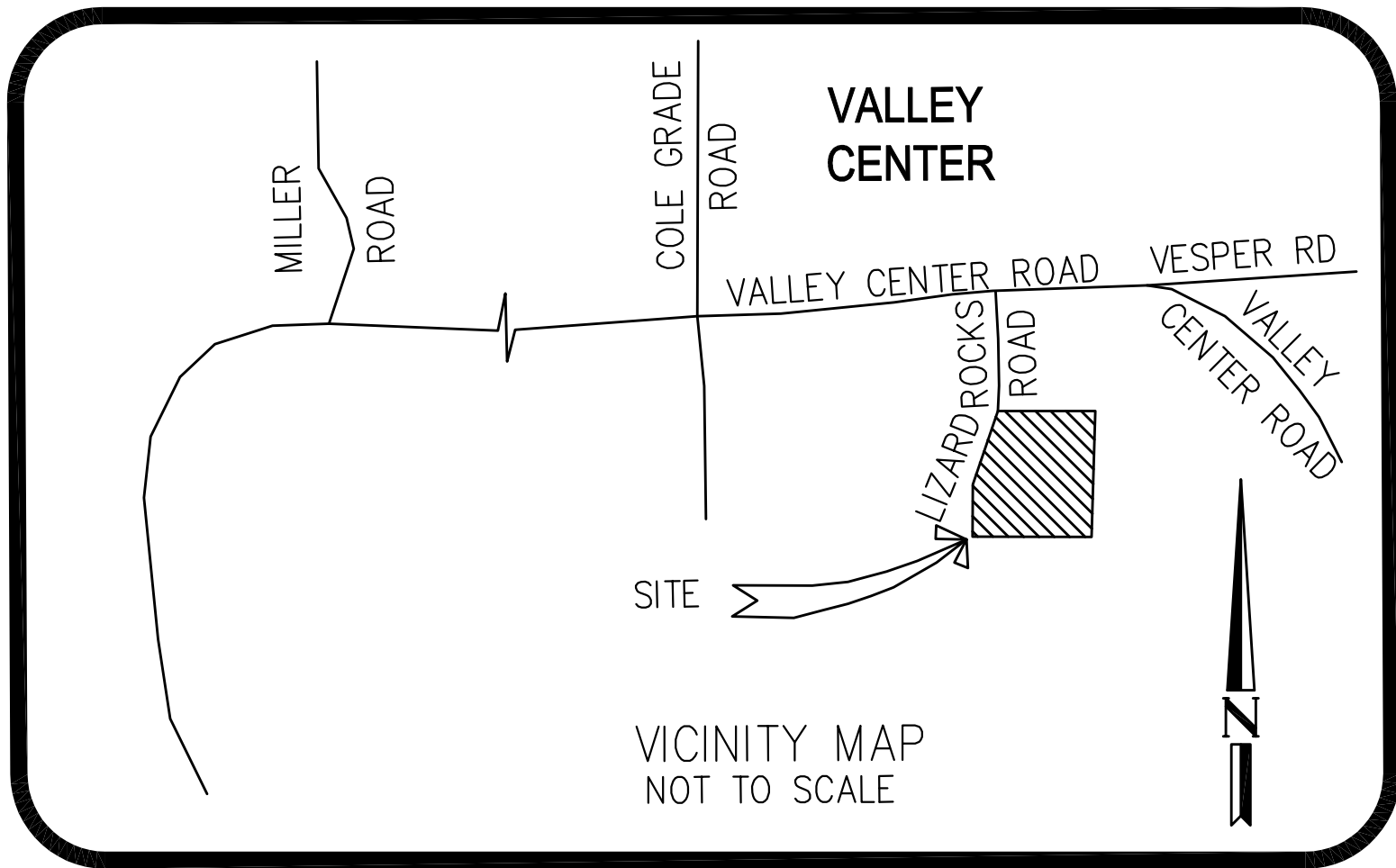


PRELIMINARY GRADING PLAN

FOR
24835 LIZARD ROCKS ROAD
VALLEY CENTER, CA 92082



NOTES

- NOTE THAT THE PROJECT WILL REQUIRE A GRADING PERMIT. PLEASE CONSIDER THE POTENTIAL IMPACTS TO SURROUNDING RESIDENCES FROM GRADING THE SITE,WHICH INCLUDE BUT ARE NOT LIMITED TO, AESTHETICS, HYDROLOGY, NOISE, VISUAL, ETC.
- PLEASE NOTE ANY OFFSITE GRADING WILL REQUIRE A LETTER OF PERMISSION TO GRADE FROM THE ADJACENT PROPERTY OWNER(S).
 - PLEASE NOTE ANY ACCESS ONTO AN ADJACENT PARCEL WILL REQUIRE A DEDICATED ACCESS EASEMENT FROM THE ADJACENT PROPERTY OWNER(S).
 - PLEASE NOTE ANY PROPOSED UTILITIES OVER OR UNDER AN ADJACENT PARCEL WILL REQUIRE A DEDICATED UTILITY EASEMENT FROM THE ADJACENT PROPERTY OWNER(S).
 - THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HERON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
 - THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HERON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

BENCHMARK

MONUMENT NO. 1031 PER R. OF S. 14689, 2" IRON PIPE W/BRASS DISC MARKED "GPS KE31" AT COLE GRADE ROAD, 68' WESTERLY OF VALLEY CENTER ROAD INTERSECTION; NGVD 29; ELEV.=1349.30 MSL

BASIS OF BEARINGS:

THE BASIS OF BEARING FOR THIS SURVEY IS THE EASTERLY LINE OF PARCEL 3 OF PARCEL MAP NO. 7078 PER FILE NO. 78-125318 RECORDED MARCH 30, 1978 IN THE COUNTY OF SAN DIEGO BEING NORTH 01°57'16" EAST.

ASSESSOR'S PARCEL NUMBER:

188-250-15

CONTACTS

OWNER/DEVELOPMENT
GREENS REAL ESTATE GROUP
910 SOUTH EL CAMINO REAL
SUITE 100 SAN CLEMENTE, CA 92672
CONTACT: NEIL R. KADAKIA
(949)-546-0563
ENGINEER
DRC ENGINEERING INC.
160 SOUTH OLD SPRINGS ROAD, SUITE 210
ANAHEIM HILLS, CA 92808
CONTACT: GREGORY COOKE
(714)-685-6860

LINETYPE LEGEND

AC DIKE (LABEL TYPES)	
CURB & GUTTER (LABEL)	TC (TOP OF CURB) LG (LIP OF GUTTER)
DITCH - LINED	
DITCH - UNLINED	
EXIST EDGE OF PAVEMENT	
FENCE - BARBED WIRE	X
FENCE - CHAINLINK	
FENCE - WOOD	
FIBER ROLL	FR
GUARD RAIL	
RETAINING WALL (CMU)	
RETAINING WALL (GENERAL, LABEL TYPE)	R/W
RIGHT OF WAY	
SLOPE LIMIT LINES	
STORM DRAIN PIPE	SD
CABLE TV	
ELECTRICAL	
FIBER OPTIC	FO
GAS LINE	G
METHANE GAS	MG
OVERHEAD ELECTRICAL	OH-E
SEWER LINE	S
TELEPHONE	T
WATER LINE	W
CENTER LINE	
PROPOSED CONTOUR	XXX
EXISTING CONTOUR	(XXX)
FIRE HYDRANT	
IRRIGATION CONTROL VALVE	
LIGHT STANDARD	
PALM TREE	
POWER POLE	
SEWER MANHOLE	
TRAFFIC SIGNAL	
TREE	
YARD LIGHT	
PROPERTY LINE	
RETAINING WALL CMU	

PRELIMINARY EARTHWORK QUANTITY ESTIMATE

RAW	CUT (CY) 9,380	FILL (CY) 1,390
TOTALS	9,380	1,390
NET =	7,990 CY EXPORT	

THE ABOVE QUANTITIES DO NOT REFLECT OR ANY SPECIAL CONDITIONS THAT MAY BE SPECIFIED IN THE PRELIMINARY SOILS REPORT AND ARE FOR REFERENCE AND FEE PURPOSES ONLY. SINCE THE ENGINEER CANNOT CONTROL THE EXACT METHOD OR MEANS USED BY THE CONTRACTOR DURING GRADING OPERATION, NOR CAN THE ENGINEER GUARANTEE THE EXACT SOIL CONDITION OVER THE ENTIRE SITE. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR FINAL EARTHWORK QUANTITIES FOR BIDDING, CONTRACT, AND CONSTRUCTION PURPOSES. IF IT APPEARS THERE WILL BE AN EXCESS OR SHORTAGE OF MATERIAL, THE CONTRACTOR MAY NOTIFY THE ENGINEER TO DETERMINE IF POSSIBLE GRADE ADJUSTMENTS CAN BE MADE TO ALLEVIATE SAID MATERIAL EXCESS OR SHORTAGE.

ABBREVIATIONS:

AC. - ACRES
A.P.N. - ASSESSOR'S PARCEL NUMBER
ARCH. - ARCHITECTURE
CL - CENTERLINE
CB - CATCH BASIN
FH - FIRE HYDRANT
FF - FINISHED FLOOR
MH - MANHOLE
SDMH - STORM DRAIN MANHOLE
CO - SEWER CLEANOUT
DDC - DOUBLE DETECTOR CHECK
FDC - FIRE DEPARTMENT CONNECTION
PIV - POST INDICATOR VALVE
WM - WATER METER
WV - WATER VALVE
SS MH, SMH - SEWER MANHOLE
EX,EXIST. - EXISTING
PROP. - PROPOSED
MIN - MINIMUM
BOT - BOTTOM
OF - CURB FACE
R/W - RIGHT OF WAY
SD - STORM DRAIN
SS - SEWER
WA - WATER
FW - FIRE WATER
TYP. - TYPICAL
TG - TOP OF GRATE
TC - TOP OF CURB
FL - FLOWLINE
FS - FINISHED SURFACE
FG - FINISH GRADE
PP - POWER POLE
PB - PULLBOX
DI - DRAINAGE INLET
INV - INVERT ELEVATION
LA - LANDSCAPE AREA
BCR - BEGINNING OF CURVE RADIUS
ECR - END OF CURVE RADIUS
GB - GRADE BREAK
TE - TRASH ENCLOSURE
PL - PROPERTY LINE

SHEET INDEX	
1	COVER SHEET
2-3	PRELIMINARY GRADING PLAN
4	PRELIMINARY STORM DRAIN PLAN
5-6	DRAINAGE AREA MAP

PREPARED BY:

DRC

Engineering, Inc.

Civil Engineering/Land Surveying/Land Planning

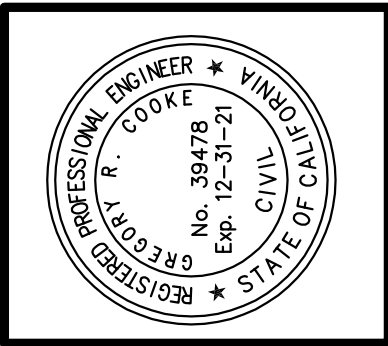
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

5/25/2021

DATE

GREGORY R. COOKE

R.C.E. 39478



NO.	REVISION:	DATE:

PROJECT:

GS VALLEY EXPANSION

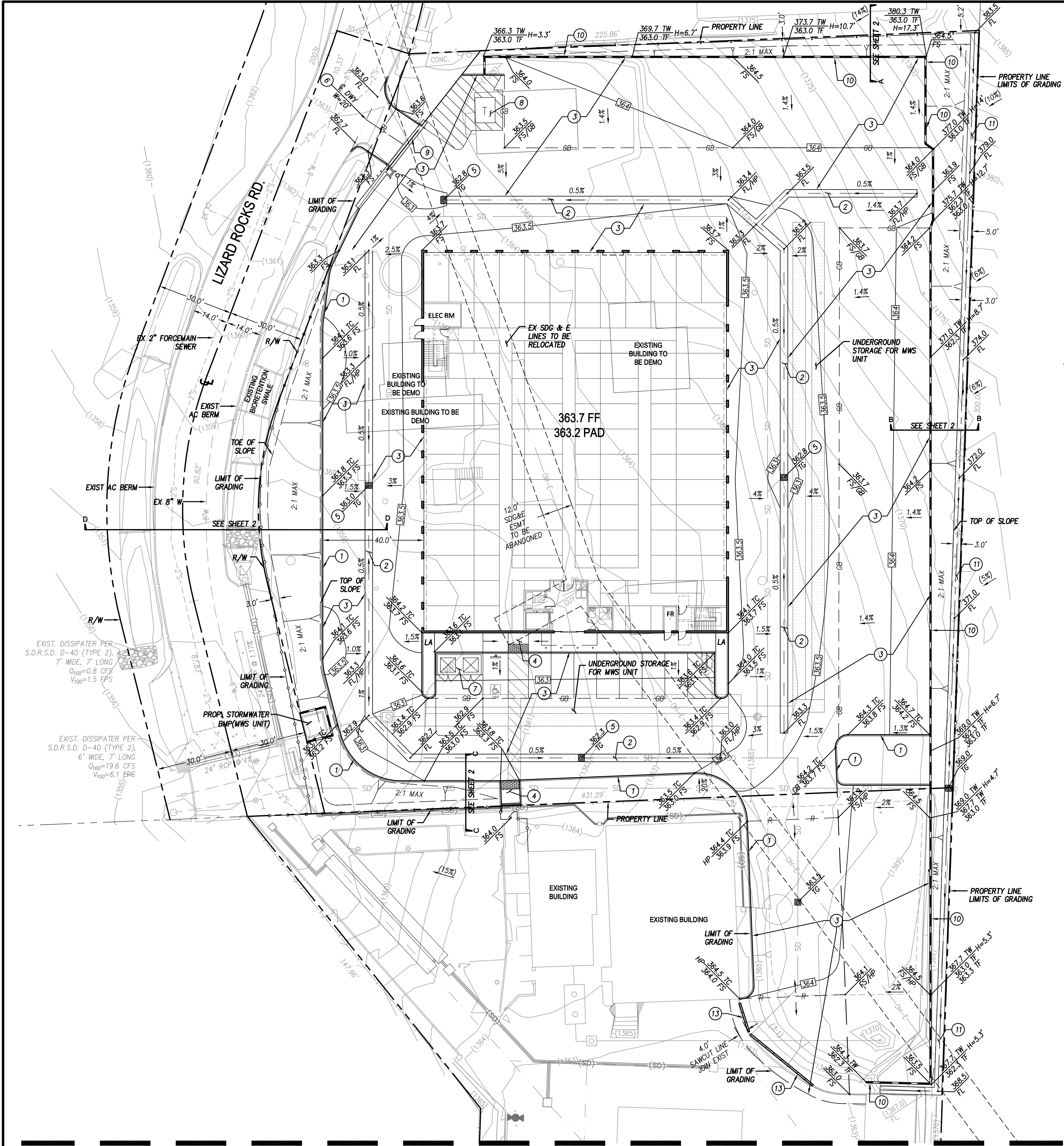
24835 LIZARD ROCKS ROAD

VALLEY CENTER, CA 92082

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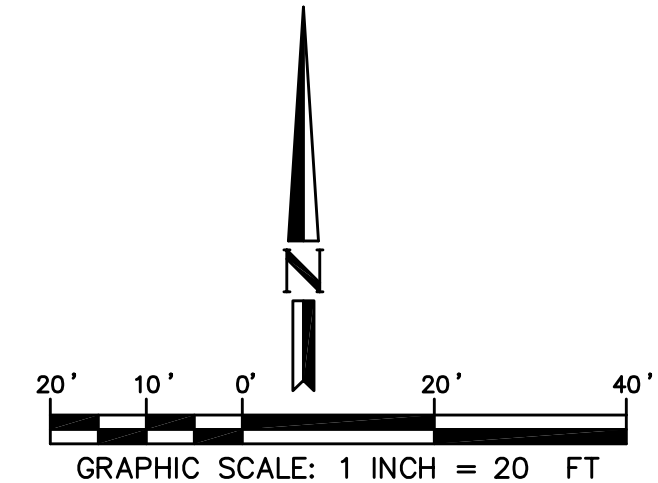
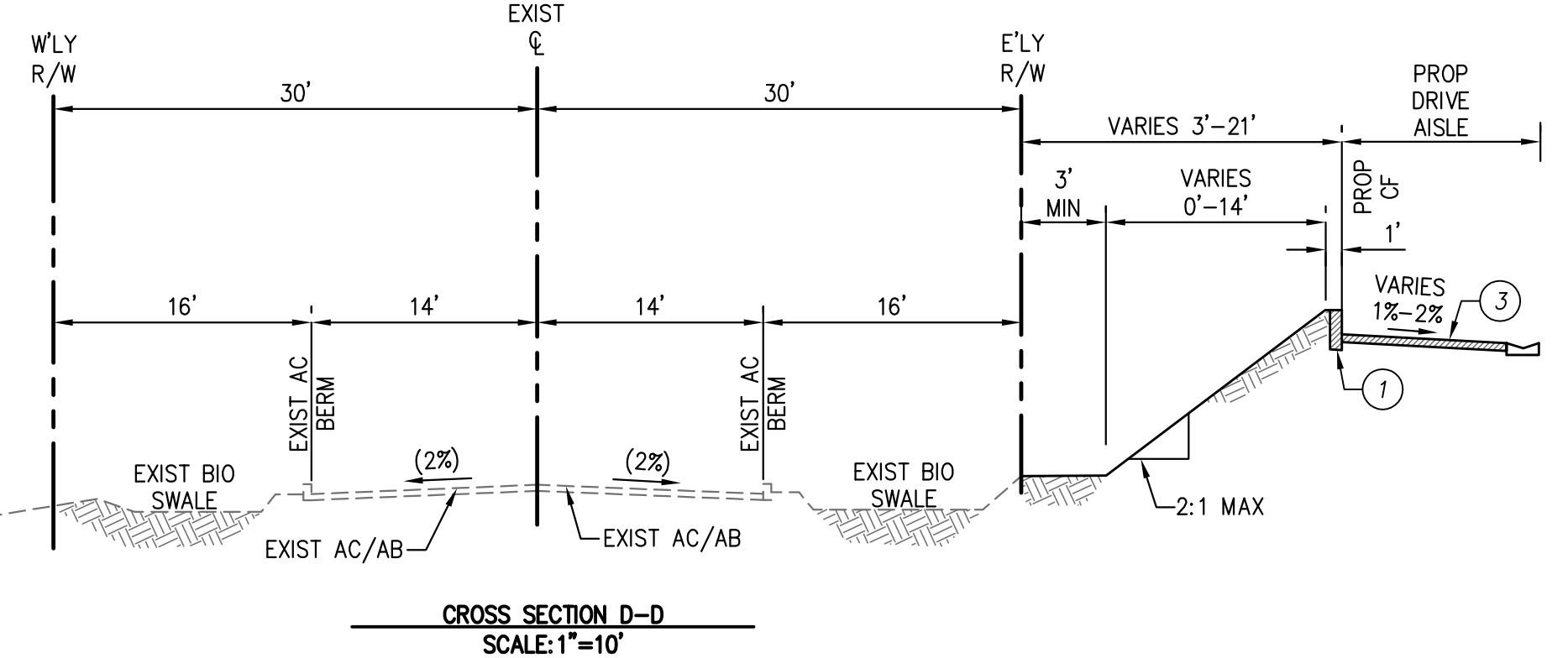
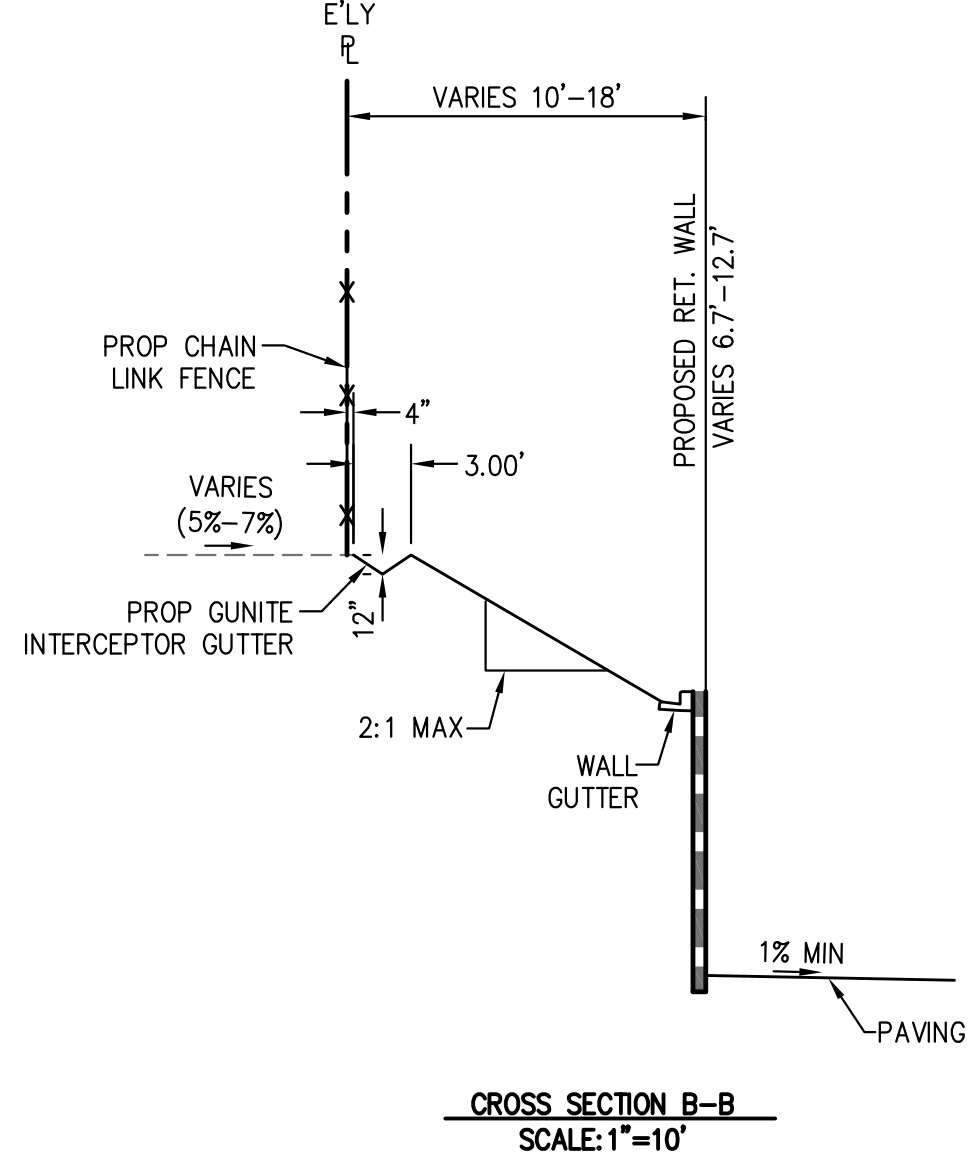
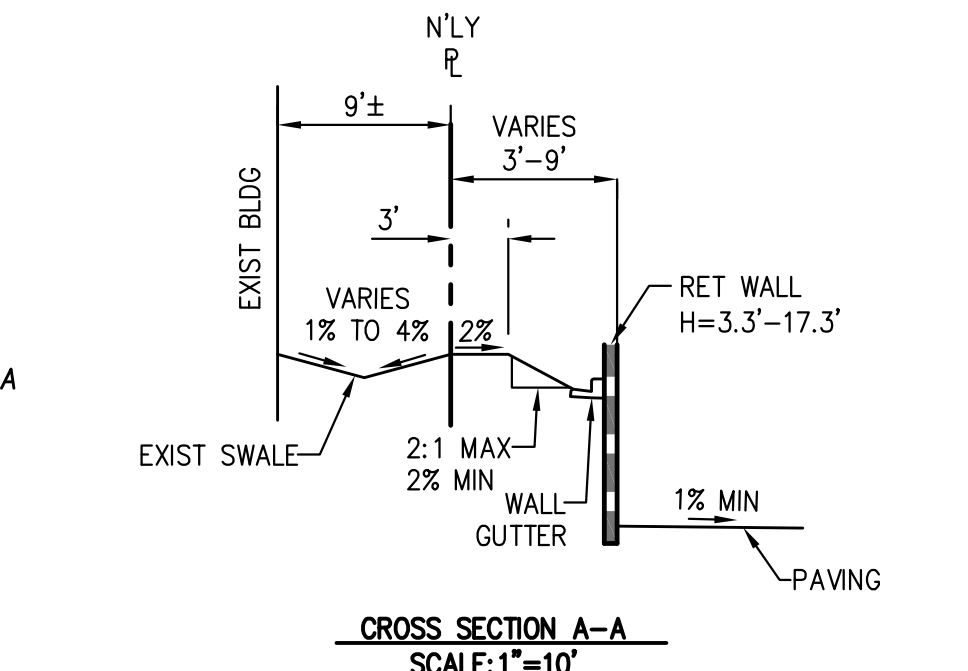
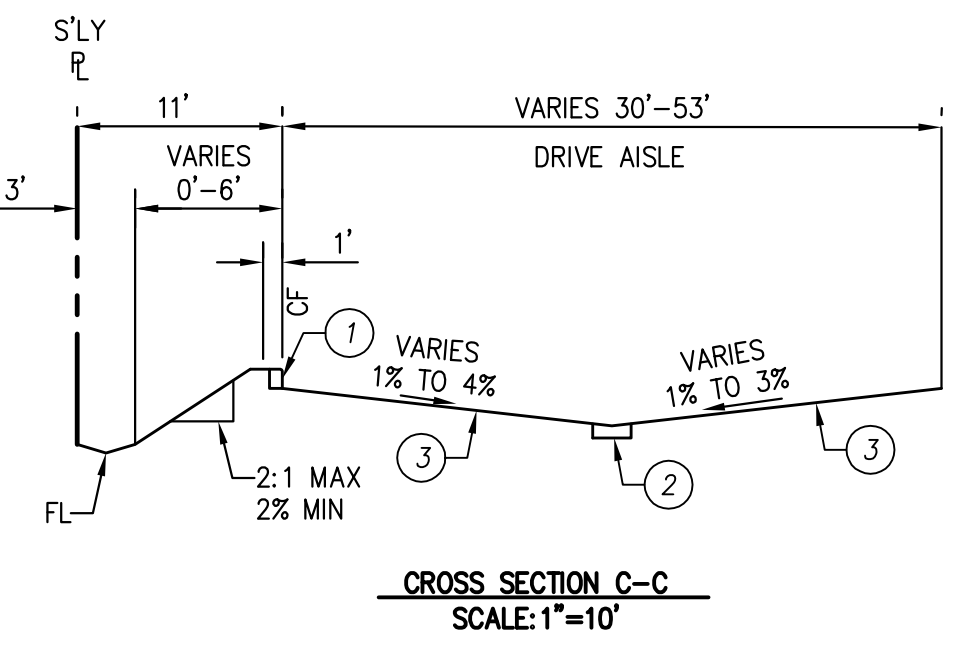
COVER SHEET

ISSUE:	CONCEPTUAL
DATE:	05/25/2021
CHECKED: GRC	DRAWN: MS
DRAWING FILE:	19132CG
PROJECT NO.:	19-132
SHEET NUMBER:	1
OF	6 SHEETS
SCALE:	AS SHOWN



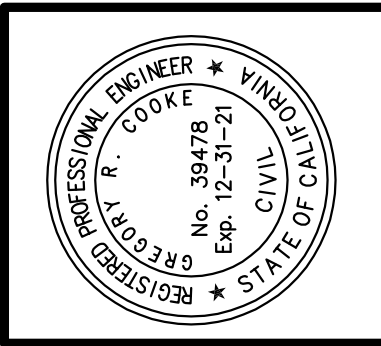
PRELIMINARY CONSTRUCTION NOTES

1. CONSTRUCT 6" CONCRETE CURB
2. CONSTRUCT 36" CONCRETE GUTTER
3. CONSTRUCT AC/AB
4. CONSTRUCT ADA RAMP
5. CONSTRUCT GRATE INLET
6. CONSTRUCT DRIVEWAY W=20' PER SAN DIEGO REGIONAL STD. DWG. G-14A
7. TRASH ENCLOSURE PER SEPARATE ARCH PLANS
8. TRANSFORMER PER SEPARATE ELECTRICAL PLANS
9. ACCESS GATE PER SEPARATE ARCH PLANS
10. RETAINING WALL PER SEPARATE WALL PLAN
11. CONSTRUCT 36" WIDE GUNITE INTERCEPTOR DRAIN
12. CONSTRUCT 6" CONCRETE CURB AND GUTTER
13. CONSTRUCT CHANNEL DRAIN



SEE SHEET 3 FOR CONTINUATION

PREPARED BY: **Engineering, Inc.**
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anheim Hills, CA 92808
714-685-6860
5/25/2021
DATE
GREGORY R. COOKE
R.C.E. 39478



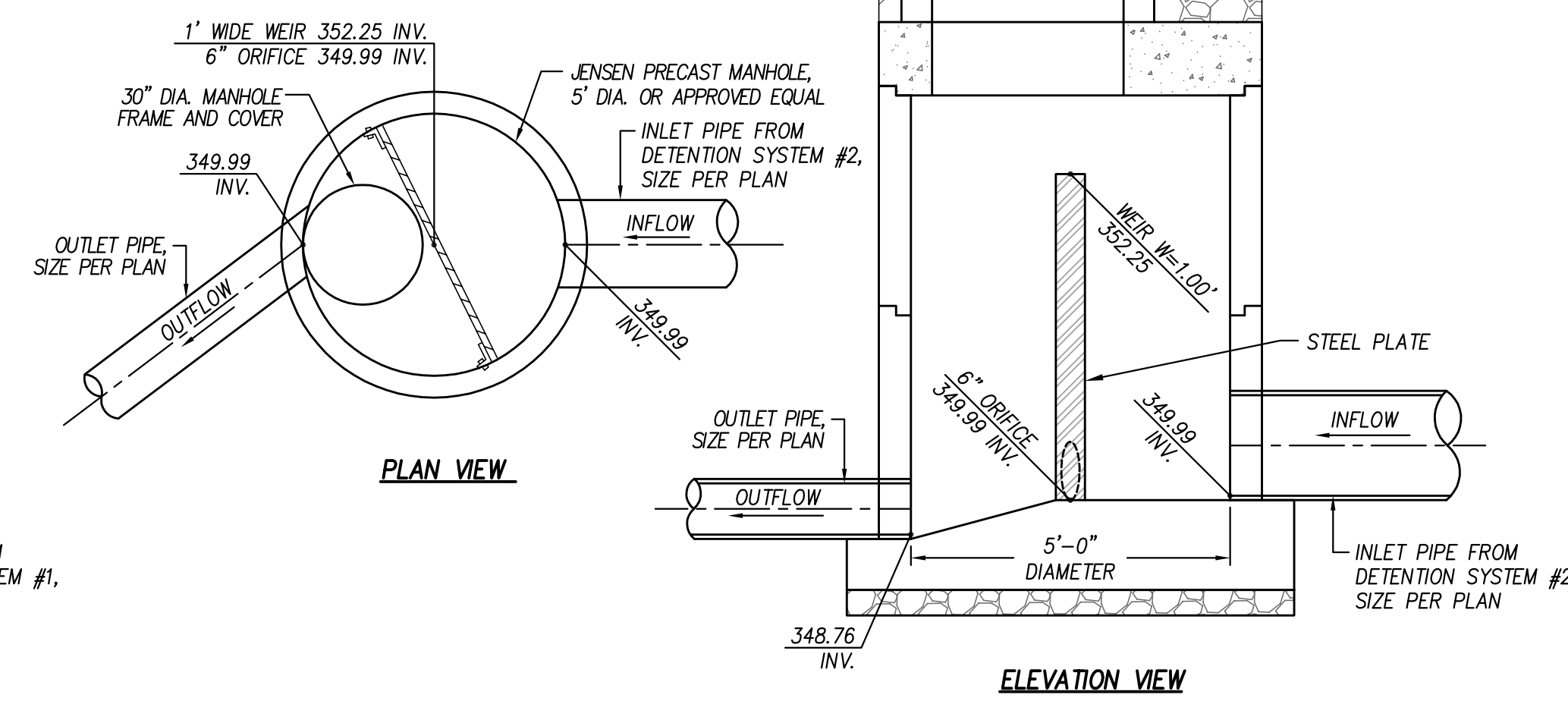
NO.	REVISION:	DATE:

PROJECT: **GS VALLEY EXPANSION**
24835 LIZARD ROCKS ROAD
VALLEY CENTER, CA 92082

DRAWING NAME: **PRELIMINARY GRADING PLAN**

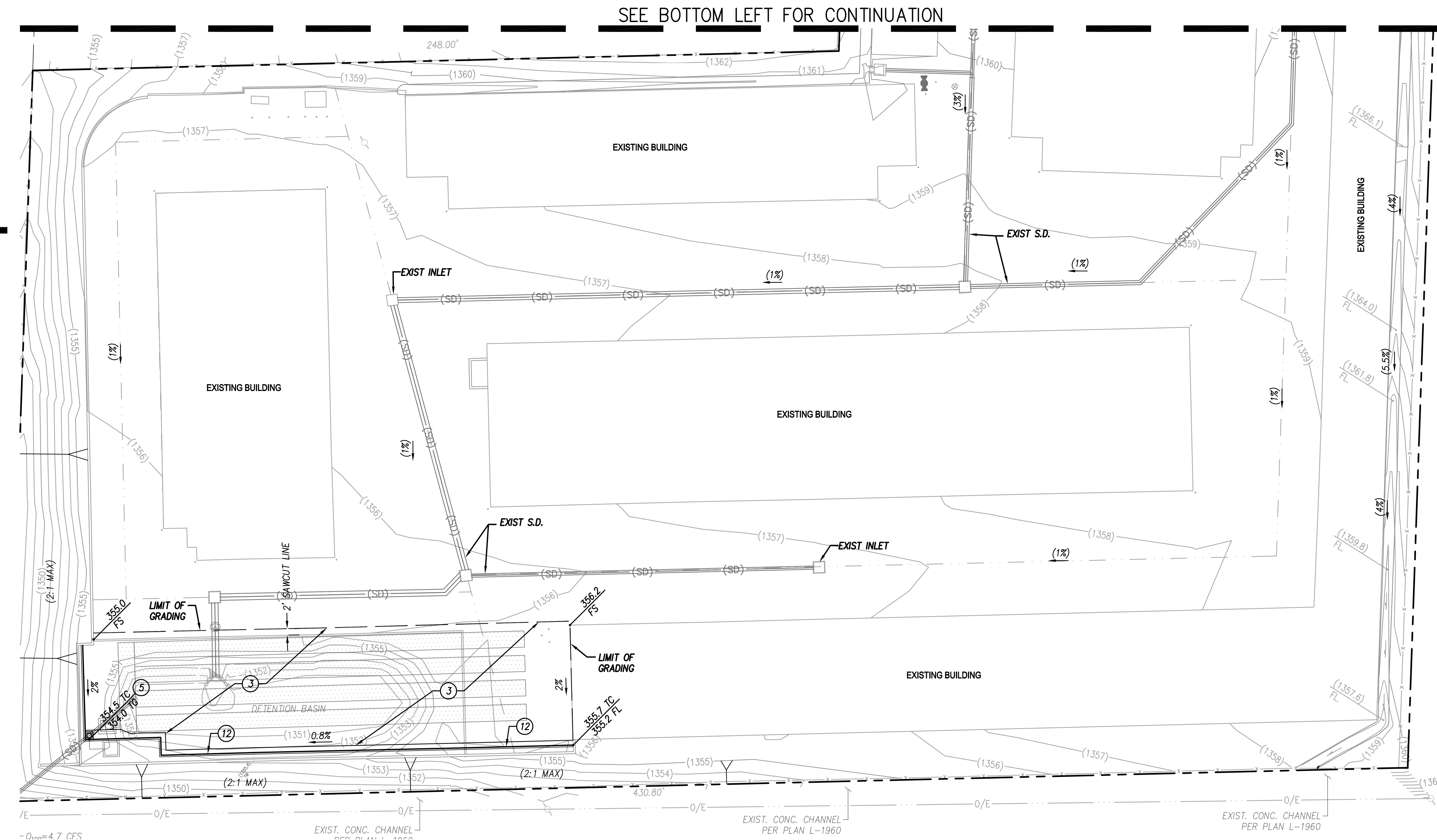
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CHECKED:	GRC
DRAWN:	MS
DRAWING FILE:	19132CG
PROJECT NO.:	19-132
SHEET NUMBER:	2
OF	6 SHEETS
SCALE:	AS SHOWN

SEE TOP RIGHT FOR CONTINUATION

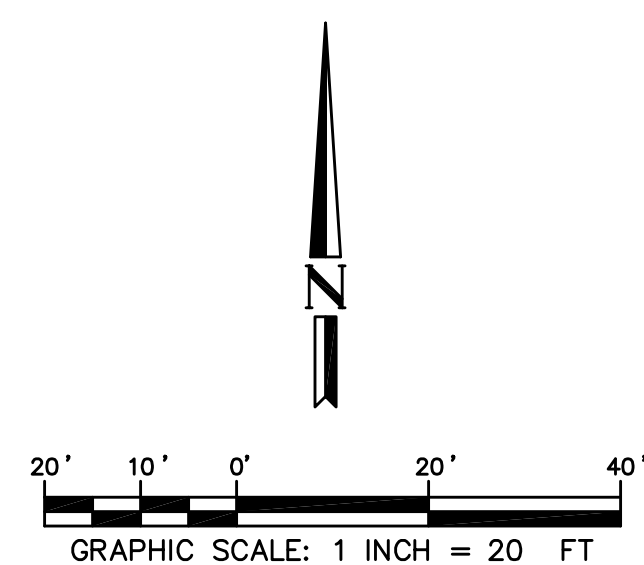


MANHOLE DOWNSTREAM OF SYSTEM #2

NOT TO SCALE

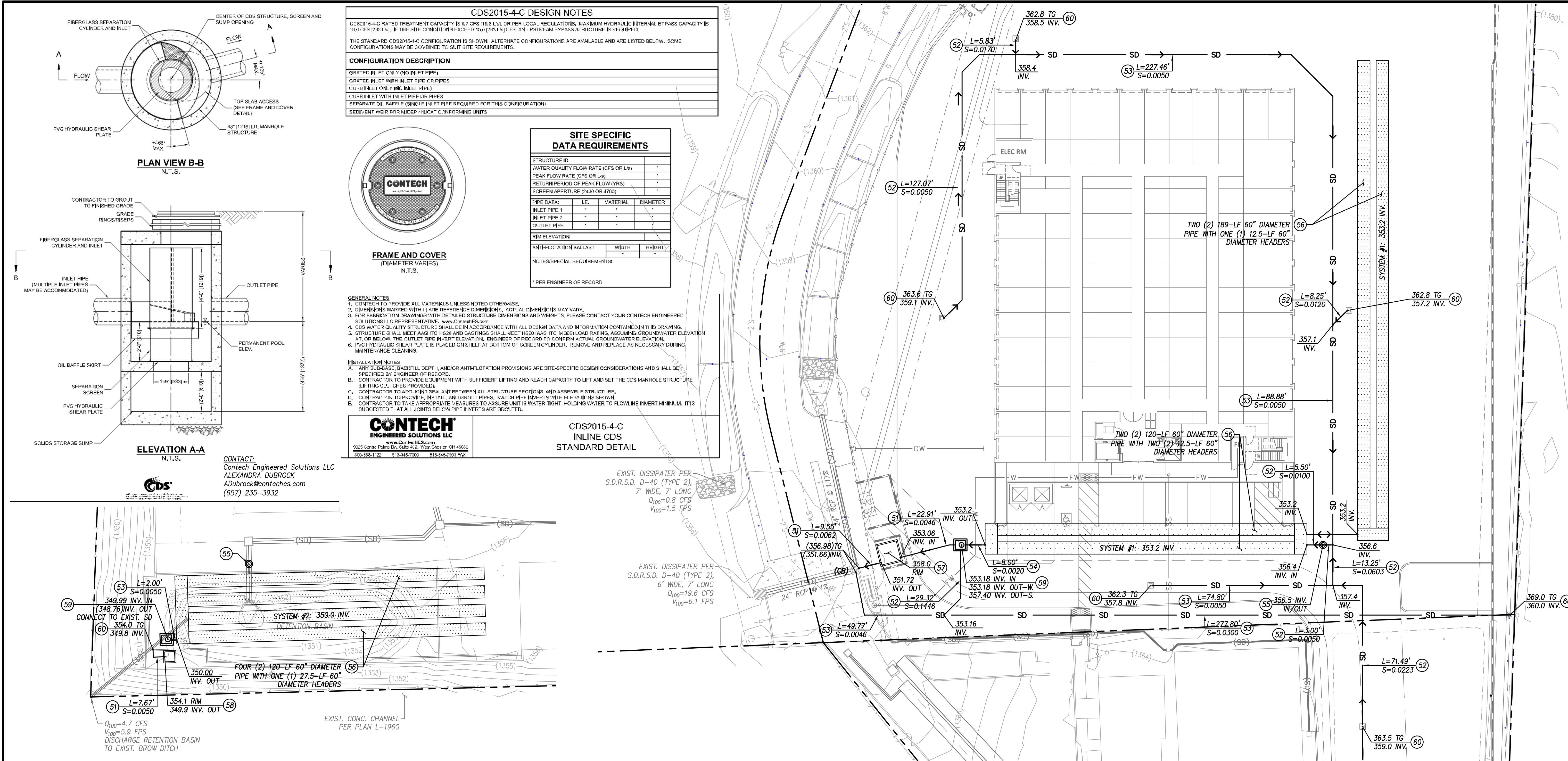


- 1 CONSTRUCT 6" CONCRETE CURB
- 2 CONSTRUCT 36" CONCRETE GUTTER
- 3 CONSTRUCT AC/AB
- 4 CONSTRUCT ADA RAMP
- 5 CONSTRUCT GRATE INLET
- 6 CONSTRUCT DRIVEWAY W=20' PER SAN DIEGO REGIONAL S
- 7 TRASH ENCLOSURE PER SEPARATE ARCH PLANS
- 8 TRANSFORMER PER SEPARATE ELECTRICAL PLANS
- 9 ACCESS GATE PER SEPARATE ARCH PLANS
- 10 RETAINING WALL PER SEPARATE WALL PLAN
- 11 CONSTRUCT 36" WIDE GUNITE INTERCEPTOR DRAIN
- 12 CONSTRUCT 6" CONCRETE CURB AND GUTTER
- 13 CONSTRUCT CHANNEL DRAIN



ISSUE:	CONCEPTUAL
DATE:	05/25/2021
CHECKED: GRC	DRAWN: MS
DRAWING FILE:	19132CG
PROJECT NO.:	10-132
SHEET NUMBER:	3
OF	6 SHEETS
SCALE:	AS SHOWN

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 NOT FOR CONSTRUCTION



SITE SPECIFIC DATA

PROJECT NUMBER: 22090
PROJECT NAME: 28435 LIZARD ROCKS ROAD
PROJECT LOCATION: VALLEY CENTER, CA
STRUCTURE ID: BMP #3

TREATMENT REQUIRED	VOLUME BASED (CY)	FLOW BASED (CFS)	
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	6,000		
PIPE DATA	IE	DIAMETER	
INLET PIPE 1	353.08	HOPE	12"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	351.72	HOPE	12"
PRETREATMENT	BIOFILTRATION	DISCHARGE	
RIM ELEVATION	358.00	N/A	358.00
SURFACE LOAD	FEEDSTRAIN	N/A	FEEDSTRAIN
FRAME & COVER	42"	OPEN PLANTER	6.08
WETLAND AREA VOLUME (CY)			6.08
GRADE SIZE (DIA. INCHES)			3 EA 18"x18"

NOTES: PRELIMINARY NOT FOR CONSTRUCTION. CLIP TO SET UPSTREAM BYPASS AT 100.00.

INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND ACCESSORIES REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPROPRIATELY IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONNECTED PIPES. PIPES CANNOT INTERSECT BEYOND FLOWLINE. JUNCTION OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED W/INTERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, ROVERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTRACTING AND CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS, AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS, DETAILING EXACT DIMENSIONS, WEIGHTS, AND ACCESSORIES PLEASE CONTACT BIO CLEAN.

CONTACT:
Bio Clean Environmental Services, Inc.
Grant Schipper
Grant.Schipper@fortarrb.com
(612) 382-4284

STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

REQUIRED TREATMENT VOLUME (CY) 6,000
RANDOMIZED DISCHARGE RATE PER WARE (LPM) 24
AVERAGE DISCHARGE RATE PER WARE (LPM) 31.55
OPERATING HEAD (FT) 4.1
WETLAND AREA INFILTRATION RATE (IN/H) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26

MWS-L-8-6-2.5"-V-HC
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

SITE SPECIFIC DATA

PROJECT NUMBER: 22090
PROJECT NAME: 28435 LIZARD ROCKS ROAD
PROJECT LOCATION: VALLEY CENTER, CA
STRUCTURE ID: BMP #3

TREATMENT REQUIRED	VOLUME BASED (CY)	FLOW BASED (CFS)	
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	6,000		
PIPE DATA	IE	DIAMETER	
INLET PIPE 1	N/A	N/A	N/A
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	350.50	PVC	8"
PRETREATMENT	BIOFILTRATION	DISCHARGE	
RIM ELEVATION	354.00	N/A	354.00
SURFACE LOAD	FEEDSTRAIN	N/A	FEEDSTRAIN
FRAME & COVER	24" x 42"	OPEN PLANTER	0.82
WETLAND AREA VOLUME (CY)			0.82
GRADE SIZE (DIA. INCHES)			#1.00"

NOTES: PRELIMINARY NOT FOR CONSTRUCTION.

INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND ACCESSORIES REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPROPRIATELY IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONNECTED PIPES. PIPES CANNOT INTERSECT BEYOND FLOWLINE. JUNCTION OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED W/INTERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, ROVERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
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GENERAL NOTES

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CONTACT:
Bio Clean Environmental Services, Inc.
Grant Schipper
Grant.Schipper@fortarrb.com
(612) 382-4284

STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

REQUIRED TREATMENT VOLUME (CY) 6,000
RANDOMIZED DISCHARGE RATE PER WARE (LPM) 24
AVERAGE DISCHARGE RATE PER WARE (LPM) 31.55
OPERATING HEAD (FT) 4.1
WETLAND AREA INFILTRATION RATE (IN/H) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26

MWS-L-8-6-2.5"-V-HC
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

SITE SPECIFIC DATA

PROJECT NUMBER: 22090
PROJECT NAME: 28435 LIZARD ROCKS ROAD
PROJECT LOCATION: VALLEY CENTER, CA
STRUCTURE ID: BMP #3

TREATMENT REQUIRED	VOLUME BASED (CY)	FLOW BASED (CFS)	
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	6,000		
PIPE DATA	IE	DIAMETER	
INLET PIPE 1	N/A	N/A	N/A
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	350.50	PVC	8"
PRETREATMENT	BIOFILTRATION	DISCHARGE	
RIM ELEVATION	354.00	N/A	354.00
SURFACE LOAD	FEEDSTRAIN	N/A	FEEDSTRAIN
FRAME & COVER	24" x 42"	OPEN PLANTER	0.82
WETLAND AREA VOLUME (CY)			0.82
GRADE SIZE (DIA. INCHES)			#1.00"

NOTES: PRELIMINARY NOT FOR CONSTRUCTION.

INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND ACCESSORIES REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPROPRIATELY IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTACT.
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GENERAL NOTES

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Grant Schipper
Grant.Schipper@fortarrb.com
(612) 382-4284

STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

REQUIRED TREATMENT VOLUME (CY) 6,000
RANDOMIZED DISCHARGE RATE PER WARE (LPM) 24
AVERAGE DISCHARGE RATE PER WARE (LPM) 31.55
OPERATING HEAD (FT) 4.1
WETLAND AREA INFILTRATION RATE (IN/H) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26
WETLAND AREA INFILTRATION RATE (LPM/FT) 0.26

MWS-L-8-6-2.5"-V-HC
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

STORM DRAIN CONSTRUCTION NOTES:

- CONSTRUCT 8" PVC STORM DRAIN
- CONSTRUCT 12" PVC STORM DRAIN
- CONSTRUCT 18" HDPE STORM DRAIN
- CONSTRUCT 24" HDPE STORM DRAIN
- INSTALL CONTECH CDS UNIT, CDS2015-4-C, FOR TREATMENT WITH OVERFLOW BYPASS
- INSTALL CONTECH CMP DETENTION SYSTEM
- INSTALL MODULAR WETLAND SYSTEM (MWS), MWS-L-8-8-V, FOR STORMWATER TREATMENT
- INSTALL MODULAR WETLAND SYSTEM (MWS), MWS-L-4-4-C, FOR STORMWATER TREATMENT
- CONSTRUCT WEIR OUTLET STRUCTURE MANHOLE PER DETAIL ON SHEET 3
- CONSTRUCT 18"x18" GRATE INLET
- CONSTRUCT CHANNEL DRAIN

LEGEND:

← DIRECTION OF PIPE FLOW

—SD— PROPOSED STORM DRAIN SYSTEM

(CB) EXISTING CATCH BASIN/DRAINAGE INLET

STORM DRAIN CONSTRUCTION NOTES:

- CONSTRUCT 8" PVC STORM DRAIN
- CONSTRUCT 12" PVC STORM DRAIN
- CONSTRUCT 18" HDPE STORM DRAIN
- CONSTRUCT 24" HDPE STORM DRAIN
- INSTALL CONTECH CDS UNIT, CDS2015-4-C, FOR TREATMENT WITH OVERFLOW BYPASS
- INSTALL CONTECH CMP DETENTION SYSTEM
- INSTALL MODULAR WETLAND SYSTEM (MWS), MWS-L-8-8-V, FOR STORMWATER TREATMENT
- INSTALL MODULAR WETLAND SYSTEM (MWS), MWS-L-4-4-C, FOR STORMWATER TREATMENT
- CONSTRUCT WEIR OUTLET STRUCTURE MANHOLE PER DETAIL ON SHEET 3
- CONSTRUCT 18"x18" GRATE INLET
- CONSTRUCT CHANNEL DRAIN

PREPARED BY: **Engineering, Inc.**
Civil Engineering/Land Surveying/Land Planning
180 S. Old Springs Road
Suite 210
Anheim Hills, CA 92808
714-685-6860
5/25/2021
DATE
GREGORY R. COOKE
R.C.E. 39478

REGISTERED PROFESSIONAL ENGINEER
GREGORY R. COOKE
No. 88428
Exp. 2-28-21
CIVIL
STATE OF CALIFORNIA

NO.:
REVISION:
DATE:

PROJECT: **GS VALLEY EXPANSION**
24835 LIZARD ROCKS ROAD
VALLEY CENTER, CA 92082

DRAWING NAME: **PRELIMINARY STORM DRAIN PLAN**

ISSUE: **CONCEPTUAL**
DATE: **05/25/2021**
CHECKED: **GRC DRAWN: MS**
DRAWING FILE: **19132CG**
PROJECT NO.: **19-132**
SHEET NUMBER: **4**
OF **6** SHEETS
SCALE: **AS SHOWN**

FILENAME: M:\2019\19-132 GS Valley Expansion\19132 CGM_SD.dwg, LAST SAVED ON: May 25 2021 5:15pm PLOTTED BY: JULIE, ON: May 25 2021 6:56pm, CFG:

DRAINAGE AREA SUMMARY: DRAINAGE

DMA	Tributary Area (acres)	Runoff Coefficient, C	Flowpath, D (ft)	Slope, s (%)	Proposed Condition						25-Year Storm						100-Year Storm					
					Q ₁₀ cfs	T ₁₀ min	Q ₂₅ cfs	T ₂₅ min	Q ₁₀₀ cfs	T ₁₀₀ min	Q ₁₀ cfs	T ₁₀ min	Q ₂₅ cfs	T ₂₅ min	Q ₁₀₀ cfs	T ₁₀₀ min	Q ₁₀ cfs	T ₁₀ min	Q ₂₅ cfs	T ₂₅ min	Q ₁₀₀ cfs	T ₁₀₀ min
1A.1	0.03	0.69	69.00	2.8	0.15	5.0	7.1	0.16	5.0	7.9	0.25	5.0	11.9									
1A.2	0.12	0.69	162.00	3.9	0.41	8.8	5.0	0.47	8.2	5.7	0.71	8.3	8.5									
2A.1	0.03	0.84	49.00	1.0	0.18	5.0	7.1	0.20	5.0	7.9	0.30	5.0	11.9									
2A.2	0.08	0.84	33.00	0.6	0.48	5.0	7.1	0.53	5.0	7.9	0.80	5.0	11.9									
3A.1	0.08	0.84	60.00	2.0	0.48	5.0	7.1	0.53	5.0	7.9	0.80	5.0	11.9									
3A.2	0.44	0.84	90.00	0.6	2.63	5.0	7.1	2.92	5.0	7.9	4.38	5.0	11.9									
4A.1	0.02	0.84	60.00	1.5	0.12	5.0	7.1	0.13	5.0	7.9	0.20	5.0	11.9									
4A.2	0.47	0.84	168.00	0.5	2.79	5.0	7.1	3.12	5.0	7.9	4.68	5.0	11.9									
5A	0.03	0.84	47.00	2.8	0.18	5.0	7.1	0.20	5.0	7.9	0.30	5.0	11.9									
6A	0.12	0.84	64.00	1.6	0.72	5.0	7.1	0.80	5.0	7.9	1.20	5.0	11.9									
7A.1	0.04	0.84	60.00	2.0	0.24	5.0	7.1	0.27	5.0	7.9	0.40	5.0	11.9									
7A.2	0.48	0.84	83.00	1.2	3.11	5.0	7.1	3.19	5.0	7.9	4.68	5.0	11.9									
8A	0.08	0.69	81.00	6.9	0.39	5.0	7.1	0.44	5.0	7.9	0.75	5.0	11.9									
9A.1	0.40	0.30	100.00	5.0	0.61	8.4	5.1	0.68	8.4	5.6	1.02	8.4	8.5									
9A.2	3.57	0.30	550.00	5.5	3.62	15.9	3.4	4.10	15.4	3.8	6.34	14.7	5.9									
10A.1	0.03	0.69	64.00	2.2	0.15	5.0	7.1	0.16	5.0	7.9	0.25	5.0	11.9									
10A.2	0.09	0.69	71.00	2.7	0.40	5.8	6.5	0.45	5.7	7.3	0.68	5.6	11.0									
"A" Subtotal	6.10	0.48	---	---	15.35	5.0	---	17.18	5.0	---	26.27	5.0	---									
1B	0.05	0.84	36.00	1.1	0.30	5.0	7.1	0.33	5.0	7.9	0.50	5.0	11.9									
2B	0.05	0.84	---	---	0.30	5.0	7.1	0.33	5.0	7.9	0.50	5.0	11.9									
3B	0.04	0.84	89.00	6.9	0.24	5.0	7.1	0.27	5.0	7.9	0.40	5.0	11.9									
4B	0.11	0.84	49.00	1.6	0.66	5.0	7.1	0.73	5.0	7.9	1.10	5.0	11.9									
5B	0.06	0.84	54.00	4.3	0.36	5.0	7.1	0.40	5.0	7.9	0.60	5.0	11.9									
6B	0.00	0.84	---	---	0.03	5.0	7.1	0.03	5.0	7.9	0.05	5.0	11.9									
7B.1	0.08	0.84	80.00	3.1	0.48	5.0	7.1	0.53	5.0	7.9	0.80	5.0	11.9									
7B.2	0.02	0.84	36.00	3.6	0.12	5.0	7.1	0.13	5.0	7.9	0.20	5.0	11.9									
"B" Subtotal	0.40	0.84	---	---	2.49	5.0	---	2.75	5.0	---	4.13	5.0	---									
1C.1	0.31	0.30	100.00	4.0	0.45	9.1	4.8	0.50	9.1	5.4	0.75	9.1	8.1									
1C.2	1.80	0.42	380.00	7.1	2.70	14.5	3.6	3.03	14.3	4.0	4.75	13.4	6.3									
1C.3	0.50	0.83	385.00	2.6	1.37	16.4	3.3	1.54	16.1	3.7	2.42	15.1	5.8									
2C	0.59	0.84	---	---	1.61	5.0	3.3	1.81	5.0	3.7	2.84	5.0	5.7									
3C.1	0.04	0.87	90.00	5.1	0.25	5.0	7.1	0.28	5.0	7.9	0.41	5.0	11.9									
3C.2	0.32	0.84	297.00	7.0	1.91	5.0	7.1	2.12	5.0	7.9	3.19	5.0	11.9									
4C.1	0.03	0.87	60.00	8.5	0.19	5.0	7.1	0.21	5.0	7.9	0.31	5.0	11.9									
4C.2	0.01	0.87	70.00	9.0	0.06	5.0	7.1	0.07	5.0	7.9	0.10	5.0	11.9									
5C	0.44	0.84	---	---	1.19	5.0	3.2	1.33	5.0	3.6	2.09	5.0	5.6									
6C.1	0.11	0.84	53.00	1.1	0.66	5.0	7.1	0.73	5.0	7.9	1.10	5.0	11.9									
6C.2	0.35	0.84	188.00	1.1	2.09	5.0	7.1	2.32	5.0	7.9	3.49	5.0	11.9									
7C	0.24	0.84	---	---	1.43	5.0	7.1	1.59	5.0	7.9	2.39	5.0	11.9									
8C	0.33	0.83	---	---	0.87	5.0	3.2	0.97	5.0	3.6	1.53	5.0	5.6									
9C.1	0.02	0.83	60.00	2.0	0.12	5.0	7.1	0.13	5.0	7.9	0.20	5.0	11.9									
9C.2	0.11	0.83	129.00	0.8	0.65	5.0	7.1	0.72	5.0	7.9	1.08	5.0	11.9									
"C" Subtotal	5.21	0.41	---	---	11.30	5.0	---	12.68	5.0	---	19.82	5.0	---									
1D.1	0.57	0.30	100.00	23.0	1.01	6.7	5.9	1.12	6.7	6.5	1.68	6.7	9.8									
1D.2	5.18	0.27	651.00	9.4	4.91	15.0	3.5	5.70	14.0	4.1	9.07	12.8	6.5									
1D.3	0.10	0.88	181.00	5.6	0.17	15.2	3.5	0.19	14.2	4.0	0.31	13.0	6.4									
2D	0.12	0.30	22.00	4.5	0.26	5.0	7.1	0.28	5.0	7.9	0.43	5.0	11.9									
"D" Subtotal	5.97	0.28	---	---	5.74	15.4	---	6.66	14.4	---	10.58	13.1	---									
1E	0.12	0.20	85.00	8.0	0.13	7.5	5.5	0.15	7.5	6.1	0.22	7.5	9.1									
"E" Subtotal	0.12	0.20	---	---	0.13	7.5	---	0.15	7.5	---	0.22	7.5	---									
Site Total	17.81	0.38	---	---	35.01	---	---	39.42	---	---	61.02	---	---									

DRAINAGE AREA SUMMARY: PERVIOUS/IMPERVIOUS AREA

Drainage Subarea	Area		Pervious Area		Proposed Condition		Impermeous Area		BMP Type	DCV
	s.f.	acres	s.f.	acres	% Site	s.f.	acres	%Site		
1A.1	1,385	0.03	79	0.00	5.7%	1,307	0.03	94.3%	Structural BMP (Existing INF-2)	0
1A.2	5,109	0.12	2,920	0.07	57.0%	2,189	0.05	43.0%		
2A.1	1,294	0.03	0	0.00	0.0%	1,294	0.03	100.0%		273
2A.2	3,370	0.08	0	0.00	0.0%	3,370	0.08	100.0%		
3A.1	3,406	0.08	0	0.00	0.0%	3,406	0.08	100.0%	Structural BMP (BF-3: MWS-L-8-S-V)	1,244
3A.2	19,060	0.44	1,477	0.03	7.7%	17,584	0.40	92.3%		
4A.1	755	0.02	0	0.00	0.0%	755	0.02	100.0%		1,247
4A.2	20,561	0.47	0	0.00	0.0%	20,561	0.47	100.0%		
5A	1,195	0.03	0	0.00	0.0%	1,195	0.03	100.0%		70
6A	5,030	0.12	0	0.00	0.0%	5,030	0.12	100.0%		
7A.1	1,852	0.04	612	0.01	33.1%	1,239	0.03	66.9%	Self-Mitigating	294
7A.2	20,794	0.48	2,102	0.05	10.1%	18,693	0.43	89.9%		
8A	3,367	0.08	3,367	0.07	100.0%	0	0.00	0.0%	(None)	1,178
9A.1	17,628	0.40	17,628	0.40	100.0%	0	0.00	0.0%		
9A.2	155,511	3.57	148,742	3.41	95.0%	6,769	0.16	4.4%	(None)	283
10A.1	1,307	0.03	0	0.00	0.0%	1,307	0.03	100.0%		
10A.2	4,003	0.09	510	0.01	12.7%	3,492	0.08	87.3%		2,926
"A" Subtotal	265,658	6.10	177,426	4.07	66.8%	88,232	2.03	33.2%		742
1B	2,183	0.05	372	0.01	17.2%	1,811	0.04	82.8%	Structural BMP (Existing Detention vault)	1,506
2B	5,030	0.03	304	0.01	6.0%	4,726	0.04	94.0%		
3B	1,670	0.04	409	0.01	24.5%	1,260	0.03	75.5%		1,075
4B	4,789	0.11	0	0.00	0.0%	4,789	0.11	100.0%		
5B	2,473	0.06	61	0.00	2.5%	2,412	0.06	97.0%		244
6B	215	0.005	0	0.00	0.0%	215	0.00	100.0%		
7B.1	3,551	0.08	346	0.01	9.7%	3,205	0.07	90.3%		2,320
7B.2	467	0.02	78	0.00	1.6%	389	0.01	83.4%		
"B" Subtotal	17,619	0.40	1,570	0.04	8.8%	16,049	0.37	91.1%		2,953
1C.1	13,622	0.31	13,622	0.31	100.0%	0	0.00	0.0%	Flow-through	1,506
1C.2	70,339	1.80	65,830	1.51	84.0%	4,509	0.29	15.0%		
2C	1,244	0.03	339	0.01	25.3%	904	0.04	74.7%	Detention vault (Existing FT-2)	69
3C	1,123	0.01	217	0.01	18.6%	906	0.04	80.4%		
4C	25,148	0.58	0	0.00	0.0%	25,148	0.58	100.0%	Flow-through	2,320
5C	1,686	0.04	550	0.01	32.6%	1,136	0.03	67.4%		
6C	19,939	0.32	512	0.01	2.6%	19,428	0.31	96.3%	Treatment Control	863
7C	1,944	0.03	339	0.01	15.3%	1,604	0.04	74.9%		
8C	1,124	0.01	217	0.01	18.6%	906	0.04	80.4%		1,075
9C	2,224	0.04	971	0.02	43.1%	1,253	0.02	55.9%		
10C	4,653	0.11	0	0.00	0.0%	4,653	0.11	100.0%		1,178
11C	15,362	0.35	0	0.00	0.0%	15,362	0.35	100.0%		
7C	10,651	0.24	0	0.00	0.0%	10,651	0.24	100.0%		1,247
8C	14,424	0.33	0	0.00	0.0%	14,424	0.33	100.0%		
9C	1,024	0.02	0	0.00	0.0%	1,024	0.02	100.0%	Structural BMP (BF-3: MWS-L-8-S-V)	844
10C	4,855	0.11	347	0.01	7.1%	4,508	0.10	92.9%		
"C" Subtotal	227,007	5.21	86,806	1.99	38.2%	140,201	3.22	61.8%		2,905
1D	24,823	0.57	2,523	0.06	10.0%	22,300	0.51	86.0%	(None)	630
10.1	125,220	5.18	61,086	1.40	6.6%	63,939	1.48	5.1%		
10.2	4,278	0.10	2,794	0.06	65.3%	1,484	0.03	34.7%		24
10.3	5,569	0.13	2,088	0.24	30.0%	3,481	0.08	60.0%		
"D" Subtotal	266,180	5.97	251,067	5.74	94.3%	9,113	0.21	3.5%		2,953
1E	5,296	0.12	5,100	0.12	96.3%	196	0.00	3.7%	Self-Mitigating	N/A
1F	5,296	0.12	5,100	0.12	96.3%	196	0.00	3.7%		
"E" Subtotal	775,262	17.81	771,667	17.64	99.7%	3,595	0.08	0.5%		N/A

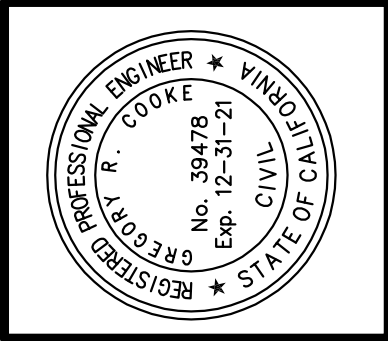
SEE SHEET 5 FOR CONTINUATION



- LEGEND:**
- DRAINAGE STUDY AREA BOUNDARY
 - DRAINAGE SUBAREA BOUNDARY
 - LONGEST FLOW PATH
 - DIRECTION OF FLOW
 - SUBAREA DESIGNATION AREA (ACRES)

PREPARED BY: **Engineering, Inc.**
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714-685-6860

Gregory R. Cooke
R.C.E. 39478
5/25/2021
DATE



NO.	REVISION	DATE

PROJECT:
GS VALLEY EXPANSION
24835 LIZARD ROCKS ROAD
VALLEY CENTER, CA 92082

DRAWING NAME:
DRAINAGE AREA MAP

ISSUE:	CONCEPTUAL
DATE:	05/25/2021
CHECKED: GRC	DRAWN: MS
DRAWING FILE:	19132CG
PROJECT NO.:	19-132
SHEET NUMBER:	6
OF	6 SHEETS
SCALE:	AS SHOWN