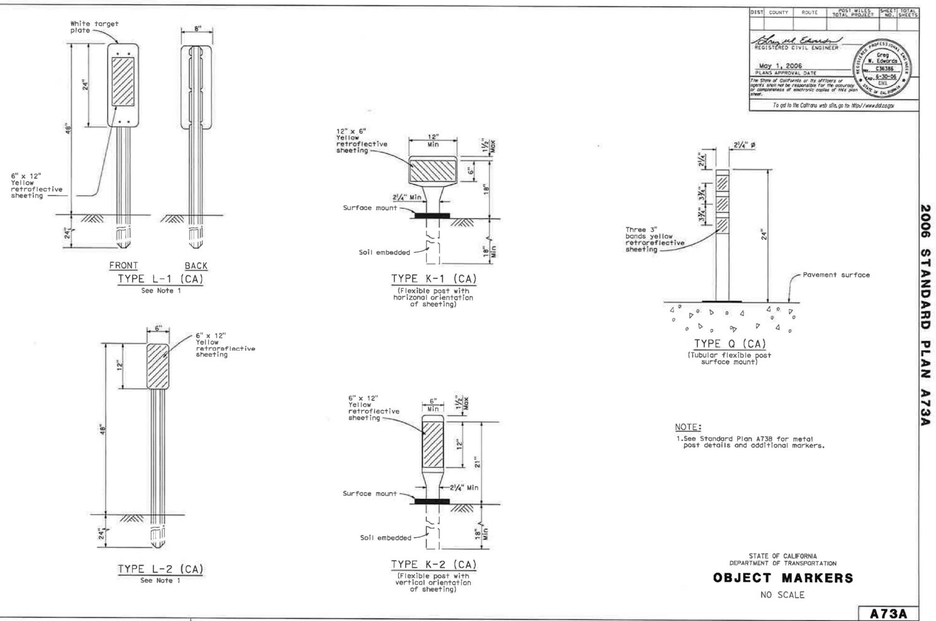
REGISTERED PROFESSIONAL ENGINEER JASON R. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105–01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG
SHEET 24 OF 37 39

Dwg No. 43-F553.1-38



DIST | COUNTY | ROUTE | POST MILE(S) TOTAL PROJECT | SHEET NO. | TOTAL SHEETS

REGISTERED CIVIL ENGINEER
Greg W. Iceman
May 1, 2006
PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

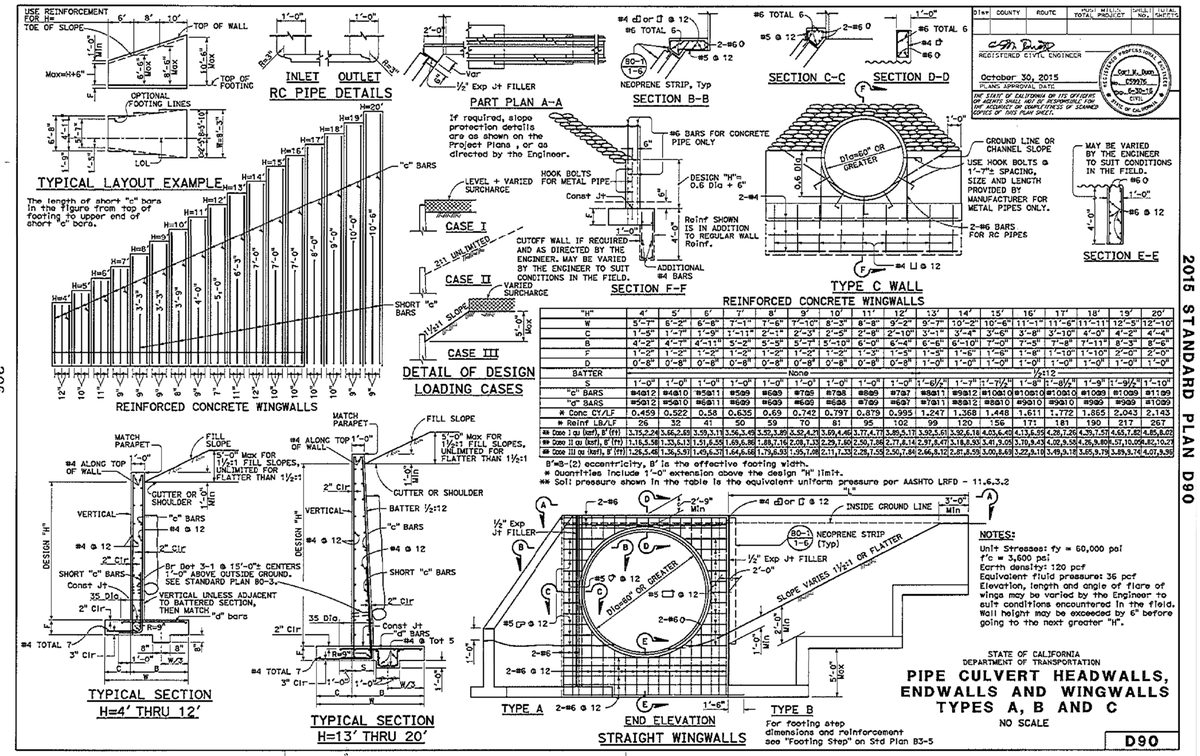
OBJECT MARKERS

NO SCALE

A73A

NOTE:
1. See Standard Plan A73B for metal post details and additional markers.

Return to Table of Contents



REINFORCED CONCRETE WINGWALLS

"H"	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
W	5'-7"	6'-2"	6'-8"	7'-1"	7'-6"	7'-10"	8'-3"	8'-8"	9'-2"	9'-7"	10'-2"	10'-6"	11'-1"	11'-6"	11'-11	12'-5"	12'-10"
C	1'-5"	1'-7"	1'-9"	1'-11"	2'-1"	2'-3"	2'-5"	2'-8"	2'-10"	3'-1"	3'-4"	3'-6"	3'-8"	3'-10"	4'-0"	4'-2"	4'-4"
B	4'-2"	4'-7"	4'-11"	5'-2"	5'-5"	5'-7"	5'-10"	6'-0"	6'-4"	6'-8"	6'-10"	7'-0"	7'-3"	7'-6"	7'-11"	8'-3"	8'-6"
F	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-6"	1'-6"	1'-6"	1'-7"	1'-10"	2'-0"	2'-0"
D	0'-8"	0'-8"	0'-8"	0'-8"	0'-8"	0'-8"	0'-8"	0'-8"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
BATTER	None															½:12	
S	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0½"	1'-2"	1'-7½"	1'-8"	1'-9½"	1'-9½"	1'-10"
"c" BARS	#4@12	#4@10	#5@11	#5@9	#5@9	#5@9	#7@8	#7@8	#8@8	#7@7	#8@11	#5@12	#8@10	#8@10	#10@10	#10@8	#10@9	#11@9
"d" BARS	#5@12	#5@10	#5@11	#5@9	#5@9	#5@9	#5@8	#7@9	#6@7	#6@7	#7@11	#5@12	#8@10	#9@10	#9@9	#9@9	#10@9	
* Conc CY/LF	0.459	0.522	0.58	0.635	0.69	0.742	0.797	0.879	0.995	1.247	1.368	1.448	1.611	1.772	1.865	2.043	2.143	
* Reinf LB/LF	26	32	41	50	59	70	81	95	102	99	120	156	171	181	190	217	267	
** Case I qu (ksf), B'(ft)	3.75,2.24	5.56,2.65	3.59,3.11	3.56,3.49	3.52,3.85	3.52,4.21	3.69,4.48	3.77,4.77	3.85,5.17	3.92,5.51	3.92,5.18	4.03,6.45	4.13,6.59	4.26,7.26	4.39,7.57	4.55,7.82	4.85,8.02	
** Case II qu (ksf), B'(ft)	1.16,5.58	1.33,6.13	1.51,6.56	1.69,6.98	1.88,7.16	2.08,7.33	2.29,7.80	2.50,7.98	2.72,8.14	2.97,8.47	3.18,8.50	3.41,9.05	3.70,9.43	4.02,9.56	4.26,9.80	4.57,10.09	4.82,10.23	
** Case III qu (ksf), B' (ft)	1.26,5.48	1.56,6.01	1.65,6.58	1.76,6.50	1.05,7.08	2.11,7.39	2.28,7.58	2.50,7.84	2.66,8.12	2.91,8.59	3.00,8.63	3.22,8.18	3.49,9.18	3.85,9.79	3.89,9.74	4.07,9.96		

B'=B-(2) eccentricity, B' is the effective footing width.
* Quantities include 1'-0" extension above the design "H" limit.
** Soil pressure shown in the table is the equivalent uniform pressure per AASHTO LRFD - 11.6.3.2

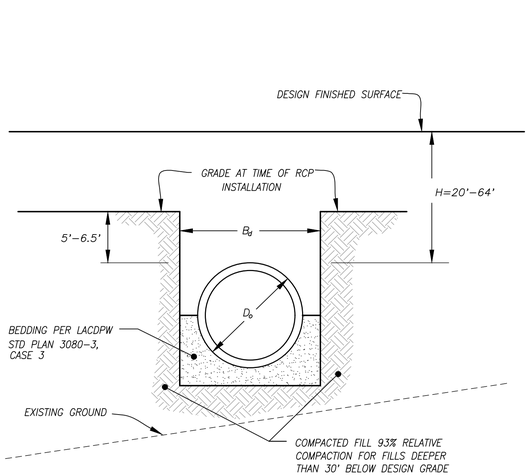
NOTES:
Unit Stresses: f_y = 60,000 psi
f'_c = 3,600 psi
Earth density: 120 pcf
Equivalent fluid pressure: 36 pcf
Elevation, length and angle of flare of wings may be varied by the Engineer to suit conditions encountered in the field.
Wall height may be exceeded by 6" before going to the next greater "H".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE CULVERT HEADWALLS, ENDWALLS AND WINGWALLS TYPES A, B AND C

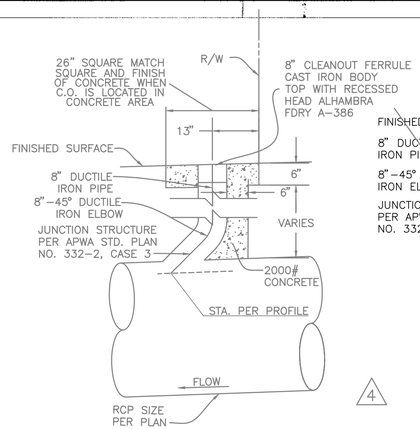
NO SCALE

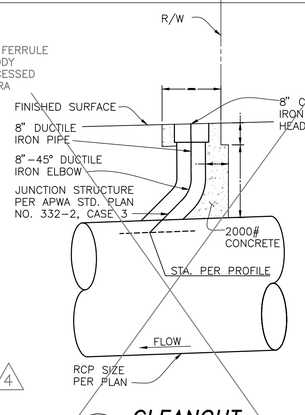
D90



DETAIL FOR RCP INSTALLATION WHERE DEPTH OF COVER IS MORE THAN 20 FEET

N.T.S.





NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu		8/14/19
4	REVISED CLEANOUT DETAIL	Jason H. Fukumitsu	M.D. Eff	9/28/2021

REVIEWED LAND DEVELOPMENT DIVISION
BY Ken Mg 10/04/2018
STORM DRAIN SECTION DATE

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
2

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-SHIEH TSU No. 26622 Exp. 6/30 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1205 STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

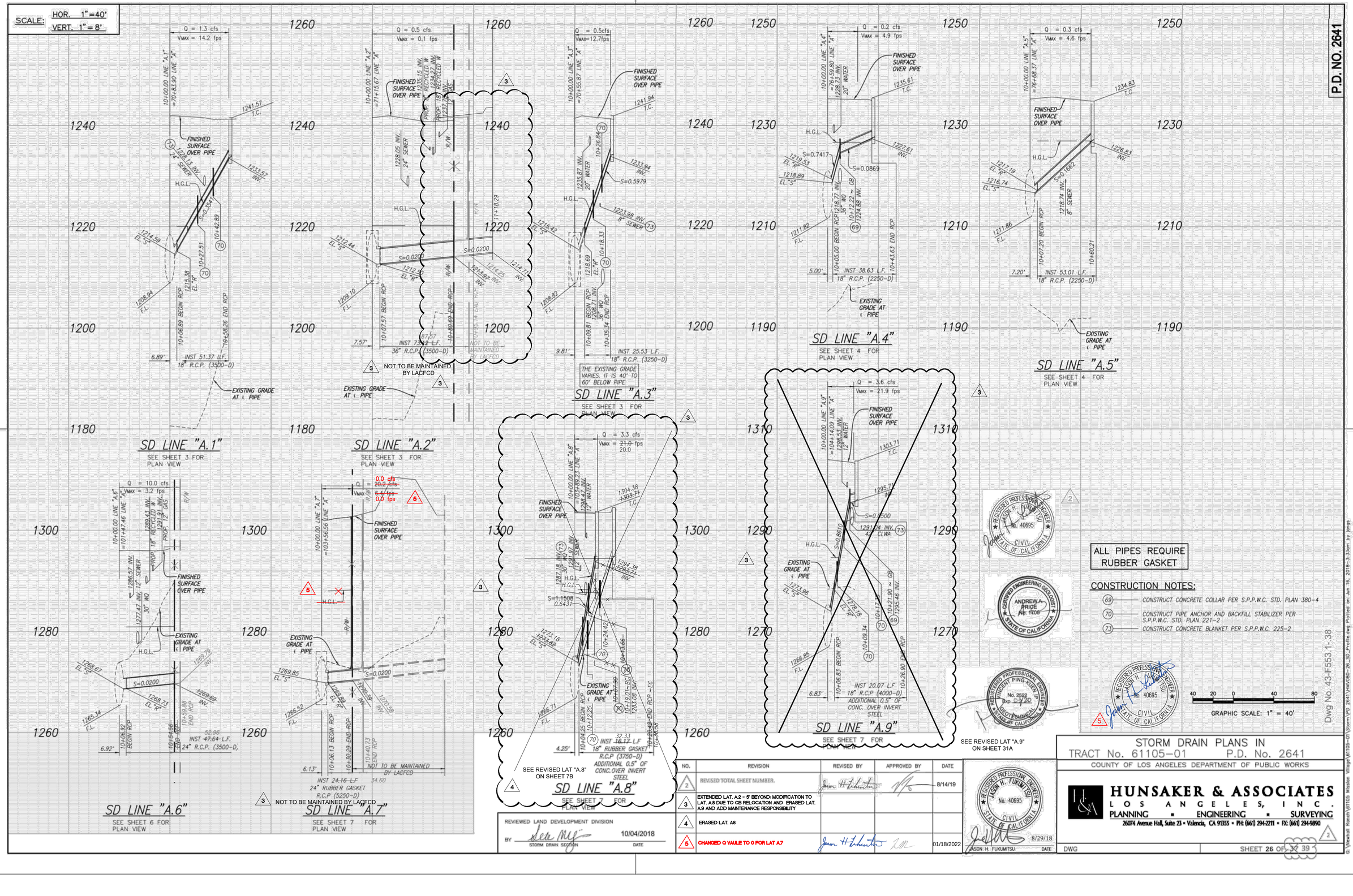
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG | SHEET 25 OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HW0180-25_SD_Detail.dwg Plotted on Aug 11, 2021 - 4:22pm by armondob

P.D. NO. 2641

SCALE: HOR. 1"=40'
VERT. 1"=8'



REVIEWED LAND DEVELOPMENT DIVISION
BY Steve Ng STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu		8/14/19
3	EXTENDED LAT. A.2 - 5' BEYOND. MODIFICATION TO LAT. A.8 DUE TO CB RELOCATION AND ERASED LAT. A.9 AND ADD MAINTENANCE RESPONSIBILITY			
4	ERASED LAT. A8			
5	CHANGED Q VALUE TO 0 FOR LAT A.7	Jason H. Fukumitsu		01/18/2022

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 DATE
JASON H. FUKUMITSU

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1908 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 25221 Exp. 3-31-20 GEOTECHNICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

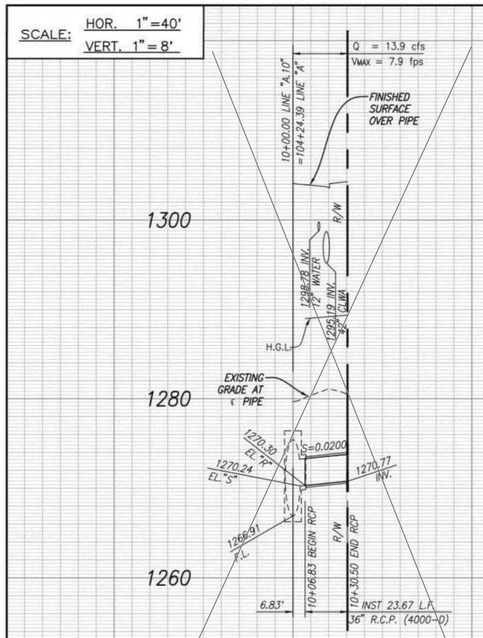
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG | SHEET 26 OF 37 39

© Vlewbolt Ranch\61105 Mission Village\61105-01\Storm PD\ 2641\HW\061105-26_SD_Profile.dwg Plotted on Jun 15, 2018-3:33pm by jeng

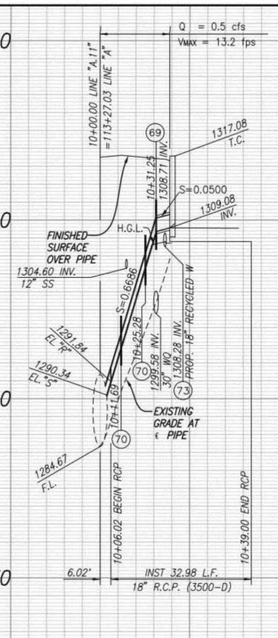
P.D. NO. 2641

SCALE: HOR. 1"=40'
VERT. 1"=8'



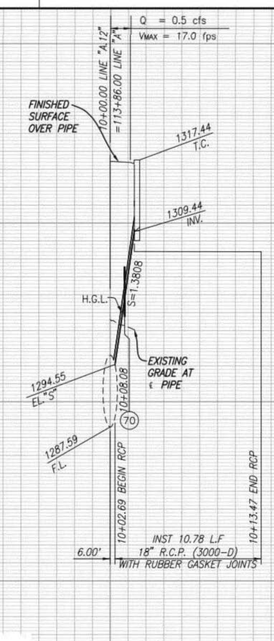
SD LINE "A.10"

SEE SHEET 7 FOR PLAN VIEW



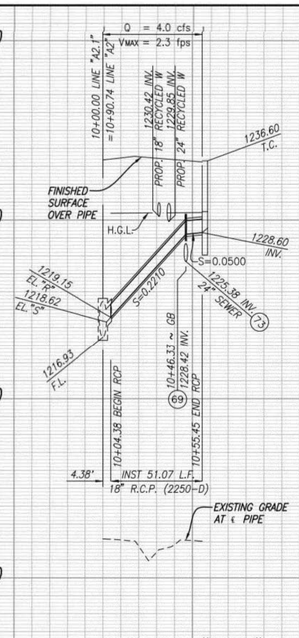
SD LINE "A.11"

SEE SHEET 8 FOR PLAN VIEW



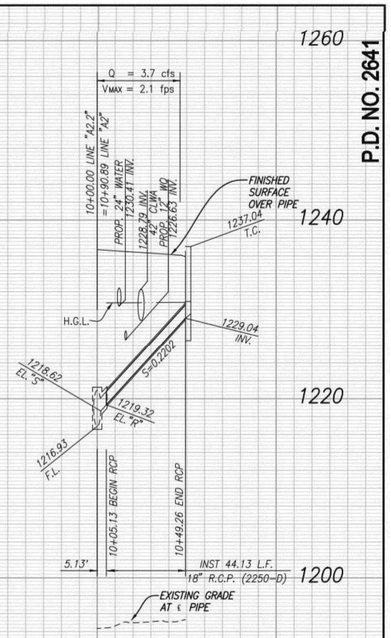
SD LINE "A.12"

SEE SHEET 8 FOR PLAN VIEW



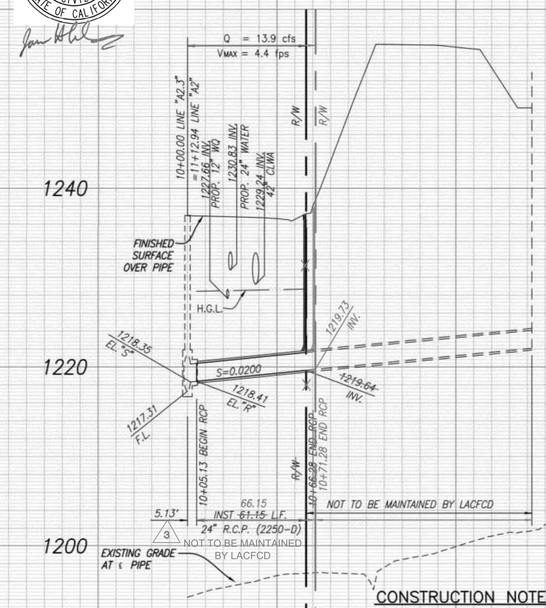
SD LINE "A2.1"

SEE SHEET 9 FOR PLAN VIEW



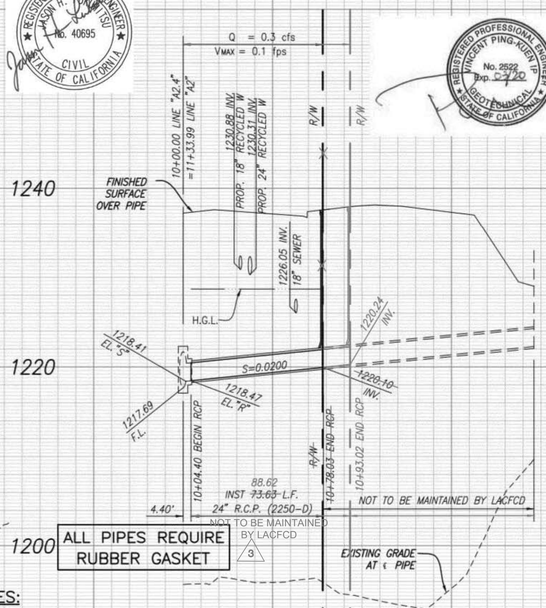
SD LINE "A2.2"

SEE SHEET 9 FOR PLAN VIEW



SD LINE "A2.3"

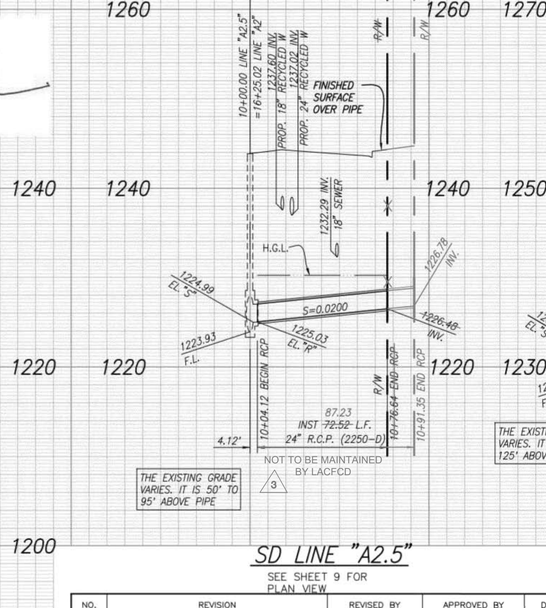
SEE SHEET 9 FOR PLAN VIEW



SD LINE "A2.4"

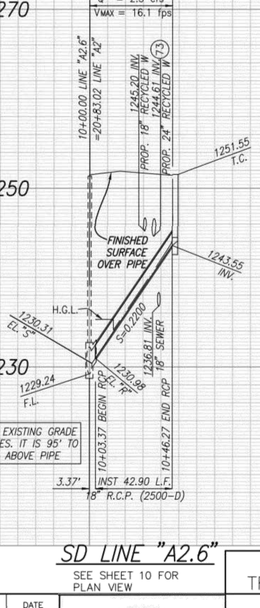
SEE SHEET 9 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET



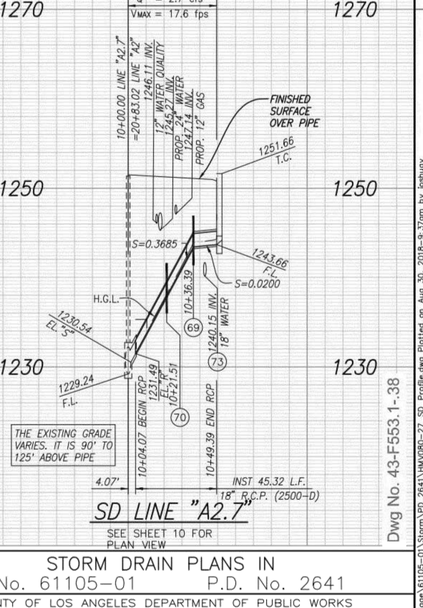
SD LINE "A2.5"

SEE SHEET 9 FOR PLAN VIEW



SD LINE "A2.6"

SEE SHEET 10 FOR PLAN VIEW



SD LINE "A2.7"

SEE SHEET 10 FOR PLAN VIEW

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19
3	ADD MAINTENANCE RESPONSIBILITY			3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA 8/29/18 JASON H. FUKUMITSU DATE

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1208 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN IP No. 25220 Exp. 9/30 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

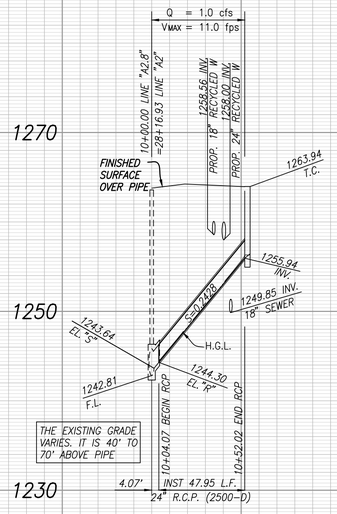
DWG | SHEET 27 OF 37

Dwg No. 43-F553.1-38

G:\Meridian Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM\080-27_SD_Profile.dwg Plotted on Aug 30, 2018 - 9:37am by joshuoy

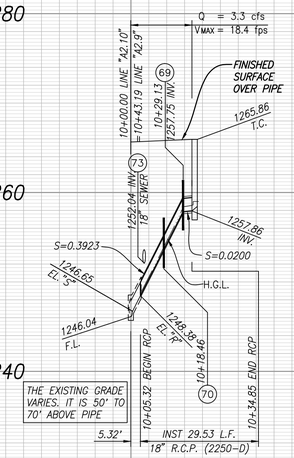
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



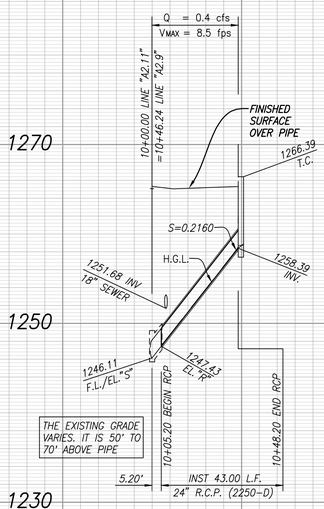
SD LINE "A2.8"

SEE SHEET 11 FOR PLAN VIEW



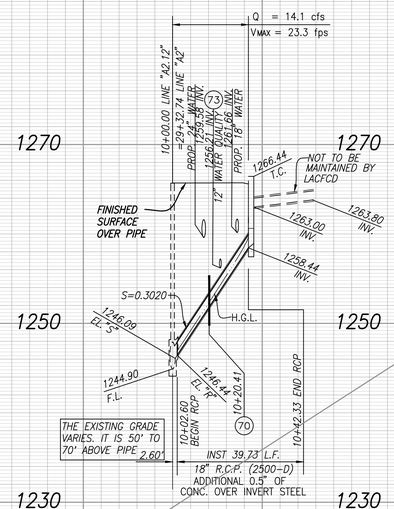
SD LINE "A2.10"

SEE SHEET 11 FOR PLAN VIEW



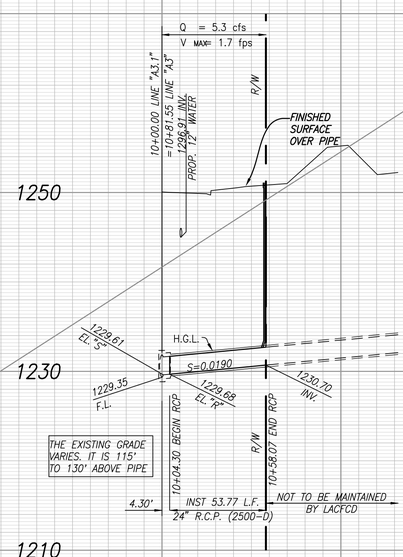
SD LINE "A2.11"

SEE SHEET 11 FOR PLAN VIEW



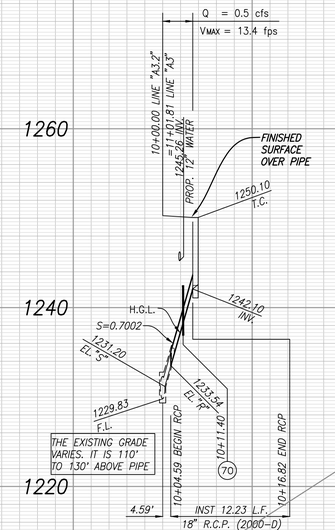
SD LINE "A2.12"

SEE SHEET 11 FOR PLAN VIEW



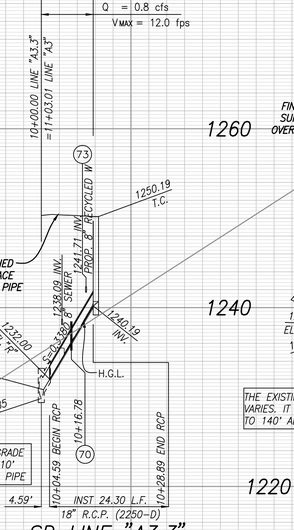
SD LINE "A3.1"

SEE SHEET 12 FOR PLAN VIEW



SD LINE "A3.2"

SEE SHEET 12 FOR PLAN VIEW

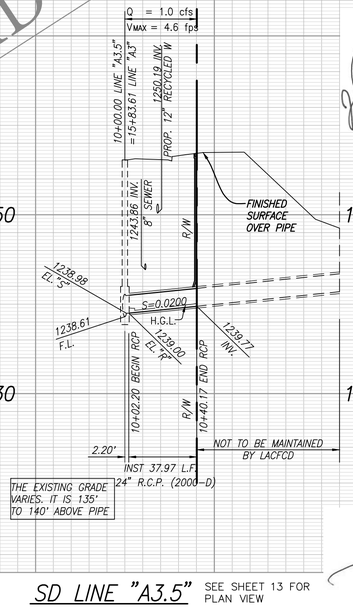


SD LINE "A3.3"

SEE SHEET 12 FOR PLAN VIEW

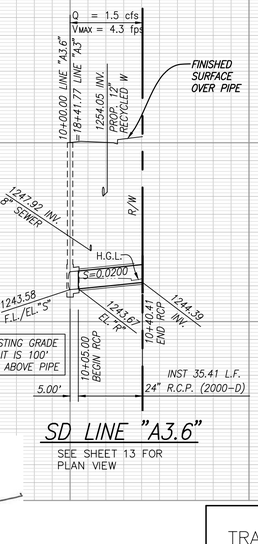
SD LINE "A3.4"

SEE SHEET 13 FOR PLAN VIEW



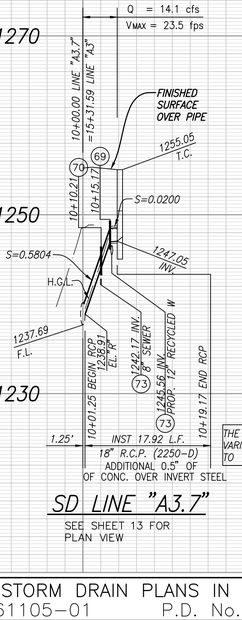
SD LINE "A3.5"

SEE SHEET 13 FOR PLAN VIEW



SD LINE "A3.6"

SEE SHEET 13 FOR PLAN VIEW



SD LINE "A3.7"

SEE SHEET 13 FOR PLAN VIEW

VOID

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

ALL PIPES REQUIRE RUBBER GASKET

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

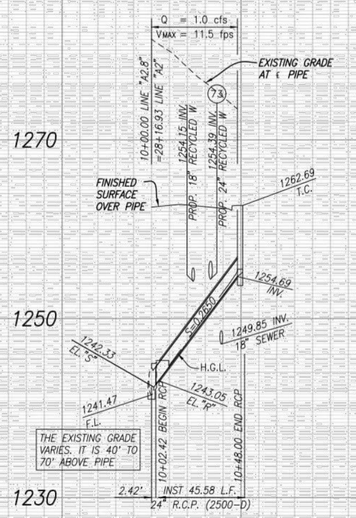
DWG | SHEET 28 OF 37

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MV080-28_SD_Profile.dwg Plotted on Aug 30, 2018-9:03am by joshuoy

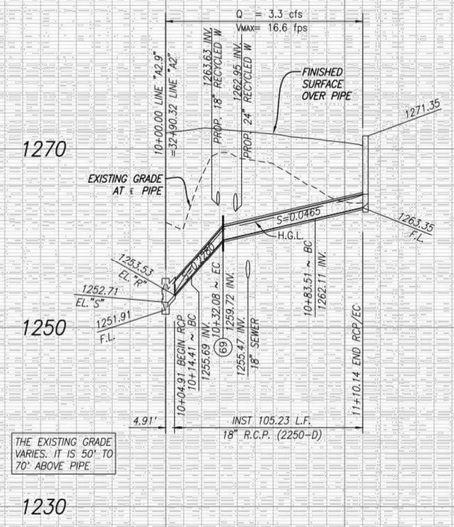
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641
FOR PLAN CHECK ONLY



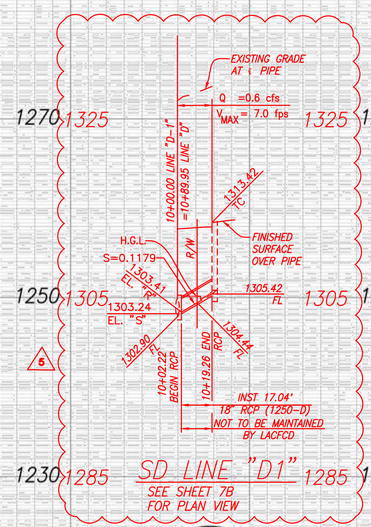
SD LINE "A2.8"

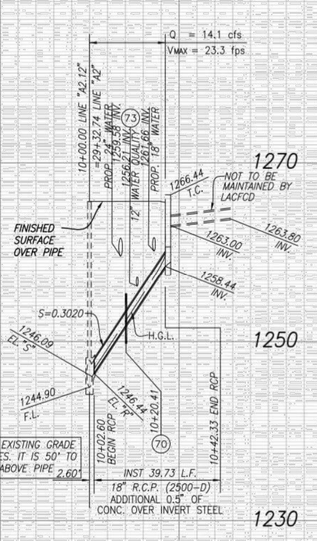
SEE SHEET 11 FOR PLAN VIEW



SD LINE "A2.9"

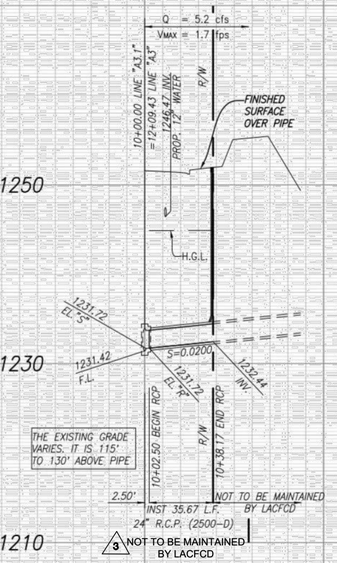
SEE SHEET 11 FOR PLAN VIEW





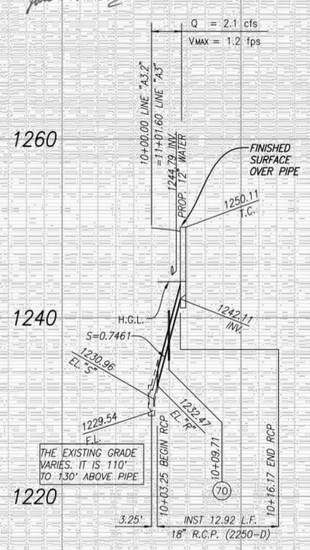
SD LINE "A2.12"

SEE SHEET 11 FOR PLAN VIEW



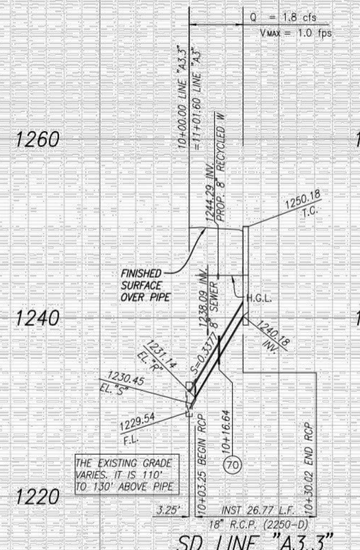
SD LINE "A3.1"

SEE SHEET 12 FOR PLAN VIEW



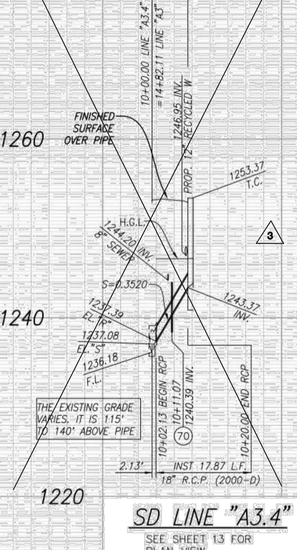
SD LINE "A3.2"

SEE SHEET 12 FOR PLAN VIEW



SD LINE "A3.3"

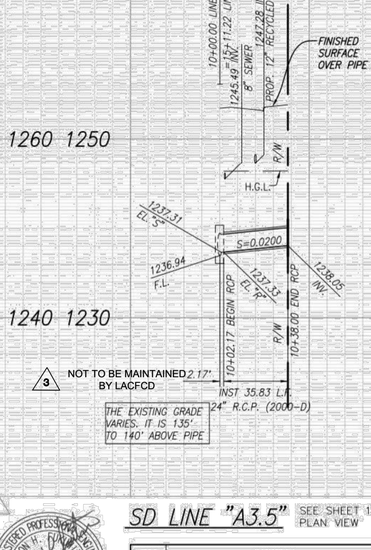
SEE SHEET 12 FOR PLAN VIEW



SD LINE "A3.4"

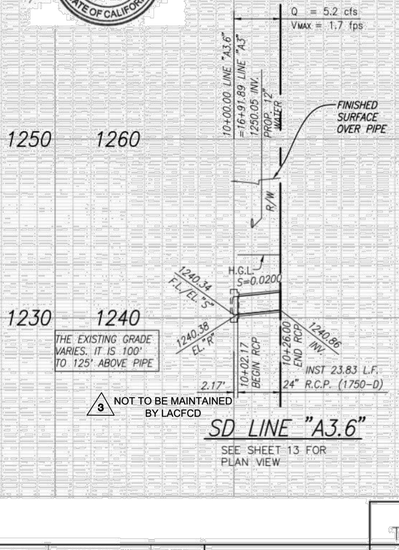
SEE SHEET 13 FOR PLAN VIEW

SEE REVISED LAT "A3.4" ON SHEET 31A



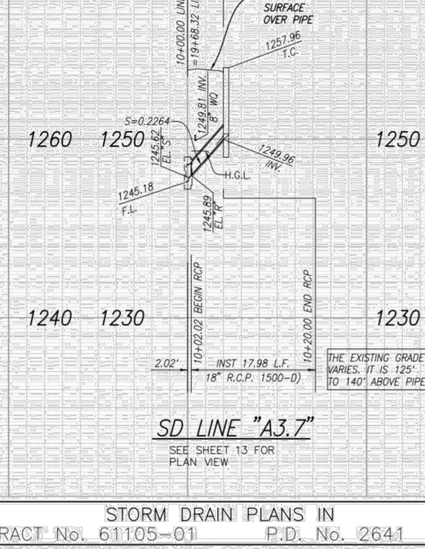
SD LINE "A3.5"

SEE SHEET 13 FOR PLAN VIEW



SD LINE "A3.6"

SEE SHEET 13 FOR PLAN VIEW



SD LINE "A3.7"

SEE SHEET 13 FOR PLAN VIEW

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

ALL PIPES REQUIRE RUBBER GASKET

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY: STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT SHEET FOR SHEET 28			8/14/19
3	ADD MAINTENANCE RESPONSIBILITY ADD REMOVE LATERAL A3.4			3/15/2021
5	ADD LATERAL D1			01/18/2022

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
5/14/2019 DATE

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KOEN IP No. 2522 Exp. 09/20 GEOTECHNICAL STATE OF CALIFORNIA

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9590

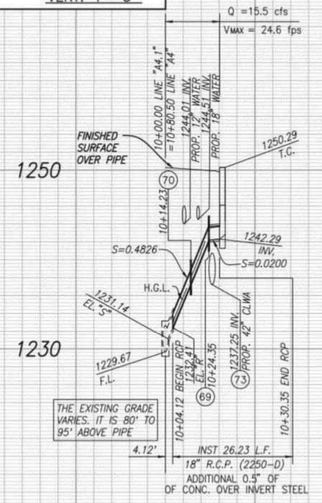
DWG. SHEET 28A OF 39

Dwg No. 43-F553.1-38

C:\Rentrak Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MAV\D85-28_30_Profile_REV.dwg, Plotted on May 08, 2019 - 10:30am by hellga

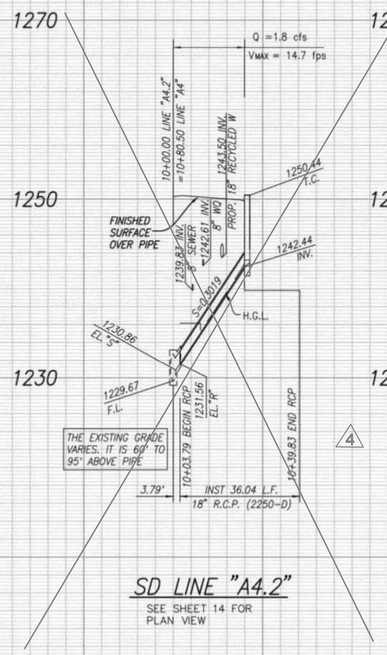
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



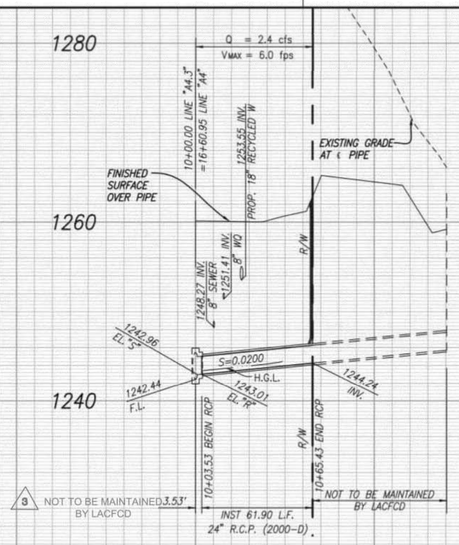
SD LINE "A4.1"

SEE SHEET 14 FOR PLAN VIEW



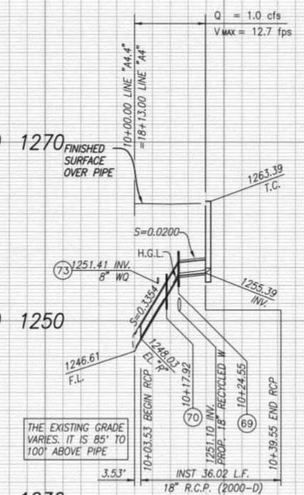
SD LINE "A4.2"

SEE SHEET 14 FOR PLAN VIEW



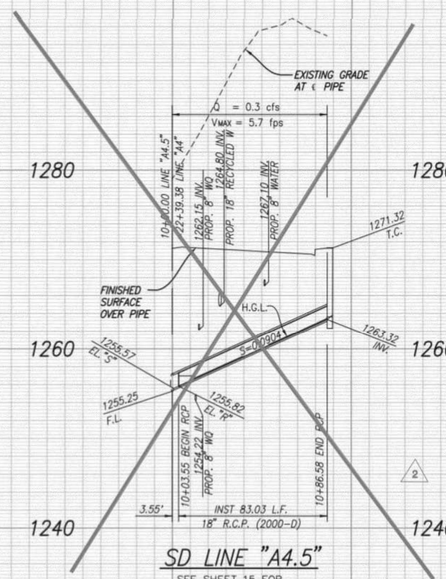
SD LINE "A4.3"

SEE SHEET 14 FOR PLAN VIEW



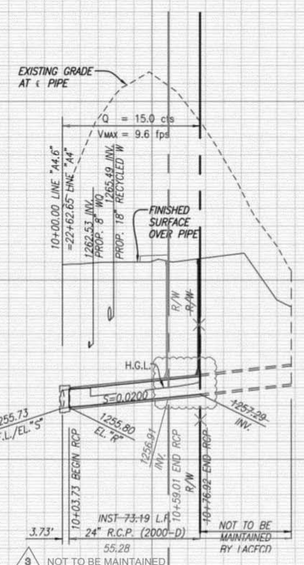
SD LINE "A4.4"

SEE SHEET 15 FOR PLAN VIEW



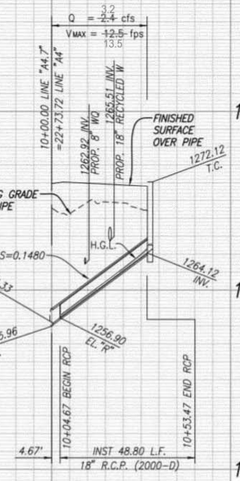
SD LINE "A4.5"

SEE SHEET 15 FOR PLAN VIEW



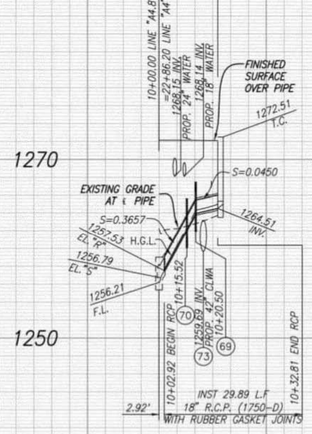
SD LINE "A4.6"

SEE SHEET 15 FOR PLAN VIEW



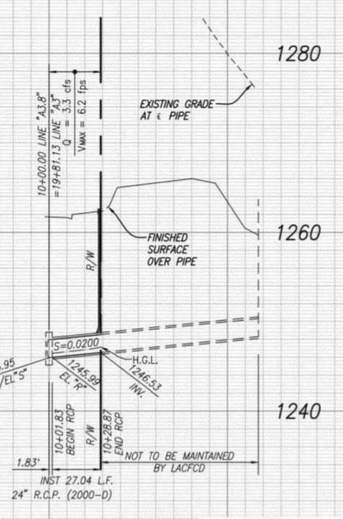
SD LINE "A4.7"

SEE SHEET 15 FOR PLAN VIEW



SD LINE "A4.8"

SEE SHEET 15 FOR PLAN VIEW



SD LINE "A3.8"

SEE SHEET 13 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER. REMOVED LATERAL A4.5			8/14/19
3	ADD MAINTENANCE RESPONSIBILITY		M.D. Caffrey	3/15/2021
4	REMOVE LAT A4.2; SEE SHEET 32 FOR REVISED LAT A4.2		M.D. Caffrey	9/28/2021

REGISTERED PROFESSIONAL ENGINEER — JASON H. FUKUMITSU — No. 40695 — CIVIL — STATE OF CALIFORNIA
8/29/18 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

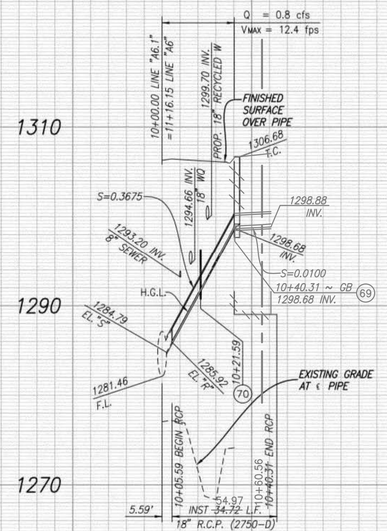
DWG | SHEET 29 OF 32 39

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MW080-29_SD_Profile.dwg Plotted on Aug 30, 2018-9:28am by joshuay

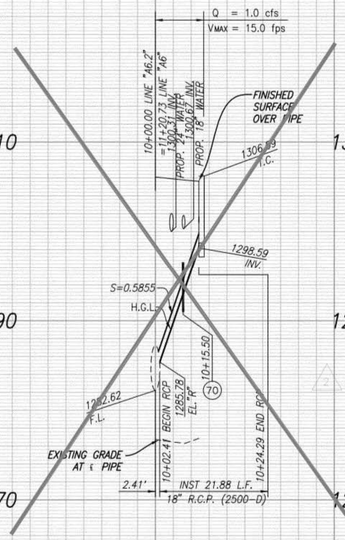
P.D. NO. 2641

SCALE: HOR. 1"=40'
VERT. 1"=8'



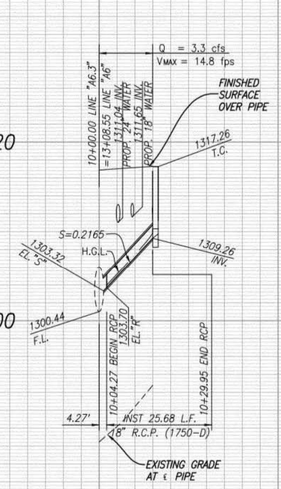
SD LINE "A6.1"

SEE SHEET 17 FOR PLAN VIEW
LATERAL FOR FUTURE CONNECTION



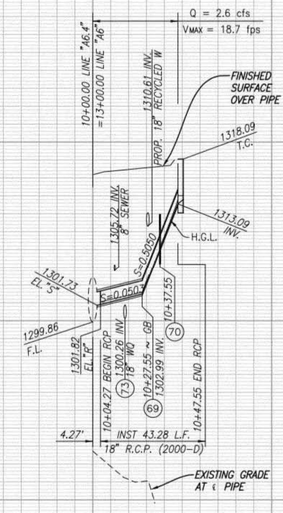
SD LINE "A6.2"

SEE SHEET 17 FOR PLAN VIEW



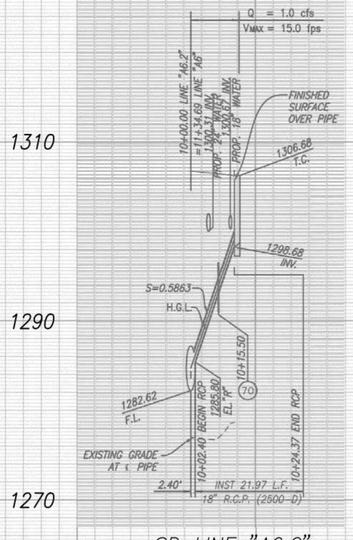
SD LINE "A6.3"

SEE SHEET 17 FOR PLAN VIEW



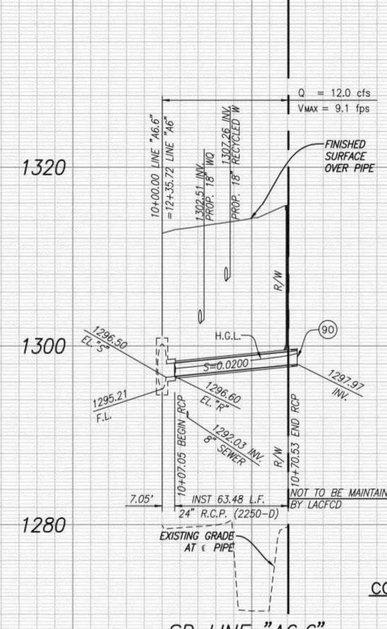
SD LINE "A6.4"

SEE SHEET17 FOR PLAN VIEW



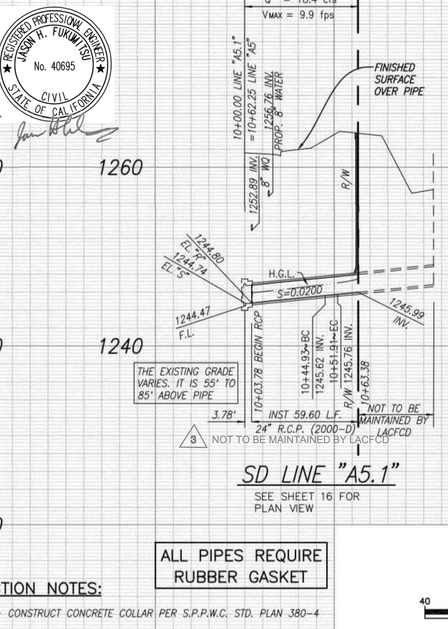
SD LINE "A6.2"

SEE SHEET 17 FOR PLAN VIEW



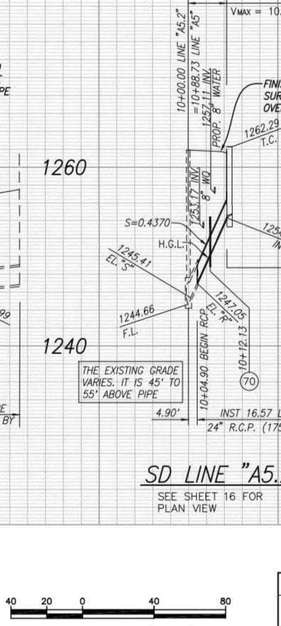
SD LINE "A6.6"

SEE SHEET 17 FOR PLAN VIEW



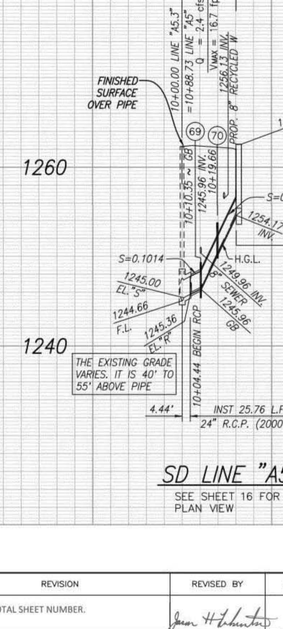
SD LINE "A5.1"

SEE SHEET 16 FOR PLAN VIEW



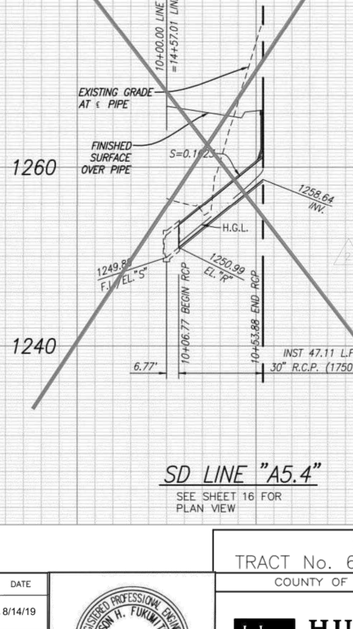
SD LINE "A5.2"

SEE SHEET 16 FOR PLAN VIEW



SD LINE "A5.3"

SEE SHEET 16 FOR PLAN VIEW



SD LINE "A5.4"

SEE SHEET 16 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET

CONSTRUCTION NOTES:

69 — CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4
70 — CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2
73 — CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY Ken Ng 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19
3	ADD MAINTENANCE RESPONSIBILITY REVISE LAT. A6.1 TO ALLOW FUTURE STREET INTERSECTION		MD	3/15/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 30 OF 39

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1208 STATE OF CALIFORNIA

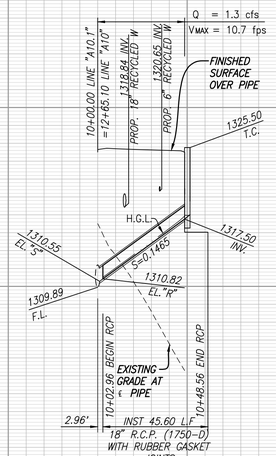
REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN CHEUNG No. 2532 Exp. 6/30/20 CIVIL STATE OF CALIFORNIA

Dwg No. 43-F553.1-38

C:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM1080-30_SD_Profile.dwg Plotted on Aug 30, 2018-9:16am by jsmusy

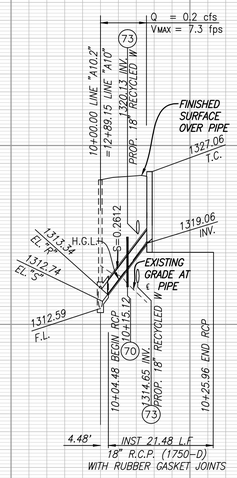
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641



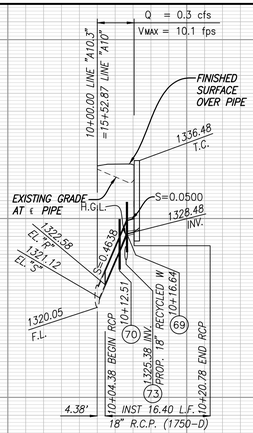
SD LINE "A10.1"

SEE SHEET 20 FOR PLAN VIEW



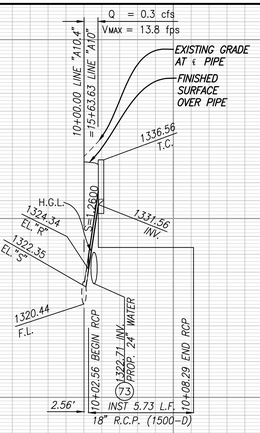
SD LINE "A10.2"

SEE SHEET 20 FOR PLAN VIEW



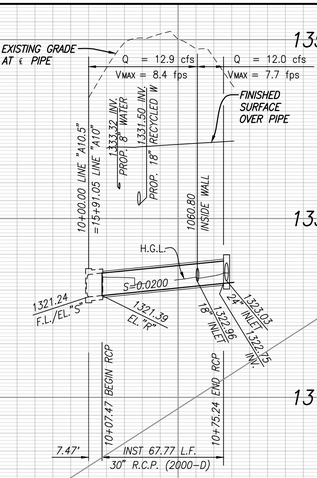
SD LINE "A10.3"

SEE SHEET 20 FOR PLAN VIEW



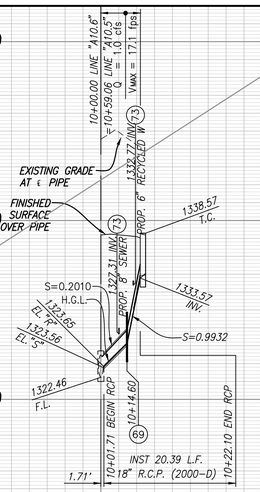
SD LINE "A10.4"

SEE SHEET 20 FOR PLAN VIEW



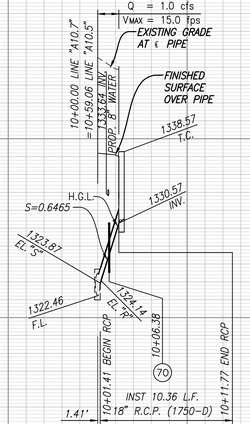
SD LINE "A10.5"

SEE SHEET 20 FOR PLAN VIEW



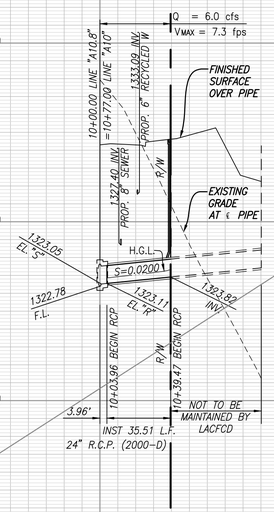
SD LINE "A10.6"

SEE SHEET 20 FOR PLAN VIEW



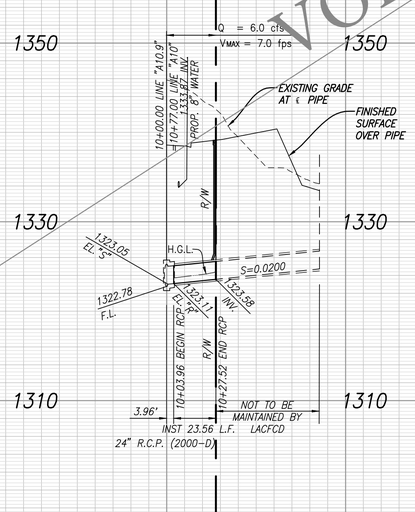
SD LINE "A10.7"

SEE SHEET 20 FOR PLAN VIEW



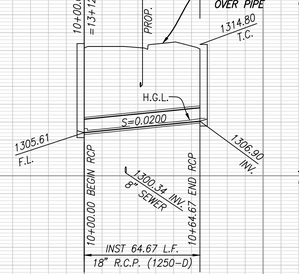
SD LINE "A10.8"

SEE SHEET 20 FOR PLAN VIEW



SD LINE "A10.9"

SEE SHEET 20 FOR PLAN VIEW



SD LINE "A8.1"

SEE SHEET 19 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225-2

VOID

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

2

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-XUAN P No. 2522 Exp. 6/30/20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRIDE No. 1705 STATE OF CALIFORNIA

40 20 0 40 80

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET	Jason H Fukumitsu		8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

8/29/18

JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

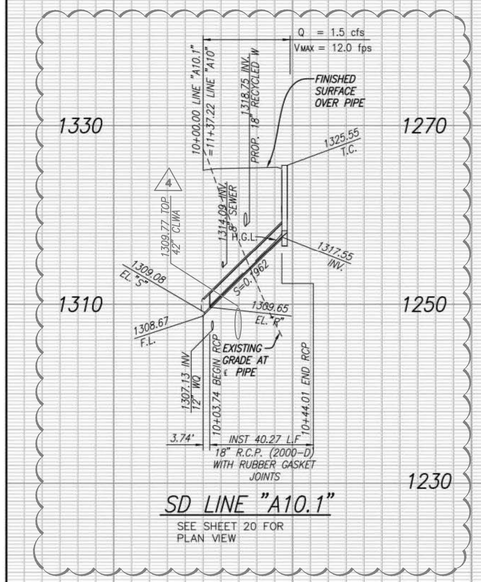
SHEET 31 OF 37

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HAV080-31_SD_Profile.dwg Plotted on Aug 30, 2018-9:18am by pstrury

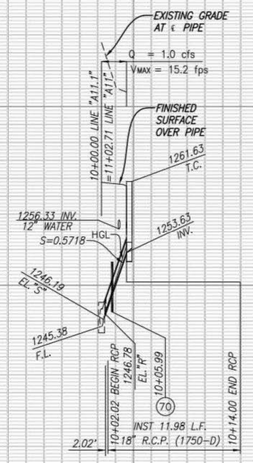
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641
FOR PLAN CHECK ONLY



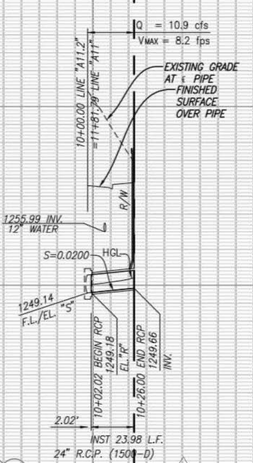
SD LINE "A10.1"

SEE SHEET 20 FOR PLAN VIEW



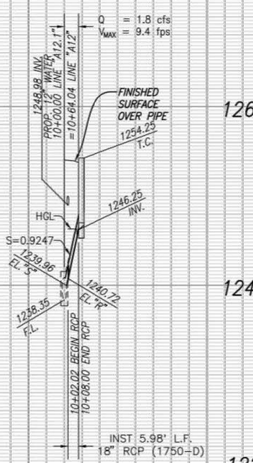
SD LINE "A11-1"

SEE SHEET 20 FOR PLAN VIEW



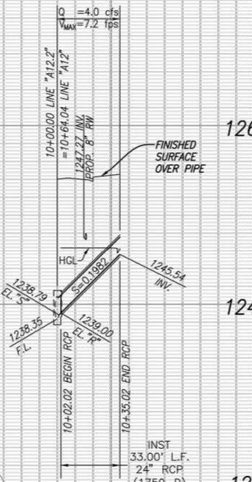
SD LINE "A11-2"

SEE SHEET 20 FOR PLAN VIEW



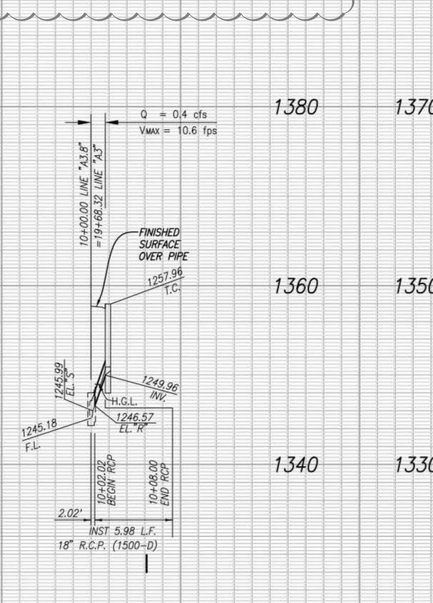
SD LINE "A12-1"

SEE SHEET 12 FOR PLAN VIEW



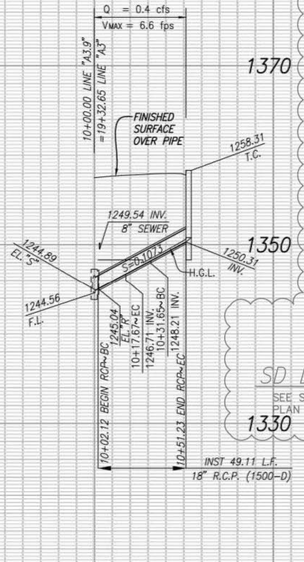
SD LINE "A12-2"

SEE SHEET 12 FOR PLAN VIEW



SD LINE "A3.8"

SEE SHEET 13 FOR PLAN VIEW



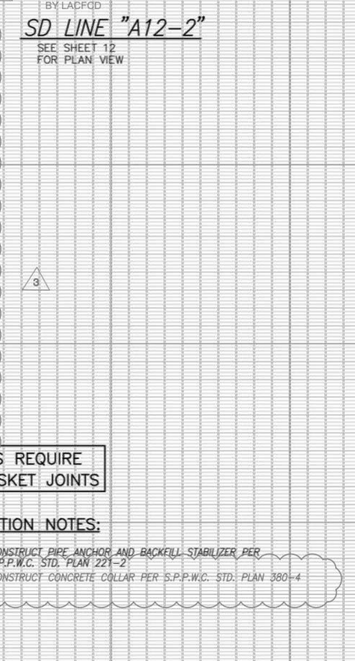
SD LINE "A3.9"

SEE SHEET 13 FOR PLAN VIEW

SD LINE "A3.4"

SEE SHEET 12 FOR PLAN VIEW

THE EXISTING GRADE VARIES, IT IS 115' TO 140' ABOVE PIPE.



SD LINE "A.9"

SEE SHEET 7 FOR PLAN VIEW

ALL PIPES REQUIRE RUBBER GASKET JOINTS

CONSTRUCTION NOTES:

(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 31			8/14/19
3	ADDED PROFILE FOR LATERAL "A3.4" AND "A.9" AND ADD MAINTENANCE RESPONSIBILITY			3/15/2021
4	ADDED CLWA CROSSING TO LAT. "A10.1"			9/28/2021

JASON H. FUKUMITSU 5/14/2019 DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

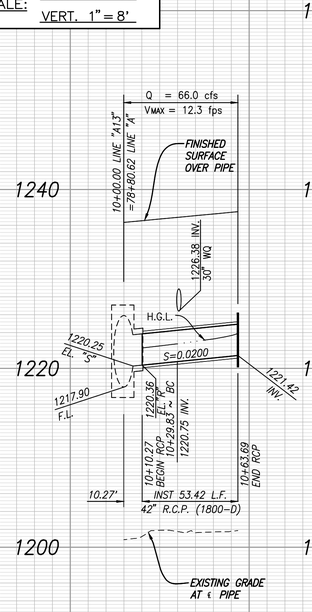
DWG SHEET 31A OF 39

Dwg No. 43-F553.1-38

G:\Viewhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HAV080-31_SD_Profile_REV.dwg Plotted on May 08, 2019-11:07am by heidye

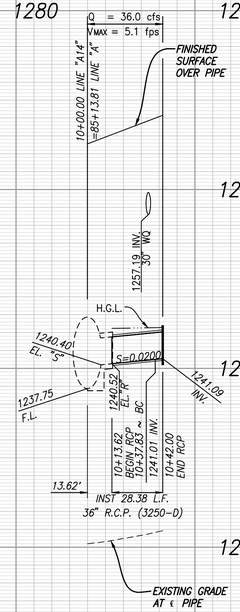
SCALE: HOR. 1"=40'
VERT. 1"=8'

P.D. NO. 2641
FOR PLAN CHECK ONLY



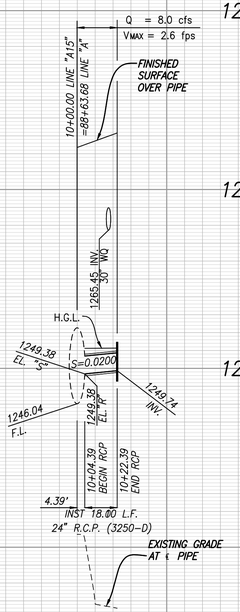
SD LINE "A13"

SEE SHEET 4
FOR PLAN VIEW



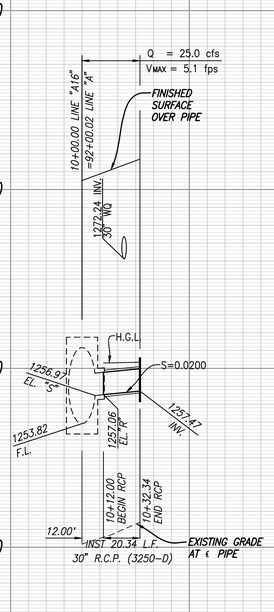
SD LINE "A14"

SEE SHEET 5
FOR PLAN VIEW



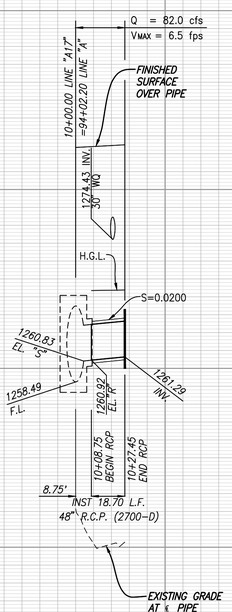
SD LINE "A15"

SEE SHEET 5
FOR PLAN VIEW



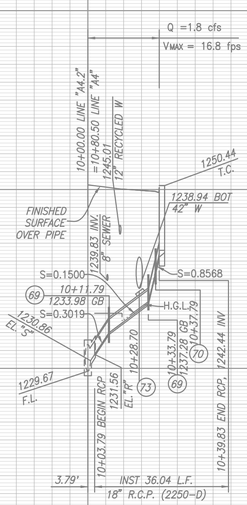
SD LINE "A16"

SEE SHEET 5
FOR PLAN VIEW



SD LINE "A17"

SEE SHEET 6
FOR PLAN VIEW



LAT. A4.2 (4)

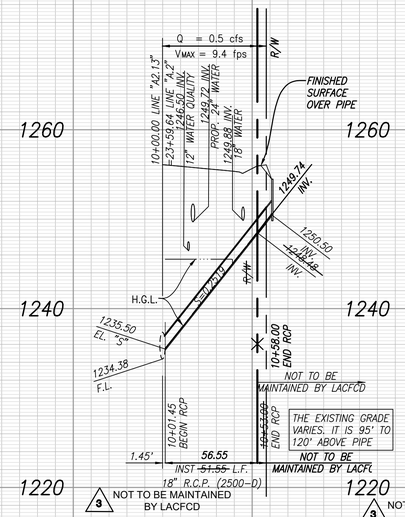
SEE SHEET 14
FOR PLAN VIEW

CONSTRUCTION NOTES:

(69) CONSTRUCT CONCRETE COLLAR PER S.P.P.W.C. STD. PLAN 380-4

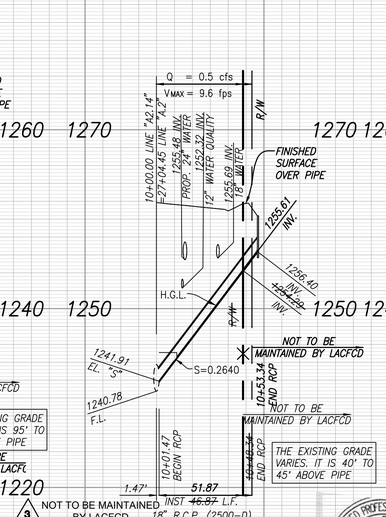
(70) CONSTRUCT PIPE ANCHOR AND BACKFILL STABILIZER PER S.P.P.W.C. STD. PLAN 221-2

(73) CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. STD. PLAN 225-2



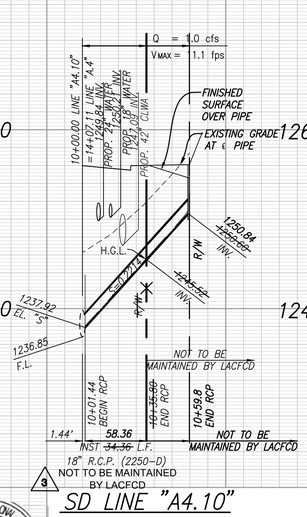
SD LINE "A2.13"

SEE SHEET 10 FOR
PLAN VIEW



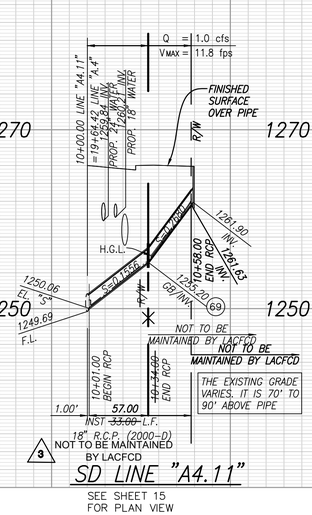
SD LINE "A2.14"

SEE SHEET 11 FOR
PLAN VIEW



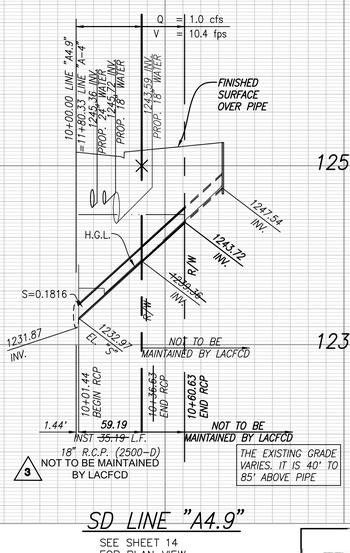
SD LINE "A4.10"

SEE SHEET 14
FOR PLAN VIEW



SD LINE "A4.11"

SEE SHEET 15
FOR PLAN VIEW



SD LINE "A4.9"

SEE SHEET 14
FOR PLAN VIEW

ALL PIPES REQUIRE
RUBBER GASKET

4

Dwg No. 43-F553.1-38

40 20 0 40 80
GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19
3	ADD MAINTENANCE RESPONSIBILITY			3/15/2021
4	ADD LAT A4.2			9/28/2021

8/29/18
JASON H. FUKUMITSU DATE

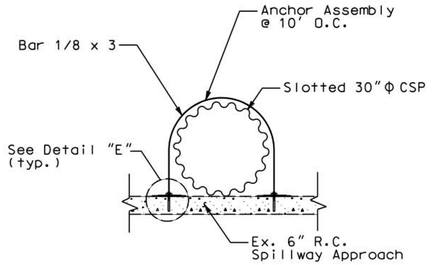
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

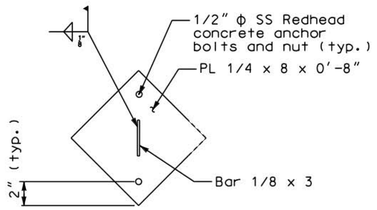
DWG | SHEET 32 OF 34 39

2

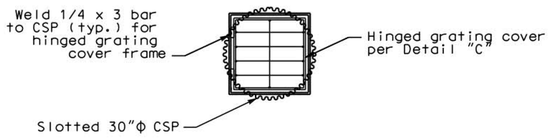
C:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\MM0806-32_SD_Profile_rev 4.dwg Plotted on Jul 19, 2021 - 10:30am by ymind



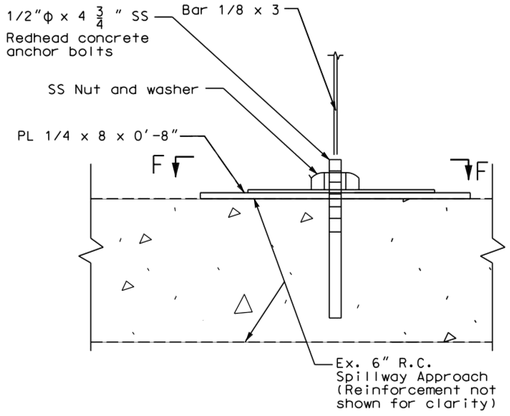
Section D-D
Scale: 1/2" = 1'-0"



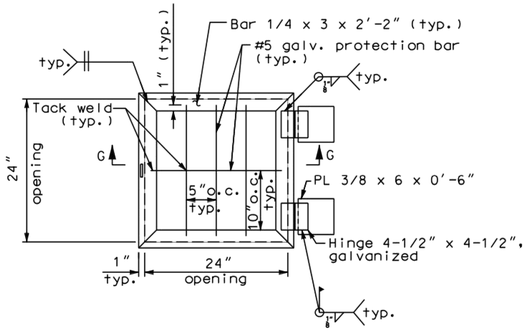
Section F-F
Scale: 2" = 1'-0"



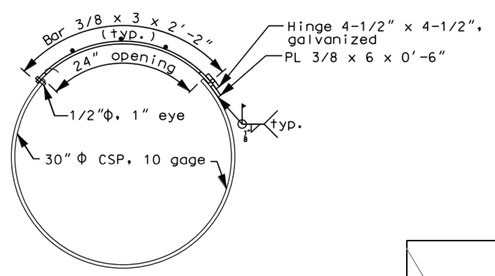
Detail "B"
Scale: 1/2" = 1'-0"



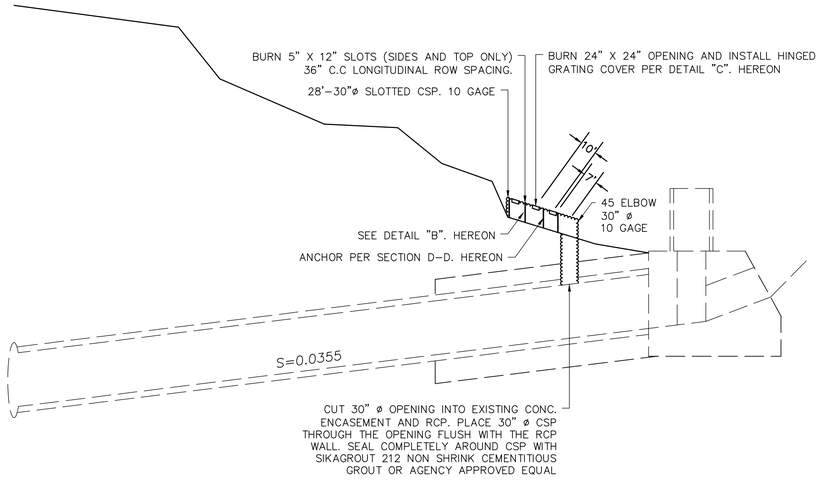
Detail "E"
Scale: 4"=1'-0"



Detail "C"
Scale: 1" = 1'-0"

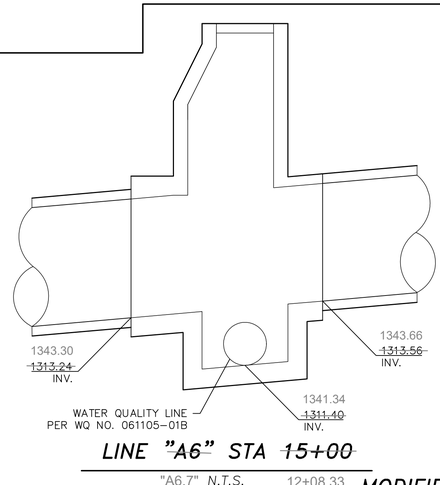


Section G-G
Not to Scale



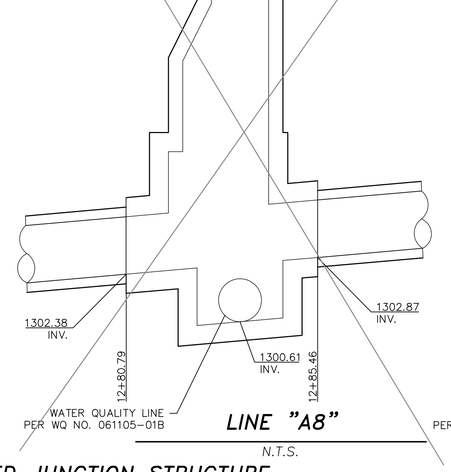
SECONDARY INCLINED PIPE DETAIL

N.T.S.



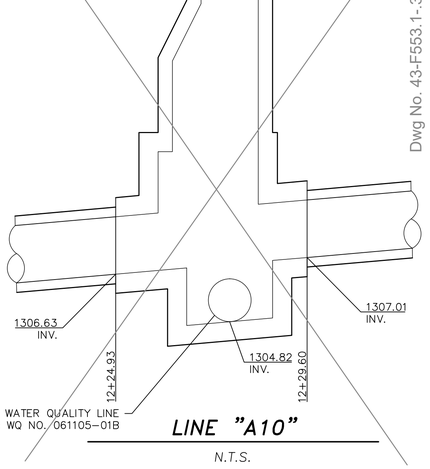
LINE "~~A6~~" STA ~~15+00~~ 12+08.33

"A6.7" N.T.S.



LINE "A8"

N.T.S.



LINE "A10"

N.T.S.

MODIFIED JUNCTION STRUCTURE

N.T.S.

Dwg No. 43-F553.1-38

STRUCTURAL NOTES

1. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
2. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A 615, GRADE 60.
3. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM A 36.
4. BOLTS SHALL BE IN ACCORDANCE WITH ASTM A 325.

GENERAL NOTES

1. ALL HARDWARE TO BE GALVANIZED BEFORE FABRICATION. TORCHED AREAS WILL BE APPLIED WITH POST FABRICATED GALVANIZATION.
2. FMD SHALL VERIFY ALL LIMITING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL
3. CONNECT CSP SECTIONS WITH STANDARD BAND COUPLER

CONCRETE REMOVAL NOTES

1. MAKE A 1 1/2" SAWCUT ON THE EXPOSED FACES OF THE CONCRETE AT THE REMOVAL LIMITS.
2. AFTER MAKING SAWCUTS, THE CONCRETE SHALL BE REMOVED WITH HAND-HELD EQUIPMENT
3. CARE SHALL BE EXERCISED IN SAWING AT THE REMOVAL LIMITS SO AS NOT TO DAMAGE OR CUT THE REINFORCEMENT IN THE EXISTING CONCRETE.
4. CARE SHALL BE EXERCISED SO THAT DRILLING AND INSTALLING OF ANCHORS BOLTS INTO THE SPILLWAY APPROACH CONCRETE SLAB WILL NOT DAMAGE THE EXISTING STEEL REINFORCEMENT.

REFRENCE

AS BUILT DRAWING — CORPS. OF ENG. DRAWING DWG NO. 205/43-49

P.D. NO. 2641

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION — 10/04/2018 DATE

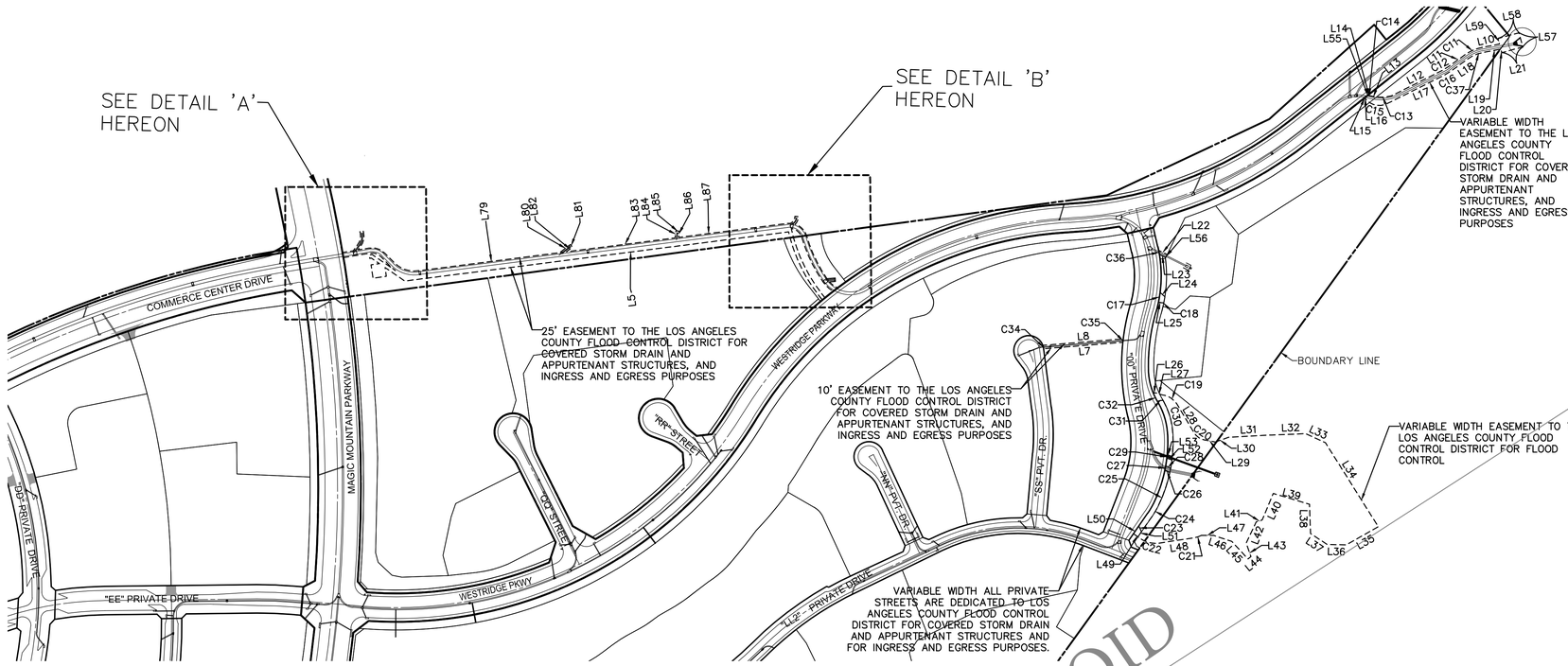
NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.			8/14/19

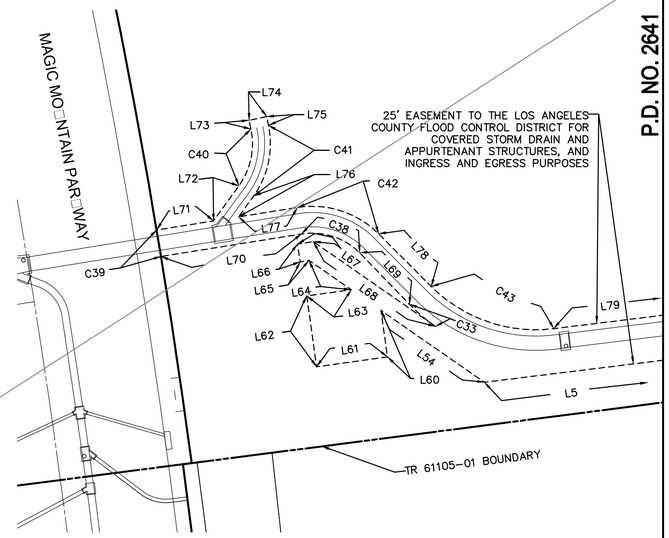
REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/29/18 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

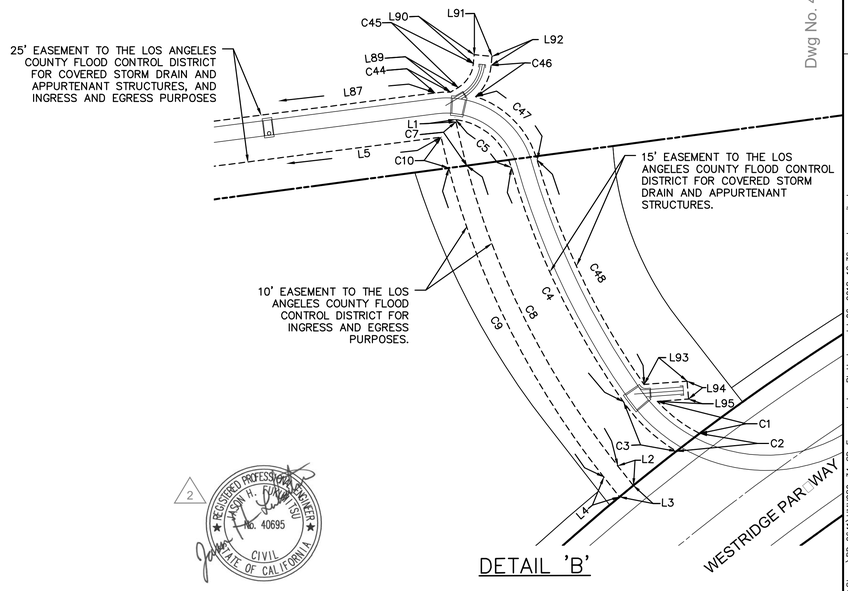
DWG | SHEET 33 OF 37 39





DETAIL 'A'

P.D. NO. 2641



DETAIL 'B'

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L1	1.33'	S77°17'41"W
L2	13.99'	S51°38'36"W
L3	10.00'	N39°25'03"W
L4	14.17'	N51°38'36"E
L5	1142.96'	N07°18'15"W
L7	234.87'	S04°39'21"E
L8	238.49'	S04°39'21"E
L9	4.34'	S51°33'06"W
L10	52.74'	N10°48'03"W
L11	61.74'	N35°48'19"W
L12	168.32'	N26°34'23"W
L13	12.08'	N11°33'06"E
L14	2.86'	N51°33'33"E
L15	3.66'	S11°33'06"W
L16	0.05'	S51°33'33"W
L17	189.68'	S26°34'23"E
L18	61.74'	S35°48'19"E
L19	53.86'	S10°48'03"E
L20	11.00'	S74°56'47"W
L21	64.00'	S15°03'13"E
L22	28.63'	S26°34'22"W
L23	21.24'	N26°34'22"E
L24	18.96'	S40°28'33"W
L25	9.84'	N11°05'12"E
L26	10.04'	N05°06'09"E
L27	16.42'	S17°48'32"W
L28	100.82'	N59°04'33"E
L29	32.76'	N10°36'58"E
L30	41.92'	S19°43'16"E
L31	127.78'	S02°57'03"E
L32	100.16'	N02°16'34"W
L33	63.95'	N24°42'52"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L34	293.30'	N57°49'55"E
L35	108.33'	S29°29'26"E
L36	56.57'	S00°48'25"W
L37	58.91'	S33°11'55"W
L38	86.82'	S87°56'12"W
L39	111.60'	S16°33'37"W
L40	85.03'	S67°20'26"E
L41	18.52'	S17°30'46"E
L42	69.40'	S64°49'24"E
L43	41.90'	N70°42'29"E
L44	10.88'	N38°59'45"W
L45	70.97'	N47°04'30"E
L46	55.92'	N18°02'47"E
L47	36.53'	N00°21'29"E
L48	104.21'	N08°34'35"W
L49	26.40'	N34°46'02"E
L50	28.28'	S55°13'58"E
L51	74.16'	S55°13'58"E
L52	16.42'	N20°01'12"E
L53	16.52'	S20°01'12"W
L54	70.40'	N34°30'54"E
L55	17.35'	N38°26'27"W
L56	10.00'	S64°07'53"W
L57	43.34'	N74°56'47"E
L58	64.00'	N15°03'13"W
L59	17.29'	S74°56'47"W
L60	26.28'	S81°48'53"W
L61	40.00'	N08°11'07"W
L62	40.00'	N81°48'53"E
L63	25.13'	S08°11'07"E
L64	28.72'	N34°30'54"E
L65	5.00'	N09°23'04"W
L66	10.00'	N80°36'56"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L67	9.03'	S09°23'04"E
L68	83.10'	S34°30'54"W
L69	39.96'	N45°43'10"E
L70	79.60'	N09°23'04"W
L71	32.22'	S09°23'04"E
L72	24.23'	S54°23'04"E
L73	5.00'	N77°46'52"E
L74	10.00'	S12°13'08"E
L75	5.00'	S77°46'52"W
L76	14.23'	N54°23'04"W
L77	33.32'	S09°23'04"E
L78	41.65'	S44°43'48"W
L79	422.41'	S07°18'15"E
L80	39.86'	S37°18'15"E
L81	10.00'	S52°41'45"W
L82	22.54'	N37°18'15"W
L83	323.64'	S07°18'15"E
L84	21.03'	S82°52'01"E
L85	10.00'	S07°07'59"W
L86	18.46'	N82°52'01"W
L87	324.21'	S07°18'15"E
L89	5.06'	S30°55'18"E
L90	5.00'	S84°38'40"E
L91	10.00'	S05°21'20"W
L92	5.00'	N84°38'40"W
L93	24.20'	S04°17'30"E
L94	10.00'	S85°42'30"W
L95	17.46'	N04°17'30"W

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	29.85'	82.50'	20°44'01"	15.09'
C2	16.37'	1242.00'	0°45'18"	8.18'
C3	40.82'	97.50'	23°59'10"	20.71'
C4	145.92'	444.44'	18°48'43"	73.62'
C5	43.57'	37.50'	66°34'07"	24.62'
C6	35.42'	37.50'	54°06'52"	19.15'
C7	25.20'	467.08'	3°05'30"	12.61'
C8	189.25'	467.08'	23°12'54"	95.94'
C9	194.62'	476.50'	23°24'05"	98.68'
C10	17.76'	476.50'	2°08'08"	8.88'
C11	55.64'	127.50'	25°00'16"	28.27'
C12	18.13'	112.50'	9°13'56"	9.08'
C13	54.76'	114.50'	27°24'00"	27.91'
C14	0.71'	38.50'	1°03'46"	0.36'
C15	73.46'	407.50'	10°19'46"	36.83'
C16	65.01'	53.50'	69°37'13"	37.20'
C17	28.61'	387.00'	04°14'08"	14.31'
C18	6.17'	70.00'	05°02'57"	3.09'
C19	52.40'	60.50'	49°37'34"	27.97'
C20	38.06'	45.00'	48°27'35"	20.25'

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C21	22.99'	65.00'	20°16'02"	11.62'
C22	56.74'	75.00'	43°20'38"	29.80'
C23	18.92'	243.29'	04°27'23"	9.47'
C24	33.63'	226.00'	08°31'29"	16.84'
C25	219.80'	433.00'	29°05'05"	112.32'
C26	16.31'	81.50'	11°28'07"	8.18'
C27	13.78'	417.00'	01°53'34"	6.89'
C28	16.79'	68.50'	14°02'32"	8.44'
C29	10.31'	417.00'	01°24'58"	5.15'
C30	105.23'	226.00'	26°40'45"	53.59'
C31	17.31'	35.00'	28°19'51"	8.83'
C32	28.24'	190.00'	08°31'02"	14.15'
C33	19.20'	98.20'	11°12'17"	9.63'
C34	10.16'	44.04'	13°12'47"	5.10'
C35	10.19'	642.00'	00°54'35"	5.10'
C36	12.51'	387.00'	01°51'08"	6.26'
C37	49.10'	112.50'	25°00'16"	24.95'
C38	35.42'	37.50'	54°06'52"	19.15'
C39	15.00'	4074.00	0°12'39"	7.50'
C40	33.39'	40.00'	47°50'04"	17.74'

EASEMENT CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C41	41.74'	50.00'	47°50'04"	22.17'
C42	49.58'	52.50'	54°06'52"	26.82'
C43	74.92'	82.50'	52°02'03"	40.27'
C44	8.73'	52.50'	9°31'37"	4.37'
C45	16.41'	17.50'	53°43'22"	8.86'
C46	19.99'	27.50'	41°39'23"	10.46'
C47	51.29'	52.50'	55°58'16"	27.90'
C48	139.64'	426.01'	18°46'49"	70.45'

N

200 100 0 200 400

GRAPHIC SCALE: 1" = 200'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 10/04/2018
STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	VOIDED SHEET AND REPLACED WITH NEW SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA

8/29/18
JASON H. FUKUMITSU DATE

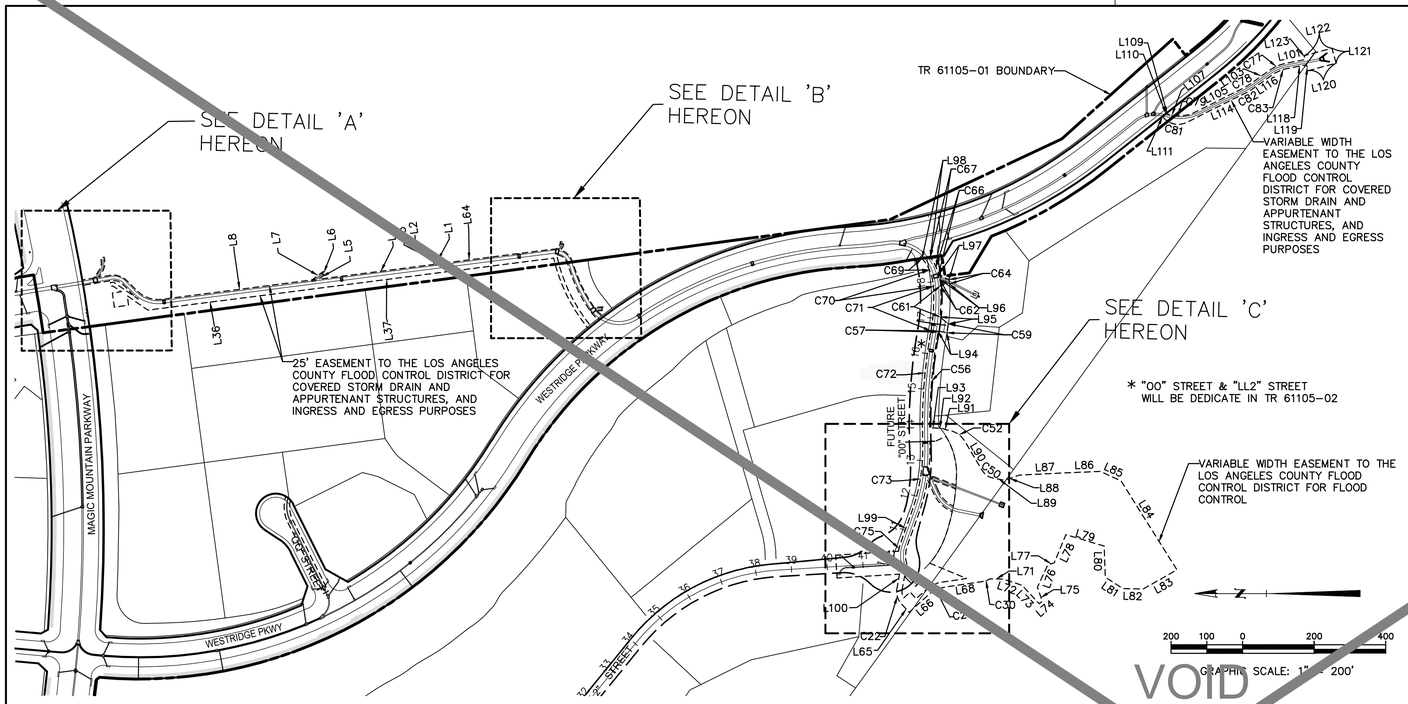
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG | SHEET 34 OF 37

Dwg No. 43-F553.1-38

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HAV086-34_SD_Easement.dwg Plotted on Jul 06, 2018 - 12:36pm by wallisel

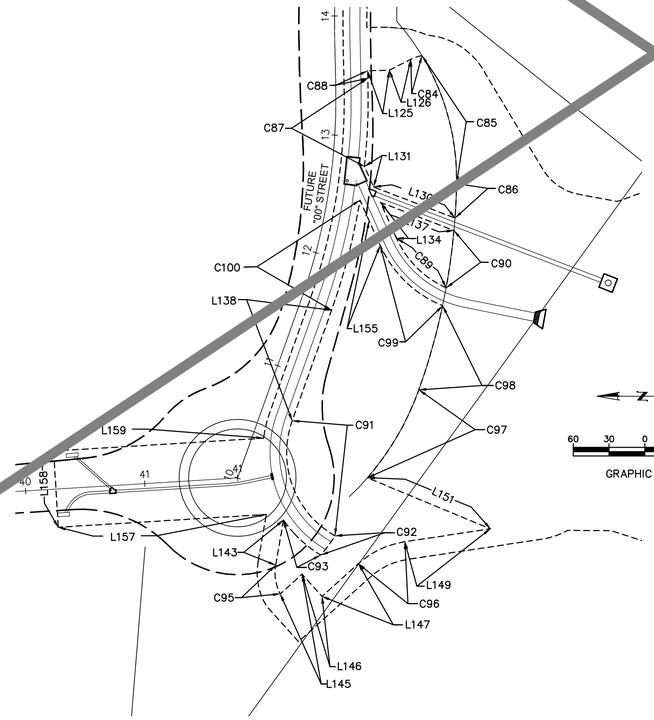


Easement Curve Table			
Curve #	Delta	Radius	Length
C1	52°02'03"	82.50'	74.92'
C2	54°06'52"	52.50'	49.58'
C3	47°50'04"	50.00'	41.74'
C4	47°50'04"	40.00'	33.39'
C5	0°12'39"	4074.00'	14.99'
C6	54°06'52"	37.50'	35.42'
C7	11°12'17"	98.20'	19.20'
C8	2°08'08"	476.50'	17.76'
C9	23°24'05"	476.50'	194.62'
C10	26°30'02"	467.08'	215.77'
C12	66°29'22"	37.50'	43.52'
C13	18°48'43"	444.44'	145.92'
C14	20°52'01"	97.50'	35.51'
C15	0°44'01"	1247.00'	15.97'
C16	16°55'35"	82.50'	24.37'
C17	18°46'49"	426.01'	139.64'
C18	55°58'16"	52.50'	51.29'
C19	41°39'23"	27.50'	19.99'
C20	53°43'22"	17.50'	16.41'
C21	9°31'37"	52.50'	8.73'
C22	41°37'16"	52.94'	38.46'
C26	33°25'44"	60.00'	35.0
C30	20°16'02"	65.00'	22.99'
C50	48°27'35"	45.00'	38.06'
C52	49°37'3	60.50'	52.40'
C56	1 35 37"	1473.00'	269.35'
C57	0°20'54"	527.00'	3.20'
C59	2°34'46"	552.00'	24.85'
C61	9°28'07"	527.00'	87.09'
C62	6°49'15"	160.00'	19.05'
C64	1°13'00"	552.00'	11.72'
C66	7°50'11"	160.00'	21.88'
C67	14°19'14"	130.00'	32.48'
C69	17°49'38"	110.00'	33.91'
C70	19°18'25"	140.00'	47.18'
C71	14°08'00"	507.00'	125.06'
C72	12°08'06"	1493.00'	316.20'
C73	21°31'35"	507.00'	190.48'
C75	12°34'44"	100.00'	21.95'
C77	25°00'16"	127.50'	55.64'
C78	9°13'56"	112.50'	18.13'
C79	27°24'00"	114.50'	54.76'
C81	78°27'24"	53.35'	73.05'
C82	9°13'56"	127.50'	20.54'
C83	25°00'16"	112.50'	49.10'
C84	16°12'01"	35.00'	9.90'
C85	32°17'42"	199.80'	112.62'
C86	3 3'48"	542.76'	29.02'
C87	8°03'4	527.00'	74.16'
C88	0°14'27"	1 .00'	6.19'
C89	41°48'11"	82.50	60.19'
C90	5°07'31"	542.76'	48.
C91	80°05'39"	80.00'	111.83'
C92	12°09'44"	95.00'	20.17'
C93	24°42'14"	100.00'	43.12'
C95	37°30'21"	37.94'	24.83'
C96	33°25'44"	75.00'	43.76'
C97	21°14'28"	231.66'	85.88'
C98	7°44'01"	542.76'	73.26'
C99	43°49'38"	97.50'	74.58'
C100	10°22'05"	527.00'	95.36'
C101	00°28'14"	1247.00'	10.24'

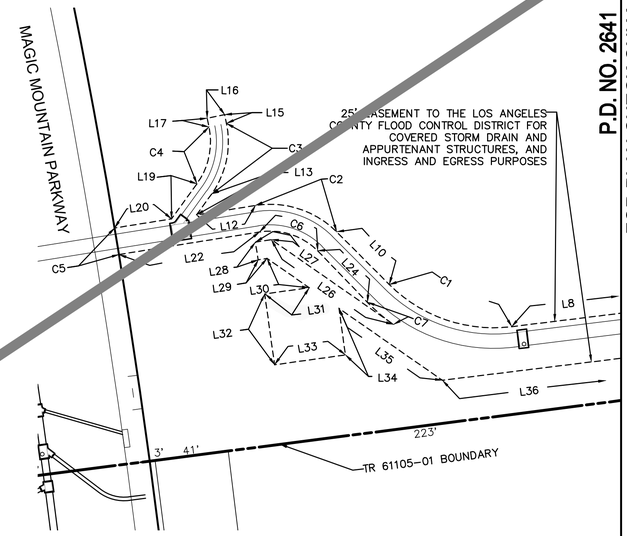
Easement Line Table		
Line #	Length	Direction
L1	18.46'	S82°52'01"E
L2	10.00'	N07°07'59"E
L3	21.03'	N82°52'01"W
L4	323.64'	N07°18'15"W
L5	22.54'	S37°18'15"E
L6	10.00'	N52°41'45"E
L7	39.86'	N37°18'15"W
L8	422.41'	N07°18'15"W
L10	41.65'	N44°43'48"E
L12	33.32'	N09°23'04"W
L13	14.23'	S54°23'04"E
L15	5.00'	N77°46'52"E
L16	10.00'	N12°13'08"W
L17	5.00'	S77°46'52"W
L19	24.23'	N54°23'04"W
L20	32.22'	N09°23'04"W
L22	79.60'	S09°23'04"E
L24	39.96'	S45°43'10"W
L26	83.10'	N34°30'54"E
L27	9.03'	N09°23'04"W
L28	10.00'	S80°36'56"W
L29	5.00'	S09°23'04"E
L30	28.72'	S34°30'54"W
L31	25.13'	N08°11'07"W
L32	40.00'	S81°48'53"W
L33	40.00'	S08°11'07"E
L34	26.28'	N81°48'53"E
L35	70.40'	S34°30'54"W
L36	185.05'	S07°18'15"E
L37	957.91'	S07°18'15"E
L40	9.18'	S52°20'50"W
L42	8.99'	N50°49'21"E
L51	17.46'	S04°17'30"E
L52	10.00'	N85°42'30"E
L53	24.20'	N04°17'30"W
L57	5.00'	S84°38'40

Easement Line Table		
Line #	Length	Direction
L58	10.00'	N05°21'20"E
L59	5.00'	N84°38'40"W
L61	5.06'	N30°55'18"W
L63	46.34'	N07°18'15"W
L64	277.88'	N07°18'15"W
L65	40.00'	S47°59'41"W
L66	80.98'	S42°00'19"E
L68	113.93'	S08°34'35"E
L71	36.53'	S00°21'29"W
L72	55.92'	S18°02'47"W
L73	70.97'	S47°04'30"W
L74	10.88'	S38°59'45"E
L75	41.90'	N70°42'29"E
L76	69.40'	S64°49'24"E
L77	18.52'	S17°30'46"E
L78	85.03'	S67°20'26"E
L79	111.60'	S16°33'37"W
L80	86.82'	S87°56'12"W
L81	58.91'	S33°11'55"W
L82	56.57'	S00°48'25"W
L83	108.33'	S29°29'26"E
L84	293.30'	N57°49'55"E
L85	63.95'	N24°42'52"E
L86	100.16'	N02°16'34"W
L87	127.78'	N02°57'03"W
L88	41.92'	N19°43'16"W
L89	32.76'	N10°36'58"E
L90	100.82'	N59°04'33"E
L91	16.42'	N17°48'32"E
L92	18.25'	N05°06'09
L93	18.00'	N00 24"W
L94	25.01'	S11°05'12"W
L95	7 5'	N40°28'33"E
L9	30.31'	S26°34'22"W
L97	32.47'	N26°34'22"E

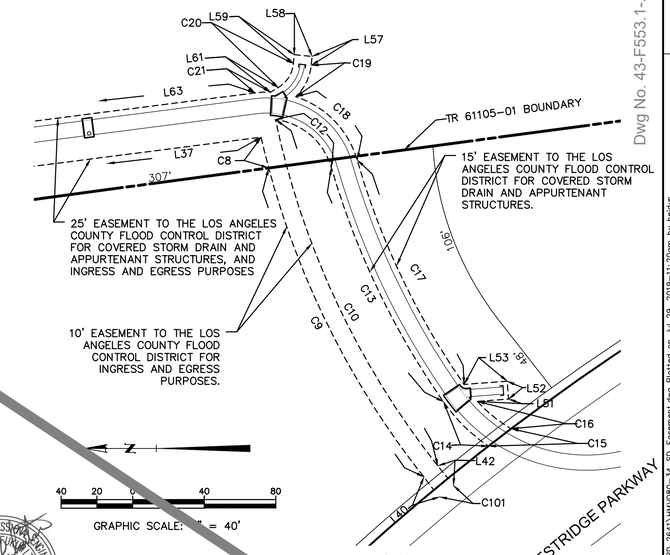
Easement Line Table		
Line #	Length	Direction
L98	21.68'	N18°54'53"W
L99	98.42'	N70°22'17"W
L100	40.54'	S80°09'43"E
L101	52.74'	N10°48'03"W
L103	61.74'	N35°48'19"W
L105	168.32'	N26°34'23"W
L107	12.09'	N11°33'06"E
L109	3.56'	N51°33'33"E
L110	17.35'	N38°26'27"W
L111	3.66'	S11°33'06"W
L114	189.68'	S26°34'23"E
L116	61.74'	S35°48'19"E
L118	53.86'	S10°48'03"E
L119	17.12'	S74°56'47"W
L120	81.00'	S15°03'13"E
L121	43.34'	N74°56'47"E
L122	81.00'	N15°03'13"W
L123	11.17'	S74°56'47"W
L125	18.28'	S01°39'25"E
L126	20.17'	S26°48'30"E
L130	73.00'	N20°54'50"E
L131	18.82'	N65°54'50"E
L134	32.85'	S65°54'50"W
L137	65.92'	N20°54'50
L138	98.42'	N70 7"W
L143	38.41'	0°09'43"W
L145	2 8'	S42°00'19"E
L14	25.00'	S47°59'41"W
L147	40.98'	S42°00'19"E
L149	72.47'	S08°34'35"E
L151	111.55'	N22°34'05"E
L155	41.62'	N65°54'50"E
L157	174.74'	N03°30'19"W
L158	64.00'	N86°29'41"E
L159	176.42'	S03°30'19"E



DETAIL 'C'



DETAIL 'A'



DETAIL 'B'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 8/14/19

STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REPLACEMENT FOR SHEET 34	Jason H Fukumitsu		8/14/19
4	SUPERSED 12A FOR 12B FOR EASMENT REVISION	Jason H Fukumitsu	MD	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

Jason H Fukumitsu 7/29/2019

JASON H. FUKUMITSU DATE

P.D. NO. 2641

FOR PLAN CHECK ONLY

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN

TRACT No. 61105-01 P.D. No. 2641

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES LOS ANGELES, INC.

PLANNING ▪ ENGINEERING ▪ SURVEYING

26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-[illegible] • FX: (661) 294-9890

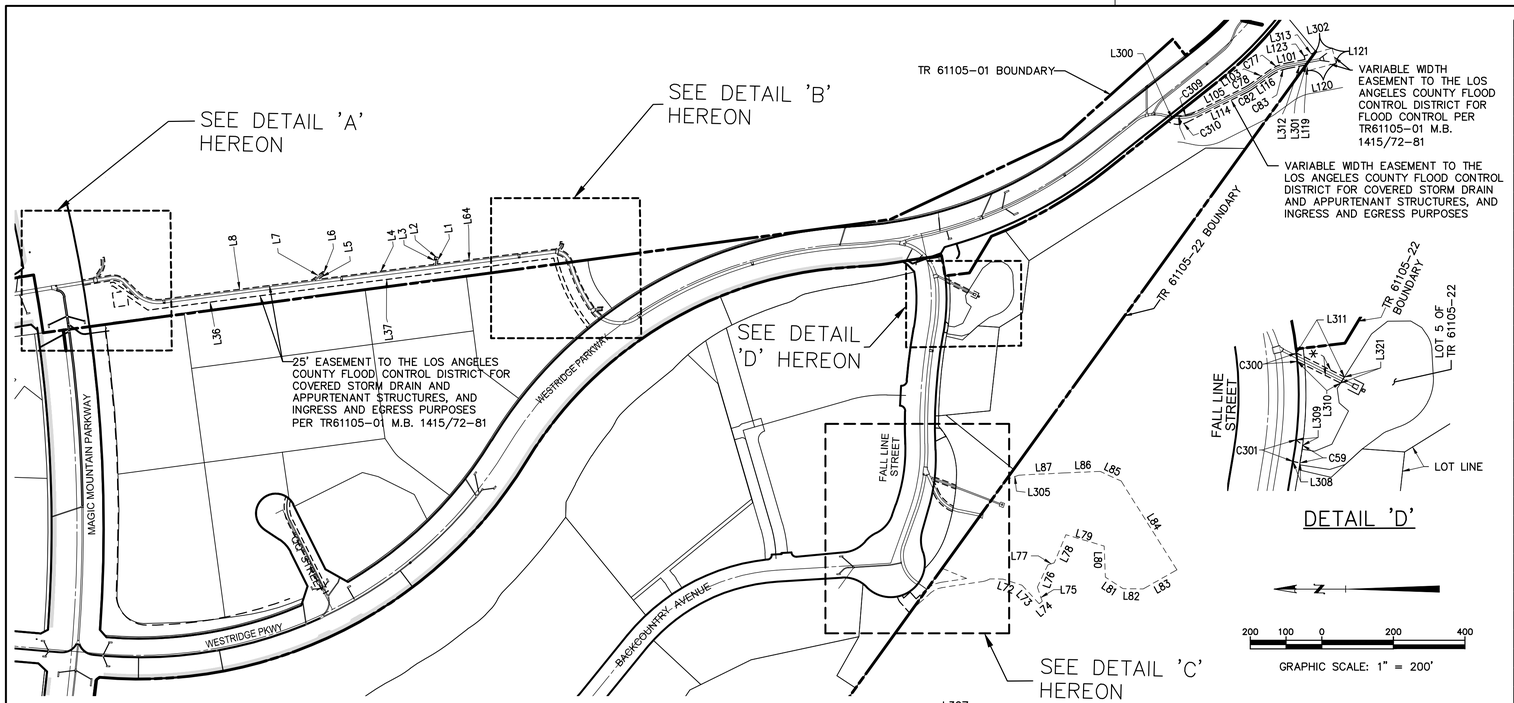
DWG

SHEET 34A OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WM086-34_SD_EasementLines Plotted on Jul 29, 2019-11:20am by heidys

P.D. NO. 2641

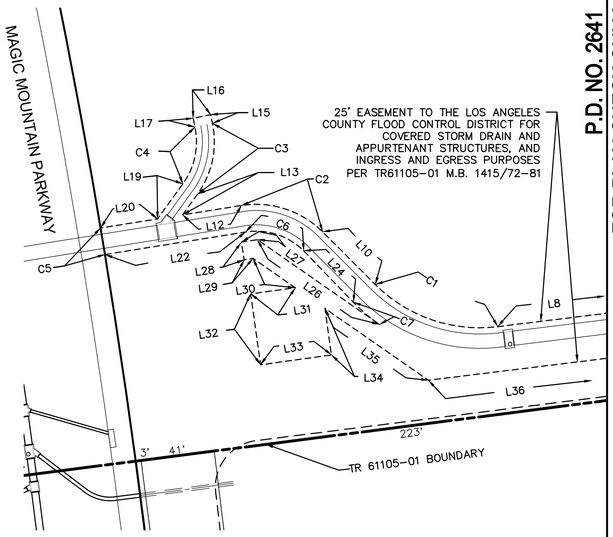
FOR PLAN CHECK ONLY



Easement Curve Table			
Curve #	Delta	Radius	Length
C1	52°02'03"	82.50'	74.92'
C2	54°06'52"	52.50'	49.58'
C3	47°50'04"	50.00'	41.74'
C4	47°50'04"	40.00'	33.39'
C5	0°12'39"	4074.00'	14.99'
C6	54°06'52"	37.50'	35.42'
C7	11°12'17"	98.20'	19.20'
C8	2°08'08"	476.50'	17.76'
C9	23°24'05"	476.50'	194.62'
C10	26°30'02"	467.08'	215.77'
C12	66°29'22"	37.50'	43.52'
C13	18°48'43"	444.44'	145.92'
C14	20°52'01"	97.50'	35.51'
C15	0°44'01"	1247.00'	15.97'
C16	16°55'35"	82.50'	24.37'
C17	18°46'49"	426.01'	139.64'
C18	55°58'16"	52.50'	51.29'
C19	41°39'23"	27.50'	19.99'
C20	53°43'22"	17.50'	16.41'
C21	9°31'37"	52.50'	8.73'
C26	33°25'44"	60.00'	35.01'
C30	20°16'02"	65.00'	22.99'
C59	2°34'46"	552.00'	24.85'
C77	25°00'16"	127.50'	55.64'
C78	9°13'56"	112.50'	18.13'
C82	9°13'56"	127.50'	20.54'
C83	25°00'16"	112.50'	49.10'
C84	16°12'01"	35.00'	9.90'
C89	41°48'11"	82.50'	60.19'
C96	33°25'44"	75.00'	43.76'
C99	43°49'38"	97.50'	74.58'
C101	00°28'14"	1247.00'	10.24'
C300	01°14'52"	542.00'	11.81'
C301	03°15'02"	542.00'	30.75'
C302	01°25'01"	1458.00'	36.06'
C303	01°10'57"	500.00'	10.32'
C304	03°08'32"	500.00'	27.42'
C305	01°05'59"	542.76'	10.42'
C306	02°37'06"	542.76'	15.33'
C307	16°49'04"	52.94'	15.42'
C308	09°03'25"	95.00'	15.02'
C309	27°24'00"	114.50'	45.03'
C310	78°27'24"	53.35'	55.55'
C311	12°56'45"	37.94'	8.57'
C312	07°56'43"	199.80'	27.71'

DETAIL 'D'

GRAPHIC SCALE: 1" = 200'



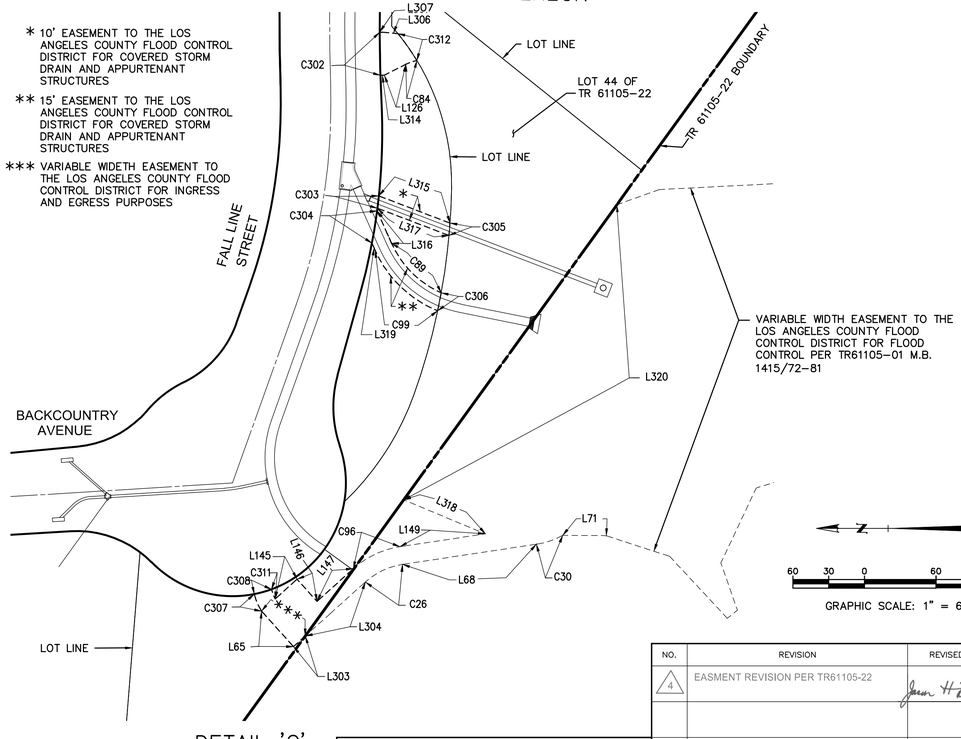
DETAIL 'A'

GRAPHIC SCALE: 1" = 40'

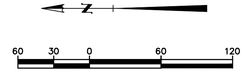
Easement Line Table		
Line #	Length	Direction
L1	18.46'	S82°52'01"E
L2	10.00'	N07°07'59"E
L3	21.03'	N82°52'01"W
L4	323.64'	N07°18'15"W
L5	22.54'	S37°18'15"E
L6	10.00'	N52°41'45"E
L7	39.86'	N37°18'15"W
L8	422.41'	N07°18'15"W
L10	41.65'	N44°43'48"E
L12	33.32'	N09°23'04"W
L13	14.23'	S54°23'04"E
L15	5.00'	N77°46'52"E
L16	10.00'	N12°13'08"W
L17	5.00'	S77°46'52"W
L19	24.23'	N54°23'04"W
L20	32.22'	N09°23'04"W
L22	79.60'	S09°23'04"E
L24	39.96'	S45°43'10"W
L26	83.10'	N34°30'54"E
L27	9.03'	N09°23'04"W
L28	10.00'	S80°36'56"W
L29	5.00'	S09°23'04"E
L30	28.72'	S34°30'54"W
L31	25.13'	N08°11'07"W
L32	40.00'	S81°48'53"W
L33	40.00'	S08°11'07"E
L34	26.28'	N81°48'53"E
L35	70.40'	S34°30'54"W
L36	185.05'	S07°18'15"E
L37	957.91'	S07°18'15"E
L40	9.18'	S52°20'50"W
L42	8.99'	N50°49'21"E
L51	17.46'	S04°17'30"E
L52	10.00'	N85°42'30"E
L53	24.20'	N04°17'30"W
L57	5.00'	S84°38'40"E

Easement Line Table		
Line #	Length	Direction
L58	10.00'	N05°21'20"E
L59	5.00'	N84°38'40"W
L61	5.06'	N30°55'18"W
L63	46.34'	N07°18'15"W
L64	277.88'	N07°18'15"W
L65	40.00'	S47°59'41"W
L68	113.93'	S08°34'35"E
L71	36.53'	S00°21'29"W
L72	55.92'	S18°02'47"W
L73	70.97'	S47°04'30"W
L74	10.88'	S38°59'45"E
L75	41.90'	N70°42'29"E
L76	69.40'	S64°49'24"E
L77	18.52'	S17°30'46"E
L78	85.03'	S67°20'26"E
L79	111.60'	S16°33'37"W
L80	86.82'	S87°56'12"W
L81	58.91'	S33°11'55"W
L82	56.57'	S00°48'25"W
L83	108.33'	S29°29'26"E
L84	293.30'	N57°49'55"E
L85	63.95'	N24°42'52"E
L86	100.16'	N02°16'34"W
L87	127.78'	N02°57'03"W
L101	52.74'	N10°48'03"W
L103	61.74'	N35°48'19"W
L105	168.32'	N26°34'23"W
L114	189.68'	S26°34'23"E
L116	61.74'	S35°48'19"E
L119	17.12'	S74°56'47"W
L120	81.00'	S15°03'13"E
L121	43.34'	N74°56'47"E
L123	11.17'	S74°56'47"W
L126	20.17'	S26°48'30"E
L145	24.66'	S42°00'19"E
L146	25.00'	S47°59'41"W

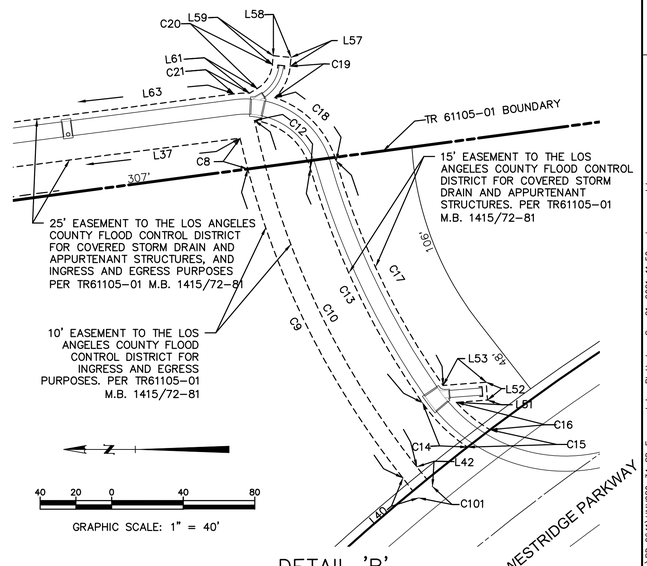
Easement Line Table		
Line #	Length	Direction
L147	40.98'	S42°00'19"E
L149	72.47'	S08°34'35"E
L300	26.55'	N38°26'27"W
L301	1.51'	N10°48'03"W
L302	50.37'	N15°03'13"W
L303	13.26'	S42°00'19"E
L304	67.72'	S42°00'19"E
L305	37.64'	N19°43'16"W
L306	12.30'	N05°06'09"E
L307	3.00'	N00°14'24"W
L308	10.00'	S11°05'12"W
L309	11.99'	N40°28'33"E
L310	67.53'	S26°34'22"W
L311	74.80'	N26°34'22"E
L312	52.35'	S10°48'03"E
L313	30.62'	N15°03'13"W
L314	3.28'	S01°39'25"E
L315	63.83'	N20°54'50"E
L316	29.66'	S65°54'50"W
L317	64.20'	N20°54'50"E
L318	74.12'	N22°34'05"E
L319	6.71'	N65°54'50"E
L320	305.28'	S54°08'34"E
L321	10.05'	S57°44'11"E



DETAIL 'C'



GRAPHIC SCALE: 1" = 60'



DETAIL 'B'

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ STORM DRAIN SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
4	EASMENT REVISION PER TR61105-22	Jason H Fukumitsu	M.D. Esq.	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

Jason H Fukumitsu 9/23/21
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 • Valencia, CA 91355 • PH: (661) 294-2211 • FX: (661) 294-9890

DWG

SHEET 34B OF 39

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\HM\080-34_SD_Easement.dwg Plotted on Sep 21, 2021-11:50am by armondab

FOUNDATION NOTES:

1. BUILDING CODE MINIMUM RECOMMENDATION IS USED IN THIS PROJECT 1806.2 CLASS 5 MATERIAL.
2. FOOTINGS ARE DESIGNED FOR A BEARING PRESSURE OF 1500 PSF AND EXPANSION INDEX 21-50.3. WHERE SLAB-ON-GRADE OCCURS, EXISTING LOOSE SURFACE SOILS AND FILL PLACED WITHIN THE SLAB AREA SHALL BE RECOMPACTED TO A MINIMUM OF 90 PERCENT RELATIVE COMPACTION.
4. THE CONTRACTOR SHALL SUBMIT TO THE CITY OR COUNTY FOUNDATION EXCAVATIONS AND RECOMPACTION REPORTS PRIOR TO PLACING ANY STRUCTURAL AND NON-STRUCTURAL CONCRETE AND REBAR AT THE SUBJECT AREAS.
5. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE.
6. FOOTING AND UTILITY TRENCH BACK FILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS. FLOODING WILL NOT BE PERMITTED.
7. ALL FOOTINGS SHALL BE FOUNDED IN UNDISTURBED NATURAL SOIL PER CODE.
8. IF SOIL IS FOUND TO BE EXPANSIVE, THE FOOTINGS MUST MEET THE FOLLOWING MINIMUM REQUIREMENTS.
   A. DEPTH OF FOOTINGS BELOW THE NATURAL AND FINISH GRADES SHALL NOT BE LESS THAN 27 INCHES FOR EXTERIOR AND 18 INCHES FOR INTERIOR FOOTINGS.
   B. EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL BE SUPPORTED ON CONTINUOUS FOOTINGS.
   C. FOOTINGS SHALL BE REINFORCED WITH MINIMUM (4) #4 DEFORMED REINFORCING BARS. TWO BARS SHALL BE PLACED 4 INCHES OF THE BOTTOM OF THE FOOTING AND TWO BARS WITHIN 4 INCHES OF THE TOP OF THE FOOTINGS.
   D. THE SOIL BELOW AN INTERIOR CONCRETE SLAB SHALL BE SATURATED WITH MOISTURE TO A DEPTH OF 18 INCHES PRIOR TO PLACING THE CONCRETE.
9. IN THE EVENT EXCAVATIONS REVEAL UNFAVORABLE CONDITIONS, THE SERVICES OF A SOILS ENGINEER AND/OR GEOLOGIST MAY BE REQUIRED.
10. EXCAVATION FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.
11. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW-STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANOR THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPROOFING MATERIAL.
    EXCEPTION: CLSM NEED NOT BE COMPACTED.
12. THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN ONE UNIT VERTICAL IN 20 UNITS HORIZONTAL (5-PERCENT SLOPE) FOR A MINIMUM DISTANCE OF 10 FEET (3048 MM) MEASURED PERPENDICULAR TO THE FACE OF THE WALL. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET (3048 MM) OF HORIZONTAL DISTANCE, A 5-PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATIVE METHOD OF DIVERTING WATER AWAY FROM FOUNDATION. SWALES USED FOR THIS PURPOSE SHALL BE SLOPED A MINIMUM OF 2 PERCENT WHERE LOCATED WITHIN 10 FEET (3048 MM) OF THE BUILDING FOUNDATION. IMPERVIOUS SURFACES WITHIN 10 FEET (3048 MM) OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2 PERCENT AWAY FROM THE BUILDING.
    EXCEPTION: WHERE CLIMATIC OR SOIL CONDITIONS WARRANT, THE SLOPE OF THE GROUND AWAY FROM THE BUILDING FOUNDATION SHALL BE PERMITTED TO BE REDUCED TO NOT LESS THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL (2-PERCENT SLOPE).
    THE PROCEDURE USED TO ESTABLISH THE FINAL GROUND LEVEL ADJACENT TO THE FOUNDATION SHALL ACCOUNT FOR ADDITIONAL SETTLEMENT OF THE BACKFILL.

ABBREVIATIONS

AB	ANCHOR BOLT	FH	FULL HEIGHT	R&R	REMOVE & REPLACE
ABV	ABOVE	FN	FIELD NAILING	SCHED	SCHEDULE
ADDL	ADDITIONAL	FL	FLOOR	SF	SQUARE FOOT
ADHES	ADHESIVE	FS	FAR SIDE	SHT	SHEET
ALT	ALTERNATE	FDN	FOUNDATION	SIM	SIMILAR
ARCH	ARCHITECT, ARCHITECTURAL	FOC	FACE OF CONCRETE	SN	SOLE ℄ NAILING
BTWN	BETWEEN	FOS	FACE OF STUD	SPEC	SPECIFICATION
BLW	BELOW	FT	FOOT, FEET	SQ	SQUARE
BLDG	BUILDING	FTG	FOOTING	STD	STANDARD
BLKG	BLOCKING	GA	GAGE	STL	STEEL
BM	BEAM	GALV	GALVANIZED	STRUCT	STRUCTURAL
BN	BOUNDARY NAILING	GND	GROUND	SYM	SYMMETRICAL
BOT	BOTTOM	GRD	GRADE	THK	THICK
BS	BOTH SIDES	GT	GIRDER TRUSS	THRD	THREADED
BSMT	BASEMENT	HT	HEIGHT	T&B	TOP & BOTTOM
CF	CUBIC FOOT	HORIZ	HORIZONTAL	TN	TOE NAIL
CJ	CONTROL JOINT, CEILING JOIST	HS	HIGH STRENGTH	TOF	TOP OF FOOTING
CLG	CEILING	INFO	INFORMATION	TOS	TOP OF STEEL
CLR	CLEAR	INT	INTERIOR	TL	TOP OF LEDGER
CMU	CONCRETE MASONRY UNIT	JT	JACK TRUSS	TOW	TOP OF WALL
CNTRSNK	COUNTERSINK/COUNTERSUNK	KP	KING POST	TRANSV	TRANSVERSE
COL	COLUMN	KSI	KIPS PER SQUARE INCH	TS	TUBE STEEL
CONC	CONCRETE	LBS	POUNDS	TYP	TYPICAL
CONN	CONNECTION	LG	LONG	UNO	UNLESS NOTED OTHERWISE
CONST	CONSTRUCTION	LOC'S	LOCATIONS	VERT	VERTICAL
CONT	CONTINUOUS	LONG	LONGITUDINAL	WF	WIDE FLANGE BEAM
CONTR	CONTRACTOR	LT WT	LIGHT WEIGHT	W/	WITH
CVR	COVER	MAX	MAXIMUM	W/O	WITHOUT
DIA	DIAMETER	MB	MACHINE BOLT	WT	WEIGHT
DIR	DIRECTION	MD	METAL DECK	WP	WORKING POINT
D.O.	DO OVER	MECH	MECHANICAL	WWF	WELDED WIRE FABRIC
DSA	DEPARTMENT OF STATE ARCHITECTS	MANUF	MANUFACTURER	WWO	WALL W/ OPENING AND/OR PERFORATED S.W.
DWG	DRAWING	MIN	MINIMUM		
(E)	EXISTING	MISC	MISCELLANEOUS		
EA	EACH	MTL	METAL		
EF	EACH FACE	(N)	NEW		
ELEC	ELECTRICAL	NS	NEAR SIDE, NELSON STUD		
EL	ELEVATION	NW	NORMAL WEIGHT		
EN	EDGE NAILING	OC	ON CENTER		
ENGR	ENGINEER	OH	OPPOSITE HAND		
ES	EDGE SCREW	OPP	OPPOSITE		
EXP JT	EXPANSION JOINT	PSF	POUNDS PER SQUARE FOOT		
EQ	EQUAL	PSI	POUNDS PER SQUARE INCH		
EXT	EXTERIOR	PT	PLATE TRUSS		
FF	FINISHED FLOOR	REINF	REINFORCEMENT		
FG	FINISHED GRADE	REQ	REQUIRE		

SYMBOLS

∠	ANGLE
@	AT
℄	CENTERLINE
℘	PLATE / PROPERTY LINE
#	POUNDS
ø	DIAMETER
⊥	PERPENDICULAR
//	PARALLEL

REINFORCED CONCRETE NOTES CONT.:

26. TOLERANCE FOR d AND MINIMUM CONCRETE COVER IN FLEXURAL MEMBERS, WALLS, AND COMPRESSION MEMBERS SHALL BE AS FOLLOWS:

	TOLERANCE ON d	TOLERANCE ON MINIMUM CONCRETE COVER
d ≤ 8 IN.	±⅜ IN.	−⅜ IN.
d > 8 IN.	±½ IN.	−½ IN.

EXCEPT THAT TOLERANCE FOR THE CLEAR DISTANCE TO FORMED SOFFITS SHALL BE MINUS ¼ IN. AND TOLERANCE FOR COVER SHALL NOT EXCEED MINUS ⅓ THE MINIMUM CONCRETE COVER REQUIRED IN THE DESIGN DRAWINGS AND SPECIFICATIONS.

27. MAXIMUM CHLORIDE ION CONTENT FOR CORROSION PROTECTION OF REINFORCEMENT:

TYPE OF MEMBER	MAXIMUM WATER SOLUBLE CHLORIDE ION (CI) IN CONCRETE, PERCENT BY WEIGHT OF CEMENT
PRESTRESSED CONCRETE	0.06
REINFORCED CONCRETE EXPOSED TO CHLORIDE IN SERVICE	0.15
REINFORCED CONCRETE THAT WILL BE DRY OR PROTECTED FROM MOISTURE IN SERVICE	1.00
OTHER REINFORCED CONCRETE CONSTRUCTION	0.30

28. TOLERANCE FOR LONGITUDINAL LOCATION OF BEND AND ENDS OF REINFORCEMENT SHALL BE ± 2 IN., EXCEPT THE TOLERANCE SHALL BE ± ½ IN. AT THE DISCONTINUOUS ENDS OF BRACKETS AND CORBELS, AND ± 1 IN. AT THE DISCONTINUOUS ENDS OF OTHER MEMBERS.
29. REINFORCEMENT RESISTING EARTHQUAKE-INDUCED FLEXURAL AND AXIAL FORCES IN FRAME MEMBERS AND IN STRUCTURAL WALL BOUNDARY ELEMENTS SHALL COMPLY WITH ASTM A 706. ASTM A 615 GRADE 60 REINFORCEMENT SHALL BE PERMITTED IN THESE MEMBERS IF:
   A. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED f_y BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI): AND
   B. THE RATION OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.THE VALUE OF f_y FOR TRANSVERSE REINFORCEMENT INCLUDING SPIRAL REINFORCEMENT SHALL NOT EXCEED 60,000 PSI.
30. CONCRETE FLOOR FLATNESS SHALL BE A MINIMUM OF ¾" : 10 FT. TYP. U.N.O.
31. WHERE CORROSION-RESISTANT REINFORCEMENT (CRR) IS SPECIFIED, USE MMFX2 REBAR ASTM A1035 GRADES 690 AND 830.
32. WELDING OF ELECTRICAL CONDUCTORS TO REINFORCING STEEL IS PROHIBITED WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
33. PERFORMANCE OF SHOTCRETE SHALL BE PER ACI 506.2 SPECIFICATIONS.
34. ACI 318 TABLE 26.4.1.1.1(a) – SPECIFICATIONS FOR CEMENTITIOUS MATERIALS

CEMENTITIOUS MATERIALS	SPECIFICATION
PORTLAND CEMENT	ASTM C150
BLENDED HYDRAULIC CEMENTS	ASTM C595, EXCLUDING TYPE IS (≥70) AND TYPE IT (S≥70)
EXPANSIVE HYDRAULIC CEMENTS	ASTM C845
HYDRAULIC CEMENT	ASTM C1157
FLY ASH AND NATURAL POZZOLAN	ASTM C618
SLAG CEMENT	ASTM C989
SILICA FUME	ASTM C1240

35. AGGREGATES – COMPLIANCE REQUIREMENTS:
   A. AGGREGATES SHALL CONFORM TO (1) OR (2):
      1. NORMALWEIGHT AGGREGATE: ASTM C33.
      2. LIGHTWEIGHT AGGREGATE: ASTM C330
   B. AGGREGATES NOT CONFORMING TO ASTM C33 OR ASTM C330 ARE PERMITTED IF THEY HAVE BEEN SHOWN BY TEST OF ACTUAL SERVICE TO PRODUCE CONCRETE OF ADEQUATE STRENGTH AND DURABILITY AND ARE APPROVED BY THE BUILDING OFFICIAL.
   C. MAXIMUM AGGREGATE SIZE:
      1. FOOTINGS.....1" MAX.
      2. SLAB ON GRADE, GRADE BEAMS.....¾" MAX.
      3. ELEVATED STRUCT. SLABS, BEAMS, FRAMED COLUMNS.....⅜" MAX.
      4. REMAINDER.....¾" MAX.
36. WATER – COMPLIANCE REQUIREMENTS:
   A. MIXING WATER SHALL CONFORM TO ASTM C1602.
   B. MIXING WATER, INCLUDING THAT PORTION OF MIXING WATER CONTRIBUTED IN THE FORM OF FREE MOISTURE ON AGGREGATES, SHALL NOT CONTAIN DELETERIOUS AMOUNTS OF CHLORIDE ION WHEN USED FOR PRESTRESSED CONCRETE, FOR CONCRETE THAT WILL CONTAIN ALUMINUM EMBEDMENTS, OR FOR CONCRETE CAST AGAINST STAY-IN-PLACE GALVANIZED STEEL FORMS.
37. ADMIXTURES – COMPLIANCE REQUIREMENTS:
   A. ADMIXTURES SHALL CONFORM TO (1) THROUGH (4):
      1. WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494.
      2. PRODUCING FLOWING CONCRETE: ASTM C1017.
      3. AIR ENTRAINMENT: ASTM C260.
      4. INHIBITING CHLORIDE-INDUCED CORROSION: ASTM C1582.
   B. ADMIXTURES THAT DO NOT CONFORM TO THESE SPECIFICATIONS SHALL BE SUBJECT TO PRIOR REVIEW BY THE LICENSED DESIGN PROFESSIONAL.
   C. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE FROM SOURCES OTHER THAN IMPURITIES IN ADMIXTURE INGREDIENTS SHALL NOT BE USED IN PRESTRESSED CONCRETE, IN CONCRETE CONTAINING EMBEDDED ALUMINUM, OR IN CONCRETE CAST AGAINST STAY-IN-PLACE GALVANIZED STEEL FORMS.
   D. ADMIXTURES USED IN CONCRETE CONTAINING EXPANSIVE CEMENTS CONFORMING TO ASTM C845 SHALL BE COMPATIBLE WITH THE CEMENT AND PRODUCE NO DELETERIOUS EFFECTS.
38. STEEL FIBER REINFORCEMENT – COMPLIANCE REQUIREMENTS:
   A. STEEL FIBER REINFORCEMENT USED FOR SHEAR RESISTANCE SHALL SATISFY (1) AND (2):
      1. BE DEFORMED AND CONFORM TO ASTM A820.
      2. HAVE A LENGTH-TO-DIAMETER RATIO OF AT LEAST 50 AND NOT EXCEEDING 100.

REINFORCED CONCRETE NOTES:

1. CONCRETE MIXES SHALL BE DESIGNED BY A RECOGNIZED TESTING LABORATORY AND COPIES OF THE DESIGN SHALL BE SENT TO THE ARCHITECT AND THE ENGINEER. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND THE ARCHITECT. ALL CONCRETE EXCEPT FOUNDATION CONCRETE SHALL CONTAIN POLYMER BASED WATER REDUCING ADMIXTURE.
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150. TYPE II. AGGREGATE FOR STONE CONCRETE SHALL CONFORM TO ASTM C-33. NON-REACTIVE AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL CONFORM ASTM C-330.
3. ALL REINFORCING BARS, ANCHOR BOLTS, PRE STRESSING TENDONS, AND ALL OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
4. THE MAXIMUM SLUMP SHALL NOT EXCEED 4" +/- 1" FOR FOOTINGS, SLABS ON EARTH, AND MASS CONCRETE, AND 5" +/- 1" FOR OTHER CONCRETE. SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED, PROVIDED THAT ADMIXTURE-TREATED CONCRETE HAS THE SAME OR LOWER WATER: CEMENT OR WATER: CEMENTITIOUS MATERIAL RATIO. (ACI 211 TABLE 6.3.1)
5. MINIMUM COMPRESSIVE STRENGTH:
   PROVIDE CONCRETE WITH THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (f'_c) AT 28 DAYS UNLESS NOTED OTHERWISE (MINIMUM 5 SACKS OF CEMENT PER CUBIC YARD) (MAXIMUM WATER/CEMENT RATIO BY WEIGHT SHALL BE .65 FOR BALANCE):
   A. STRUCTURAL SLABS..... 3000 P.S.I.*(HARDROCK)
   B. COLUMNS..... 3000 P.S.I.*(HARDROCK)
   C. BEAMS..... 3000 P.S.I.*(HARDROCK)
   * 2500 PSI STRENGTH USED FOR DESIGN, SPECIAL INSPECTION NOT REQUIRED.
6. THE COMPRESSIVE STRENGTH OF EXTERIOR SLABS AND FLAT WORK SHALL BE INCREASED FOR MODERATE AND SEVERE WEATHERING EXPOSURE PER TABLE 1904.2.2 OF THE CBC.
7. ALL STRUCTURAL CONCRETE IS TO BE REINFORCED.
8. CONTRACTOR SHALL SUBMIT SLAB CONSTRUCTION JOINT LAYOUT DRAWINGS TO THE ARCHITECT AND ENGINEER FOR REVIEW. THE MAXIMUM SPACING OF CONTROL JOINTS IN SLAB ON GRADE EACH WAY SHALL BE 30X THE SLAB THICKNESS BEFORE 7 DAYS OF CURING. SLABS REQUIRE AT LEAST 7 DAYS CURING (14 DAYS WHERE FLY ASH OR POZOLAN IS USED), AND THE ENVIRONMENT (HUMIDITY AND TEMPERATURE) OF ROOM SHALL BE ACCLIMATED TO LONG TERM CLIMATE CONDITIONS PRIOR TO INSTALLATION OF FLOORING. THE SLAB TEMPERATURE SHALL BE WITHIN 5 DEGREES OF DEW POINT DURING CURING. NO CURING COMPOUND SHALL BE USED, ONLY WET CURED. MOISTURE AND HUMIDITY TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY HIRED BY THE OWNER, AND TESTS RESULTS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION OF FLOORING.
9. PROJECTING CORNERS OF BEAMS, COLUMNS, WALLS, ETC.. SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS DETAILED OTHERWISE.
10. IF EXPOSURE TO SULFATES, OR SPECIAL EXPOSURE CONDITIONS OCCUR, THE CONCRETE STRENGTH, WATER CEMENT RATIOS, AND OTHER PROPERTIES OF THE CONCRETE MIX SHALL BE IN ACCORDANCE WITH ACI 318 SECTION 4.3. VERIFY WITH SOILS REPORT FOR CORROSIVE CHEMICALS IN THE SOILS.
11. DO NOT POUR CONCRETE WHEN THE TEMPERATURE EXCEEDS 90°F OR 80°F WHEN THE WIND EXCEEDS 12MPH. START CURING AS SOON AS HARD TRAWLING IS DONE. ALL CURING SHALL BE WET CURING BY USING BURLAP FOR A MINIMUM OF 7 DAYS. BURLAP MUST BE PLACED WITHIN 2 HOURS OF POURING (NO SPRAY CURING). WHEN WIND, TEMPERATURE AND HUMIDITY CONDITIONS CAUSE EARLY DISAPPEARANCE OF BLEED WATER, STEPS SHALL BE TAKEN TO USE A FOG SPRAY. CURING SHALL COMMENCE IMMEDIATELY AFTER FINISHING TRAWLING.
12. WHERE AIR ENTRAINED CONCRETE IS SPECIFIED, THE VOLUME OF AIR IN THE MORTAR FRACTION OF CONCRETE MIX DESIGN SHALL BE 9% ±1%.
13. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 GRADE 60 FOR NO.5 AND LARGER, ASTM A-615 GRADE 40 FOR NO.4 AND SMALLER. AT GRADE BEAMS & CONCRETE FRAMES ALL REINF. SHALL CONFORM TO ASTM A706 REBAR, U.N.O.
14. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
15. REINFORCING STEEL SHALL BE SPLICED WITH CLASS B SPLICES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
16. LOW HYDROGEN ELECTRODES SHALL BE USED WHEREVER REINFORCING STEEL IS WELDED. BARS SHALL BE A706 GRD. 60 MIN. FOR WELD ABILITY.
17. AT THE TIME CONCRETE IS PLACED, REINFORCEMENT SHALL BE FREE FROM MUD, OIL, OR OTHER NONMETALLIC COATINGS THAT DECREASE BOND. WHERE SPECIFIED IN THE DETAILS, EPOXY-COATING OF STEEL REINFORCEMENT IN ACCORDANCE WITH ACI STANDARDS. EXCEPT FOR PRESTRESSING STEEL, STEEL REINFORCEMENT WITH RUST, MILL SCALE, OR A COMBINATION OF BOTH SHALL BE CONSIDERED SATISFACTORY, PROVIDED THE MINIMUM DIMENSIONS (INCLUDING HEIGHT OF DEFORMATIONS) AND WEIGHT OF A HAND-WIRE-BRUSHED TEST SPECIMEN COMPLY WITH APPLICABLE ASTM SPECIFICATIONS.
18. THE MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL BE d_b BUT NOT LESS THAN 1 IN. WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER WITH CLEAR DISTANCE BETWEEN LAYERS NOT LESS THAN 1 IN. 21. CLEAR DISTANCE LIMITATION BETWEEN BARS SHALL APPLY ALSO TO THE CLEAR DISTANCE BETWEEN A CONTACT LAP SPLICE AND ADJACENT SPLICES OR BARS.
19. IN SPIRALLY REINFORCED OR TIED REINFORCED COMPRESSION MEMBERS, CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL BE NOT LESS THAN 1.5db NOR LESS THAN 1½ IN.
20. IN WALLS AND SLABS OTHER THAN CONCRETE JOIST CONSTRUCTION, PRIMARY FLEXURAL REINFORCEMENT SHALL NOT BE SPACED FARTHER APART THAN THREE TIMES THE WALL OR SLAB THICKNESS, NOR FARTHER APART THAN 18 IN.
21. WHERE CONCRETE MUST BE INSTALLED AND CURED IN COLD WEATHER, THE GENERAL REQUIREMENTS AND SPECIFICATIONS OF ASTM STD C-31 SHALL BE IMPLEMENTED.
22. CAST-IN-PLACE CONCRETE (NON-PRESTRESSED)
   THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EART.....3" MIN.
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
      - NO.6 THROUGH NO.18 BARS.....2" MIN.
      - NO.5 BAR, W31 OR D31 WIRE, AND SMALLER.....1½" MIN.
      C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
      SLABS, WALLS, JOISTS:
      - NO.14 AND NO.18 BARS.....1½" MIN.
      - NO.11 BAR AND SMALLER.....¾" MIN.
      BEAMS, COLUMNS:
      - PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS.....1½" MIN.
      SHELLS, FOLDED PLATE MEMBERS:
      - NO.6 BAR AND LARGER.....¾" MIN.
      - NO.5 BAR, W31 OR D31 WIRE, AND SMALLER.....½" MIN.
23. BUNDLED BARS:
   FOR BUNDLED BARS, MINIMUM CONCRETE COVER SHALL BE EQUAL TO THE EQUIVALENT DIAMETER OF THE BUNDLE, BUT NEED NOT TO BE GREATER THAN 2 IN.; EXCEPT FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, WHERE MINIMUM COVER SHALL BE 3 IN. GROUPS OF PARALLEL REINFORCING BARS BUNDLED IN CONTACT TO ACT AS A UNIT SHALL BE LIMITED TO FOUR IN ANY ONE BUNDLE. BUNDLED BARS SHALL BE ENCLOSED WITHIN STIRRUPS OR TIES. BARS LARGER THAN NO. 11 SHALL NOT BE BUNDLED IN BEAMS. INDIVIDUAL BARS WITHIN A BUNDLE TERMINATED WITHIN THE SPAN OF FLEXURAL MEMBERS SHALL TERMINATE AT DIFFERENT POINTS WITH AT LEAST 40d_b STAGGER.
24. CORROSIVE ENVIRONMENTS:
   IN CORROSIVE ENVIRONMENTS OR OTHER SEVERE EXPOSURE CONDITIONS, AMOUNT OF CONCRETE PROTECTION SHALL BE SUITABLY INCREASED, AND DENSENESS AND NONPOROSITY OF PROTECTING CONCRETE SHALL BE CONSIDERED, OR OTHER PROTECTION SHALL BE PROVIDED. "COVER" WHERE NOTED ON PLANS AND DETAILS IS NOT A MINIMUM, UNLESS NOTED AS "MIN." THE COVER SHALL BE AS NOTED WITH TOLERANCE.
25. MINIMUM DIAMETER OF BEND:

MINIMUM DIAMETERS OF BEND	
BAR SIZE	MINIMUM DIAMETER
NO.3 THROUGH NO.8	6d_b
NO.9, NO.10, AND NO.11	8d_b
NO.14 AND NO.18	10d_b

GENERAL STRUCTURAL NOTES:

1. THIS DOCUMENT IS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY ROSE INC. ALTERATION OF THIS DOCUMENT BY ANY PARTY OTHER THAN RGSE INC. IS A VIOLATION OF LAW THAT WILL BE PROSECUTED TO ITS FULLEST EXTENT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & CONDITIONS AT THE JOB SITE PRIOR TO STARTING CONSTRUCTION AND THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
3. AT ANY DISCREPANCIES OR CONFLICTS BETWEEN PLAN AND ELEVATION DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS AND THE STRUCTURAL DRAWINGS, THE ARCHITECTURAL DIMENSIONS SHALL GOVERN. IF ANY OF THESE DIMENSIONS DIFFER BY MORE THAN 5%, THE ENGINEER SHALL BE NOTIFIED OF THE CONFLICT, AND THE CONTRACTOR SHALL WAIT FOR INSTRUCTIONS.
4. THE CONTRACT CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO: BRACING, ALL SHORING, FORMS, AND SCAFFOLDING.
5. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN SLABS BEAMS, COLUMNS, WALLS, ETC., UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
6. ALL ASTM SPECIFICATIONS NOTED ON THESE DRAWINGS SHALL BE OF THE LATEST REVISION.
7. IN THE EVENT THAT CERTAIN FEATURES OF CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE NOTES OR SPECIFICATIONS. NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY & WAIT FOR INSTRUCTIONS.
8. COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION NOT DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION, SHALL BE BORN BY THE CONTRACTOR.
9. WHERE DESIGN AND DETAILS OF PLATE GIRDERS, TRUSSES, ETC., IS TO BE PROVIDED BY FABRICATOR, CONTRACTOR SHALL SUBMIT CALCULATIONS PREPARED BY A CIVIL OR STRUCTURAL ENGINEER, TO THE ENGINEER AND TO THE BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION.
10. UNLESS AN ITEM ON THE PLANS OR DETAILS IS SPECIFICALLY MARKED AS AN EXISTING ITEM, THE CONTRACTOR IS TO ASSUME THAT IT IS NEW, AND INCLUDE IT IN THE CONSTRUCTION BUDGET.
11. WHERE SOIL REPORT IS CITED, ITS REQUIREMENTS ADOPTED HEREIN.
12. ALL MANUFACTURED PRODUCTS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.
13. WHILE EVERY REASONABLE EFFORT HAS BEEN MADE TO PROVIDE A BUILDABLE SET ON CONTRACT DOCUMENTS WITH MINIMAL ERRORS OR OMISSIONS, THE CONTRACTOR ACKNOWLEDGES AND UNDERSTANDS THAT THE CONTRACT DOCUMENTS MAY REPRESENT IMPERFECT DATA AND MAY CONTAIN ERRORS, OMISSIONS, CONFLICTS, INCONSISTENCIES, CODE VIOLATIONS AND IMPROPER USE OF MATERIALS. SUCH DEFICIENCIES WILL BE CORRECTED BY THE ARCHITECT OR HIS CONSULTANTS WHEN IDENTIFIED. THE CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING TO THE ARCHITECT ANY DEFICIENCIES THE CONTRACTOR MAY DISCOVER. THE CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND TO REPORT AT ONCE ANY DEFICIENCIES DISCOVERED. THE CONSULTANT AND ARCHITECT, TOGETHER WITH CONTRACTOR SHALL RESOLVE ALL REPORTED DEFICIENCIES PRIOR TO STARTING ANY WORK. ANY QUESTIONABLE WORK PERFORMED PRIOR TO RESOLUTION OF CONFLICTS OR ERRORS OR FURTHER CLARIFICATION FROM THE ARCHITECT WILL BE DONE AT THE CONTRACTOR'S RISK.
14. OPTIONS, IF PROVIDED HEREIN, ARE FOR CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY, SHALL COORDINATE ALL DETAILS, AND SHALL OBTAIN ALL REQUIRED APPROVALS.
15. ANY MECHANICAL AND ELECTRICAL EQUIPMENT, STORAGE RACKS, SAFES, AND ANY OBJECT EXPECTED TO BE IN THE BUILDING THAT HAS AN OPERATIONAL WEIGHT (FULLY LOADED) GREATER THEN 400 LB. FLOOR OR ROOF MOUNTED, OR GREATER THEN 200 LB. SUSPENDED FROM A FLOOR, CEILING OR WALL SHALL BE SHOWN ON THESE DRAWINGS. IF THEY ARE NOT SHOWN ON THESE DRAWINGS, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER, AND A CUT SHEET FOR THE SPECIFIC ITEM SHALL BE MADE AVAILABLE.
16. CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE LATEST ADOPTED CALIFORNIA GREEN BUILDING CODE.
17. CONTRACTOR IS TO VERIFY THAT NO EXISTING STEEL REINFORCING, OR TENSION CABLES ARE DAMAGED WHEN INSTALLING POST INSTALLED WEDGE OR CHEMICAL ANCHORS. MECHANICAL ANCHORS ARE ONLY APPROVED FOR INTERIOR DRY USE, OTHERWISE CHEMICAL ANCHORS MUST BE USED.

SPECIAL INSPECTIONS:

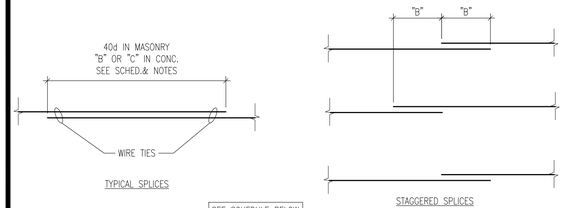
1. SPECIAL INSPECTION U.N.O. BY A REGISTERED DEPUTY INSPECTOR APPROVED BY THE ARCHITECT AND/OR ENGINEER AND THE BUILDING DEPARTMENT SHALL BE EMPLOYED BY THE OWNER FOR THE FOLLOWING TYPES OF WORK:
   A. SEE C.B.C. VOL.II, SECTION 1704 FOR ADDITIONAL REQUIREMENTS. DEPUTY INSPECTION MAY BE WAIVED FOR WORK THAT IS MINOR IN NATURE AS INTERPRETED BY THE BUILDING OFFICIAL.
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OR ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR C

-

SCALE: 1"=1'-0" | 7

TYPICAL REINFORCING SPLICES

SCALE: 1"=1'-0" | 5



SEE SCHEDULE BELOW

SCHED. OF MIN. SPLICE LENGTH "B" FOR ACI CLASS B LAP SPLICE		
BAR SIZE	3,000 PSI	4,000 PSI
#4	24"	24"
#5	24"	24"
#6	25"	24"
#7	34"	30"
#8	45"	39"
#9	57"	49"
#10	72"	63"
#11	89"	77"

NOTE

1. FOR TOP BARS USE SPLICE LENGTH SHOWN ABOVE X 1.3.
2. d=NORMAL DIAMETER OF SPLICE BAR.
3. SPLICES OF REPETITIVE REINF. IN CONC. SHALL BE STAGGERED PER ACI CLASS B SPLICES AS SHOWN ABOVE.
4. FOR NON-REPETITIVE REINF. IN CONC. OR WHERE SPLICES CAN NOT BE STAGGERED, USE ACI CLASS C SPLICES.
5. SPLICES SHALL BE MADE AWAY FROM POINTS OF MAX. STRESS OR AT LOCATIONS SHOWN ON THE DWG'S.
6. NO LAP SHALL BE LESS THAN TWO FEET.

-

SCALE: 1"=1'-0" | 8

-

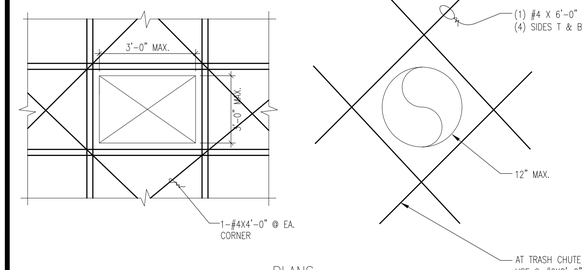
SCALE: 1"=1'-0" | 6

TYP. REINFORCING SLAB AT OPNG.

SCALE: 1"=1'-0" | 3

NOTE

1. SCHEDULED REINF. NOT SHOWN FOR CLARITY.
2. SEE SLAB SCHEDULE FOR REINFORCING.
3. DO NOT CUT BARS UNLESS ABSOLUTELY NECESSARY. REPLACE EA. INTERRUPTED BAR W/(2) BARS OF THE SAME SIZE & LENGTH, ONE ON EA. SIDE OF OPENING.



PLANS

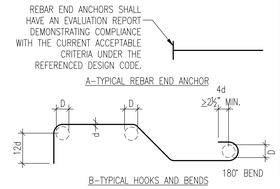
2

-

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

REINFORCING DETAIL

SCALE: 1"=1'-0" | 1



TENSION DEVELOPMENT LENGTH SCHEDULE (ld)				
BAR SIZE	f'c=3000 PSI		f'c=4000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	22	17	19	15
#4	29	22	25	19
#5	36	28	31	24
#6	43	33	37	29
#7	63	48	54	44
#8	72	55	62	55

MINIMUM BEND DIAMETERS
D=6d FOR #3 THRU #8
D=8d FOR #9 THRU #11
D=10d FOR #14 THRU #18
MINIMUM INSIDE

STIRRUP & TIES
MIN BEND DIAMETERS
D = 4d FOR #3 THRU #5
D = 6d FOR #6 THRU #8

NOTE:
1.35° BENDS REQUIRED @ ROUND HOOP TIES SPLICES.

-

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

Dwg No. 43-F553.1-38

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC. JOB# 18118B

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS					
BY ASSISTANT DIVISION ENGINEER	DATE	NO.	REVISION	REVISED BY	APPROVED BY	DATE
RECOMMENDED LAND DEVELOPMENT DIVISION		2	REVISED TOTAL SHEET NUMBER.			8/14/19
BY STORM DRAIN SECTION	DATE					
SUBMITTED						
BY STORM DRAIN SECTION	DATE 10/04/2018					

REGISTERED PROFESSIONAL ENGINEER
JASON GARCIA
No. 45455
STRUCTURAL
STATE OF CALIFORNIA

DATE 6/18/18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 Valencia, CA 91355 PH: (661) 294-2211 FX: (661) 294-9890

2

DWG

SHEET 36 OF 37 39

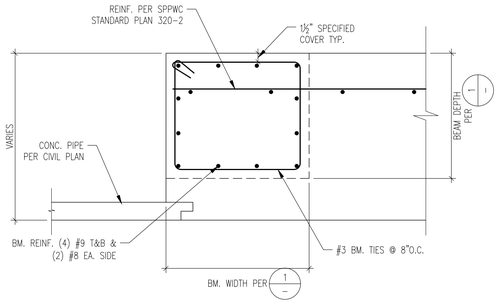
9/26/2018 10:27:00 AM

-

SCALE: 1"=1'-0" | 7

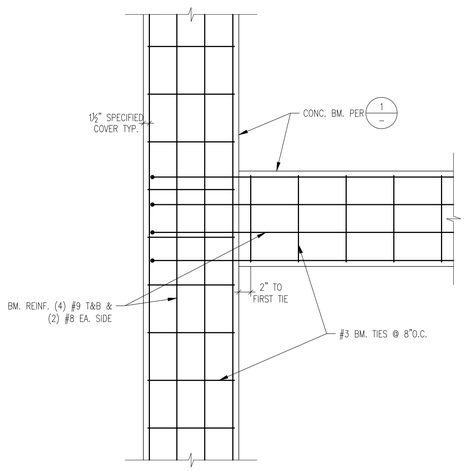
CONC. BEAM SECTION

SCALE: 1"=1'-0" | 5



CONC. REINF. @ INTERSECTION OF BMS.

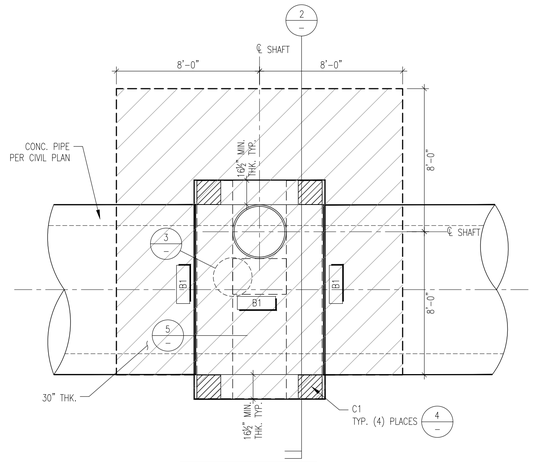
SCALE: 1"=1'-0" | 3



PLAN VIEW

MANHOLE PIPE PLAN

N.T.S. | 1



NOTE:
FOR INFO NOT SHOWN SEE (SPPWC) STANDARD PLAN 320-2

LEGEND:

B1 = 24" SQ. CONC. BM. W/ (4) #9 T&B & (2) #8 EA. SIDE W/ #3 TIE @ 8"O.C.

C1 = 16" SQ. MIN. CONC. COL. W/ (8) #6 VERT. & #3 TIES @ 6"O.C.

-

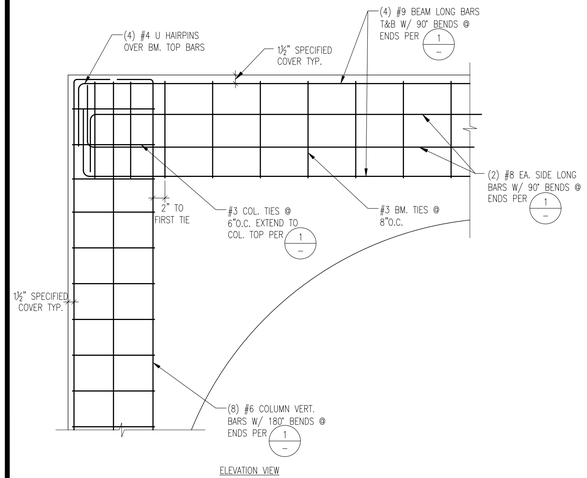
SCALE: 1"=1'-0" | 8

-

SCALE: 1"=1'-0" | 6

BM. - COL. CORNER JOINT

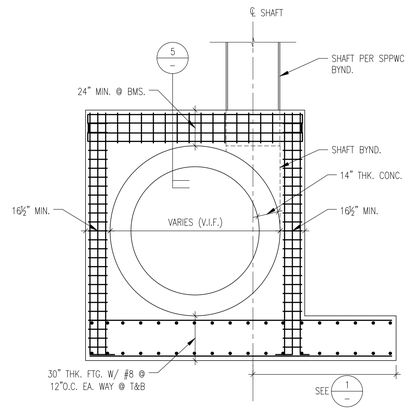
SCALE: 1"=1'-0" | 4



ELEVATION VIEW

SECTION

N.T.S. | 2



Dwg No. 43-F553.1-38

2

REGISTERED PROFESSIONAL ENGINEER JASON H. HUNSAKER No. 40695 CIVIL STATE OF CALIFORNIA

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC. JOB# 18118B

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS BY ASSISTANT DIVISION ENGINEER DATE	NO.	REVISION	REVISED BY	APPROVED BY	DATE
RECOMMENDED LAND DEVELOPMENT DIVISION BY STORM DRAIN SECTION DATE	2	REVISED TOTAL SHEET NUMBER.	Jason H. Hunsaker	[illegible]	8/14/19
SUBMITTED BY STORM DRAIN SECTION 10/04/2018 DATE					

REGISTERED PROFESSIONAL ENGINEER DARREN GARCIA No. 45[illegible] STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

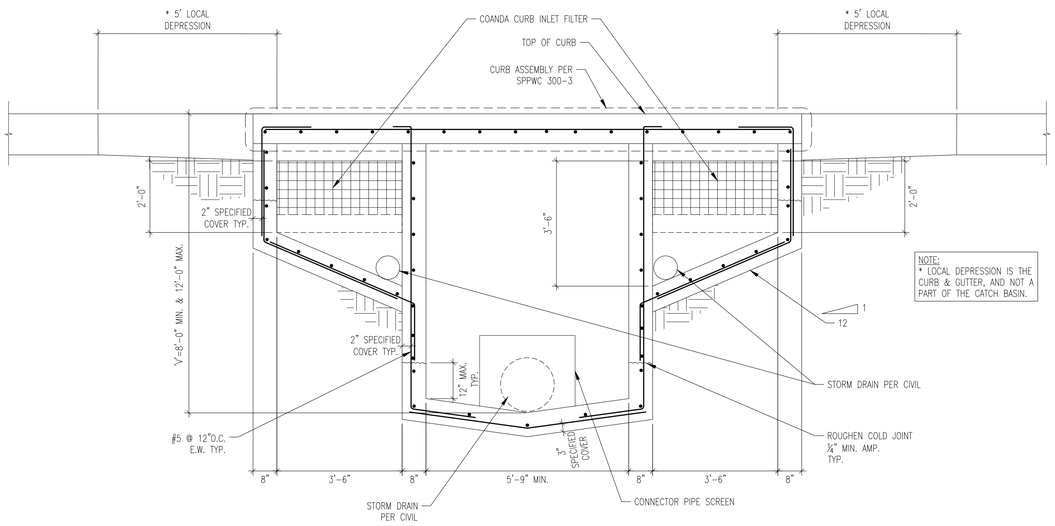
STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 Valencia, CA 91355 PH: (661) 294-2211 FX: (661) 294-9890

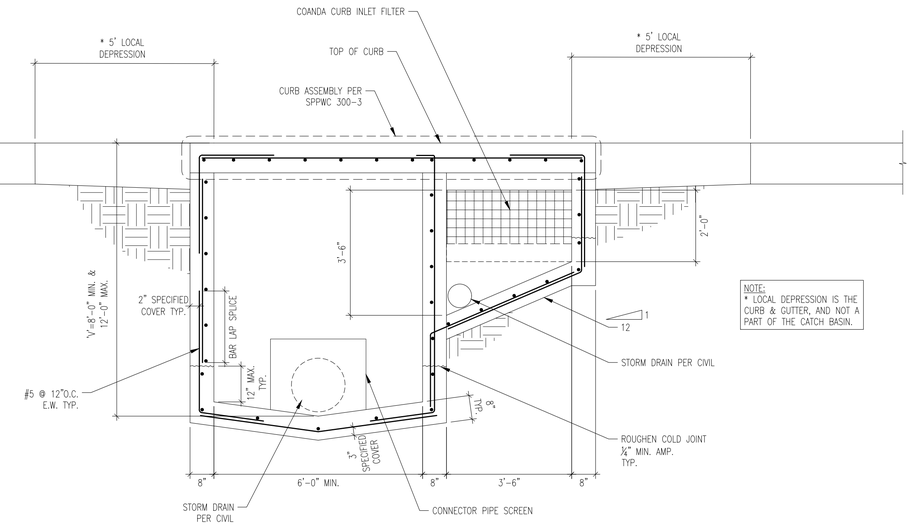
2

DWG | SHEET 37 OF 37 39

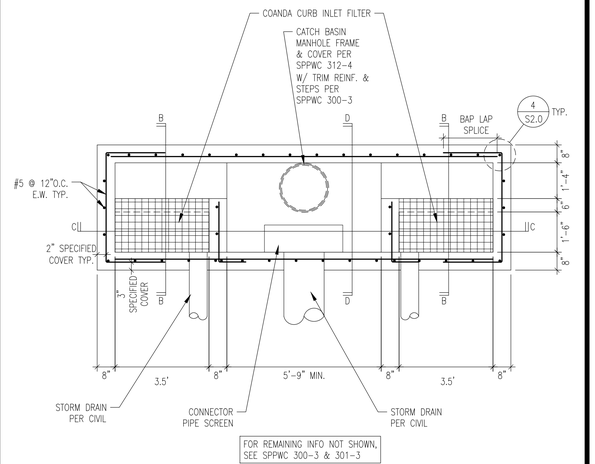
9/26/2018 10:27:02 AM



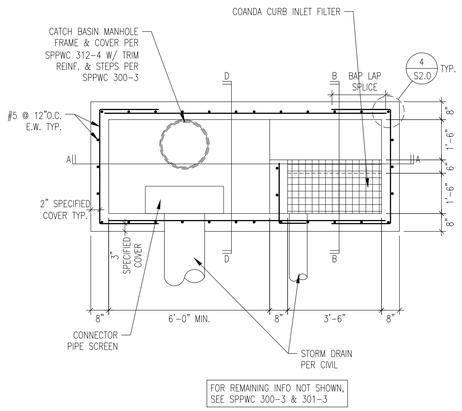
SECTION C-C SCALE: 1/2"=1'-0" 5



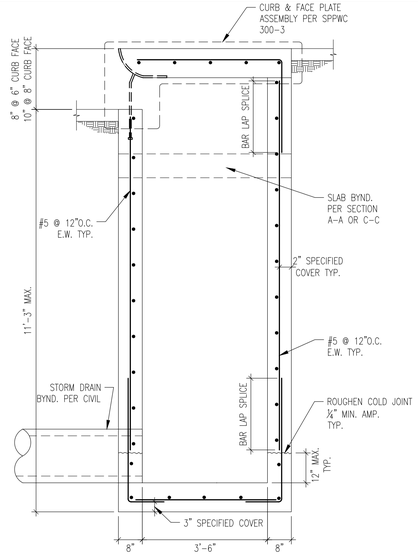
SECTION A-A SCALE: 1/2"=1'-0" 1



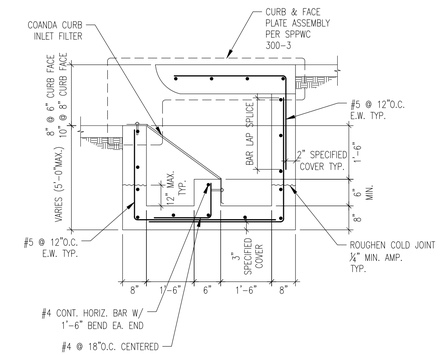
PLAN VIEW (SUMP CONDITION) SCALE: 3/8"=1'-0" 8



PLAN VIEW (BY-PASS CONDITION) SCALE: 3/8"=1'-0" 6



SECTION D-D SCALE: 1/2"=1'-0" 4



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

Dwg No. 43-F553.1-38

2

REGISTERED PROFESSIONAL ENGINEER JASON R. PUNSLY No. 40695 CIVIL STATE OF CALIFORNIA

SUBMITTED

BY STORM DRAIN SECTION 8/14/19 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER JASON GARCIA No. 45915 STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC.
JOB# 18118B

DWG

SHEET 38 OF 39

2/8/2019 3:14:28 PM

-

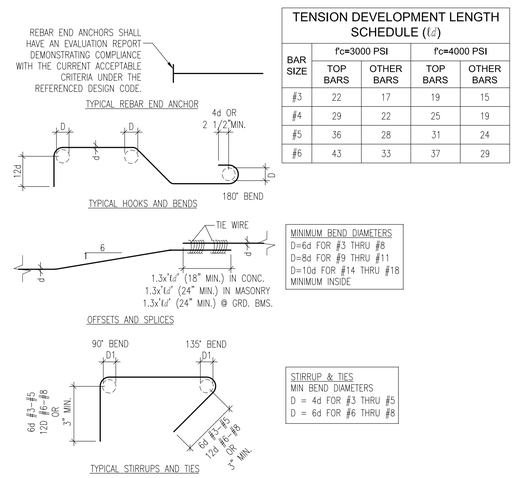
SCALE: 1"=1'-0" | 7

-

SCALE: 1"=1'-0" | 5

REINFORCING DETAIL

SCALE: 1"=1'-0" | 3



BAR SIZE	f'c=3000 PSI		f'c=4000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	22	17	19	15
#4	29	22	25	19
#5	36	28	31	24
#6	43	33	37	29

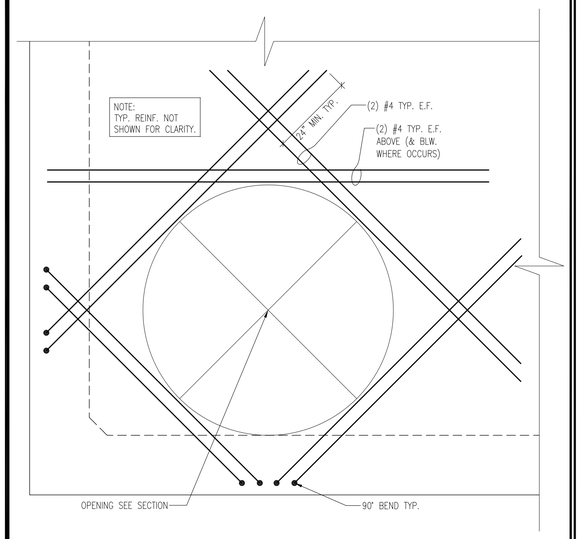
TENSION DEVELOPMENT LENGTH SCHEDULE (ℓd)

MINIMUM BEND DIAMETERS
D=6d FOR #3 THRU #8
D=8d FOR #9 THRU #11
D=10d FOR #14 THRU #18
MINIMUM INSIDE

STIRRUP & TIES
MIN BEND DIAMETERS
D = 4d FOR #3 THRU #5
D = 6d FOR #6 THRU #8

REINF. AT OPENING

SCALE: 1"=1'-0" | 1



-

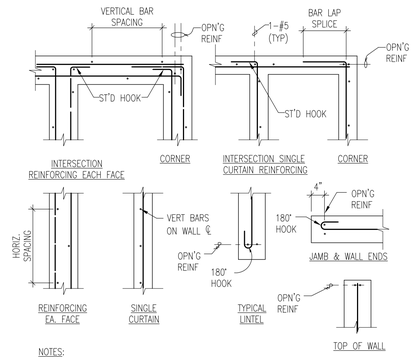
SCALE: 1"=1'-0" | 8

-

SCALE: 1"=1'-0" | 6

TYPICAL CONC. WALL DETAIL

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



NOTES:

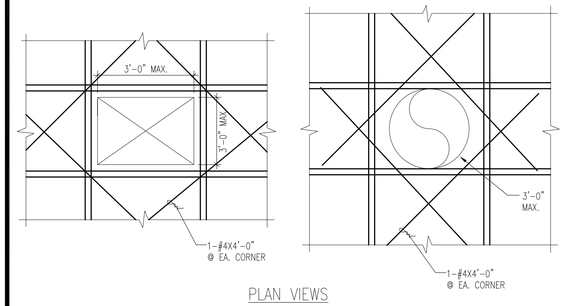
1. REFER TO TYPICAL CONC. WALL REINFORCING SCHEDULE.
2. AT DOUBLE CURTAIN REINFORCING STAGGER VERTICAL AND HORIZONTAL BARS. PLACE VERTICAL REBAR AS CLOSE TO CONC. SURFACE AS THE MINIMUM CLEARANCES WILL PERMIT

REINFORCING SLAB AT OPNG.

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

NOTE

1. SCHEDULED REINF. NOT SHOWN FOR CLARITY.
2. SEE SLAB SCHEDULE FOR REINFORCING.
3. DO NOT CUT BARS UNLESS ABSOLUTELY NECESSARY.
4. REPLACE EA. INTERRUPTED BAR W/(2) BARS OF THE SAME SIZE & LENGTH, ONE ON EA. SIDE OF OPENING.



PLAN VIEWS

Dwg No. 43-F553.1-38

REGISTERED PROFESSIONAL ENGINEER JASON R. FUKUSU No. 40695 CIVIL STATE OF CALIFORNIA

2

SUBMITTED

BY _____ 8/14/19

STORM DRAIN SECTION — DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED SHEET			8/14/19

REGISTERED PROFESSIONAL ENGINEER RAMON GARCIA No. 4595 STRUCTURAL STATE OF CALIFORNIA

DATE 6/18/18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

RGSE inc.
Structural Engineers
2720 Cochran St. Suite 8B
Simi Valley, CA 93065
P: 805.522.3379
www.rgseinc.com
info@rgseinc.com

RGSE INC.
JOB# 18118B

DWG

SHEET 39 OF 39

D-7: PD 2514-13

COUNTY OF LOS ANGELES

STORM DRAIN PLANS FOR TRACT NO. 45433 P.D. 2514-13

STORM DRAIN PLANS IN:
TRACT NO: 45433 P.D. NO.: 2514-13

43-F455.1-3

GENERAL NOTES

1. A PERMIT SHALL BE OBTAINED AND A DEPOSIT PAID TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE, 8TH FLOOR, ALHAMBRA AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS CONTRACT. COPIES OF ALL OTHER REQUIRED PERMITS, SUCH AS FLOOD CONTROL DISTRICT AND ROAD EXCAVATION, MUST BE FILED WITH THE PERMIT APPLICATION.
2. WHEN WORK IS WITHIN A CONTRACT CITY, THE CONTRACTOR MUST CONTACT THE DIRECTOR OF PUBLIC WORKS OF THAT CITY TO DETERMINE THE LOCATION TO PAY THE INSPECTION DEPOSIT.
3. THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE LISTED ON THE "APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION FORM 1" TO ARRANGE FOR AN ACCEPTABLE CONSTRUCTION START DATE.
4. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN IN L.A. COUNTY DEPARTMENT OF PUBLIC WORKS STD. 6008-1.
7. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929, UNLESS OTHERWISE INDICATED.
8. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
9. ALL STRUCTURAL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. UNLESS OTHERWISE NOTED.
10. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THESE DRAWINGS.
11. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2.5" CLEARANCE UNLESS OTHERWISE SPECIFIED.
12. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL PER A.S.T.M. A-615-GRADE 60.
13. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE".
14. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER LINE OF STEEL UNLESS OTHERWISE NOTED.
15. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18" WHICHEVER IS GREATER.
16. ALL CONSTRUCTION JOINTS IN THE FOOTING ON SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4" CHAMFER.
18. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTERLINE OF CONSTRUCTION.
19. CONCRETE BACKFILL IS REQUIRED DURING CONSTRUCTION WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX, PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.
20. ALL PIPES SHALL BE PLACED IN A TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE THE TOP OF THE PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS. ALL BACKFILLS IN EASEMENTS SHALL BE COMPACTED TO THE DENSITY REQUIRED BY THE GRADING PLANS.
21. ALL BACKFILL AND FILLS OUTSIDE STREET RIGHT OF WAY SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% OF MAXIMUM-DRY DENSITY AS DETERMINED BY ASTM SOIL COMPACTION TEST D1557-91 METHOD "D" UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A SOILS ENGINEER. THIS CERTIFICATION SHALL BE SUBMITTED TO THE DIRECTOR OF PUBLIC WORKS PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.
22. ALL BACKFILL AND FILLS WITHIN STREET RIGHT OF WAY SHALL BE COMPACTED IN ACCORDANCE WITH CITY REQUIREMENTS UNLESS OTHERWISE NOTED AND INSPECTED BY THE DEPARTMENT. CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS IN ADVANCE FOR SOIL FOR SOIL TESTING AS REQUIRED BY THE INSPECTER.
23. PIPE BEDDING SHALL BE:
    IN ACCORDANCE WITH LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DRAWING NO. 3092 UNLESS OTHERWISE NOTED. THE BEDDING MATERIAL PLACED FROM THE BOTTOM OF THE PIPE TO 1 FOOT OVER THE TOP OF THE PIPE SHALL BE SAND, CRUSHED AGGREGATE, OR NATIVE-FREE DRAINING GRANULAR MATERIAL AND SHALL HAVE A SAND EQUIVALENT OF 20 OR GREATER.
24. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND OUTLET HEADWALLS, UNLESS OTHERWISE SPECIFIED.
25. UNLESS OTHERWISE SPECIFIED IN THE PROFILE ON THESE PLANS, THE PIPE SHALL BE MANUFACTURED WITH A MINIMUM CONCRETE COVER OVER THE STEEL IN THE INVERT OF 0.75 INCHES FOR R.C.P. UP TO 96 INCHES IN DIAMETER AND 1.25 INCHES FOR PIPE GREATER THAN 96 INCHES IN DIAMETER.
26. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.
27. THE CONTRACTOR SHALL PROVIDE TO THE SATISFACTION OF THE CITY ENGINEER A SYSTEM FOR CONTRIBUTORY DRAINAGE TO BE OPERABLE AT ALL TIMES UNTIL STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE. THIS MAY HAVE TO BE DESIGNED BY A CIVIL ENGINEER.
28. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE ELEMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
29. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
30. WHERE THE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION NO. 224, UNLESS OTHERWISE INDICATED.
31. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
32. MANHOLES PER APWA STD. 320-1 AND 321-1 SHALL USE THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION 630-2 FOR THE "FRAME AND COVER" AND 635-2 FOR THE "STANDARD DROP STEP".
33. THIS STORM DRAIN WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE AND THE SYSTEM CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
34. THE LATEST REVISED STANDARD PLAN OR DRAWING SHALL BE USED UNLESS OTHERWISE SPECIFICALLY NOTED.
35. A NPDES PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD IS REQUIRED BEFORE ANY DISCHARGE OF NON-STORM WATER INTO THE STORM DRAIN IS ALLOWED.

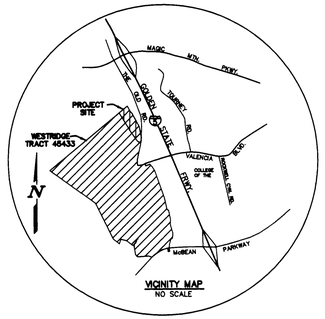
PRIVATE ENGINEER NOTICE TO CONTRACTORS:

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 THIS MAP. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING. PRIOR TO EXCAVATION THE CONTRACTOR SHALL CALL TOLL FREE (800) 422-4132 TO VERIFY THE UNDERGROUND LOCATION OF GAS AND TELEPHONE LINES.

10-12-01
CRAIG M. WHITTEKER R.C.E. NO. 51929

STRUCTURAL NOTES

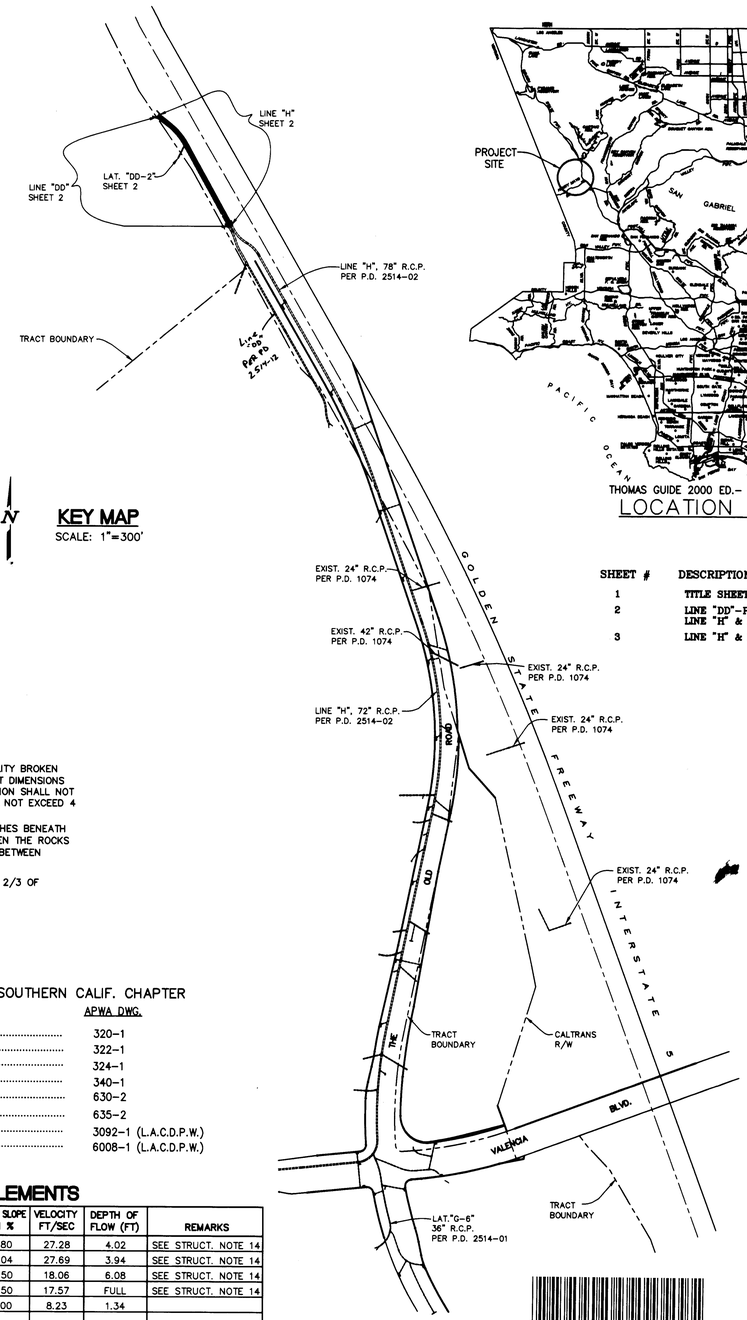
1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" LATEST EDITION, SECT. 7.1 & 7.2.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" LATEST EDITION, SECT. 7.5
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE JUNCTION STRUCTURE OPENING.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE HALF (1-1/2) INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. LONGITUDINAL STEEL SHALL BE LAPPED 20 BAR DIAMETERS AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES.
11. LONGITUDINAL STEEL SHALL TERMINATE TWO INCHES FROM TRANSVERSE CONSTRUCTION JOINTS.
12. TRANSVERSE JOINTS SHALL BE SPACED NOT TO EXCEED 50 FEET NOR BE LESS THAN 10 FEET, MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
13. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF MAIN REINFORCEMENT BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINTS.
14. CONCRETE COVER TO STEEL TO BE INCREASED TO 1.25 INCH ON INSIDE FACE OF PIPE.

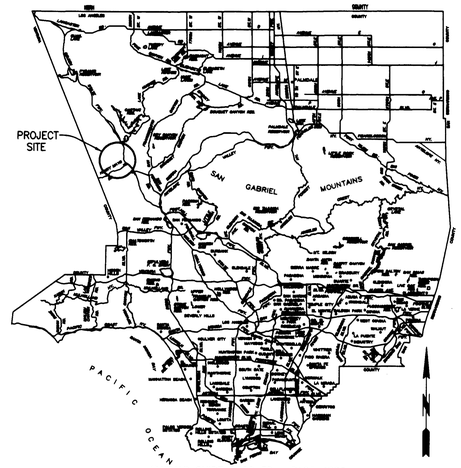


VICINITY MAP
NO SCALE

N

KEY MAP
SCALE: 1"=300'





THOMAS GUIDE 2000 ED.- PAGE 4550
LOCATION MAP PROJECT SITE

SHEET #	DESCRIPTION
1	TITLE SHEET
2	LINE "DD"-PLAN AND PROFILE LINE "H" & LAT. "DD-2"-PLAN
3	LINE "H" & LAT. "DD-2" PROFILE; DETAILS

GEOLOGY AND SOILS NOTES

1. ALL RECOMMENDATIONS INCLUDED IN R.T. FRANKIAN AND ASSOCIATES REPORTS NO. 94-061-F3, FEBRUARY 19, 1998 AND ALL ADDENDUM'S MUST BE COMPLIED WITH AND ARE PART OF THE GRADING AND STORM DRAIN SPECIFICATIONS.

STORMWATER POLLUTION PLAN NOTES:

A. NOTES

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
3. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
4. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
5. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
6. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
7. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

B. THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE "BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORMWATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA, 1993", OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY COUNTY INSPECTORS):

CA001 - DEWATERING OPERATIONS
CA002 - PAVING OPERATIONS
CA003 - STRUCTURE CONSTRUCTION AND PAINTING
CA010 - MATERIAL DELIVERY AND STORAGE
CA011 - MATERIAL USE
CA012 - SPILL PREVENTION AND CONTROL
CA020 - SOLID WASTE MANAGEMENT
CA021 - HAZARDOUS WASTE MANAGEMENT
CA022 - CONTAMINATED SOIL MANAGEMENT
CA023 - CONCRETE WASTE MANAGEMENT
CA030 - VEHICLE AND EQUIPMENT CLEANING
CA031 - VEHICLE AND EQUIPMENT FUELING
CA032 - VEHICLE AND EQUIPMENT MAINTENANCE
CA040 - EMPLOYEE/SUBCONTRACTOR TRAINING
ESC01 - SCHEDULING
ESC02 - PRESERVATION OF EXISTING VEGETATION
ESC10 - SEEDING AND PLANTING
ESC11 - MULCHING
ESC20 - GEOTEXTILES AND MATS
ESC21 - DUST CONTROLS
ESC22 - TEMPORARY STREAM CROSSING
ESC23 - CONSTRUCTION ROAD STABILIZATION
ESC24 - STABILIZED CONSTRUCTION ENTRANCE
ESC30 - EARTH DIKE
ESC31 - TEMPORARY DRAINS AND SWALES
ESC32 - SLOPE DRAIN
ESC40 - OUTLET PROTECTION
ESC41 - CHECK DAMS
ESC42 - SLOPE ROUGHENING/TERRACING
ESC50 - SILT FENCE
ESC51 - STRAW BALE BARRIERS
ESC52 - SAND BAG BARRIER
ESC53 - BRUSH OR ROCK FILTER
ESC54 - STORM DRAIN INLET PROTECTION
ESC55 - SEDIMENT TRAP
ESC56 - SEDIMENT BASIN

RIPRAP NOTES:

1. ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSIONS SHALL EXCEED 6 INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 24 INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
2. THERE SHALL BE A GROUT BED OF AT LEAST 2 INCHES BENEATH THE FIRST LAYER OF ROCK. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 2 INCHES.
3. SURFACE ROCKS SHALL BE IMBEDDED FROM 1/2 TO 2/3 OF THEIR MAXIMUM DIMENSION.

NOTE: CONCRETE MAY BE SUBSTITUTED FOR GROUT.

LIST OF STANDARDS

AMERICAN PUBLIC WORKS ASSOCIATION-SOUTHERN CALIF. CHAPTER
(1997 EDITION)

	APWA DWG.
MANHOLE PIPE TO PIPE (MAIN LINE ≥ 36")	320-1
MANHOLE PIPE TO PIPE (LARGE SIDE INLET)	322-1
MANHOLE SHAFT	324-1
TRANSITION STRUCTURE PIPE TO PIPE	340-1
MANHOLE FRAME AND COVER	630-2
STANDARD STEEL STEP	635-2
PIPE BEDDING	3092-1 (L.A.C.D.P.W.)
SAFETY REQUIREMENTS	6008-1 (L.A.C.D.P.W.)

HYDRAULIC ELEMENTS

LINE	STATION	Q50YR. C.F.S.	CONDUIT SIZE	S_f	PIPE SLOPE IN %	VELOCITY FT/SEC	DEPTH OF FLOW (FT)	REMARKS
DD	1+00.00 TO 2+67.42	587	78" R.C.P.	0.0346	1.80	27.28	4.02	SEE STRUCT. NOTE 14
	2+67.42 TO 4+95.00	583	78" R.C.P.	0.0251	4.04	27.69	3.94	SEE STRUCT. NOTE 14
	4+95.00 TO 6+00.00	583	78" R.C.P.	0.0115	0.50	18.06	6.08	SEE STRUCT. NOTE 14
	6+00.00 TO 6+56.29	583	78" R.C.P.	0.0124	0.50	17.57	FULL	SEE STRUCT. NOTE 14
DD-2	1+00.00 TO 1+60.00	22	30" R.C.P.	0.0089	1.00	8.23	1.34	
H	2+22.06 TO 3+94.26	764	78" R.C.P.	0.0265	1.80	28.38	4.91	SEE STRUCT. NOTE 14
	3+94.26 TO 6+23.00	764	78" R.C.P.	0.0273	3.98	29.72	4.70	SEE STRUCT. NOTE 14
	6+23.00 TO 7+83.13	764	78" R.C.P.	0.0200	0.20	23.17	6.35	SEE STRUCT. NOTE 14

APPROVED AS TO NOTES DIRECTOR OF PUBLIC WORKS.
BY ASSISTANT DIVISION ENGINEER 10/25/01 DATE

RECOMMENDED LAND DEVELOPMENT DIVISION
BY SUBDIVISION PLAN CHECKING SECTION 10/22/01 DATE

SUBMITTED
BY SUBDIVISION PLAN CHECKING SECTION 10-22-01 DATE

BENCHMARK: L.A.C.O. PW L5402
DESCRIPTION: RND.HD. SPK.
LOCATION: TOP OF LOWEST HDWL 24 FT W/O C/L THE OLD ROAD (W. RDWY) & 0.6 MILES S/O HENRY MAYO DR.
RECORDED FROM: NEWHALL QUAD.
ELEVATION: 1031.950 DATUM: 1995

		REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER CRAIG M. WHITTEKER NO. 51929 EXP 6-30-02 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER 10-12-01 DATE

STORM DRAIN PLANS IN
TRACT No. 45433 P.D. No. 2514-13
COUNTY OF LOS ANGELES

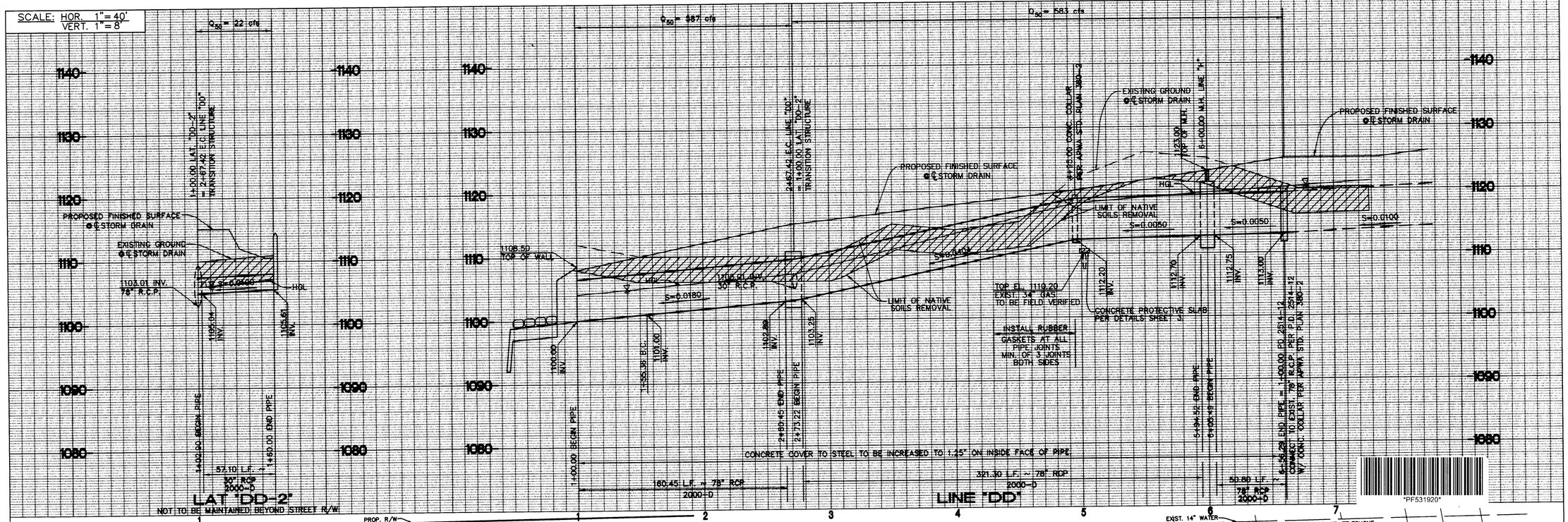
ALLIANCE LAND PLANNING & ENGINEERING INC.
5962 LAPLACE CT.
SUITE 130
CARLSBAD, CA 92008
TEL: (760) 431-9896

PD 2514-13 SHT 1COV.DWG (J.N. 0125) SHEET 1 OF 3

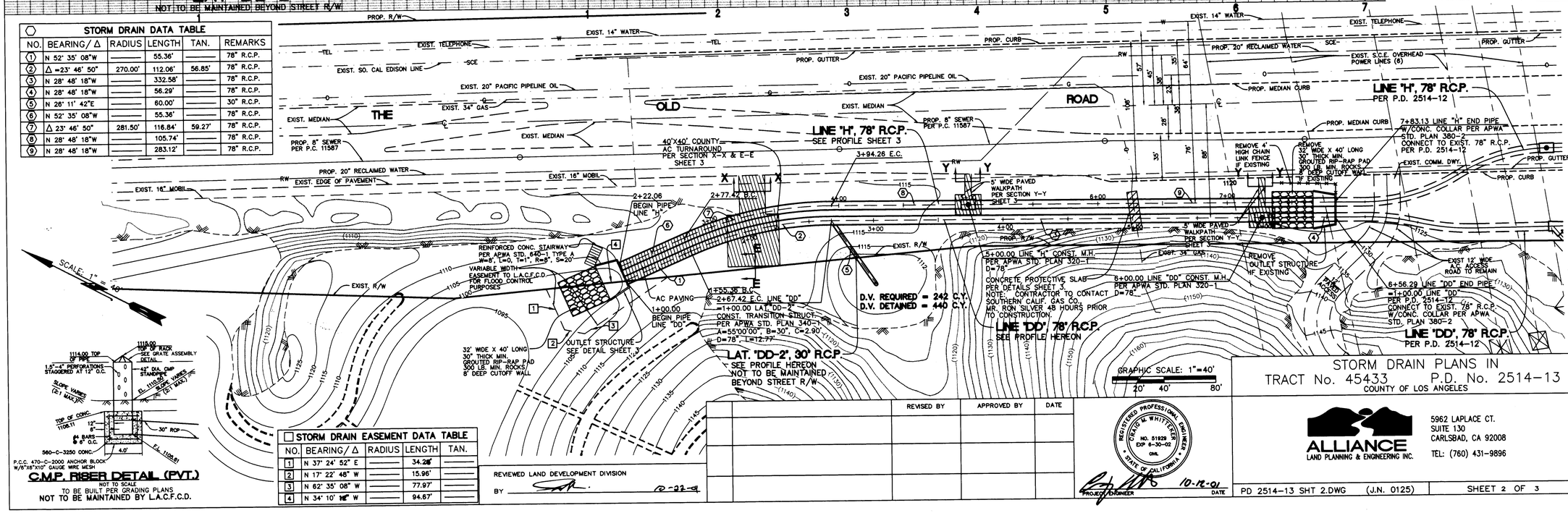
J.N. 0125 I:\CAD\93004\STORM DRAIN\PD 2514-13\PD 2514-13 SHT 1COV.dwg

P.D. 2514-13

SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN DATA TABLE					
NO.	BEARING/ Δ	RADIUS	LENGTH	TAN.	REMARKS
1	N 52° 35' 08"W		55.36'		78" R.C.P.
2	Δ =23° 46' 50"	270.00'	112.06'	56.85'	78" R.C.P.
3	N 28° 48' 18"W		332.58'		78" R.C.P.
4	N 28° 48' 18"W		56.29'		78" R.C.P.
5	N 26° 11' 42"E		60.00'		30" R.C.P.
6	N 52° 35' 08"W		55.36'		78" R.C.P.
7	Δ 23° 46' 50"	281.50'	116.84'	59.27'	78" R.C.P.
8	N 28° 48' 18"W		105.74'		78" R.C.P.
9	N 28° 48' 18"W		283.12'		78" R.C.P.



C.M.P. RISER DETAIL (PVT.)
NOT TO SCALE
TO BE BUILT PER GRADING PLANS
NOT TO BE MAINTAINED BY L.A.C.F.C.D.

STORM DRAIN EASEMENT DATA TABLE				
NO.	BEARING/ Δ	RADIUS	LENGTH	TAN.
1	N 37° 24' 52" E		34.28'	
2	N 17° 22' 48" W		15.96'	
3	N 62° 35' 08" W		77.97'	
4	N 34° 10' 18" W		94.67'	

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ 10-22-01

	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER
CRAIG M. WHITTAKER
NO. 51828
EXP 6-30-02
CIVIL
STATE OF CALIFORNIA

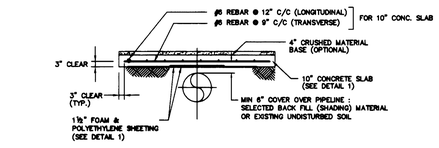
10-12-01
PROJECT ENGINEER DATE

STORM DRAIN PLANS IN TRACT No. 45433 P.D. No. 2514-13
COUNTY OF LOS ANGELES

ALLIANCE
LAND PLANNING & ENGINEERING INC.
5962 LAPLACE CT.
SUITE 130
CARLSBAD, CA 92008
TEL: (760) 431-9896

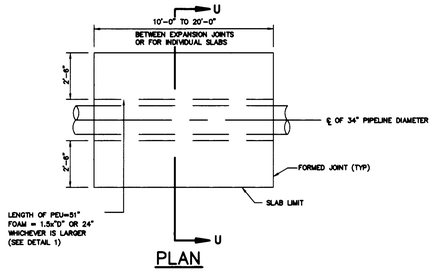
PD 2514-13 SHT 2.DWG (J.N. 0125) | SHEET 2 OF 3

J.N. 0125 I:\CAD\93004\STORM DRAIN\PD 2514-13\PD 2514-13 SHT 2.dwg

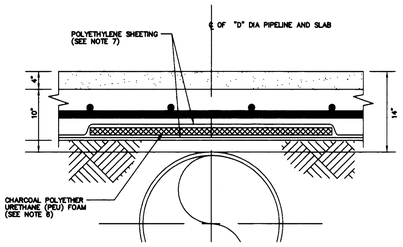


SECTION U–U

NOT TO SCALE



PLAN

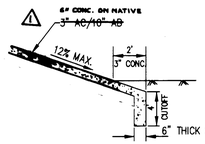


DETAIL 1

NOT TO SCALE

NOTES:

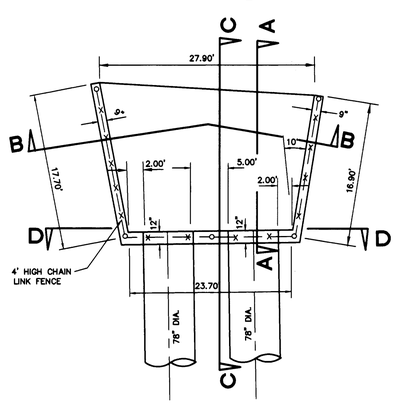
1. THE EXTENT OF CONCRETE PROTECTION SHALL BE (REFER TO PLAN LAYOUT).
2. CONCRETE SLAB IS DESIGNED FOR H 20 TRUCK LOADING, FOR PUBLIC STREET PAVING.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
4. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A-615. MINIMUM OVERLAP AT SPLICES SHALL BE 24 BAR DIAMETERS.
5. CONCRETE COVER OF REINFORCING STEEL SHALL BE 3 INCHES WHEN POURED AGAINST SOIL, AND 2 INCHES WHEN POURED IN FORMS.
6. 1.80 #/CU FT CHARCOAL POLYETHER URETHANE (PEU) FOAM SHALL BE 1 1/2 INCH THICK (SPECIAL), 2 FEET 6 INCHES WIDE AND CENTERED OVER THE PIPELINE.
7. POLYETHYLENE SHEETING SHALL BE 5 MILS IN THICKNESS AND SHALL OVERLAP THE PEU FOAM BY AT LEAST 1 FOOT ON ALL SIDES.
8. FOR SITE CONDITIONS DIFFERENT THAN SHOWN, CONTACT PIPELINE ENGINEERING FOR SPECIAL DESIGN AND/OR EVALUATION.



ACCESS ROAD CUTOFF WALL

SECTION E–E

NOT TO SCALE

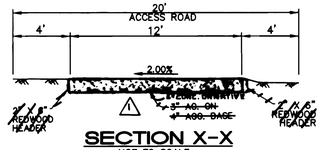


PLAN VIEW

NO SCALE

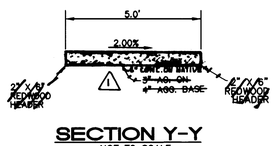
LINES "H" & "DD" OUTLET STRUCTURE

NOT TO SCALE



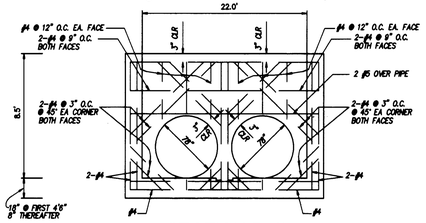
SECTION X–X

NOT TO SCALE



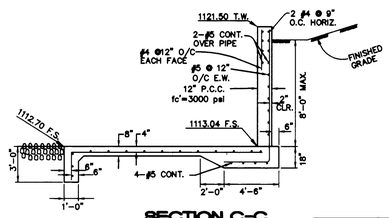
SECTION Y–Y

NOT TO SCALE



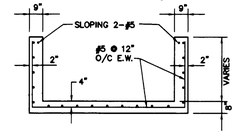
SECTION D–D

NOT TO SCALE



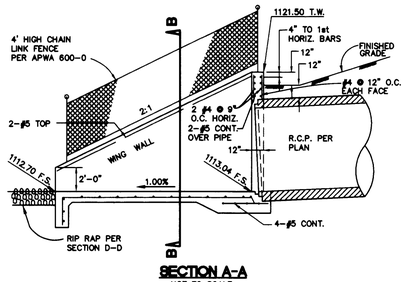
SECTION C–C

NOT TO SCALE



SECTION B–B

NOT TO SCALE



SECTION A–A

NOT TO SCALE

GRAPHIC SCALE: 1"=40'

20' 40' 80'

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ 10-22-01

		REVISED BY	APPROVED BY	DATE
1	REVISED ACCESS ROAD AND WALK PATH SECTIONS TO BE CONCRETE.	R.C.E. 51928		2/24/05

REGISTERED PROFESSIONAL ENGINEER CRAIG W. WHITTAKER No. 51928 EXP. 6-30-02 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER 10-12-01 DATE

STORM DRAIN PLANS IN TRACT No. 45433 P.D. No. 2514-13

COUNTY OF LOS ANGELES

ALLIANCE
LAND PLANNING & ENGINEERING INC.
5962 LAPLACE CT.
SUITE 130
CARLSBAD, CA 92008
TEL: (760) 431-9896

PD 2514-13 SHT 3.DWG (J.N. 0125)

SHEET 3 OF 3

I:\CAD\93004\STORM DRAIN\PD 2514-13\PD 2514-13 SHT 3.dwg