APPENDIX G2:

PRELIMINARY HYDROLOGY REPORT

PRELIMINARY HYDROLOGY REPORT

for

2245 Valley Industrial
2245 West Valley Boulevard
Colton, CA 92324

Prepared For:

Redwood West
1111 Bayside Drive, Suite 150
Corona del Mar, CA 92625

Prepared By:

DESIGN ASSOCIATES

CCE Design Associates Inc
771 E. Daily Drive, Suite 120 | Camarillo, CA 93010
445 S. Figueroa St, Suite 3100 | Los Angeles, CA 90071
805.738.5434

PRELIMINARY HYDROLOGY REPORT

for

2245 Valley Industrial
2245 West Valley Boulevard,
Colton, CA 92625

Date:	January 22, 2023
Project Manager:	Randy Chapman, P.E. RCE No. 69614
Project Engineer:	Randy Chapman
CCE Job Number:	C22.0551

Prepared By:

_____

Randy Chapman, P.E. Date
CCE Design Associates, Inc

1. Table of Contents

2. Introduction

PURPOSE

The purpose of this report is to validate the grading and drainage design for the project located on 2245 W Valley Blvd in Colton, California. The project proposes the construction of multiple industrial warehouses, adjacent parking, and truck loading zones. This report is intended to provide the grading and draining design in addition to demonstrating compliance with the overall flood control for pre-development and post-development conditions.

SITE LOCATION

The project is located on 2245 West Valley Boulevard in Colton, California 92324. The APN is 0254-041-04-0000.

The site is currently a single industrial warehouse, bounded by a vacant lot to the North, a vacant lot to the West, an industrial warehouse on the East, and bounded by E Valley Blvd with residential and commercial buildings to the South.

A separate preliminary WQMP report has been prepared for this project under separate cover..

3. Hydrology

This hydrology study was prepared in accordance with the San Bernardino County Hydrology Manual. Precipitation input values were based on Figures B-1 through B-6 of the Hydrology Manual and are provided below for reference.

- 2-year 6-hour isohyetal: 1.6”
- 2-year 24-hour isohyetal: 2.5”
- 10-year 1-hour isohyetal: 0.9”
- 100-year 1-hour isohyetal: 1.3”
- 100-year 6-hour isohyetal: 3.0”
- 100-year 24-hour isohyetal: 7.0”

The project also assumes the following inputs:

- Impervious Area Ratio: 90%
- Area: 9.01 Acres
- Curve Number (AMC II): 92
- Curve Number (AMC III): 98
- Soil Type (per USDA): A

4. Drainage Concept

This site will collect runoff from the buildings and surrounding parking areas and will collect stormwater in a series of catch basins, conveying water to underground storm drain conduits that will convey flow to a centralized stormwater treatment system. This system will treat all flow through a CDS unit (mechanical treatment) as a pretreatment and trash capture device, with the WQMP flows being directed into an underground infiltration system. High flows will bypass the infiltration system and be collected in the street.

It should be noted that this project is a redevelopment. Currently, the site is completely paved and devoid of any vegetated areas. This project, as an industrial project, will be largely impervious as well, but planted areas will be added. Additionally, the inclusion of storm drain and treatment will increase the time of concentration somewhat, ultimately reducing the peak flow from the existing situation. As a result, no detention requirements are anticipated for this site as the existing condition is being improved.

5. Drainage Calculations

The disturbed site contains a total of 9.01 acres. For purposes of this study, the entire area is considered as one hydrology area and is proportioned amongst the site for inlet and pipe calculations. This will result in a conservative design as this does not take travel time and routing considerations into account. There is an offsite area to the north that currently drains through the site. As that site is also envisioning development, our expectation is that this drainage will be handled separately. Should this site be constructed first, we will collect and convey run-on from the north in a separate system through the site to avoid intermixing offsite flow (that does not need to be treated) with our onsite flow.

Hydrology is calculated per the San Bernardino County Hydrology Manual. Based on the USDA Web Soil Survey, the soil is classified as a Type A soil which is assumed to be well drained with excellent potential for infiltration.

The hydrology calculations are summarized as follows:

Design Storm	Time of Concentration	Intensity (inches/hr)	Q (cfs)
10-year	11 minutes	2.5	19.5
100-year	11 minutes	3.6	28.4

6. Summary and Conclusion

Based upon these calculations and the site designs, this project will improve upon the existing, fully impervious site by collecting and routing stormwater in a controlled manner to offsite drainage systems. This drainage system design, in addition with the stormwater treatment component referenced in the site Water Quality Control Plan, will provide downstream interests with a system that both reduces peak flow and improves water quality.

7. Attachments

Attachment A	Supporting San Bernardino County Hydrology Information
Attachment B	Hydrologic Calculations
Attachment C	Project Entitlement Plans (for reference)

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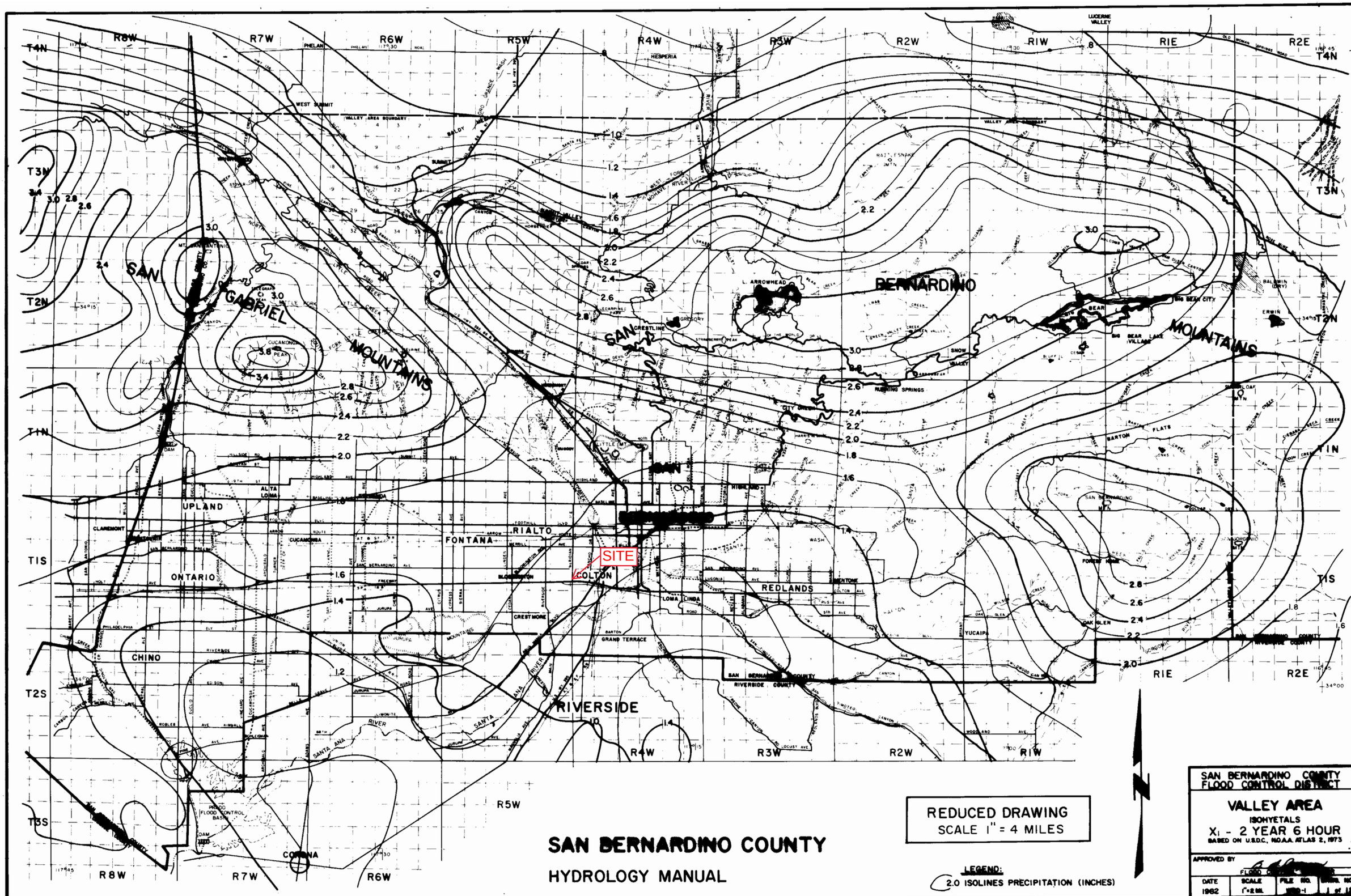
DESIGN ASSOCIATES

Attachment A

Supporting San Bernardino County Hydrology Information



SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

REDUCED DRAWING
SCALE 1" = 4 MILES

LEGEND:
2.0 ISOLINES PRECIPITATION (INCHES)

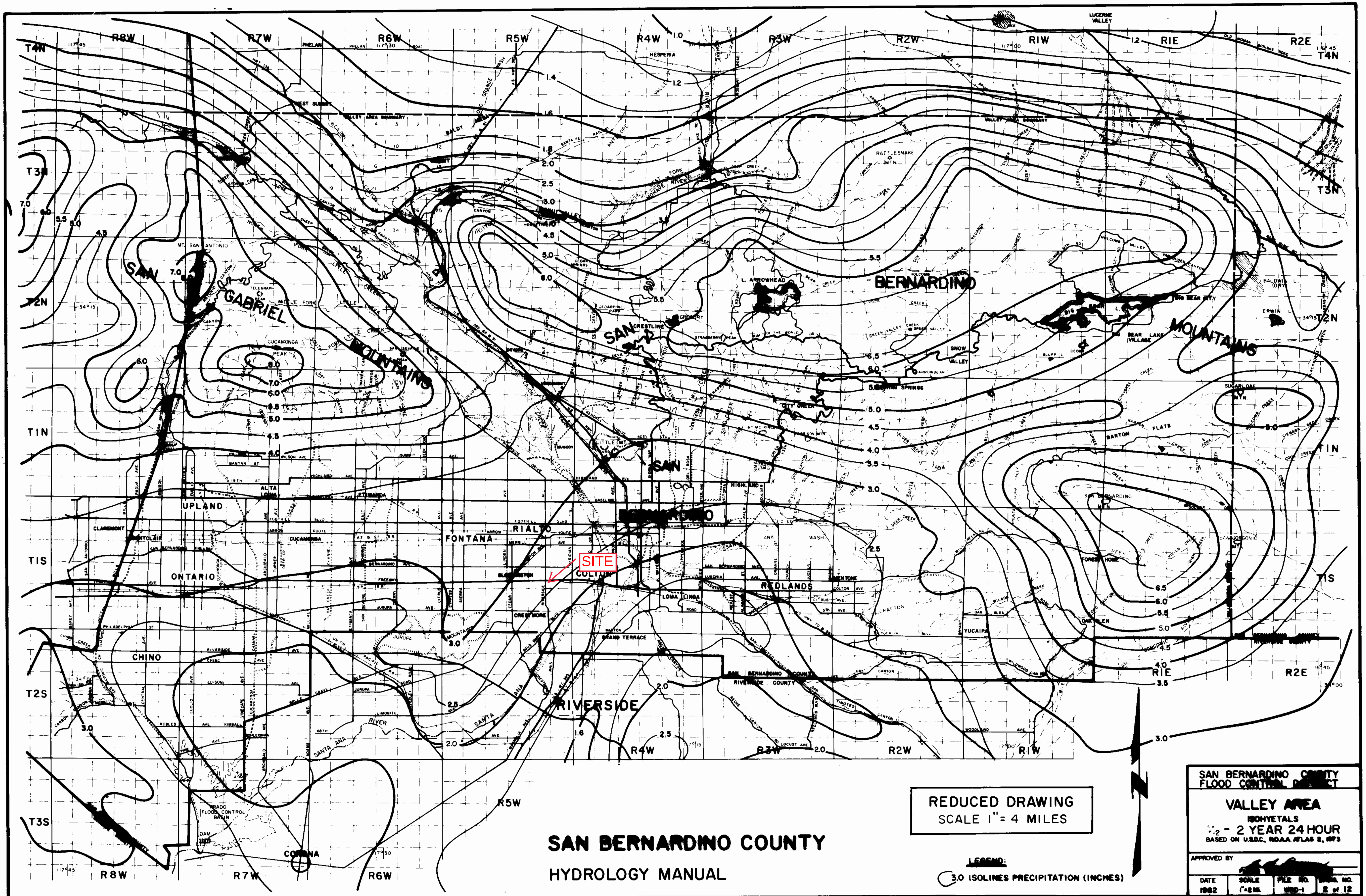
SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT

VALLEY AREA
ISOHYETALS
X_1 - 2 YEAR 6 HOUR
BASED ON U.S.D.C., N.O.A.A. ATLAS 2, 1973

APPROVED BY
FLOOD CONTROL ENGINEER

DATE	SCALE	FILE NO.	DRWG. NO.
1982	1"=2 MI.	VHD-1	1 of 12

FIGURE B-1



SAN BERNARDINO COUNTY

HYDROLOGY MANUAL

REDUCED DRAWING
SCALE 1" = 4 MILES

LEGEND:

3.0 ISOLINES PRECIPITATION (INCHES)

SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT

VALLEY AREA

ISOHYETALS

Y2 - 2 YEAR 24 HOUR

BASED ON U.S.D.C., N.O.A.A. ATLAS 2, 1973

APPROVED BY [illegible]

DATE	SCALE	FILE NO.	DWG. NO.
1982	1"=2 MI.	WRD-1	2 of 12

FIGURE B-2

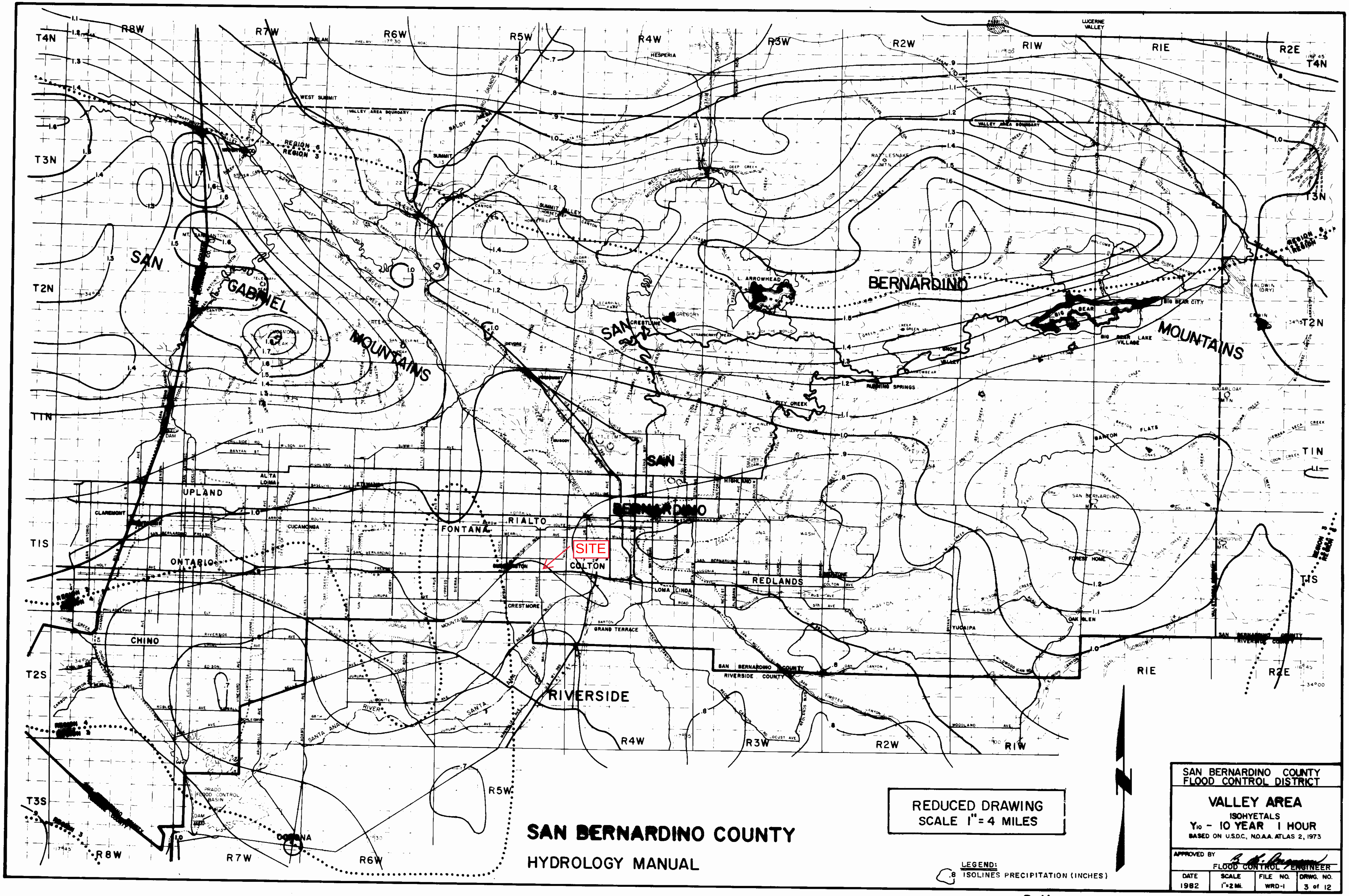
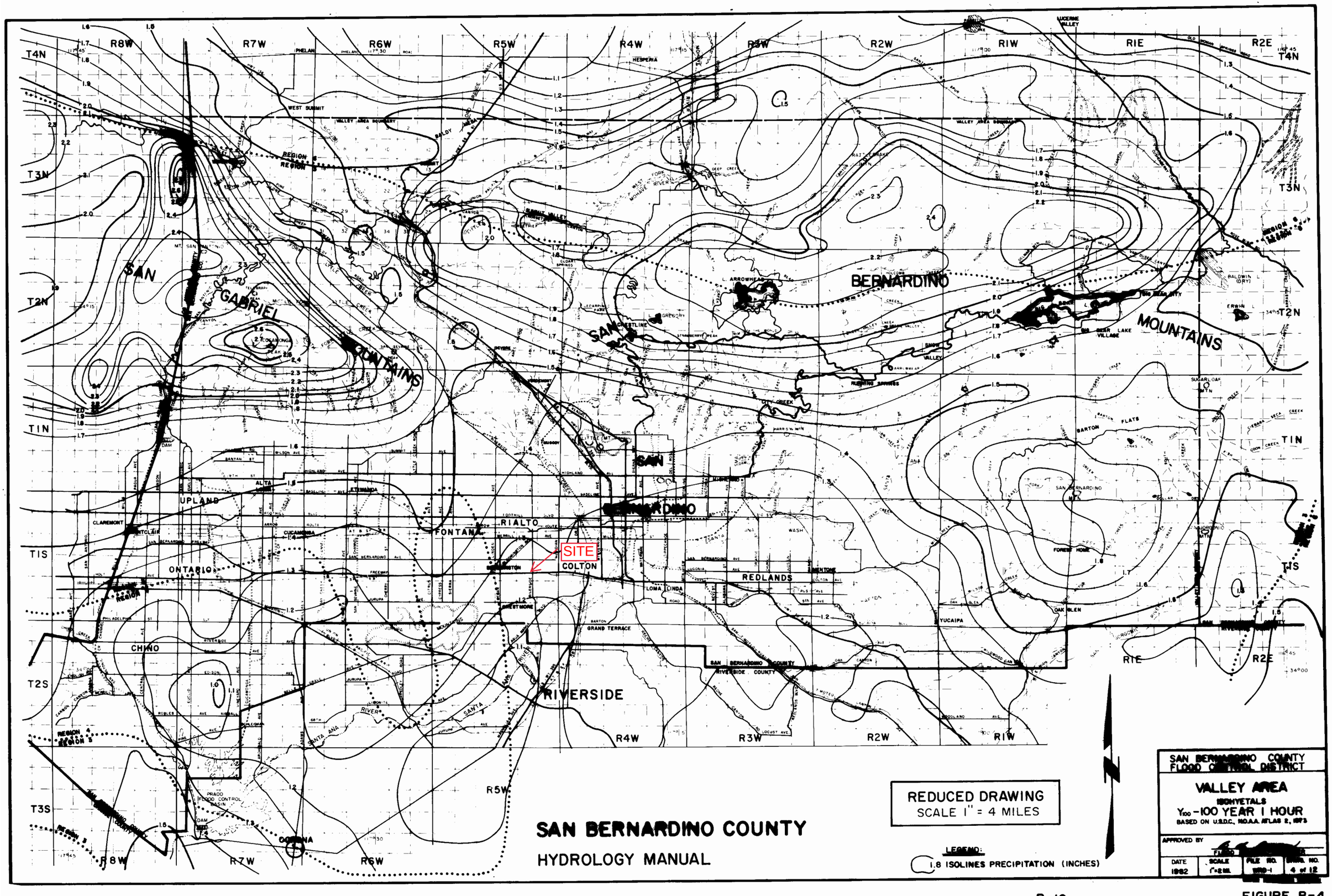

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL
SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT
VALLEY AREA
ISOHYETALS
Y10 - 10 YEAR 1 HOUR
BASED ON U.S.D.C., N.O.A.A. ATLAS 2, 1973
APPROVED BY
FLOOD CONTROL ENGINEER
DATE
1982
SCALE
1"=2 Mi.
FILE NO.
WRD-1
DRWG. NO.
3 of 12
REDUCED DRAWING
SCALE 1" = 4 MILES
LEGEND:
.8 ISOLINES PRECIPITATION (INCHES)
SITE
SAN GABRIEL MOUNTAINS
SAN BERNARDINO MOUNTAINS
UPLAND
ONTARIO
CHINO
CUCAMONGA
ALTA LOMA
CLAREMONT
FONTANA
RIALTO
SAN BERNARDINO
COLTON
REDLANDS
LOMA LINDA
GRAND TERRACE
CRESTMORE
RIVERSIDE
YUCAIPA
OAK GLEN
FOREST HOME
HESPERIA
LUCERNE VALLEY
L. ARROWHEAD
BIG BEAR L
BIG BEAR CITY
BIG BEAR LAKE VILLAGE
RUNNING SPRINGS
CRESTLINE
DEVORE
CORONA
PRADO FLOOD CONTROL BASIN
VALLEY AREA BOUNDARY
REGION 6
REGION 3
T4N
T3N
T2N
T1N
T1S
T2S
T3S
R8W
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E

FIGURE B-3



SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

REDUCED DRAWING
SCALE 1" = 4 MILES

LEGEND:
1.8 ISOLINES PRECIPITATION (INCHES)

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT

VALLEY AREA
ISOHYETALS
Y_{100} - 100 YEAR 1 HOUR
BASED ON U.S.D.C., NOAA ATLAS 2, 1973

APPROVED BY

DATE	SCALE	FILE NO.	DWG. NO.
1982	1"=2MI.	SBD-1	4 of 12

FIGURE B-4

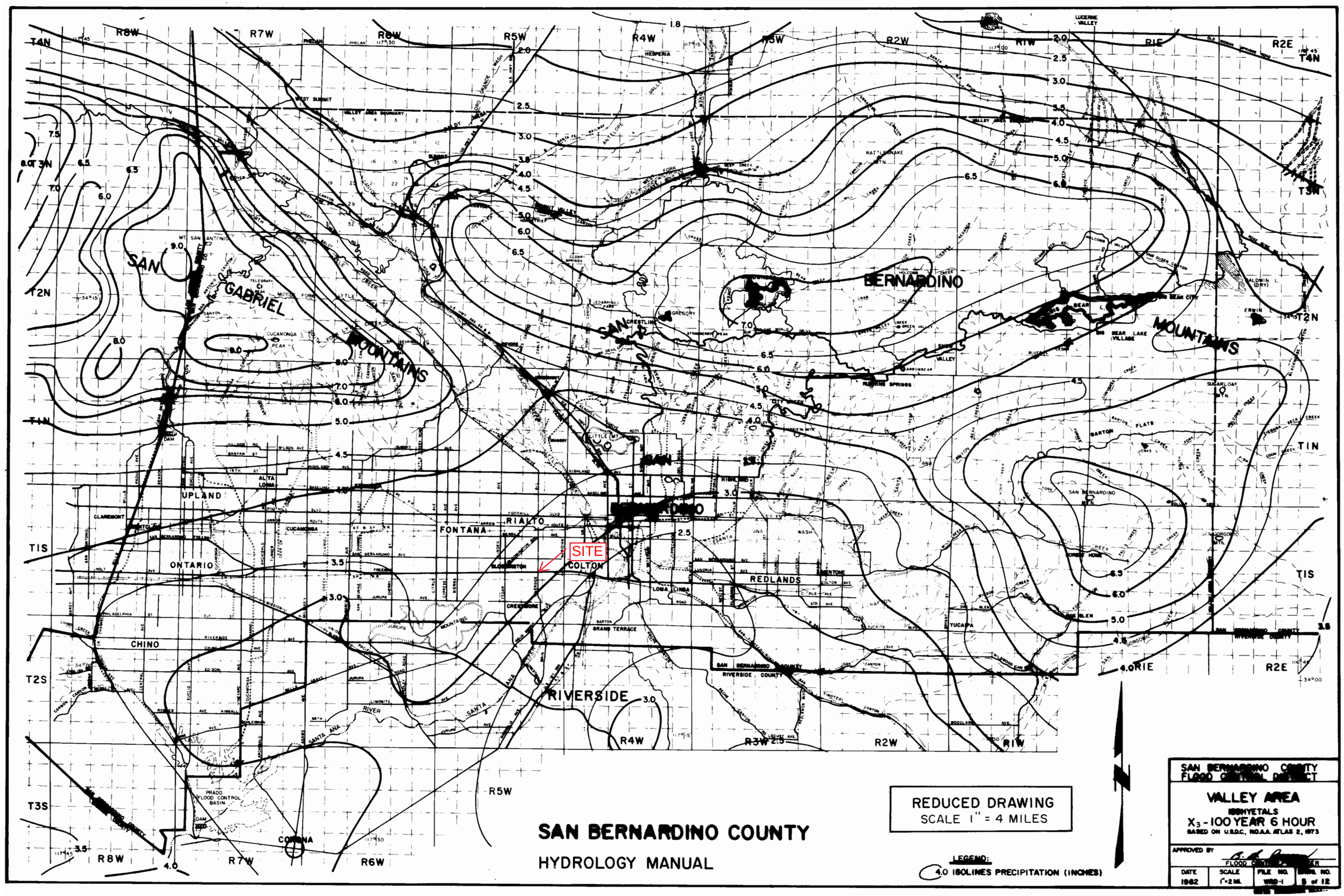
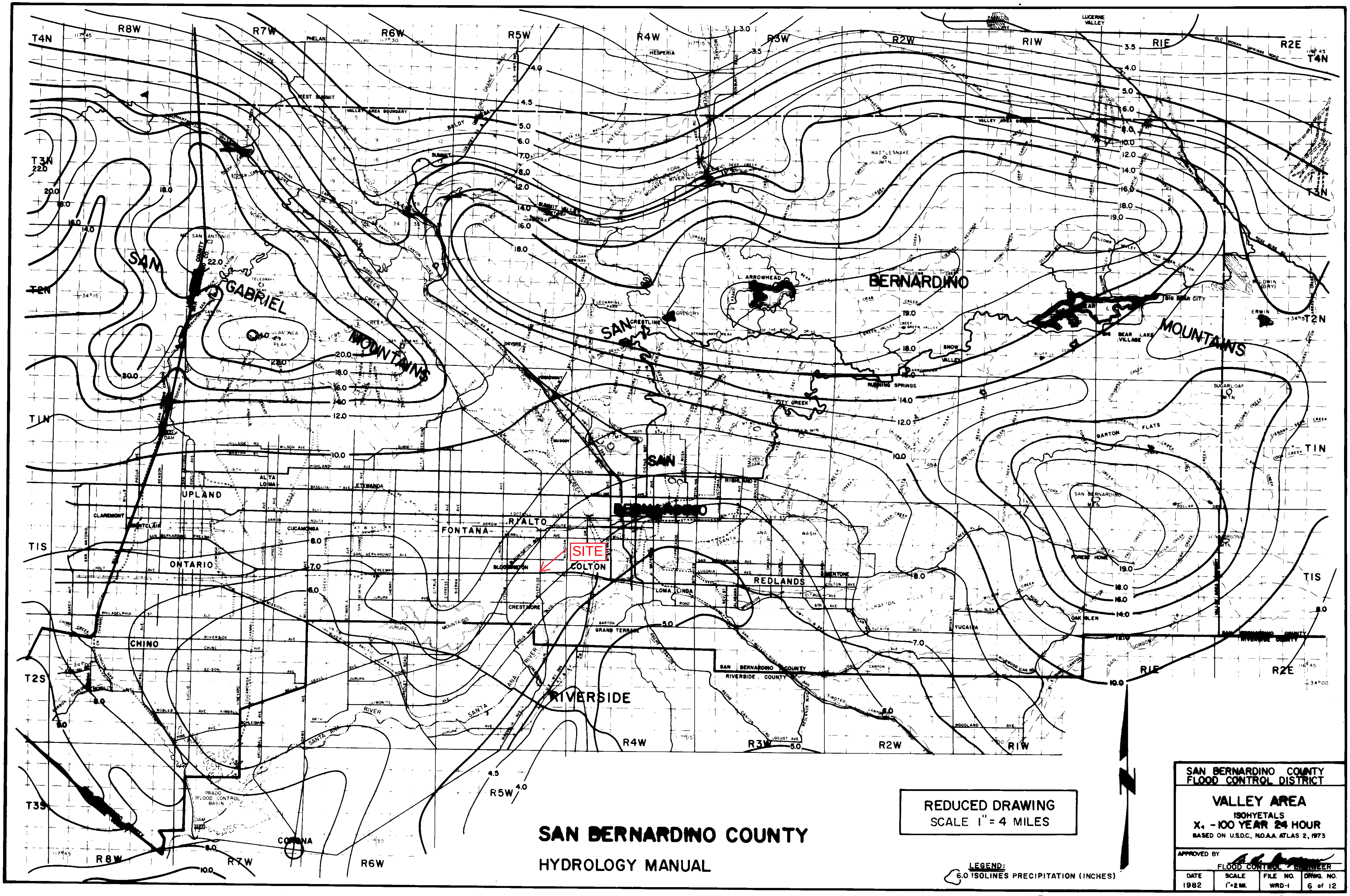

SAN GABRIEL MOUNTAINS
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO
SITE
COLTON
REDLANDS
RIALTO
FONTANA
UPLAND
ONTARIO
CHINO
RIVERSIDE
CORONA
PRADO FLOOD CONTROL BASIN
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
BIG BEAR LAKE
BIG BEAR CITY
LAKE ARROWHEAD
CRESTLINE
RUNNING SPRINGS
YUCAIPA
LOMA LINDA
GRAND TERRACE
MT. SAN ANTONIO
SAN ANTONIO DAM
SAN ANTONIO CANYON
CUCAMONGA PEAK
SANTA ANA RIVER
T4N
T3N
T2N
T1N
T1S
T2S
T3S
R8W
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
7.5
8.0
6.5
7.0
6.0
9.0
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.8
REDUCED DRAWING
SCALE 1" = 4 MILES
LEGEND:
4.0 ISOLINES PRECIPITATION (INCHES)
SAN BERNARDINO COUNTY
HYDROLOGY MANUAL
SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
VALLEY AREA
ISOHYETALS
X3 - 100 YEAR 6 HOUR
BASED ON U.S.D.C., NOAA ATLAS 2, 1973
APPROVED BY
FLOOD CONTROL ENGINEER
DATE 1982
SCALE 1"=2 MI.
FILE NO. WHD-1
SHEET NO. 8 of 12

FIGURE B-5


SAN BERNARDINO COUNTY
HYDROLOGY MANUAL
REDUCED DRAWING
SCALE 1" = 4 MILES
LEGEND:
6.0 ISOLINES PRECIPITATION (INCHES)
SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT
VALLEY AREA
ISOHYETALS
X₄ - 100 YEAR 24 HOUR
BASED ON U.S.D.C., N.O.A.A. ATLAS 2, 1973
APPROVED BY
FLOOD CONTROL ENGINEER
DATE
1982
SCALE
1"=2 MI.
FILE NO.
WRD-1
DRWG. NO.
6 of 12
SITE
SAN GABRIEL MOUNTAINS
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO
RIVERSIDE
FONTANA
RIALTO
COLTON
BLOOMINGTON
REDLANDS
LOMA LINDA
ONTARIO
UPLAND
CHINO
CUCAMONGA
ALTA LOMA
ETIWANDA
CLAREMONT
MONTCLAIR
CRESTMORE
GRAND TERRACE
YUCAIPA
CORONA
HESPERIA
LUCERNE VALLEY
L. ARROWHEAD
BIG BEAR CITY
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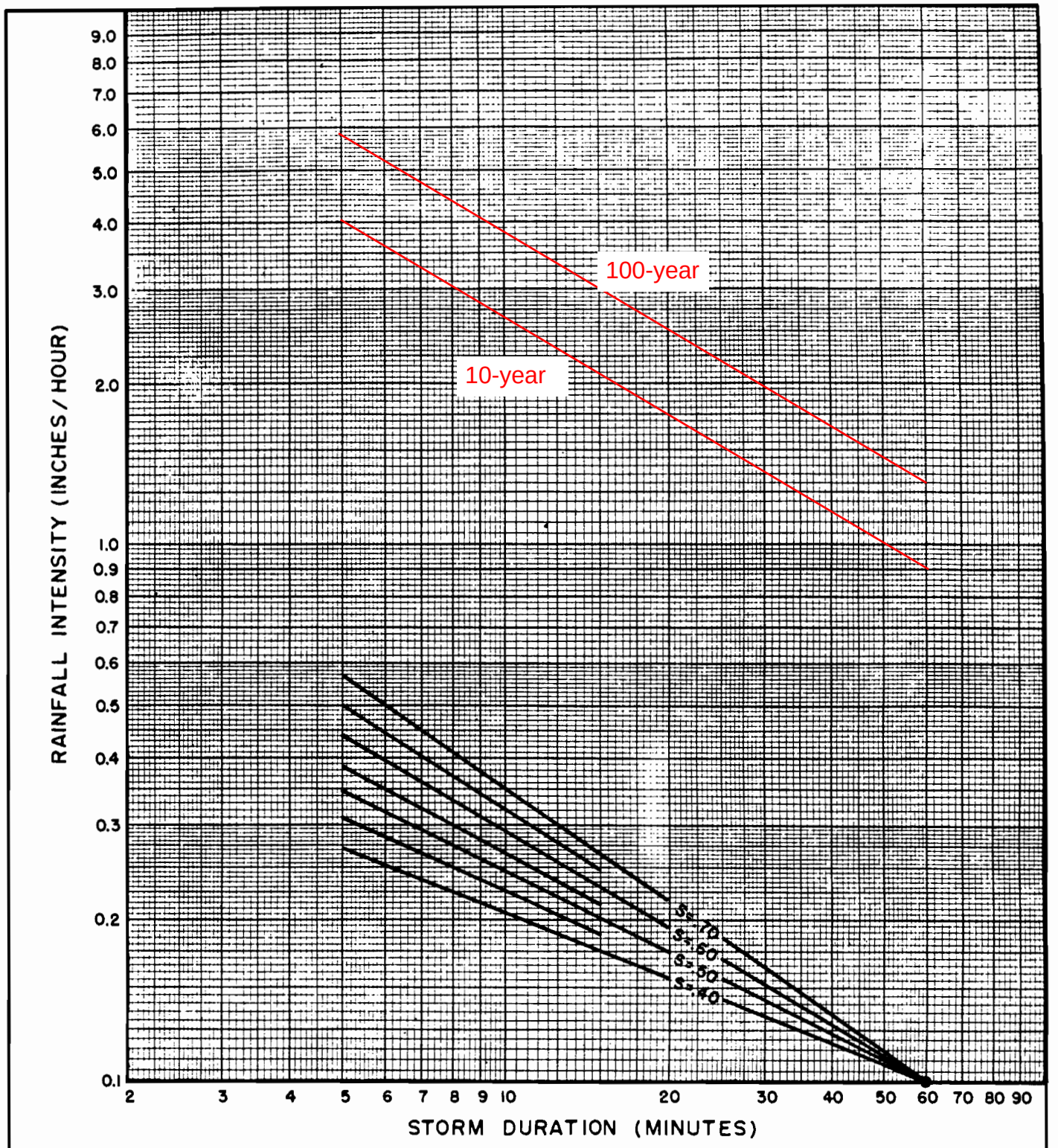
RUNNING SPRINGS
CRESTLINE
FOREST HOME
OAK GLEN
SUGARLOAF MTN
SAN GORGONIO MTN
SAN BERNARDINO MTN
PRADO FLOOD CONTROL BASIN
VALLEY AREA BOUNDARY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
T4N
T3N
T2N
T1N
T1S
T2S
T3S
R8W
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E

FIGURE B-6



DESIGN STORM FREQUENCY = _____ YEARS

ONE HOUR POINT RAINFALL = _____ INCHES

LOG-LOG SLOPE = _____

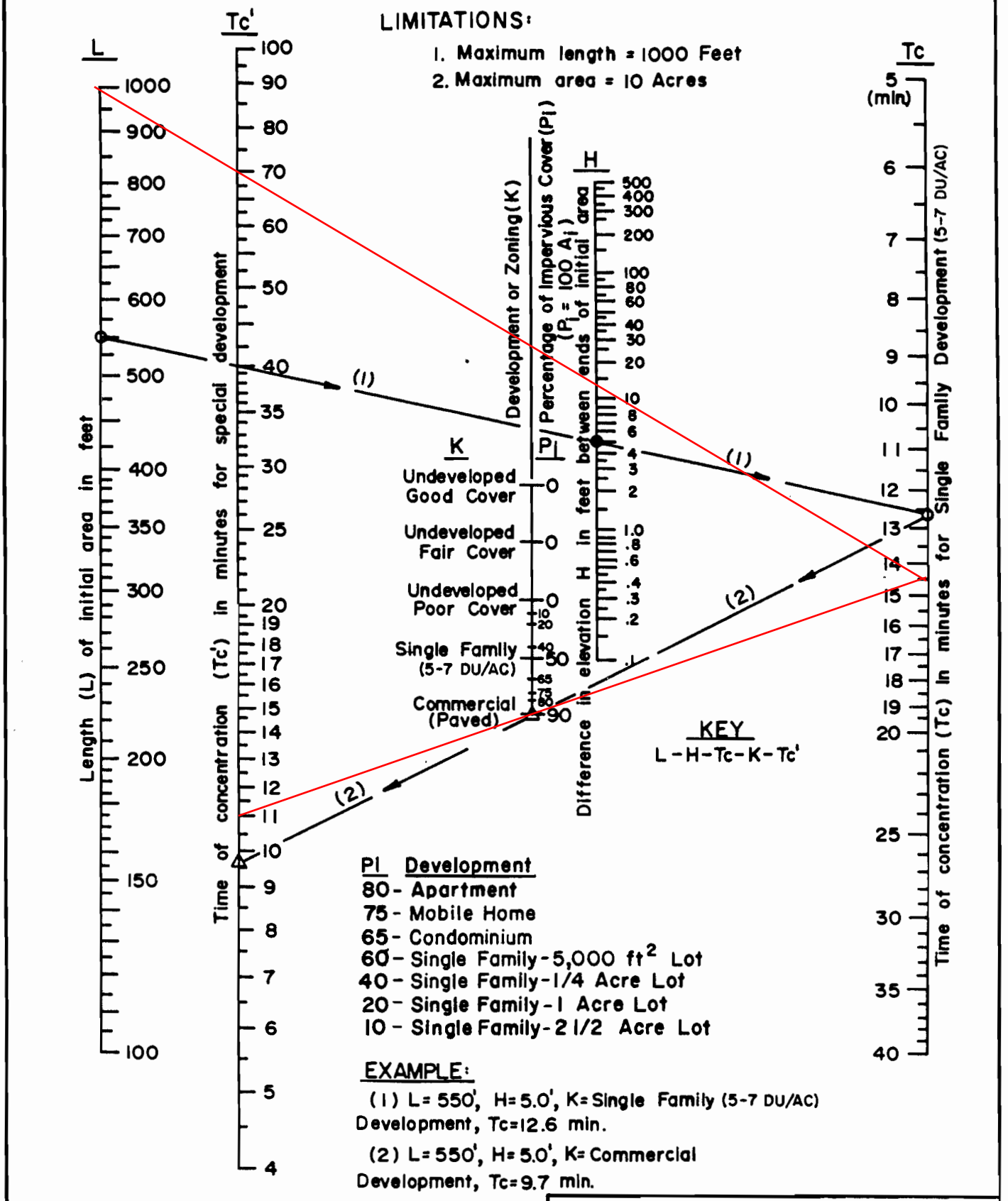
PROJECT LOCATION = _____

SAN BERNARDINO COUNTY

HYDROLOGY MANUAL

INTENSITY - DURATION CURVES CALCULATION SHEET

FIGURE D-3



SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

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Attachment B

Hydrologic Calculations

RATIONAL METHOD STUDY FORM

SAN BERNARDINO COUNTY HYDROLOGY MANUAL	STUDY NAME: 2245 Valley Blvd 10 AND 100 YEAR STORM / 1 HOUR RAINFALL PER BELOW	CALCULATED BY R CHAPMAN 1/20/23 CHECKED BY

Concentration Point	Area (Acres)		Soil Type	Dev. Type	Tt (min)	Tc (min)	I (in/hr)	Fm (in/hr)	Fm (avg)	Q total	Flow Path Length (ft)	Slope (ft/ft)	V (ft/sec)	Hydraulics & notes
	Subarea	Total												
1 (100 yr)	9.01	9.01	A	Comm	2	11	3.6	0.1	0.1	28.38				Assumes 0.90" rainfall / slope 0.6
1 (10 yr)	9.01	9.01	A	Comm	2	11	2.5	0.1	0.1	19.46				Assumes 1.30" rainfall / slope 0.6

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Attachment C

Project Entitlement Plans (for reference)

PRELIMINARY SITE IMPROVEMENT PLANS

CITY OF COLTON, COUNTY OF SAN BERNARDINO

245 WEST VALLEY BLVD

GENERAL CIVIL NOTES

1. ALL WORK SHALL CONFORM TO THE "STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREENBOOK), LATEST EDITION, INCLUDING SUPPLEMENTS, TO THE CITY OF COLTON STANDARD PLANS & SPECIFICATIONS, AND TO THE CITY OF COLTON PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION "STANDARD CONSTRUCTION DRAWINGS"
2. NO WORK SHALL BE DONE WITHOUT APPROVAL FROM THE CITY ENGINEER; ALL OFFSITE IMPROVEMENTS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER.
3. CONTRACTOR SHALL IMPLEMENT ALL CITY, COUNTY, STATE AND FEDERAL JOB SITE SAFETY REQUIREMENTS AS THEY RELATE TO DUST CONTROL, EQUIPMENT MOVEMENT, NOISE, HOURS OF WORK AND CONSTRUCTION HAZARDOUS MATERIALS AND SHALL MINIMIZE ANY INCONVENIENCE TO THE PUBLIC.
4. THE CONTRACTOR SHALL NOT CONDUCT ANY OPERATIONS OR PERFORM ANY WORK PERTAINING TO THE PROJECT BETWEEN THE HOURS OF 5:00 P.M. AND 7:00 A.M. ON ANY DAY NOR ON SATURDAY, SUNDAY OR ANY HOLIDAY AT ANY TIME WITHOUT PRIOR APPROVAL, IN WRITING, OF THE CITY ENGINEER
5. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE COST OF CLEANING AND HAULING ANY HAZARDOUS AND DETRIMENTAL MATERIAL DISCOVERED DURING AND AFTER THE WORK FROM THE SITE.
6. CONTRACTOR SHALL REMOVE AND REPLACE ALL BROKEN, CRACKED OR RAISED SIDEWALK, DRIVE APPROACH, OR CURB AND GUTTER WITHIN PROPERTY FRONTAGE, FOR CORNER LOTS, BOTH STREET FRONTAGES SHALL BE INCLUDED.
7. THESE NOTES SHALL TAKE PRECEDENCE OVER THE INFORMATION APPEARING ON THE PLANS.
8. ALL WORK PROPOSED IN THE PUBLIC RIGHT OF WAY REQUIRES A SEPARATE PERMIT [STREET CUT PERMIT, STREET IMPROVEMENT PERMIT, ENCROACHMENT PERMIT, ETC.] ISSUED BY THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.
9. A CONSTRUCTION WATER METER IS AVAILABLE FROM THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324, AND HAS A NON-REFUNDABLE APPLICATION FEE OF $22.00, AND A REFUNDABLE DEPOSIT OF $850.00. THE PROPERTY OWNER/CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR THE COST OF THE WATER USED DURING THE COURSE OF THE CONSTRUCTION.
10. THESE PLANS HAVE BEEN CHECKED BASED ON THE ASSUMPTION THAT ALL INFORMATION SHOWN OR IMPLIED ON THESE PLANS IS TRUE, AND HAVE BEEN CHECKED BY THE CITY ONLY IN CONFORMANCE WITH CITY STANDARDS. COMPLIANCE WITH DEVELOPMENT CONDITIONS AND FOR GENERAL CONCEPTUAL APPROVAL OF THE DRAINAGE AND PARKWAY IMPROVEMENTS SHOWN HEREON. NO DETAILED MATHEMATICAL CHECK OR FIELD SURVEY WAS MADE BY THE CITY FOR THE ACCURACY OF THE EXISTING UTILITIES SHOWN OR NOT SHOWN. NO CHECKS WERE MADE ON THE EXISTING DESIGN INFRASTRUCTURES AND STRUCTURES SHOWN ON THESE PLANS; THESE PLANS WERE CHECKED ON THE ASSUMPTION THAT ALL BUILDING LAYOUTS, SETBACKS AND SITE PLANS WERE INITIALLY APPROVED BY THE APPROPRIATE ENTITIES.
11. THE REGISTERED CIVIL ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT ANY DISCREPANCIES ARISING DURING CONSTRUCTION, HE SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING THE PROPOSED WORK AREA OF ALL DELETERIOUS MATTER PER THE FINAL APPROVED GRADING PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTANCES AND AT NO COST TO THE CITY.
13. NO WORK ON OFF-SITE IMPROVEMENTS MAY BE STARTED WITHOUT AN APPROVED STREET IMPROVEMENT PLAN, AND A STREET IMPROVEMENT PERMIT ISSUED BY PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.
14. ALL UTILITY INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY REQUIRE A STREET CUT PERMIT ISSUED BY PUBLIC SERVICES DEPARTMENT, ENGINEERING DIVISION. IN ADDITION, AN INSTALLATION PERMIT WILL BE REQUIRED FOR WATER OR SEWER LINES, AND IS ISSUED BY THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324.
15. FOR INFORMATION REGARDING ELECTRICAL INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY CONTACT THE ELECTRIC DEPARTMENT, LOCATED AT 150 S. 10TH STREET, COLTON, CA, 92324. IN ADDITION, A STREET CUT PERMIT ISSUED BY THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.
16. GAS, PHONE AND CABLE UTILITIES HAVE FRANCHISE AGREEMENTS WITH THE CITY OF COLTON, AND ARE REQUIRED TO SECURE THEIR OWN STREET IMPROVEMENT PERMIT AND/OR STREET CUT PERMIT FROM PUBLIC WORKS DEPARTMENT, ENGINEERING.
17. A SEPARATE PERMIT IS REQUIRED FOR ANY FENCE CONSTRUCTED ON-SITE. THIS PERMIT IS ISSUED BY COMMUNITY DEVELOPMENT DEPARTMENT, 659 N. LA CADENA DRIVE, COLTON. IF THE PROPOSED (OR EXISTING) FENCE IS CONSTRUCTED WITHIN THE PUBLIC RIGHT OF WAY, AN ENCROACHMENT PERMIT IS REQUIRED AND IS ISSUED BY THE ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT.
18. PRIOR TO THE COMMENCEMENT OF ANY WORK IN PUBLIC STREETS, OR WITHIN THE PUBLIC RIGHT OF WAY, CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN (IN TRIPLICATE) TO THE CITY ENGINEER FOR REVIEW. A. TRAFFIC CONTROL PLANS FOR MINOR PUBLIC RIGHT OF WAY IMPROVEMENTS SHALL CONFORM TO THE "WORK AREA TRAFFIC CONTROL HANDBOOK" (W.A.T.C.H. MANUAL); TRAFFIC CONTROL PLANS FOR LARGER PROJECTS SHALL BE PREPARED (IN TRIPLICATE) BY A REGISTERED CIVIL ENGINEER, AND EACH SET SHALL BE "WET-SIGNED" AND SUBMITTED TO THE CITY ENGINEER FOR REVIEW. B. THE DECISION AS TO WHAT CONSTITUTES A MINOR IMPROVEMENT VERSUS A LARGER PROJECT SHALL BE AT THE SOLE DISCRETION OF THE CITY ENGINEER.
19. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITY LINES OR STRUCTURES WHETHER SHOWN OR NOT SHOWN ON THIS PLAN, AND SHALL BE RESPONSIBLE FOR PROTECTING THEM FROM DAMAGE. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-422-4133 A MINIMUM OF TWO WORKING DAYS BEFORE DIGGING. THE USA NUMBER SHALL BE PROVIDED TO THE CITY ENGINEER.
20. NO WORK MAY BEGIN WITHOUT AN APPROVED TRAFFIC CONTROL PLAN, AND ONCE BEGUN, CONTRACT SHALL ENDEAVOR TO COMPLETE WORK IN THE STREET AND/OR PUBLIC RIGHT OF WAY WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
21. ANY CONTRACTOR WORKING WITHIN THE PUBLIC RIGHT OF WAY IS SUBJECT TO THE LICENSING AND INSURANCE REQUIREMENTS OF THE CITY.
22. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FORM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR ANY DEPOSIT OF WATER RUNOFF AND/OR DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION.
23. TREES, FOLIAGE, SIGNS, AND OTHER IMPROVEMENTS SHALL BE PROTECTED IN PLACE AND ANY DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPAIRED OR REPLACED IN KIND TO THE SATISFACTION OF THE CITY ENGINEER.
24. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES WITHIN THE ALIGNMENT OF THE PROPOSED IMPROVEMENTS, AND IN THE EVENT OF SUBSTRUCTURE DAMAGE, THE CONTRACTOR SHALL BEAR THE TOTAL COST OF REPAIR OR REPLACEMENT.
25. IF ANY UTILITIES OR FACILITIES CONFLICT WITH PROPOSED IMPROVEMENTS, ALL WORK SHALL STOP, AND THE CITY ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
26. THE CONTRACTOR IS ADVISED THAT ALL EXCAVATED MATERIALS SHALL BECOME HIS PROPERTY AND SHALL BE REMOVED FROM THE JOB SITE UNLESS INSTRUCTED BY THE CITY ENGINEER, IN WRITING, TO DO OTHERWISE.
27. NO TRENCHES, REGARDLESS OF DEPTH OR WIDTH AND WHETHER ON-SITE OR OFF-SITE, MAY BE LEFT OPEN OVERNIGHT UNLESS PRIOR APPROVAL IS SECURED, IN WRITING, FROM THE CITY ENGINEER.
28. TRENCHES DEEPER THAN 5'0" WILL REQUIRE A CAL-OSHA PERMIT. A COPY OF THE PERMIT SHALL BE PROVIDED TO THE CITY ENGINEER.
29. THE CONTRACTOR SHALL BE RESPONSIBLE DURING ALL PHASES OF THE WORK TO PROVIDE FOR PUBLIC SAFETY AND CONVENIENCE. THE CONTRACTOR SHALL ESTABLISH ADEQUATE ACCESS TO DRIVEWAYS AT THE END OF EACH WORKING DAY TO THE SATISFACTION OF THE CITY ENGINEER
30. THE CONTRACTOR SHALL PROVIDE A 72-HOUR NOTIFICATION TO THE AFFECTED PROPERTIES, THE POLICE DEPARTMENT, AND THE FIRE DEPARTMENT IN THE EVENT OF A CHANGE IN STREET CLOSURE TO TRAFFIC AND/OR PUBLIC SAFETY VEHICLES, PARKING RESTRICTIONS, AND ON EACH MONDAY MORNING DURING THE CONSTRUCTION PERIOD.
31. ROAD CLOSURES IN EXCESS OF TWENTY-FOUR (24) HOURS SHALL REQUIRE APPROVAL OF THE CITY OF COLTON CITY COUNCIL. PROCESSING TIME FOR THIS REQUEST IS SIX TO EIGHT (6 TO 8) WEEKS, AND A WRITTEN APPLICATION (TEMPORARY ROAD CLOSURE PERMIT) MUST BE SUBMITTED TO THE CITY ENGINEER IN SUFFICIENT TIME TO PROCESS THE REQUEST.
32. ALL INSPECTION REQUESTS FOR WORK PERFORMED IN THE PUBLIC RIGHT OF WAY SHALL BE DIRECTED TO THE ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT, AND SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY-FOUR (24) HOURS BEFORE THE SERVICES THEREOF WILL BE REQUIRED
33. CONTRACTOR SHALL COMPLY WITH THESE REQUIREMENTS AND CITY ENGINEER'S DIRECTIONS DURING THE COURSE OF CONSTRUCTION.

ENGINEER'S NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURE TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

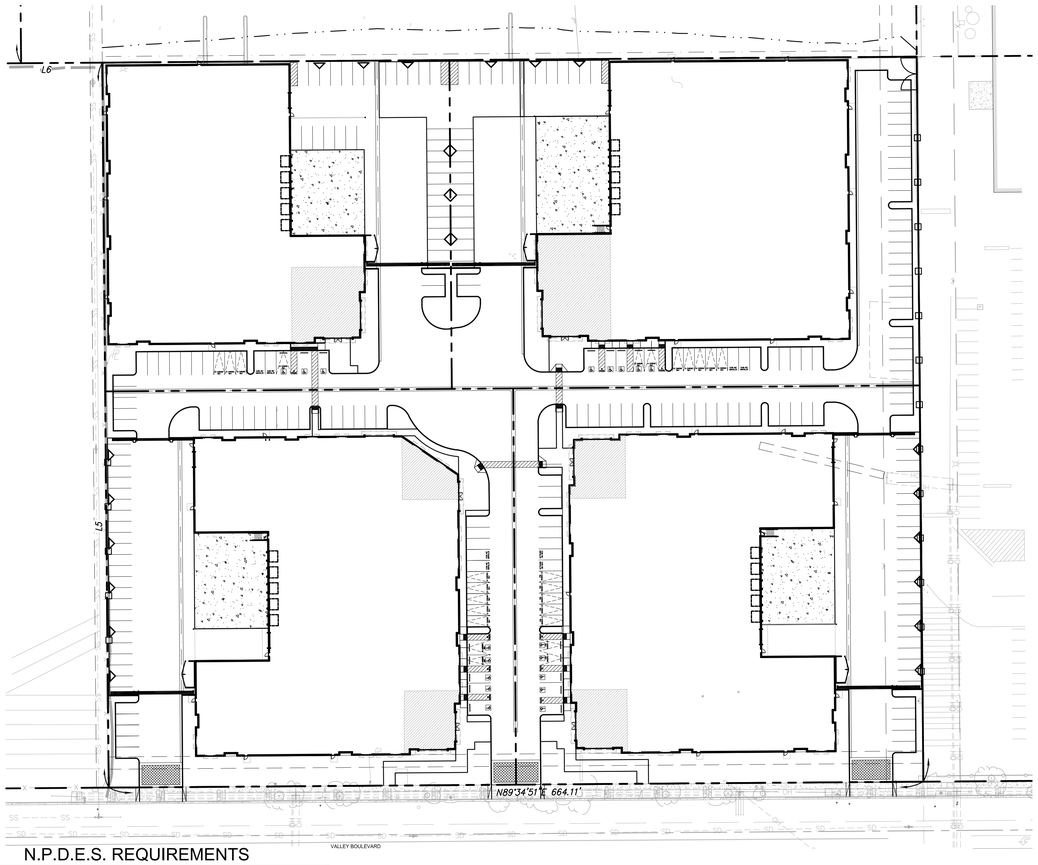
THE EXISTING UNDERGROUND UTILITIES AND SUBSTRUCTURES IDENTIFIED ON THESE PLANS WERE TAKEN FROM AVAILABLE RECORDS AND SHOWN ACCORDINGLY, IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION PART 1 SECTION 5, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING UNDERGROUND SERVICE ALERT (OR CALTRANS ON STATE HIGHWAYS) TO IDENTIFY ALL EXISTING UTILITIES, WHETHER SHOWN ON THESE PLANS WHICH MAY AFFECT OR BE AFFECTED BY ITS OPERATIONS PRIOR TO STARTING WORK ON THE PROJECT. IF CONFLICTING UTILITIES ARE NOT BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO THE START OF THE CONTRACTOR'S WORK, THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY CHANGES, REVISIONS OR MODIFICATIONS.

CONTRACTOR'S RESPONSIBILITY FOR SAFETY

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATION" OF THE DEPARTMENT OF U.S.S LABOR, AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS".

THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR OR WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS".

IN SUBMITTING A BID FOR THIS WORK THE CONTRACTOR AGREES THE HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT; INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEPEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK IN THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.



N.P.D.E.S. REQUIREMENTS

ALL CONSTRUCTION ON OFF-SITE OR ON-SITE IMPROVEMENTS SHALL ADHERE TO N.P.D.E.D. (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY OR COUNTY STORM DRAIN SYSTEMS.

THE FOLLOWING SHOULD ADHERED TO:

1. HANDLE, STORE AND DISPOSE OF MATERIALS PROPERLY.
2. AVOID EXCAVATION AND GRADING ACTIVITIES DURING WET WEATHER.
3. CONSTRUCT DIVERSION DIKES AND DRAINAGE SWALES AROUND WORKING SITES.
4. COVER STOCKPILES AND EXCAVATED SOIL WITH SECURED TARPS OR PLASTIC SHEETING.
5. DEVELOP AND IMPLEMENT EROSION CONTROL PLANS AND PROVIDE A COPY TO THE ENGINEERING DIVISION, PUBLIC SERVICES DEPARTMENT FOR APPROVAL BY THE CITY ENGINEER.
6. CHECK AND REPAIR LEAKING EQUIPMENT AWAY FROM CONSTRUCTION SITE.
7. DESIGNATE A LOCATION AWAY FROM STORM DRAINS FOR REFUELING VEHICLES.
8. WHEN WORKING NEAR CATCH BASINS, COVER AND SEAL EACH BASIN PRIOR TO THE START OF CONSTRUCTION.
9. USE VACUUM WITH ALL CONCRETE SAWING OPERATIONS.
10. NEVER WASH EXCESS MATERIAL FROM AGGREGATE, CONCRETE OR EQUIPMENT ONTO A STREET.
11. CATCH DRIPS FROM PAVER WITH DRIP PANS OR ABSORBENT MATERIAL.
12. CLEAN UP ALL SPILLS USING DRY METHODS.
13. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE. SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY.
14. DURING CONSTRUCTION, DUMPSTER(S) SHALL BE ON SITE AT ALL TIMES.
15. CALL 911 IN CASE OF A HAZARDOUS SPILL.
16. KEEP A RUNNING LOG OF ALL ACTIVITIES IN CONNECTION WITH THE "STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
17. NAME A PERSON ON-SITE TO BE RESPONSIBLE FOR COMPLYING WITH SWPPP.
18. THE FOLLOWING BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE "BEST MANAGEMENT PRACTICES 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.

VICINITY MAP

UTILITY PURVEYORS

WATER - CITY OF COLTON UTILITIES DEPARTMENT
SEWER - CITY OF COLTON PUBLIC WORKS DEPARTMENT
ELECTRICAL - CITY OF COLTON UTILITIES DEPARTMENT
GAS - SOUTHERN CALIFORNIA GAS

DRAWING SHEET INDEX

UTILITY PURVEYORS

CONTRACTOR SHALL NOTIFY CITY OF COLTON, AT LEAST 2 WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION.

AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION CONTRACTOR SHALL NOTIFY:

CITY OF COLTON PUBLIC WORKS: (909) 370-5065
CITY OF COLTON WATER AND WASTEWATER DEPARTMENT: (909) 370-6131

N.P.D.E.S. BMP - DETAILS

CA001	-DEWATERING OPERATIONS	ESC21	-DUST CONTROL
CA002	-PAVING OPERATIONS	ESC23	-CONSTRUCTION ROAD STABILIZATION
CA003	-STRUCTURE CONSTRUCTION	ESC24	-STABILIZED CONSTRUCTION ENTRANCE
CA010	-MATERIAL DELIVER AND STORAGE	ESC30	-EARTH DIKE
CA011	-MATERIAL USE	ESC31	-TEMPORARY DRAINS AND SWALES
CA012	-SPILL PREVENTION AND CONTROL	ESC32	-SLOPE DRAIN
CA020	-SOLID WASTE MANAGEMENT	ESC40	-OUTLET PROTECTION
CA021	-HAZARDOUS WASTE MANAGEMENT	ESC41	-CHECK DAMS
CA022	-CONTAMINATED SOIL MANAGEMENT	ESC42	-SLOPE ROUGHENING/TERRACING
CA023	-CONCRETE WASTE MANAGEMENT	ESC50	-SILT FENCE
CA030	-VEHICLE AND EQUIPMENT CLEANING	ESC51	-STRAW BALE BARRIERS
CA031	-VEHICLE AND EQUIPMENT FUELING	ESC52	-SAND BAG BARRIER
CA032	-VEHICLE AND EQUIPMENT MAINTENANCE	ESC53	-BRUSH OR ROCK FILTER
CA040	-EMPLOYEE/SUBCONTRACTOR TRAINING	ESC54	-STORM DRAIN INLET PROTECTION
ESC01	-SCHEDULING	ESC55	-SEDIMENT TRAP
ESC02	-PRESERVATION OF EXISTING VEGETATION	ESC56	-SEDIMENT BASIN
ESC10	-SEEDING AND PLANTING		
ESC11	-MULCHING		
ESC20	-GEOTEXTILES AND MATS		

PROJECT INFORMATION

PROJECT OWNER:
REDWOOD WEST
1111 BAYSIDE DR, SUITE 150
CORONA DEL MAR, CA 92625

JOB ADDRESS / APN NUMBERS:
2245 WEST VALLEY BLVD
COLTON, CA 92324
APN 0254-041-04-0000

EARTHWORK QUANTITIES:
CUT: 11,584 CUBIC YARDS
FILL: 11,684 CUBIC YARDS
NET: 70 CUBIC YARDS (IMPORT)

RESPONSIBLE CIVIL ENGINEER:
RANDY CHAPMAN, P.E.
CCE DESIGN ASSOCIATES, INC.
771 E. DAILY DRIVE, SUITE 120
CAMARILLO, CA 93010
805.738.5434

SOILS ENGINEER / GEOLOGIST:
NAME
ADDRESS
PHONE

SURVEY:
CALVADA SURVEYING, INC.
411 JENKS CIR, SUITE 205
CORONA, CA 92880

ARCHITECT:
HPA, INC.
18831 BARDEEN AVE, SUITE 100
IRVINE, CA 92612

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY	NO.	REVISION	BY
1			1		
2			2		
3			3		
4			4		
5			5		

PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	AS SHOWN
DESIGNER	RC
JOB NO	C22.0551

CCE DESIGN ASSOCIATES

CCE DESIGN ASSOCIATES, INC.
CAMARILLO: 771 E. Daily Drive, Suite 120; Camarillo, CA 93010
LOS ANGELES: 445 S. Figueroa Street, Suite 3100; Los Angeles, CA 90071
P:805.738.5434
www.ccedesignassociates.com

RANDY CHAPMAN, P.E.

REGISTERED PROFESSIONAL ENGINEER — RANDY CHAPMAN — No. 69614 EXP. 6/30/24 — CIVIL — STATE OF CALIFORNIA

2245 WEST VALLEY BOULEVARD
APN 0254-041-04-0000

COVER SHEET

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C1
OF 11 SHEETS

GRADING NOTES

1. ALL WORK SHALL CONFORM TO THE "STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREENBOOK), LATEST EDITION, INCLUDING SUPPLEMENTS, TO THE CITY OF COLTON STANDARD PLANS & SPECIFICATIONS, AND TO THE CITY OF COLTON PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION "STANDARD CONSTRUCTION DRAWINGS"

2. THESE PLANS HAVE BEEN CHECKED BASED ON THE ASSUMPTION THAT ALL INFORMATION SHOWN OR IMPLIED ON THESE PLANS IS TRUE, AND HAVE BEEN CHECKED BY THE CITY ONLY IN CONFORMANCE WITH CITY STANDARDS, COMPLIANCE WITH DEVELOPMENT CONDITIONS AND FOR GENERAL CONCEPTUAL APPROVAL OF THE DRAINAGE AND PARKWAY IMPROVEMENTS SHOWN HEREON. NO DETAILED MATHEMATICAL CHECK OR FIELD SURVEY WAS MADE BY THE CITY FOR THE ACCURACY OF THE EXISTING UTILITIES SHOWN OR NOT SHOWN. NO CHECKS WERE MADE ON THE EXISTING DESIGN INFRASTRUCTURES AND STRUCTURES SHOWN ON THESE PLANS; THESE PLANS WERE CHECKED ON THE ASSUMPTION THAT ALL BUILDING LAYOUTS, SETBACKS AND SITE PLANS WERE INITIALLY APPROVED BY THE APPROPRIATE ENTITIES.

3. NO WORK SHALL BE DONE WITHOUT APPROVAL FROM THE CITY ENGINEER.

4. CONTRACTOR SHALL IMPLEMENT ALL CITY, COUNTY, STATE AND FEDERAL JOB SITE SAFETY REQUIREMENTS AS THEY RELATE TO DUST CONTROL, EQUIPMENT MOVEMENT, NOISE, HOURS OF WORK AND CONSTRUCTION HAZARDOUS MATERIALS AND SHALL MINIMIZE ANY INCONVENIENCE TO THE PUBLIC.

5. THE CONTRACTOR SHALL NOT CONDUCT ANY OPERATIONS OR PERFORM ANY WORK PERTAINING TO THE PROJECT BETWEEN THE HOURS OF 5:00 P.M. AND 7:00 A.M. ON ANY DAY NOR ON SATURDAY, SUNDAY OR ANY HOLIDAY AT ANY TIME WITHOUT PRIOR APPROVAL, IN WRITING, OF THE CITY ENGINEER

6. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE COST OF CLEANING AND HAULING ANY HAZARDOUS AND DETRIMENTAL MATERIAL, DISCOVERED DURING AND AFTER THE WORK, FROM THE SITE.

7. CONTRACTOR SHALL REMOVE AND REPLACE ALL BROKEN, CRACKED OR RAISED SIDEWALK, DRIVE APPROACH, OR CURB AND GUTTER WITHIN PROPERTY FRONTAGE. FOR CORNER LOTS, BOTH STREET FRONTAGES SHALL BE INCLUDED.

8. THESE NOTES SHALL TAKE PRECEDENCE OVER THE INFORMATION APPEARING ON THE PLANS.

9. NO GRADING SHALL COMMENCE PRIOR TO THE APPROVAL AND SIGNATURE OF THIS GRADING PLAN BY THE CITY ENGINEER AND ISSUANCE OF A GRADING PERMIT FROM THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

10. ALL WORK PROPOSED IN THE PUBLIC RIGHT OF WAY REQUIRES A SEPARATE PERMIT [STREET CUT PERMIT, STREET IMPROVEMENT PERMIT, ENCROACHMENT PERMIT, ETC.] ISSUED BY THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

11. ALL OFFSITE IMPROVEMENTS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER.

12. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE EXCAVATION AND GRADING CODE OF THE CITY OF COLTON (CHAPTER 70 OF THE UNIFORM BUILDING CODE) AND ANY SPECIAL REQUIREMENTS OF THE GRADING PERMIT.

13. THE UNDERSIGNED CIVIL ENGINEER HEREBY STATES THAT THESE PLANS WERE PREPARED BY HIM OR UNDER HIS SUPERVISION, AND THAT THE PLANS CONFORM TO ALL PERTINENT PROVISIONS OF CHAPTER 70, EXCAVATION AND GRADING, OF THE UNIFORM BUILDING CODE, 2003 EDITION AS AMENDED.

14. A SOILS REPORT SHALL BE PREPARED AND "WET-SIGNED" BY A REGISTERED CIVIL ENGINEER OR A REGISTERED GEOTECHNICAL/SOILS ENGINEER, AND SHALL BE SUBMITTED WITH THE GRADING PLAN TO THE CITY ENGINEER FOR PLAN CHECK.

15. UPON APPROVAL OF THE SOILS REPORT, ALL GRADING SHALL BE IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE PRELIMINARY SOILS INVESTIGATION AS PREPARED BY ________________________, AND DATED _________________. THE SOILS ENGINEER SHALL SO CERTIFY OR INDICATE DEVIATIONS IN HIS FINAL REPORT.

16. ALL GRADING OPERATIONS SHALL BE SUPERVISED AND MONITORED BY THE GEOTECHNICAL ENGINEER WHO PREPARED THE SOILS REPORT FOR THE PROJECT, AND HE SHALL MONITOR ALL ASPECTS OF THE GRADING OPERATIONS, INCLUDING SOIL STABILITY AND JOB SITE CONSTRUCTION SAFETY AND SUBMIT PERIODIC REPORTS TO THE CITY ENGINEER. A FINAL SOILS REPORT AND COMPACTION REPORT PREPARED BY THE REGISTERED GEOTECHNICAL ENGINEER OF RECORD SHALL BE SUBMITTED PRIOR TO POURING OF THE FOUNDATIONS. THIS REPORT SHALL INDICATE THAT ALL GRADING OPERATIONS WERE PERFORMED IN COMPLIANCE WITH THE APPROVED SOILS REPORT PREPARED.

17. THE GRADING CONTRACTOR SHALL BE FAMILIAR WITH THE ABOVE NOTED REPORT AND HE SHALL STABILIZE QUESTIONABLE SLOPES THAT COULD PRODUCE LANDSLIDES, DEBRIS FLOWS AND SURFICIAL FAILURE. THE ABOVENOTED INVESTIGATIVE REPORT DELINEATES THESE AREAS.

18. THE RAW EARTHWORK QUANTITIES FOR THIS PROJECT ARE AS FOLLOWS:
   18.1. EXCAVATION = ______________ CUBIC YARDS
   18.2. EMBANKMENT = ____________ CUBIC YARDS.

19. THE ABOVE-NOTED EARTHWORK QUANTITIES DO NOT INCLUDE ALLOWANCES FOR SHRINKAGE AND SUBSIDENCE. ACTUAL FIELD DETERMINATION FOR THESE VALUES SHALL BE USED TO ADJUST QUANTITIES.

20. THE CONTOURS SHOWN ON THIS PLAN WAS PREPARED BY [RCE] OR [LS] ON

21. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.

22. APPROVED PROTECTIVE MEASURES AND DRAINAGE PROVISIONS SHALL BE PROVIDED TO PROTECT ADJOINING PROPERTIES FROM DEPOSITION OF MATERIAL OR FLOWS ORIGINATING FROM THIS PROPERTY BOTH DURING AND AFTER ALL PHASES OF CONSTRUCTION. EXISTING NATURAL DRAINAGE, EXISTING FLOW LINES, EXISTING SHEET FLOW RUNOFF, EXISTING DRAINAGE IN PIPES, SWALES AND CONDUITS ONTO THIS PROPERTY FROM ADJACENT LAND SHALL NOT BE BLOCKED, REDIRECTED, CONCENTRATED OR ACCELERATED.

23. ALL BUILDING PADS, CUT AND FILL SLOPES, AND AREAS OF PROPOSED STREET IMPROVEMENTS SHALL BE COMPACTED TO A RELATIVE COMPACTION OF NINETY PERCENT (90%). COMPACTION TESTS MAY BE REQUIRED, AT THE REQUEST OF THE CITY ENGINEER OR HIS APPOINTED DESIGNEE, AND THE COST FOR SAME SHALL BE BORNE EXCLUSIVELY BY THE PROPERTY OWNER/CONTRACTOR/DEVELOPER AND SHALL NOT RESULT IN ANY EXPENSE FOR THE CITY.

24. CUT SLOPES (EXCAVATION) SHALL BE A MAXIMUM OF 2/1 (HORIZONTAL/VERTICAL).

25. FILL SLOPES (EMBANKMENT) SHALL BE A MAXIMUM OF 2/1 (HORIZONTAL/VERTICAL), AND SHALL BE CLEANED OF ALL VEGETATION AND DEBRIS, SCARIFIED AND INSPECTED BY THE CITY ENGINEER OR HIS APPOINTED DESIGNEE PRIOR TO PLACING OF FILL.

26. LOT(S) SHALL SLOPE OR DRAIN TO AN ADJACENT PUBLIC STREET AT A MINIMUM RATE OF ONE PERCENT (1%), UNLESS OTHERWISE APPROVED, IN WRITING, BY THE CITY ENGINEER. THE PROPERTY OWNER IS WARNED THAT IF THE ENTIRE LOT SLOPES AT 1%, THEN SURFACE WATERS MAY NOT CLEAR THE LOT IN A TIMELY MANNER.

27. ALL GROUND OR PAVED AREA ADJACENT TO ANY STRUCTURE SHALL SLOPE A MINIMUM OF TWO PERCENT (2%) AWAY FROM THE STRUCTURE(S). ALL FOLLOW LINES WITH FIVE FEET (5') OF STRUCTURE(S) SHALL BE AT AN ELEVATION OF FOUR INCHES (4") BELOW THE FINISHED FLOOR ELEVATION OF THE STRUCTURE(S).DUST SHALL BE CONTROLLED BY WATERING TO THE SATISFACTION OF THE CITY ENGINEER.

28. WATER SHALL BE PREVENTED FROM FLOWING OVER THE TOPS OF SLOPES AT ALL TIMES. DRAINAGE FROM THE CONSTRUCTION SITE OR FROM THE FINISHED GRADING SITE SHALL NOT BE ALLOWED TO FLOW ON TO ANY ADJACENT PROPERTY NOR SHALL IT BE ALLOWED TO SHEET FLOW ACROSS ANY EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AND THEN ON TO THE STREET.

29. IN THE EVENT THE CITY HAS APPROVED THE USE OF SUMP PUMPS TO PROVIDE SURFACE DRAINAGE FOR THIS PROJECT, THE OPERATIONS AND MAINTENANCE OF SUCH PUMPS SHALL BE SOLELY THE RESPONSIBILITY OF THE PROPERTY OWNER(S). THE CITY OF COLTON SHALL BEAR NO LIABILITY FOR ANY DAMAGES FROM FLOODING OR OTHER CAUSES DUE TO INOPERABLE OR IMPROPERLY OPERATING SUMP PUMPS.

30. ALL DRAINAGE SYSTEMS, DRAIN PIPES, CATCH BASINS, CURB DRAINS, CULVERTS, GUTTERS, SWALES, OPEN CHANNELS AND UNDERGROUND STORM DRAIN PIPES SERVING THE DEVELOPMENT (OR PROPERTY) WHICH ARE LOCATED ON PRIVATE PROPERTY AND/OR PUBLIC RIGHT OF WAY ADJACENT TO THE SUBJECT PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OR BUSINESS OWNERS.

31. THE REGISTERED CIVIL ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT ANY DISCREPANCIES ARISING DURING CONSTRUCTION, HE SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

32. A CONSTRUCTION WATER METER IS AVAILABLE FROM THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324, AND HAS A NON-REFUNDABLE APPLICATION FEE OF $22.00, AND A REFUNDABLE DEPOSIT OF $650.00. THE PROPERTY OWNER/CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR THE COST OF THE WATER USED DURING THE COURSE OF THE CONSTRUCTION.

33. NO WORK MAY BE STARTED ON-SITE WITHOUT AN APPROVED GRADING PLAN AND A GRADING PERMIT ISSUED BY PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324.

34. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE ENGINEER OF RECORD.

35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING THE PROPOSED WORK AREA OF ALL DELETERIOUS MATTER PER THE FINAL APPROVED GRADING PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTANCES AND AT NO COST TO THE CITY.

36. IT IS THE APPLICANT'S RESPONSIBILITY TO OBTAIN APPROVAL FRO BUILDING SETBACKS, LAYOUTS, HEIGHT AND SIZE OF ALL STRUCTURES FROM THE CITY'S PLANNING DEPARTMENT. THIS PLAN DOES NOT GRANT APPROVAL FOR THESE ITEMS.

37. ALL UTILITY INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY REQUIRE A STREET CUT PERMIT ISSUED BY PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION. IN ADDITION, AN INSTALLATION PERMIT WILL BE REQUIRED FOR WATER OR SEWER LINES, AND IS ISSUED BY THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324.

38. FOR INFORMATION REGARDING ELECTRICAL INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY CONTACT THE ELECTRIC DEPARTMENT, LOCATED AT 150 S. 10TH STREET, COLTON, CA, 92324. IN ADDITION, A STREET CUT PERMIT ISSUED BY THE PUBLIC SERVICES DEPARTMENT, ENGINEERING DIVISION.

39. GAS, PHONE AND CABLE UTILITIES HAVE FRANCHISE AGREEMENTS WITH THE CITY OF COLTON, AND ARE REQUIRED TO SECURE THEIR OWN STREET IMPROVEMENT PERMIT AND/OR STREET CUT PERMIT FROM PUBLIC WORKS DEPARTMENT, ENGINEERING.

40. A SEPARATE PERMIT IS REQUIRED FOR ANY FENCE CONSTRUCTED ON-SITE. THIS PERMIT IS ISSUED BY COMMUNITY DEVELOPMENT DEPARTMENT, 659 N. LA CADENA DRIVE, COLTON. IF THE PROPOSED (OR EXISTING) FENCE IS CONSTRUCTED WITHIN THE PUBLIC RIGHT OF WAY, AN ENCROACHMENT PERMIT IS REQUIRED AND IS ISSUED BY THE ENGINEERING DIVISION, PUBLIC SERVICES DEPARTMENT.

41. PRIOR TO THE COMMENCEMENT OF ANY WORK IN PUBLIC STREETS, OR WITHIN THE PUBLIC RIGHT OF WAY, CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN (IN TRIPLICATE) TO THE CITY ENGINEER FOR REVIEW.
   41.1. TRAFFIC CONTROL PLANS FOR MINOR PUBLIC RIGHT OF WAY IMPROVEMENTS SHALL CONFORM TO THE "WORK AREA TRAFFIC CONTROL HANDBOOK" (W.A.T.C.H. MANUAL); TRAFFIC CONTROL PLANS FOR LARGER PROJECTS SHALL BE PREPARED (IN TRIPLICATE) BY A REGISTERED CIVIL ENGINEER, AND EACH SET SHALL BE "WET-SIGNED" AND SUBMITTED TO THE CITY ENGINEER FOR REVIEW.
   41.2. THE DECISION AS TO WHAT CONSTITUTES A MINOR IMPROVEMENT VERSUS A LARGER PROJECT SHALL BE AT THE SOLE DISCRETION OF THE CITY ENGINEER.

42. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AS REQUIRED PRIOR TO THE START OF WORK. THE USA NUMBER SHALL BE PROVIDED TO THE CITY ENGINEER.

43. NO WORK MAY BEGIN WITHOUT AN APPROVED TRAFFIC CONTROL PLAN, AND ONCE BEGUN, CONTRACT SHALL ENDEAVOR TO COMPLETE WORK IN THE STREET AND/OR PUBLIC RIGHT OF WAY WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

44. ANY CONTRACTOR WORKING WITHIN THE PUBLIC RIGHT OF WAY IS SUBJECT TO THE LICENSING AND INSURANCE REQUIREMENTS OF THE CITY.

45. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FORM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR ANY DEPOSIT OF WATER RUNOFF AND/OR DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION.

46. TREES, FOLIAGE, SIGNS, AND OTHER IMPROVEMENTS SHALL BE PROTECTED IN PLACE AND ANY DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPAIRED OR REPLACED IN KIND TO THE SATISFACTION OF THE CITY ENGINEER.

47. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES WITHIN THE ALIGNMENT OF THE PROPOSED IMPROVEMENTS, AND IN THE EVENT OF SUBSTRUCTURE DAMAGE, THE CONTRACTOR SHALL BEAR THE TOTAL COST OF REPAIR OR REPLACEMENT.

48. IF ANY UTILITIES OR FACILITIES CONFLICT WITH PROPOSED IMPROVEMENTS, ALL WORK SHALL STOP, AND THE CITY ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

49. THE CONTRACTOR IS ADVISED THAT ALL EXCAVATED MATERIALS SHALL BECOME HIS PROPERTY AND SHALL BE REMOVED FROM THE JOB SITE UNLESS INSTRUCTED BY THE CITY ENGINEER, IN WRITING, TO DO OTHERWISE.

50. NO TRENCHES, REGARDLESS OF DEPTH OR WIDTH AND WHETHER ON-SITE OR OFF-SITE, MAY BE LEFT OPEN OVERNIGHT UNLESS PRIOR APPROVAL IS SECURED, IN WRITING, FROM THE CITY ENGINEER.

51. TRENCHES DEEPER THAN 5'0" WILL REQUIRE A CAL-OSHA PERMIT. A COPY OF THE PERMIT SHALL BE PROVIDED TO THE CITY ENGINEER.

52. THE CONTRACTOR SHALL BE RESPONSIBLE DURING ALL PHASES OF THE WORK TO PROVIDE FOR PUBLIC SAFETY AND CONVENIENCE. THE CONTRACTOR SHALL ESTABLISH ADEQUATE ACCESS TO DRIVEWAYS AT THE END OF EACH WORKING DAY TO THE SATISFACTION OF THE CITY ENGINEER.

53. THE CONTRACTOR SHALL PROVIDE A 72-HOUR NOTIFICATION TO THE AFFECTED PROPERTIES, THE POLICE DEPARTMENT, AND THE FIRE DEPARTMENT IN THE EVENT OF A CHANGE IN STREET CLOSURE TO TRAFFIC AND/OR PUBLIC SAFETY VEHICLES, PARKING RESTRICTIONS, AND ON EACH MONDAY MORNING DURING THE CONSTRUCTION PERIOD.

54. ROAD CLOSURES IN EXCESS OF TWENTY-FOUR (24) HOURS SHALL REQUIRE APPROVAL OF THE CITY OF COLTON CITY COUNCIL. PROCESSING TIME FOR THIS REQUEST IS SIX TO EIGHT (6 TO 8) WEEKS, AND A WRITTEN APPLICATION (TEMPORARY ROAD CLOSURE PERMIT) MUST BE SUBMITTED TO THE CITY ENGINEER IN SUFFICIENT TIME TO PROCESS THE REQUEST.

55. ALL INSPECTION REQUESTS FOR WORK PERFORMED IN THE PUBLIC RIGHT OF WAY SHALL BE DIRECTED TO THE ENGINEERING DIVISION, PUBLIC SERVICES DEPARTMENT, AND SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY-FOUR (24) HOURS BEFORE THE SERVICES THEREOF WILL BE REQUIRED.

56. THE CIVIL ENGINEER FOR THE PROJECT SHALL SUBMIT TO THE CITY ENGINEER, UPON COMPLETION OF THE GRADING OPERATIONS AND PRIOR TO POURING OF FOUNDATIONS OR INSTALLATION OF STRUCTURES, AN ON-SITE GRADING CERTIFICATION INDICATING THAT THE GRADING WAS PERFORMED TO WITHIN 0.1' OF THE GRADES SHOWN ON THE APPROVED GRADING PLAN. THE CIVIL ENGINEER SHALL SET GRADE STAKES FOR ALL GRADING WORK. THIS CERTIFICATE SHALL BE VALID, IN THE ABSENCE OF RAIN, FOR SIXTY (60) DAYS AFTER COMPLETION OF THE GRADING OPERATIONS.

57. THE BENCHMARK USED TO DETERMINE ELEVATION DATA USED TO CALCULATE GRADE SHALL BE NOTED ON PLAN.

58. CONTRACTOR SHALL COMPLY WITH THESE REQUIREMENTS AND CITY ENGINEER'S DIRECTIONS DURING THE COURSE OF CONSTRUCTION.

GENERAL CIVIL NOTES

1. ALL WORK SHALL CONFORM TO THE "STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREENBOOK), LATEST EDITION, INCLUDING SUPPLEMENTS, TO THE CITY OF COLTON STANDARD PLANS & SPECIFICATIONS, AND TO THE CITY OF COLTON PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION "STANDARD CONSTRUCTION DRAWINGS"

2. NO WORK SHALL BE DONE WITHOUT APPROVAL FROM THE CITY ENGINEER; ALL OFFSITE IMPROVEMENTS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY ENGINEER.

3. CONTRACTOR SHALL IMPLEMENT ALL CITY, COUNTY, STATE AND FEDERAL JOB SITE SAFETY REQUIREMENTS AS THEY RELATE TO DUST CONTROL, EQUIPMENT MOVEMENT, NOISE, HOURS OF WORK AND CONSTRUCTION HAZARDOUS MATERIALS AND SHALL MINIMIZE ANY INCONVENIENCE TO THE PUBLIC.

4. THE CONTRACTOR SHALL NOT CONDUCT ANY OPERATIONS OR PERFORM ANY WORK PERTAINING TO THE PROJECT BETWEEN THE HOURS OF 5:00 P.M. AND 7:00 A.M. ON ANY DAY NOR ON SATURDAY, SUNDAY OR ANY HOLIDAY AT ANY TIME WITHOUT PRIOR APPROVAL, IN WRITING, OF THE CITY ENGINEER

5. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE COST OF CLEANING AND HAULING ANY HAZARDOUS AND DETRIMENTAL MATERIAL DISCOVERED DURING AND AFTER THE WORK FROM THE SITE.

6. CONTRACTOR SHALL REMOVE AND REPLACE ALL BROKEN, CRACKED OR RAISED SIDEWALK, DRIVE APPROACH, OR CURB AND GUTTER WITHIN PROPERTY FRONTAGE. FOR CORNER LOTS, BOTH STREET FRONTAGES SHALL BE INCLUDED.

7. THESE NOTES SHALL TAKE PRECEDENCE OVER THE INFORMATION APPEARING ON THE PLANS.

8. ALL WORK PROPOSED IN THE PUBLIC RIGHT OF WAY REQUIRES A SEPARATE PERMIT [STREET CUT PERMIT, STREET IMPROVEMENT PERMIT, ENCROACHMENT PERMIT, ETC.] ISSUED BY THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

9. A CONSTRUCTION WATER METER IS AVAILABLE FROM THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324, AND HAS A NON-REFUNDABLE APPLICATION FEE OF $22.00, AND A REFUNDABLE DEPOSIT OF $650.00. THE PROPERTY OWNER/CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR THE COST OF THE WATER USED DURING THE COURSE OF THE CONSTRUCTION.

10. THESE PLANS HAVE BEEN CHECKED BASED ON THE ASSUMPTION THAT ALL INFORMATION SHOWN OR IMPLIED ON THESE PLANS IS TRUE, AND HAVE BEEN CHECKED BY THE CITY ONLY IN CONFORMANCE WITH CITY STANDARDS, COMPLIANCE WITH DEVELOPMENT CONDITIONS AND FOR GENERAL CONCEPTUAL APPROVAL OF THE DRAINAGE AND PARKWAY IMPROVEMENTS SHOWN HEREON. NO DETAILED MATHEMATICAL CHECK OR FIELD SURVEY WAS MADE BY THE CITY FOR THE ACCURACY OF THE EXISTING UTILITIES SHOWN OR NOT SHOWN. NO CHECKS WERE MADE ON THE EXISTING DESIGN INFRASTRUCTURES AND STRUCTURES SHOWN ON THESE PLANS; THESE PLANS WERE CHECKED ON THE ASSUMPTION THAT ALL BUILDING LAYOUTS, SETBACKS AND SITE PLANS WERE INITIALLY APPROVED BY THE APPROPRIATE ENTITIES.

11. THE REGISTERED CIVIL ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT ANY DISCREPANCIES ARISING DURING CONSTRUCTION, HE SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING THE PROPOSED WORK AREA OF ALL DELETERIOUS MATTER PER THE FINAL APPROVED GRADING PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTANCES AND AT NO COST TO THE CITY.

13. NO WORK ON OFF-SITE IMPROVEMENTS MAY BE STARTED WITHOUT AN APPROVED STREET IMPROVEMENT PLAN, AND A STREET IMPROVEMENT PERMIT ISSUED BY PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

14. ALL UTILITY INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY REQUIRE A STREET CUT PERMIT ISSUED BY PUBLIC SERVICES DEPARTMENT, ENGINEERING DIVISION. IN ADDITION, AN INSTALLATION PERMIT WILL BE REQUIRED FOR WATER OR SEWER LINES, AND IS ISSUED BY THE WATER/WASTEWATER DEPARTMENT, LOCATED AT 160 S. 10TH STREET, COLTON, CA 92324.

15. FOR INFORMATION REGARDING ELECTRICAL INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY CONTACT THE ELECTRIC DEPARTMENT, LOCATED AT 150 S. 10TH STREET, COLTON, CA, 92324. IN ADDITION, A STREET CUT PERMIT ISSUED BY THE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

16. GAS, PHONE AND CABLE UTILITIES HAVE FRANCHISE AGREEMENTS WITH THE CITY OF COLTON, AND ARE REQUIRED TO SECURE THEIR OWN STREET IMPROVEMENT PERMIT AND/OR STREET CUT PERMIT FROM PUBLIC WORKS DEPARTMENT, ENGINEERING.

17. A SEPARATE PERMIT IS REQUIRED FOR ANY FENCE CONSTRUCTED ON-SITE. THIS PERMIT IS ISSUED BY COMMUNITY DEVELOPMENT DEPARTMENT, 659 N. LA CADENA DRIVE, COLTON. IF THE PROPOSED (OR EXISTING) FENCE IS CONSTRUCTED WITHIN THE PUBLIC RIGHT OF WAY, AN ENCROACHMENT PERMIT IS REQUIRED AND IS ISSUED BY THE ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT.

18. PRIOR TO THE COMMENCEMENT OF ANY WORK IN PUBLIC STREETS, OR WITHIN THE PUBLIC RIGHT OF WAY, CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN (IN TRIPLICATE) TO THE CITY ENGINEER FOR REVIEW.
   18.1. TRAFFIC CONTROL PLANS FOR MINOR PUBLIC RIGHT OF WAY IMPROVEMENTS SHALL CONFORM TO THE "WORK AREA TRAFFIC CONTROL HANDBOOK" (W.A.T.C.H. MANUAL); TRAFFIC CONTROL PLANS FOR LARGER PROJECTS SHALL BE PREPARED (IN TRIPLICATE) BY A REGISTERED CIVIL ENGINEER, AND EACH SET SHALL BE "WET-SIGNED" AND SUBMITTED TO THE CITY ENGINEER FOR REVIEW.
   18.2. THE DECISION AS TO WHAT CONSTITUTES A MINOR IMPROVEMENT VERSUS A LARGER PROJECT SHALL BE AT THE SOLE DISCRETION OF THE CITY ENGINEER.

19. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITY LINES OR STRUCTURES WHETHER SHOWN OR NOT SHOWN ON THIS PLAN, AND SHALL BE RESPONSIBLE FOR PROTECTING THEM FROM DAMAGE. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-422-4133 A MINIMUM OF TWO WORKING DAYS BEFORE DIGGING. THE USA NUMBER SHALL BE PROVIDED TO THE CITY ENGINEER.

20. NO WORK MAY BEGIN WITHOUT AN APPROVED TRAFFIC CONTROL PLAN, AND ONCE BEGUN, CONTRACT SHALL ENDEAVOR TO COMPLETE WORK IN THE STREET AND/OR PUBLIC RIGHT OF WAY WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

21. ANY CONTRACTOR WORKING WITHIN THE PUBLIC RIGHT OF WAY IS SUBJECT TO THE LICENSING AND INSURANCE REQUIREMENTS OF THE CITY.

22. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FORM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR ANY DEPOSIT OF WATER RUNOFF AND/OR DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION.

23. TREES, FOLIAGE, SIGNS, AND OTHER IMPROVEMENTS SHALL BE PROTECTED IN PLACE AND ANY DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPAIRED OR REPLACED IN KIND TO THE SATISFACTION OF THE CITY ENGINEER.

24. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITY LINES OR STRUCTURES WHETHER SHOWN OR NOT SHOWN ON THIS PLAN, AND SHALL BE RESPONSIBLE FOR PROTECTING THEM FROM DAMAGE. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-422-4133 A MINIMUM OF TWO WORKING DAYS BEFORE DIGGING.

25. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL SUBSTRUCTURES WITHIN THE ALIGNMENT OF THE PROPOSED IMPROVEMENTS, AND IN THE EVENT OF SUBSTRUCTURE DAMAGE, THE CONTRACTOR SHALL BEAR THE TOTAL COST OF REPAIR OR REPLACEMENT.

26. IF ANY UTILITIES OR FACILITIES CONFLICT WITH PROPOSED IMPROVEMENTS, ALL WORK SHALL STOP, AND THE CITY ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

27. THE CONTRACTOR IS ADVISED THAT ALL EXCAVATED MATERIALS SHALL BECOME HIS PROPERTY AND SHALL BE REMOVED FROM THE JOB SITE UNLESS INSTRUCTED BY THE CITY ENGINEER, IN WRITING, TO DO OTHERWISE.

28. NO TRENCHES, REGARDLESS OF DEPTH OR WIDTH AND WHETHER ON-SITE OR OFF-SITE, MAY BE LEFT OPEN OVERNIGHT UNLESS PRIOR APPROVAL IS SECURED, IN WRITING, FROM THE CITY ENGINEER.

29. TRENCHES DEEPER THAN 5'0" WILL REQUIRE A CAL-OSHA PERMIT. A COPY OF THE PERMIT SHALL BE PROVIDED TO THE CITY ENGINEER.

30. THE CONTRACTOR SHALL BE RESPONSIBLE DURING ALL PHASES OF THE WORK TO PROVIDE FOR PUBLIC SAFETY AND CONVENIENCE. THE CONTRACTOR SHALL ESTABLISH ADEQUATE ACCESS TO DRIVEWAYS AT THE END OF EACH WORKING DAY TO THE SATISFACTION OF THE CITY ENGINEER

31. THE CONTRACTOR SHALL PROVIDE A 72-HOUR NOTIFICATION TO THE AFFECTED PROPERTIES, THE POLICE DEPARTMENT, AND THE FIRE DEPARTMENT IN THE EVENT OF A CHANGE IN STREET CLOSURE TO TRAFFIC AND/OR PUBLIC SAFETY VEHICLES, PARKING RESTRICTIONS, AND ON EACH MONDAY MORNING DURING THE CONSTRUCTION PERIOD.

32. ROAD CLOSURES IN EXCESS OF TWENTY-FOUR (24) HOURS SHALL REQUIRE APPROVAL OF THE CITY OF COLTON CITY COUNCIL. PROCESSING TIME FOR THIS REQUEST IS SIX TO EIGHT (6 TO 8) WEEKS, AND A WRITTEN APPLICATION (TEMPORARY ROAD CLOSURE PERMIT) MUST BE SUBMITTED TO THE CITY ENGINEER IN SUFFICIENT TIME TO PROCESS THE REQUEST.

33. ALL INSPECTION REQUESTS FOR WORK PERFORMED IN THE PUBLIC RIGHT OF WAY SHALL BE DIRECTED TO THE ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT, AND SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY-FOUR (24) HOURS BEFORE THE SERVICES THEREOF WILL BE REQUIRED

34. FOR NEW STREET CONSTRUCTION, RECONSTRUCTION OR REHABILITATION OF AN EXISTING STREET, AND/OR MATCH UP AC PAVEMENT, MATERIAL SHALL MEET THE MINIMUM REQUIREMENTS OF AR4000 ASPHALT PAVEMENT; ALL BASE USED UNDER ASPHALT OR CONCRETE IMPROVEMENTS SHALL BE CLASS II BASE.

35. ALL PORTLAND CEMENT CONCRETE (PCC) AND ASPHALTIC CONCRETE (AC) SHALL BE REMOVED TO A NEAT CLEAN EDGE. UPON INSTALLATION OF NEW ASPHALT OR MATCH-UP ASPHALT CONCRETE, CONTRACTOR SHALL USE CITY OF COLTON STANDARD CONSTRUCTION DRAWING NO. 124 – TRENCH REPAIR AS A GUIDELINE.

36. ALL TRAFFIC CONTROL DEVICES, SIGNS, MARKINGS OR TEMPORARY STRIPING MARKERS SHALL BE IN PLACE PRIOR TO PAVING. STREET STRIPING SHALL BE COMPLETED PRIOR TO STREET OPENING.

37. THE CONTRACTOR SHALL ADJUST ALL MANHOLE AND VALVE COVERS TO FINISHED GRAD, AS NOTED ON THE PLANS.

38. AS REQUIRED BY THE CITY ENGINEER, THE CONTRACTOR SHALL FURNISH AND OPERATE A SELF-LOADING MOTOR SWEEPER WITH SPRAY NOZZLES AT LEAST TWICE EACH WORKING DAY TO KEEP PAVED AREAS ACCEPTABLE CLEAN WHEREVER CONSTRUCTION, INCLUDING RESTORATION, IS COMPLETE.

39. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE CITY ENGINEER TO INSTALL STREET CENTERLINE MONUMENTS AS REQUIRED BY CITY ORDINANCE AND PEER CITY OF COLTON STANDARD CONSTRUCTION DRAWING NO. 800, NO. 801 & NO. 802, FOR NEW DEVELOPMENTS AND REPLACEMENT OF DISTURBED OR COVERED EXISTING MONUMENTS.

40. THE BENCHMARK USED TO DETERMINE ELEVATION DATA USED TO CALCULATE GRADE SHALL BE NOTED ON PLAN.

41. CONTRACTOR SHALL COMPLY WITH THESE REQUIREMENTS AND CITY ENGINEER'S DIRECTIONS DURING THE COURSE OF CONSTRUCTION.

LEGEND

BOUNDARY LINES

- CENTER LINE
- EASEMENT LINE
- PROPERTY LINE / RIGHT OF WAY LINE

HARDSCAPE LINES

- CURB (EXISTING AND PROPOSED)
- CURB & GUTTER (EXISTING AND PROPOSED)
- SIDEWALK (EXISTING AND PROPOSED)
- FENCE (EXISTING AND PROPOSED)
- STRIPING
- EDGE OF PAVEMENT

GRADING ELEMENTS

- MINOR CONTOUR (EXISTING AND PROPOSED)
- -250- / 250 MAJOR CONTOUR (EXISTING AND PROPOSED)
- TOP OF SLOPE
- TOE OF SLOPE
- GB GRADE BREAK
- R RIDGE
- LIMITS OF GRADING / DAYLIGHT LINE
- CUT-FILL BOUNDARY

UTILITY ELEMENTS

- (S) / S SEWER (EXISTING AND PROPOSED)
- (W) / W WATER (EXISTING AND PROPOSED)
- (SD) / SD STORM DRAIN (EXISTING AND PROPOSED)
- (G) / G GAS (EXISTING AND PROPOSED)
- FIRE HYDRANT (EXISTING AND PROPOSED)
- WATER VALVE (EXISTING AND PROPOSED)
- WATER METER (EXISTING AND PROPOSED)
- SEWER MANHOLE (EXISTING AND PROPOSED)
- STORM DRAIN STRUCTURE (EXISTING AND PROPOSED)

ABBREVIATIONS

AD	AREA DRAIN
BOW	BOTTOM OF WALL (AT GROUND)
BW	BACK OF WALK
BLDG	BUILDING
CB	CATCH BASIN
CO	CLEANOUT
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
DR	DOOR
DS	DOWN SPOUT
DIP	DUCTILE IRON PIPE
ESMT	EASEMENT
EG	EXISTING GRADE
EW	EDGE OF WALK
FC	FACE OF CURB
FW	FACE OF WALL
FF	FINISHED FLOOR
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
FL	FLOW LINE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FS	FINISHED SURFACE
GFF	GARAGE FINISHED FLOOR
GB	GRADE BREAK
HP	HIGH POINT
INV	INVERT ELEVATION
LP	LOW POINT
LT	LIGHT
MH	MANHOLE
PV	PAVEMENT
POC	POINT OF CONNECTION
R	RIDGE
RIM	RIM ELEVATION
RD	ROOF DRAIN
TC	TOP OF CURB
TG	TOP OF GRATE
TW	TOP OF WALL
T	TRANSFORMER
WM	WATER METER
WV	WATER VALVE

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY	NO.	REVISION	BY
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PLAN DATE JULY, 2022
PLOTTED 8/30/2022
SCALE AS SHOWN
DESIGNER RC
JOB NO C22.0551

CCE DESIGN ASSOCIATES, INC.
DESIGN ASSOCIATES
CAMARILLO: 771 E. Daily Drive, Suite 120; Camarillo, CA 93010
LOS ANGELES: 445 S. Figueroa Street, Suite 3100; Los Angeles, CA 90071
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RANDY CHAPMAN, P.E.

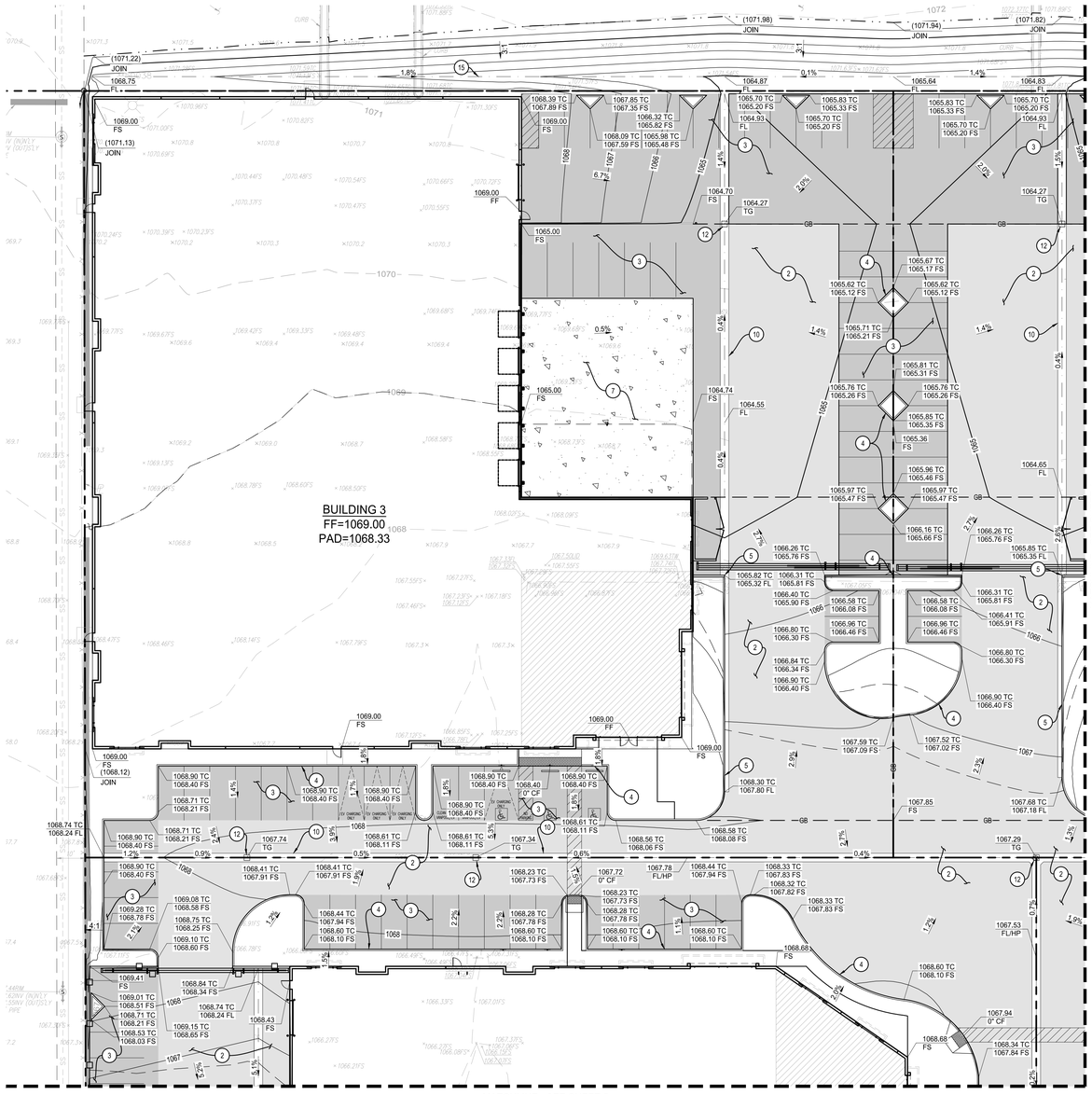
REGISTERED PROFESSIONAL ENGINEER
RANDY CHAPMAN
No. 69614
EXP. 6/30/24
CIVIL
STATE OF CALIFORNIA

2245 WEST VALLEY BOULEVARD
APN 0254-041-04-0000

NOTES

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C2 OF 11 SHEETS



GRADING CONSTRUCTION KEYNOTES / LEGEND

1. CONSTRUCT DRIVEWAY PER CITY OF COLTON STANDARD PLAN NO. 111, "W" AND "X" PER PLAN, DO NOT CONSTRUCT PRIOR TO OBTAINING ENCROACHMENT PERMIT FROM CITY OF COLTON.
2. CONSTRUCT HEAVY DUTY AC PAVING, TI=6: X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE, COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
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5. CONSTRUCT 6-INCH P.C.C. CURB & GUTTER PER SPPWC STANDARD PLAN NO. 120-2, TYPE A2-6.
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8. ACCESSIBLE PARKING, SLOPE 2% MAX. IN ANY DIRECTION. STRIPING AND SIGNAGE PER ARCHITECTURAL PLANS.
9. CONSTRUCT RETAINING WALL PER SEPARATE PERMIT, SEE STRUCTURAL PLANS FOR DETAILS. TOP (TW) AND BOTTOM (BOW) WALL ELEVATIONS PER THIS PLAN.
10. CONSTRUCT VALLEY GUTTER PER DETAIL 1 ON SHEET C10.
11. CONSTRUCT WHEEL STOP PER DETAIL 2 ON SHEET C10.
12. INSTALL CATCH BASIN PER UTILITY PLAN. TOP OF GRATE ELEVATION PER THIS PLAN.
13. INSTALL TRENCH DRAIN. ACO POWERDRAIN S300K, OR APPROVED EQUAL.
14. GRADING CUT-FILL INTERFACE LINE
15. CONSTRUCT EARTHEN SWALE 36" WIDE WITH 6" DEPTH AT BASE OF ANGULAR RIVER ROCK (FOR INFILTRATION PURPOSES)

GRADING NOTES

1. EXISTING SURFACE INFORMATION WAS TAKEN FROM A TOPOGRAPHIC SURVEY PROVIDED BY OTHERS. CCE DESIGN ASSOCIATES ASSUMES NO RESPONSIBILITY IN REGARD TO THE ACCURACY OF EXISTING ELEVATIONS AND SURFACE FEATURES.
2. PROVIDE 8-INCHES MINIMUM CLEAR SPACE FROM FINISHED SOIL GRADE (FG) TO BUILDING WALL. CONSTRUCT STEM WALL AT BUILDING PERIMETER WHERE THIS CONDITION CANNOT BE MET.
3. ALL HARDSCAPE ADJACENT TO STRUCTURES SHALL SLOPE AT A MINIMUM OF 2% FOR 5-FEET AWAY FROM THE FOUNDATION.
4. IMPROVEMENTS WITHIN CITY OF COLTON PUBLIC RIGHT OF WAY, INCLUDING (BUT NOT EXCLUSIVE OF) FENCES, DRIVEWAYS, AND UTILITY CONNECTIONS WILL REQUIRE SUBSEQUENT ENCROACHMENT PERMITS.
5. RETAINING WALLS LOCATED CLOSER TO THE PROPERTY LINE THAN THE HEIGHT OF THE WALL SHALL BE BACKFILLED NOT LATER THAN 10 DAYS AFTER CONSTRUCTION OF THE WALL AND NECESSARY STRUCTURAL SUPPORTING MEMBERS UNLESS RECOMMENDED OTHERWISE BY RESPONSIBLE ENGINEER.
6. ADA HANDRAILS, PARKING SIGNS, AND PARKING STRIPING ARE PER ARCHITECTURAL PLANS AND ARE SHOWN HEREON FOR REFERENCE ONLY.
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8. CLEARING AND GRUBBING OF THE SITE SHOULD CONSIST OF THE REMOVAL OF ASPHALT, CONCRETE SLAB, VEGETATION SUCH AS BRUSH, GRASS, WOOD, STUMPS, TREES, ROOTS OF TREES AND OTHERWISE DELETERIOUS NATURAL MATERIALS FROM THE AREAS TO BE GRADED. CLEARING AND GRUBBING SHOULD EXTEND TO THE OUTSIDE OF ALL PROPOSED EXCAVATION AND FILL AREAS.
9. ALL GRADING SLOPES SHALL BE PLANTED AND SPRINKLERED.
10. STANDARD 12-INCH HIGH BERM IS REQUIRED AT TOP OF ALL GRADED SLOPES.
11. NO FILL TO BE PLACED, UNTIL THE CITY GRADING INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
12. MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY WITHIN 40' BELOW FINISH GRADE AND 93% OF MAX. DRY DENSITY DEEPER THAN 40' BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
13. TEMPORARY EROSION CONTROL TO BE INSTALLED BETWEEN OCTOBER 1 AND APRIL 15. OBTAIN GRADING INSPECTOR'S AND DEPARTMENT OF PUBLIC WORKS APPROVAL OF PROPOSED PROCEDURES.

Know what's below.
Call before you dig.

NOTICE TO CONTRACTORS

CONTRACTOR TO NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 811 A MINIMUM OF 48 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES

0 10 20 40 60
Scale 1" = 20 ft

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY
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NO.	REVISION	BY
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5		

PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	1"=20'
DESIGNER	RC
JOB NO	C22.0551

CCE DESIGN ASSOCIATES

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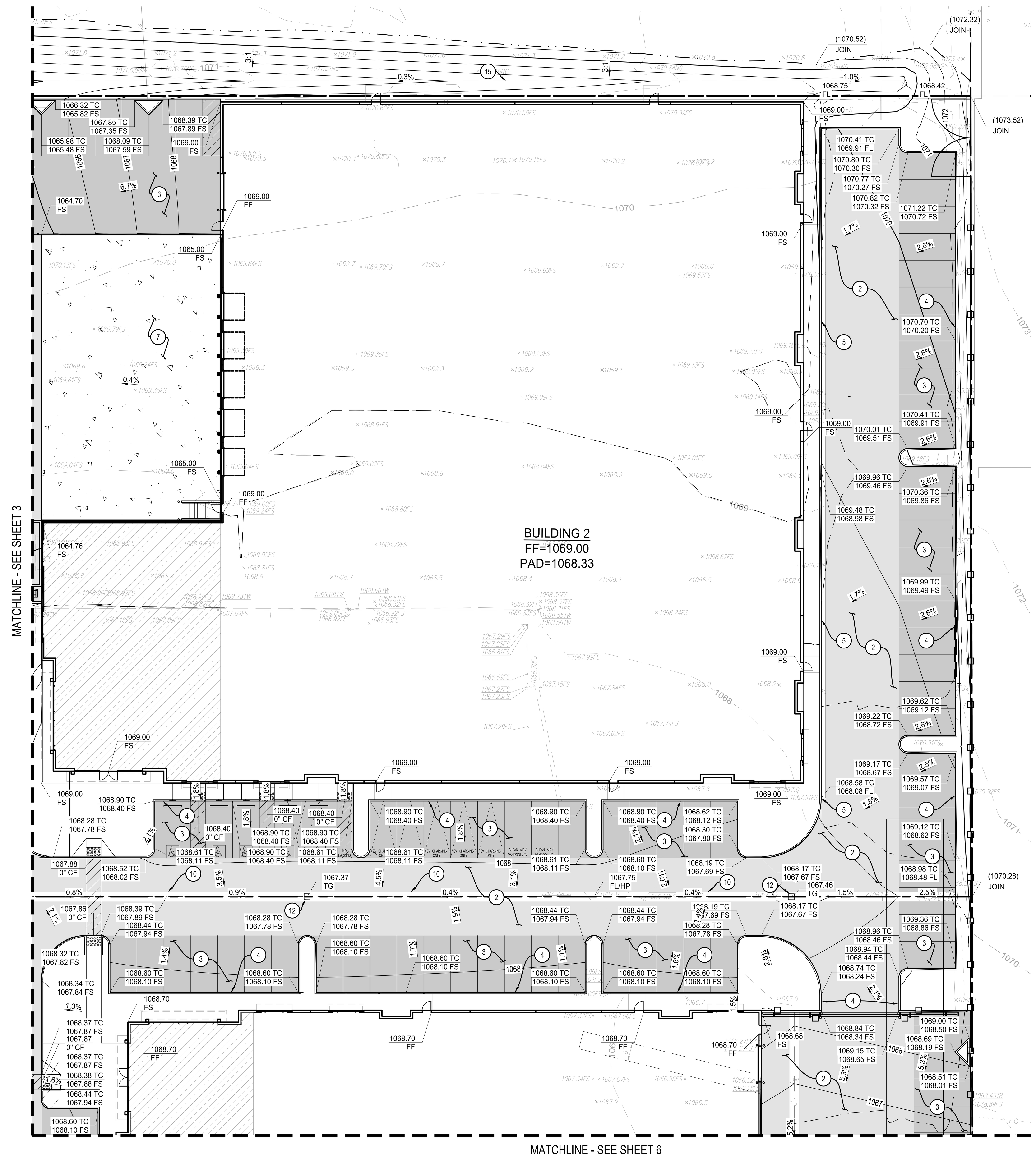
GRADING PLAN

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C3
OF 11 SHEETS



GRADING CONSTRUCTION KEYNOTES / LEGEND

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12. MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY WITHIN 40' BELOW FINISH GRADE AND 93% OF MAX. DRY DENSITY DEEPER THAN 40' BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
13. TEMPORARY EROSION CONTROL TO BE INSTALLED BETWEEN OCTOBER 1 AND APRIL 15. OBTAIN GRADING INSPECTOR'S AND DEPARTMENT OF PUBLIC WORKS APPROVAL OF PROPOSED PROCEDURES.

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NOTICE TO CONTRACTORS

CONTRACTOR TO NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 811 A MINIMUM OF 48 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES

0 10 20 40 60
Scale 1" = 20 ft

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY	NO.	REVISION	BY
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PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	1"=20'
DESIGNER	RC
JOB NO	C22.0551

CCE DESIGN ASSOCIATES, INC.
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RANDY CHAPMAN, P.E.

REGISTERED PROFESSIONAL ENGINEER RANDY CHAPMAN No. 69614 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

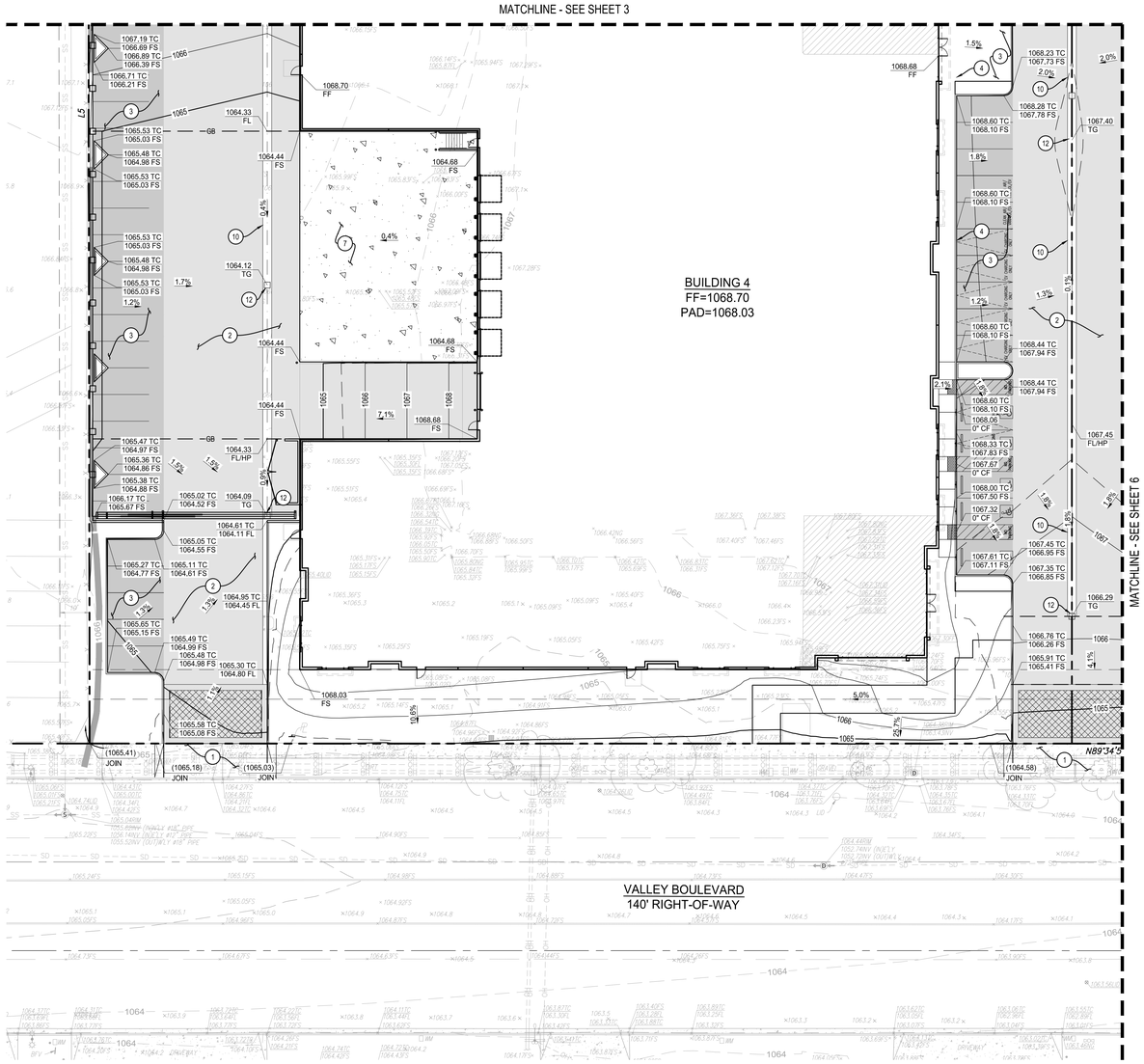
2245 WEST VALLEY BOULEVARD

APN 0254-041-04-0000

GRADING PLAN

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C4 OF 11 SHEETS



GRADING CONSTRUCTION KEYNOTES / LEGEND

1. CONSTRUCT DRIVEWAY PER CITY OF COLTON STANDARD PLAN NO. 111, "W" AND "X" PER PLAN, DO NOT CONSTRUCT PRIOR TO OBTAINING ENCROACHMENT PERMIT FROM CITY OF COLTON.
2. CONSTRUCT HEAVY DUTY AC PAVING, TI=6: X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE, COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
3. CONSTRUCT AC PAVING, TI=4.5: X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE, COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
4. CONSTRUCT 6-INCH P.C.C. CURB PER SPPWC STD. PLAN NO. 120-2, TYPE A1-6.
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6. CONSTRUCT CONC. SIDEWALK PER DETAIL 3 ON SHEET C10.
7. CONSTRUCT CONCRETE PAVING, TI=6: X INCH PORTLAND CEMENT CONRETE ON X-INCH AGGREGATE BASE, COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
8. ACCESSIBLE PARKING, SLOPE 2% MAX. IN ANY DIRECTION. STRIPING AND SIGNAGE PER ARCHITECTURAL PLANS.
9. CONSTRUCT RETAINING WALL PER SEPARATE PERMIT, SEE STRUCTURAL PLANS FOR DETAILS. TOP (TW) AND BOTTOM (BOW) WALL ELEVATIONS PER THIS PLAN.
10. CONSTRUCT VALLEY GUTTER PER DETAIL 1 ON SHEET C10.
11. CONSTRUCT WHEEL STOP PER DETAIL 2 ON SHEET C10.
12. INSTALL CATCH BASIN PER UTILITY PLAN. TOP OF GRATE ELEVATION PER THIS PLAN.
13. INSTALL TRENCH DRAIN, ACO POWERDRAIN S300K, OR APPROVED EQUAL.
14. GRADING CUT-FILL INTERFACE LINE
15. CONSTRUCT EARTHEN SWALE 36" WIDE WITH 6" DEPTH AT BASE OF ANGULAR RIVER ROCK (FOR INFILTRATION PURPOSES)

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5. RETAINING WALLS LOCATED CLOSER TO THE PROPERTY LINE THAN THE HEIGHT OF THE WALL SHALL BE BACKFILLED NOT LATER THAN 10 DAYS AFTER CONSTRUCTION OF THE WALL AND NECESSARY STRUCTURAL SUPPORTING MEMBERS UNLESS RECOMMENDED OTHERWISE BY RESPONSIBLE ENGINEER.
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GRADING PLAN

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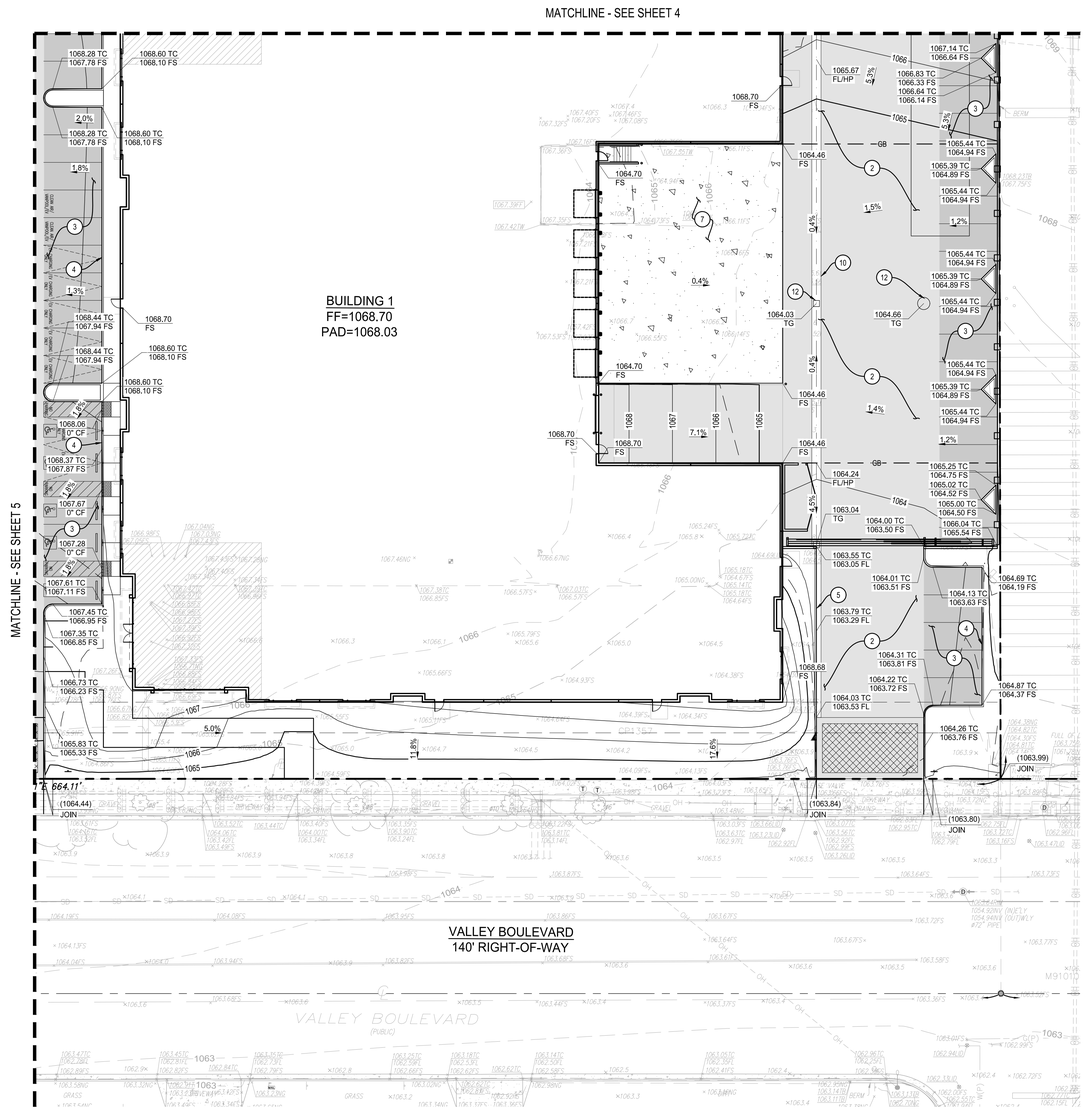
COLTON, CA 92324

SHEET C5
OF 11 SHEETS



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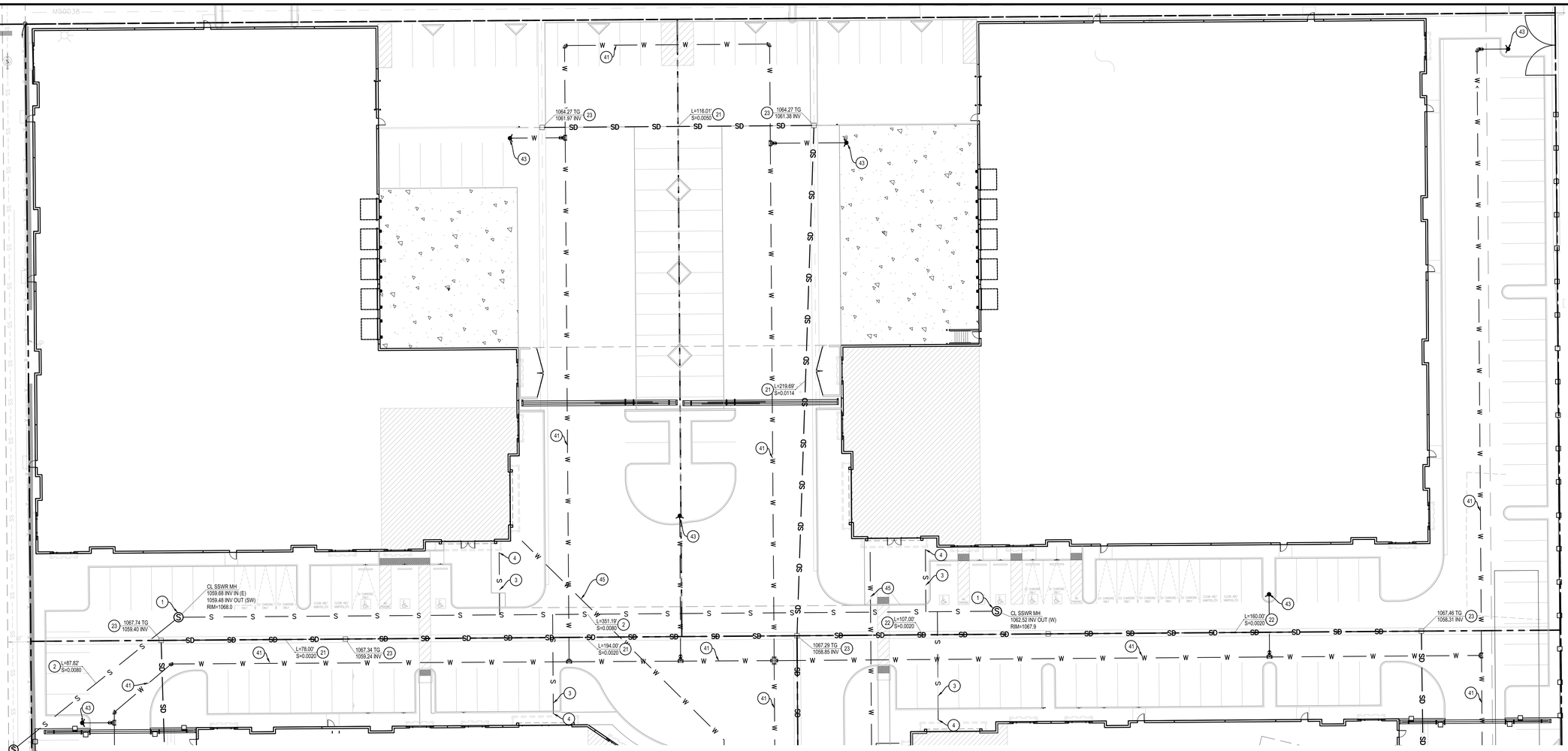
APN 0254-041-04-0000

GRADING PLAN

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C6
OF 11 SHEETS



UTILITY CONSTRUCTION KEYNOTES / LEGEND

	1	CONSTRUCT 48" DIAMETER MANHOLE PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO. 300.
— S —	2	INSTALL 8-INCH SDR-35 PVC SEWER MAIN, SLOPE AND LENGTH PER PLAN. PIPE BEDDING AND BACKFILL PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO. 202, CASE 1.
	3	CONSTRUCT 6-INCH SDR-35 PVC SEWER LATERAL CONNECTION PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO. 312, LENGTH AND SLOPE PER PLAN (S=2% MIN. IF NOT OTHERWISE INDICATED).
	4	POINT OF CONNECTION TO BUILDING, SEE MEP PLANS FOR CONTINUATION.
	5	BREAK INTO EXISTING MANHOLE PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO 303.
— SD —	21	INSTALL 12-INCH PVC SDR 35 STORM DRAIN, SLOPE AND LENGTH PER PLAN. PIPE BEDDING AND BACKFILL PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO. 202, CASE 1.
— SD —	22	INSTALL 18-INCH PVC SDR 35 STORM DRAIN, SLOPE AND LENGTH PER PLAN. PIPE BEDDING AND BACKFILL PER CITY OF COLTON WASTEWATER DIVISION STANDARD PLAN NO. 202, CASE 1.
	23	INSTALL BROOKS PRODUCTS CB2424 (24"X24") CATCH BASIN. PROVIDE LABEL WITH STENCILING "NO DUMPING-DRAINS TO OCEAN."
	24	INSTALL CONTECH CONTINUOUS DEFLECTION UNIT (CDS) MODEL NO. 3020-6-C. PROVIDE LABEL WITH STENCILING "NO DUMPING-DRAINS TO OCEAN"
	25	INSTALL CONTECH UNDERGROUND TREATMENT DEVICE, SEE DETAIL SHEET C11.
— W —	41	CONSTRUCT 12" C900 PVC FIRE WATER MAIN, MIN. COVER =42".
	42	CONSTRUCT 12" DOUBLE DETECTOR CHECK VALVE PER CITY OF COLTON WATER DIVISION STANDARD PLATE NO. 712.
	43	CONSTRUCT FIRE HYDRANT ASSEMBLY PER CITY OF COLTON WATER DIVISION STANDARD PLATE NO. 700.
	44	INSTALL 1-INCH DOMESTIC WATER SERVICE PER CITY OF COLTON WATER DIVISION STANDARD PLAN NO. 701.
— W —	45	INSTALL 2-INCH DOMESTIC WATER SERVICE PER CITY OF COLTON WATER DIVISION STANDARD PLAN NO. 702.

UTILITY NOTES

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3. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO CITY STANDARDS AND REQUIREMENTS. NOTE THE REQUIREMENT OF ADDITIONAL PERMITS TO BE OBTAINED FROM THE CITY PRIOR TO ANY WORK BEING DONE IN THE RIGHT-OF-WAY.
4. GENERAL CONTRACTOR SHALL COORDINATE ALL UNDERGROUND UTILITIES. PROVIDE 6-INCHES MINIMUM BETWEEN PIPES CROSSING ELECTRICAL LINES HORIZONTALLY AND 12-INCHES MINIMUM BETWEEN PARALLEL PIPES CROSSING ELECTRICAL LINES.
5. FOR UTILITY MATERIALS AND TYPES, SEE CITY STANDARDS AND / OR THE PROJECT SPECIFICATIONS.
6. WATER LINES SHALL BE 12" MINIMUM ABOVE SANITARY SEWER LINE AT ALL CROSSINGS.
7. MINIMUM COVER FOR WATER LINES IS 3-FEET.
8. FIRE PROTECTION SYSTEMS SHOWN HEREON FOR REFERENCE ONLY. SEE FIRE PROTECTION PLANS FOR CONSTRUCTION DETAILS.

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UTILITY PLAN

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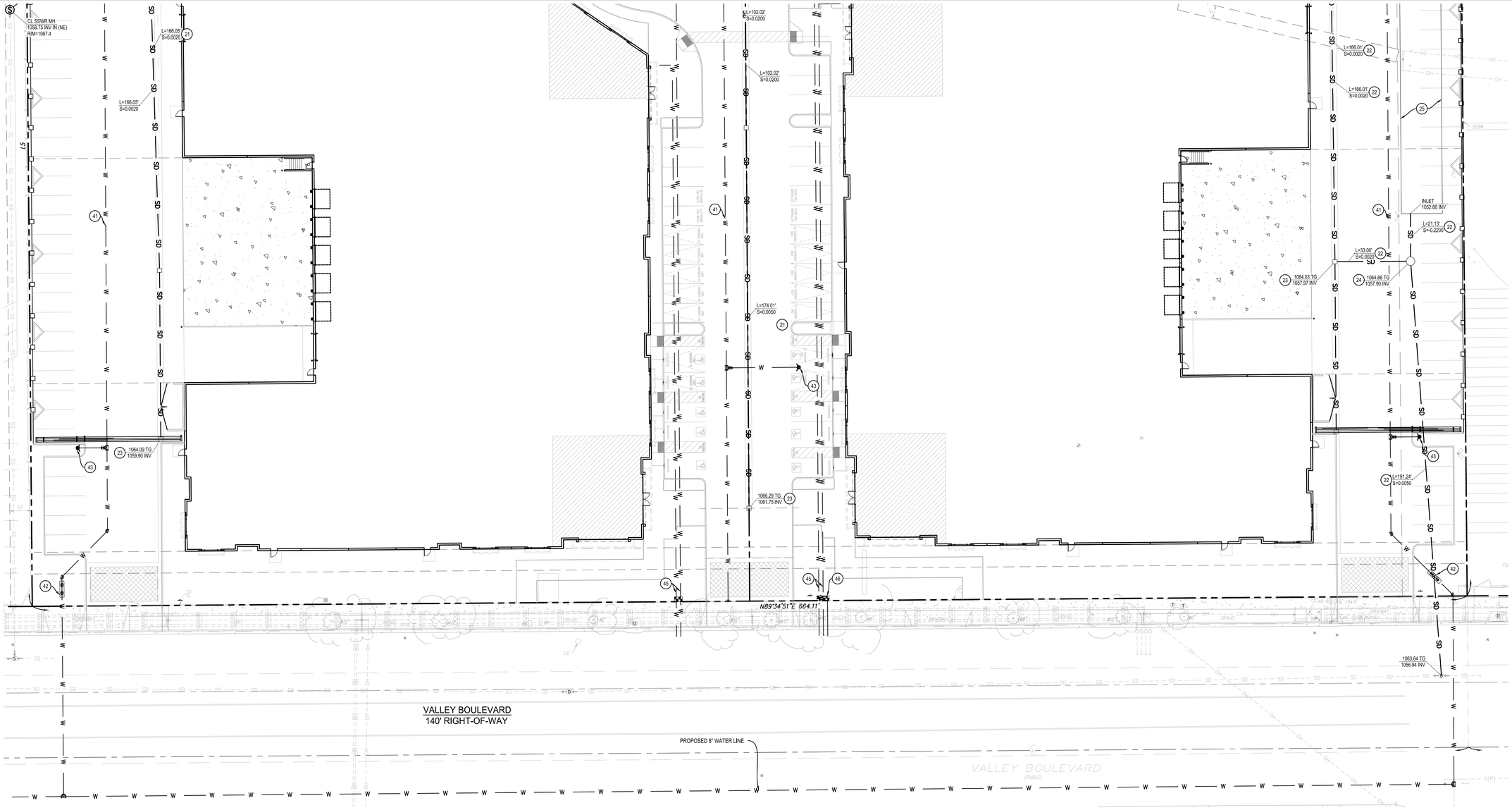
SHEET C7 OF 11 SHEETS



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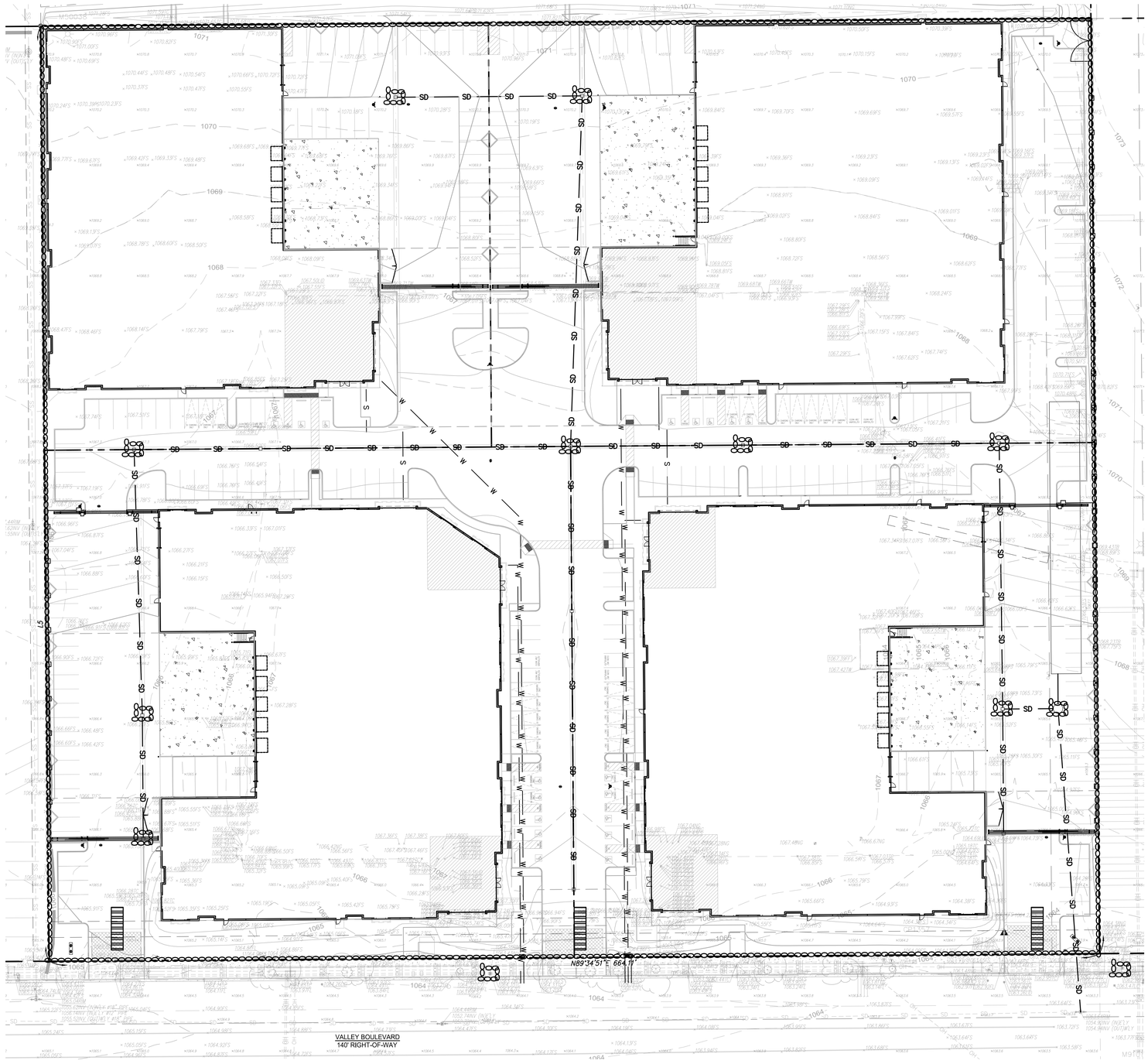
APN 0254-041-04-0000

UTILITY PLAN

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C8
OF 11 SHEETS



EROSION CONSTRUCTION NOTES / LEGEND

SE-5	FIBER ROLLS PER CASQA BMP SE-5. SEE DETAIL X ON SHEET CX.
TC-1	STABILIZED CONSTRUCTION ENTRANCE / EXIT PER CASQA BMP TC-1. SEE DETAIL X ON SHEET CX.
SE-10	INLET PROTECTION PER CASQA BMP SE-10.

THE FOLLOWING CASQA BMPS ARE PART OF THE EROSION CONTROL PLAN; HOWEVER, ARE NOT LOCATION BASED AND CANNOT BE SHOWN HEREON:

EC-1	SCHEDULING PER CASQA BMP EC-1
EC-4	HYDROSEEDING PER CASQA BMP EC-4
SE-6	GRAVEL BAG BERM PER CASQA BMP SE-6 (ACCEPTABLE SUBSTITUTE FOR FIBER ROLLS)
SE-7	STREET SWEEPING AND VACUUMING PER CASQA BMP SE-7
WE-1	WIND EROSION CONTROL PER CASQA BMP WE-1
TC-3	ENTRANCE / OUTLET TIRE WASH PER CASQA BMP TC-3
NS-X	ANY AND ALL APPLICABLE CASQA NON-STORMWATER BMPS (INCLUSIVE OF NS-1 THROUGH NS-16)
WM-X	ANY AND ALL APPLICABLE CASQA WASTE MANAGEMENT BMPS (INCLUSIVE OF WM-1 THROUGH WM-10)

EROSION CONTROL NOTES

TEMPORARY EROSION CONTROL PRIOR TO COMPLETION OF FINAL IMPROVEMENTS SHALL BE PERFORMED BY THE CONTRACTOR AS INDICATED BELOW:

1. ALL GRADED AREAS ARE TO RECEIVE HYDROSEED EROSION CONTROL. HYDROSEEDING TO EXTEND 5 FT BEYOND DAYLIGHT LINES.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ONSITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
3. DEVICES SHOWN ON PLAN SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE RESIDENT ENGINEER.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER AFTER EACH RUNOFF PRODUCING RAINFALL.
5. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES WHICH MAY ARISE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
7. ALL EROSION CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON.
8. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
9. TEMPORARY EROSION CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL HYDROSEEDED AREAS ARE ESTABLISHED AND NO EROSION IS EVIDENT.
10. EXCEPT AS OTHERWISE DIRECTED BY THE CITY INSPECTOR, ALL DRAINAGE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF THE WORKING DAY WHEN THE 48 HOUR FORECAST OF RAIN PROBABILITY IS 40% AND MAINTAINED DURING THE RAINY SEASON FROM OCTOBER 15TH TO APRIL 15TH OF THE SUCCEEDING YEAR.
11. EROSION CONTROL DEVICES MUST BE IN PLACE DURING THE ABOVE STATED PERIOD.
12. CLEAN OUT MUD AND SILT AFTER EACH RAIN OR AS DIRECTED BY THE CITY INSPECTOR.
13. THE LOCATIONS OF THE GRAVEL BAGS AS SHOWN MAY VARY DUE TO THE FIELD CONDITIONS AND ADDITIONAL GRAVEL BAGS MAY BE REQUIRED AS DIRECTED BY THE CITY INSPECTOR.
14. FIBER ROLLS MAY BE USED IN PLACE OF GRAVEL BAGS AND SPACING IS TO BE PER STREET SCHEDULE HEREON BELOW AND SHALL BE PLACED BY FIELD CONDITIONS ALSO, DRIVEWAYS SHALL HAVE GRAVEL BAGS PLACED AT 50 FOOT INTERVALS.
15. PLACE MIRAFI FILTER FABRIC INSERT INTO CATCH BASIN OPENING AND PROTECT WITH GRAVEL BAGS (BMP SE-10).

NOTE:

THE LOCATION AND DESIGN OF ALL EROSION CONTROL MEASURES SHOWN ON THESE PLANS ARE TENTATIVE ONLY AND ARE SUBJECT TO REVISIONS AS DETERMINED BY THE RESIDENT INSPECTOR OR THE CITY ENGINEER. ACTUAL EROSION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE RESIDENT INSPECTOR, AS CONDITIONS WARRANT. SILT, DEBRIS, AND MUD SHALL BE PROMPTLY REMOVED FROM ALL EROSION CONTROL STRUCTURES AFTER EACH RAIN TO THE SATISFACTION OF THE RESIDENT INSPECTOR. THE CITY MAY CONDUCT REGULAR SITE INSPECTIONS TO ASSESS CHANGING CONDITIONS AND DETERMINE THE NECESSITY OF ADDITIONAL CONTROL MEASURES.

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ALL EROSION CONTROL FACILITIES AS SHOWN ON THE APPROVED EROSION CONTROL PLAN OR AS DIRECTED BY THE CITY ENGINEER AT THE END OF EACH WORKING DAY.
2. THE CONTACT PERSON RESPONSIBLE FOR EROSION CONTROL IS THE CONSTRUCTION SUPERINTENDENT INDICATED HERE:

24 HOUR CONTACT TELEPHONE NUMBER: TBD
TBD

0 15 30 60 90
Scale 1" = 30 ft

Know what's below.
Call before you dig.

NOTICE TO CONTRACTORS

CONTRACTOR TO NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 811 A MINIMUM OF 48 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES

NO.	REVISION	BY	NO.	REVISION	BY
1			1		
2			2		
3			3		
4			4		
5			5		

PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	1"=30'
DESIGNER	RC
JOB NO	C22.0551

CCE DESIGN ASSOCIATES

CCE DESIGN ASSOCIATES, INC.
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RANDY CHAPMAN, P.E.

REGISTERED PROFESSIONAL ENGINEER
RANDY CHAPMAN
No. 69614
EXP. 6/30/24
CIVIL
STATE OF CALIFORNIA

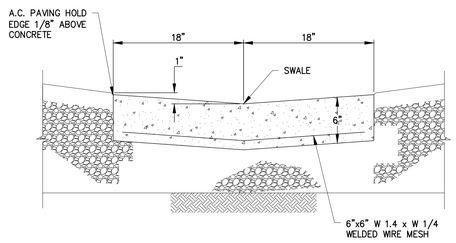
2245 WEST VALLEY BOULEVARD
APN 0254-041-04-0000

EROSION CONTROL PLAN

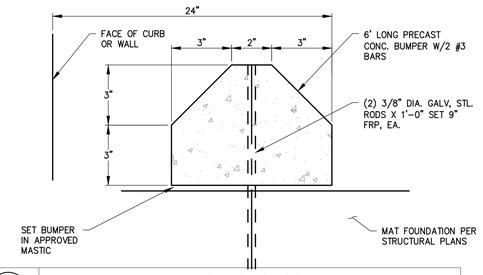
2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET C9
OF 11 SHEETS

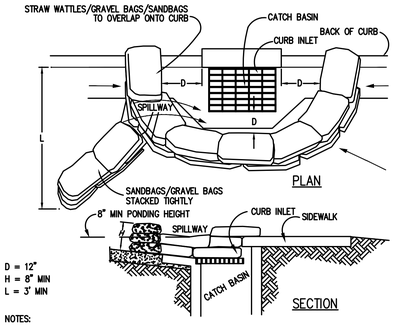
NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY



1 VALLEY GUTTER
NOT TO SCALE



2 WHEEL STOP
NOT TO SCALE

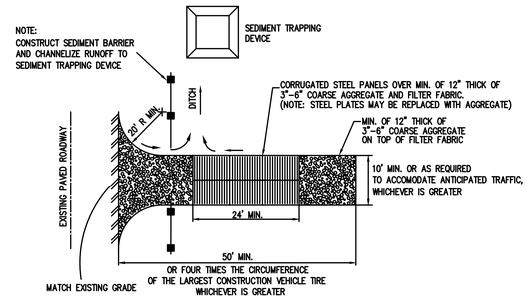


D = 12"
H = 8" MIN
L = 3' MIN

NOTES:

1. CATCH BASIN/INLET PROTECTION SHALL BE INSTALLED WHEREVER THERE IS A POTENTIAL OF STORMWATER OR NON-STORMWATER BEING DISCHARGED INTO IT.
2. INLET PROTECTION IS REQUIRED ALONG WITH OTHER POLLUTION PREVENTION MEASURES SUCH AS; EROSION CONTROL, SOIL STABILIZATION, AND MEASURES TO PREVENT TRACKING ONTO PAVED SURFACES.
3. MODIFY INLET PROTECTION AS NEEDED TO AVOID CREATING TRAFFIC HAZARDS.
4. INCLUDE INLET PROTECTION MEASURES AT HILLSIDE V-DITCHES AND MISC. DRAINAGE SWALES.
5. INLET PROTECTION SHALL BE INSPECTED AND ACCUMULATED SEDIMENTS REMOVED. SEDIMENT SHALL BE DISPOSED OF PROPERLY AND IN A MANNER THAT ASSURES THAT THE SEDIMENT DOES NOT ENTER THE STORM DRAIN SYSTEM.
6. DAMAGED BAGS SHALL BE REPLACED IMMEDIATELY.
7. ADDITIONAL SANDBAG SEDIMENT TRAPS SHALL BE PLACED AT INTERVALS AS INDICATED ON SITE PLAN.

4 FIBER ROLLS
NOT TO SCALE



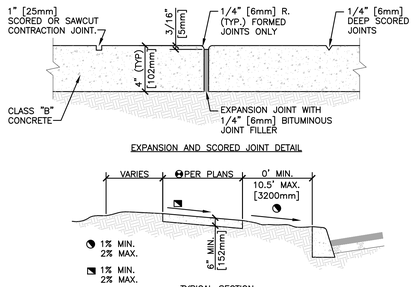
NOTES:

1. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC ROADS. DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
   - 2.1. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT OF WAY, STREET, ALLEY, AND SIDEWALK OR PARKING AREA.
   - 2.2. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN 3"-8" COARSE AGGREGATE WITH LENGTH, WIDTH & THICKNESS AS NEEDED TO ADEQUATLY PREVENT ANY TRACKING ONTO PAVED SURFACES.
   - 2.3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
3. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.

STREET MAINTENANCE NOTES:

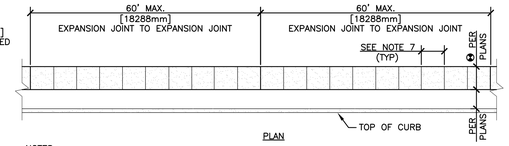
1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.

5 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



EXPANSION AND SCORED JOINT DETAIL

TYPICAL SECTION



PLAN

NOTES:

1. EXPANSION JOINTS SHALL BE LOCATED WHERE SIDEWALK ABUTS CONCRETE DRIVEWAYS, CURB OR OTHER ADJACENT STRUCTURES.
2. ONE-HALF INCH BITUMINOUS JOINT FILLER SHALL BE INSTALLED AT EXPANSION JOINT LOCATIONS AND SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. 1" DEEP CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF APPROXIMATELY 15' [4572mm] OR AT A SPACING THAT MATCHES THE ADJACENT CURB.
4. FORMED CONTRACTION JOINTS SHALL BE FINISHED WITH A TOOL HAVING A 1/4" [6mm] RADIUS.
5. SCORED JOINTS SHALL BE 1/4" [6mm] DEEP AND PLACED AT THE SPACING INDICATED FOR THE WIDTH OF SIDEWALK OR MATCH SCORED JOINTS OF ADJACENT CURB.
6. CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWELLED AND BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.
7. 1/4" DEEP SCORED JOINTS (TYP) SPACED AT 6' [1829mm] OR EQUAL TO SIDEWALK WIDTH.

3 SIDEWALK DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY	NO.	REVISION	BY
△			△		
△			△		
△			△		
△			△		
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PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	AS SHOWN
DESIGNER	RC
JOB NO	C22.0551

CCE DESIGN ASSOCIATES

CCE DESIGN ASSOCIATES, INC.
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2245 WEST VALLEY BOULEVARD

APN 0254-041-04-0000

DETAILS

2245 WEST VALLEY BOULEVARD
COLTON, CA 92324

SHEET
C10
OF 11 SHEETS

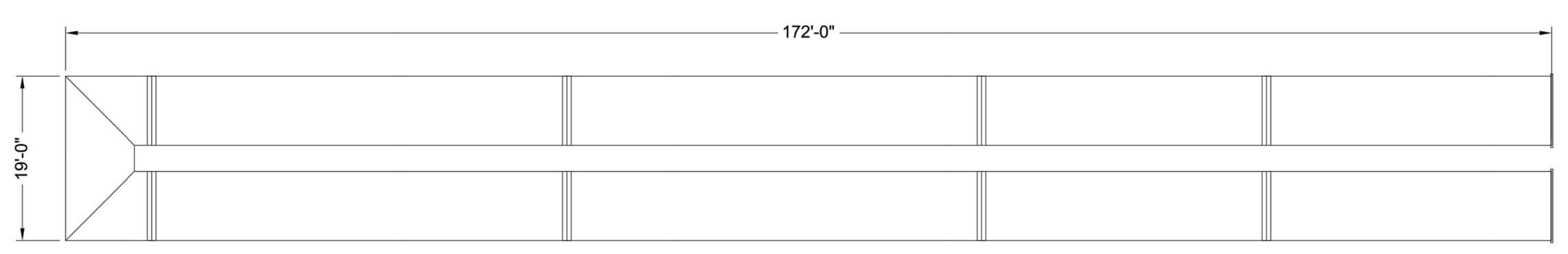
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 347 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 25,000 CF
- PIPE STORAGE VOLUME = 17,442 CF
- BACKFILL STORAGE VOLUME = 7,639 CF
- TOTAL STORAGE PROVIDED = 25,081 CF

PIPE DETAILS
- DIAMETER = 96"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = PERFORATED
- BARREL SPACING = 36"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 12"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 12"



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 20'

C:\EXPORTS\TEMPLATES\CMP_V8.DWG 10/18/2019 10:02 AM

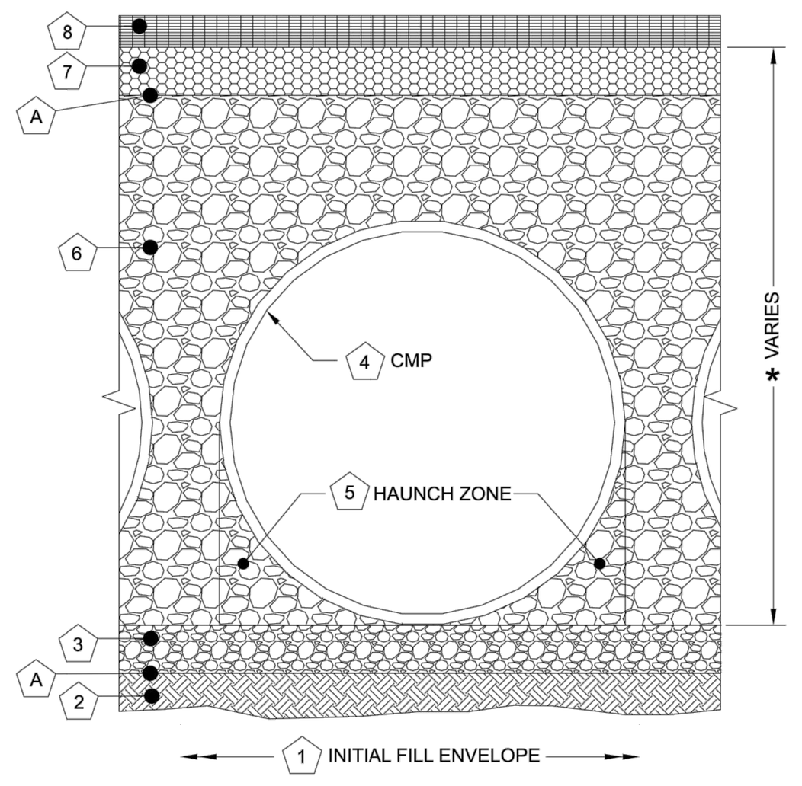
DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO18987 2245 Valley Blvd
Site Infiltration System
Colton, CA
DETENTION SYSTEM

PROJECT No.: 12275	SEQ. No.: 18987	DATE: 7/12/2022
DESIGNED: DYO		DRAWN: DYO
CHECKED: DYO		APPROVED: DYO
SHEET NO.: 1		



Infiltration Systems - CMP Infiltration & CMP Perforated Drainage Pipe

	Material Location	Description	Material Designation	Designation
8	Rigid or Flexible Pavement (if applicable)			
7	Road Base (if applicable			
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types. Wrap the trench only.
6	Backfill	Infiltration pipe systems have a pipe perforation sized of 3/8" diameter. An open graded, free draining stone, with a particle size of ½" – 2 ½" diameter is recommended.	AASHTO M 145-A-1 or AASHTO M 43 - 3, 4	Material shall be worked into the pipe haunches by means of shovel-slicing, rodding, air-tamper, vibratory rod, or other effective methods. Compaction of all placed fill material is necessary and shall be considered adequate when no further yielding of the material is observed under the compactor, or under foot, and the Project Engineer or his representative is satisfied with the level of compaction"
3	Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57	For soil aggregates larger than 3/8" a dedicated bedding layer is not required for CMP. Pipe may be placed on the trench bottom comprised of native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Soil aggregates less than 3/8" and unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation.
A	Geotextile Layer	None	None	Contech does not recommend geotextiles be placed under the invert of Infiltration systems due to the propensity for geotextiles to clog over time.
*	Note: The listed AASHTO designations are for gradation only. The stone must also be angular and clean.			

1. MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT.

FOUNDATION/BEDDING PREPARATION

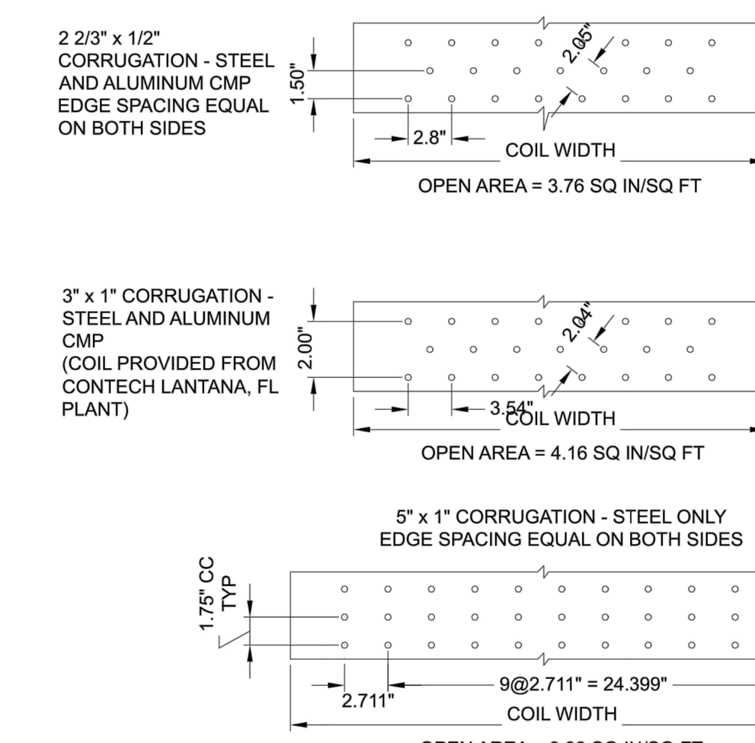
2. PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

5. HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS.

BACKFILL
MATERIAL SHALL BE PLACED IN 8"-10" MAXIMUM LIFTS. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE DEFLECTIONS WITHIN THE SYSTEM AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

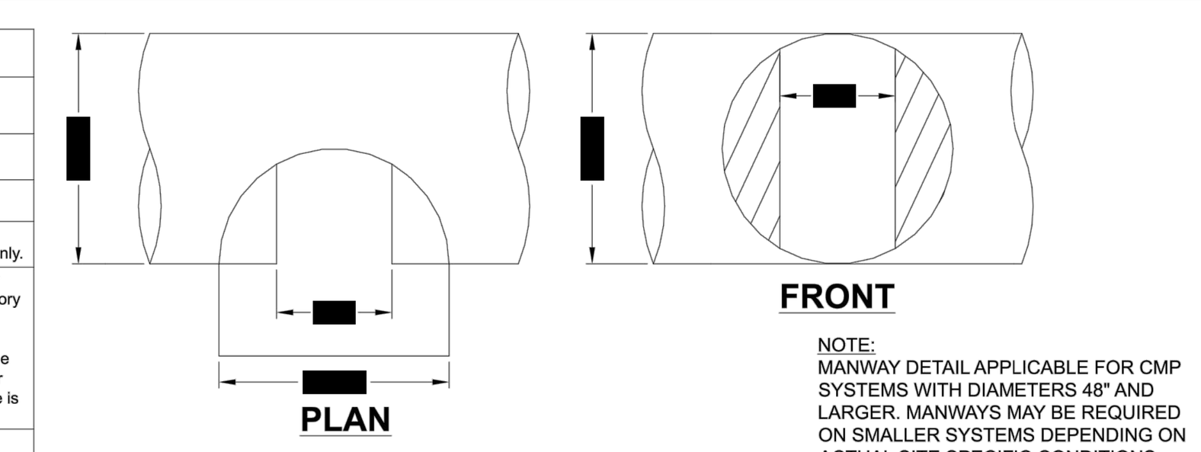
EQUIPMENT USED TO PLACE AND COMPACT THE BACKFILL SHALL BE OF A SIZE AND TYPE SO AS NOT TO DISTORT, DAMAGE, OR DISPLACE THE PIPE. ATTENTION MUST BE GIVEN TO PROVIDING ADEQUATE MINIMUM COVER FOR SUCH EQUIPMENT. MAINTAIN BALANCED LOADING ON ALL PIPES IN THE SYSTEM DURING ALL SUCH OPERATIONS.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. REFER TO TYPICAL BACKFILL DETAIL FOR MATERIAL REQUIRED.



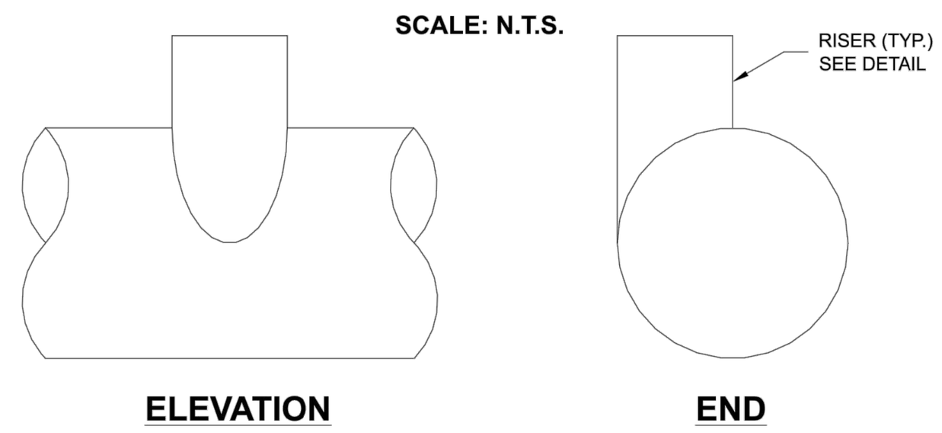
NOTES:
1. PERFORATIONS MEET AASHTO AND ASTM SPECIFICATIONS.
2. PERFORATION OPEN AREA PER SQUARE FOOT OF PIPE IS BASED ON THE NOMINAL DIAMETER AND LENGTH OF PIPE.
3. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
4. ALL HOLES ⌀3/8".

TYPICAL PERFORATION DETAIL
SCALE: N.T.S.



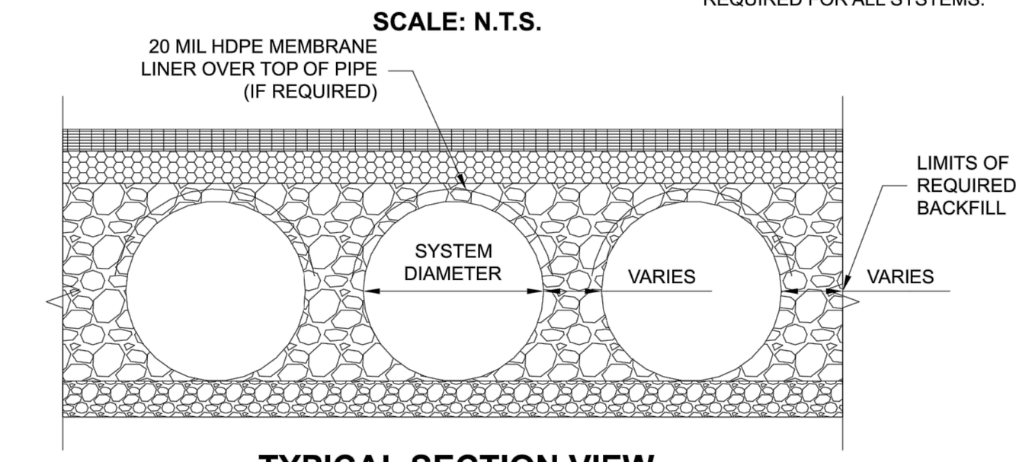
NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.

TYPICAL MANWAY DETAIL
SCALE: N.T.S.



NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.

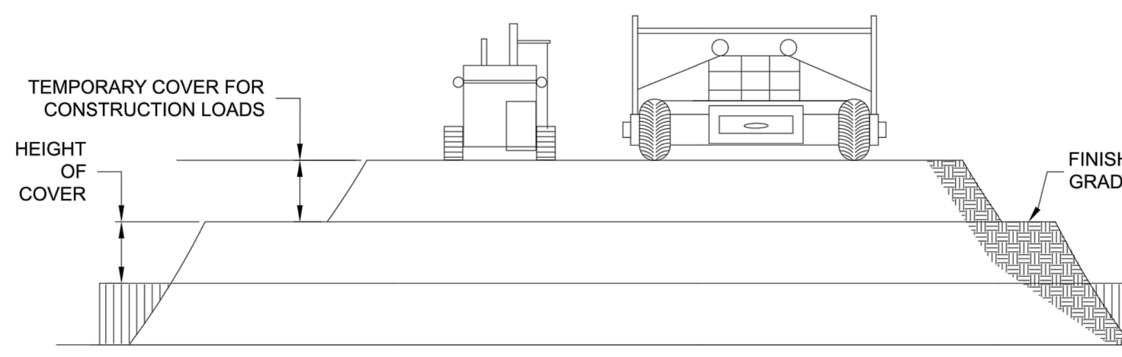
TYPICAL RISER DETAIL
SCALE: N.T.S.



TYPICAL SECTION VIEW
LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

DYO18987 2245 Valley Blvd
Site Infiltration System
Colton, CA
DETENTION SYSTEM



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

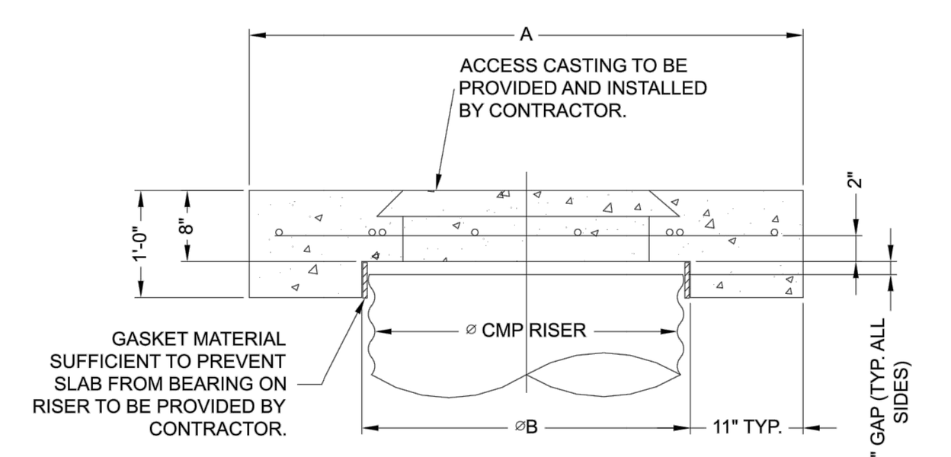
GALVANIZED: AASHTO M-36 OR ASTM A-760

APPLICABLE POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745
APPLICABLE
HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.
REQUIREMENTS
INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

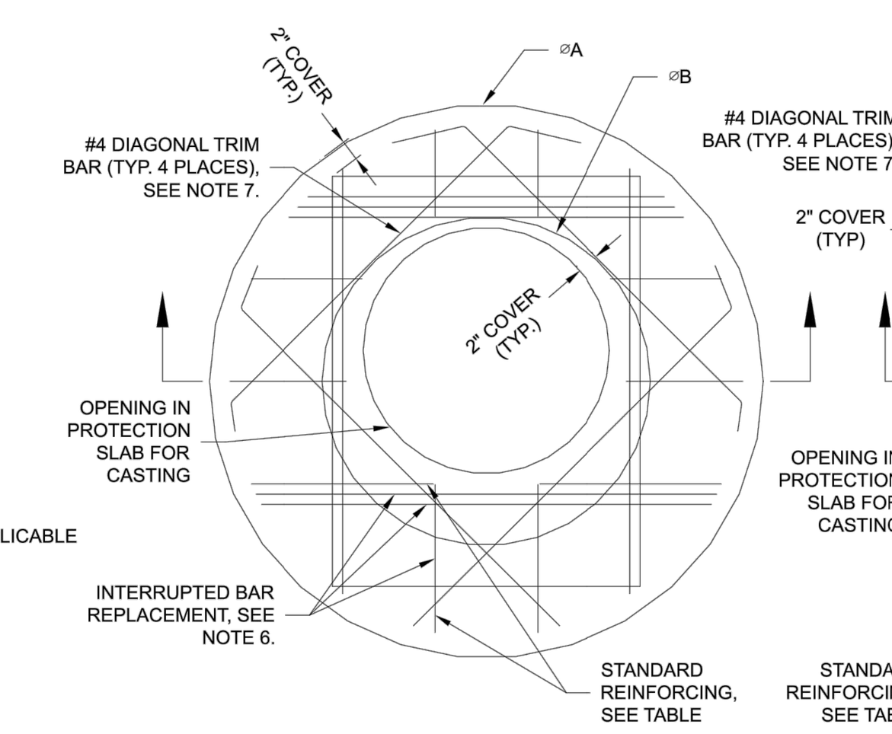


SECTION VIEW

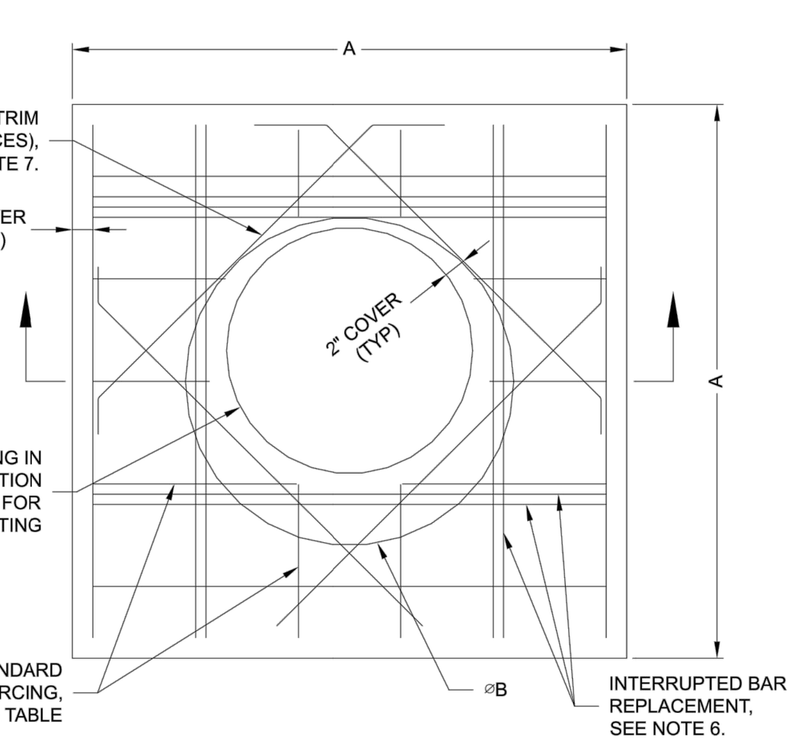
⌀ CMP RISER	A	⌀ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	⌀ 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	⌀ 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	⌀ 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	⌀ 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	⌀ 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

REINFORCING TABLE

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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Site Infiltration System
Colton, CA
DETENTION SYSTEM

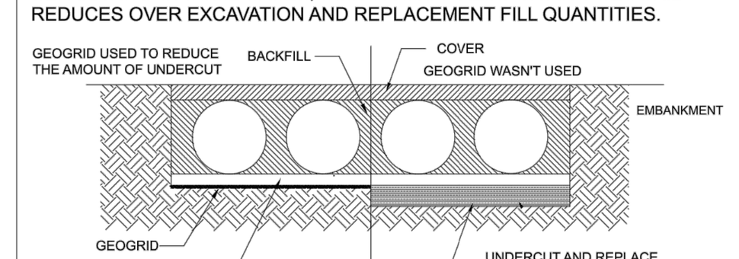
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

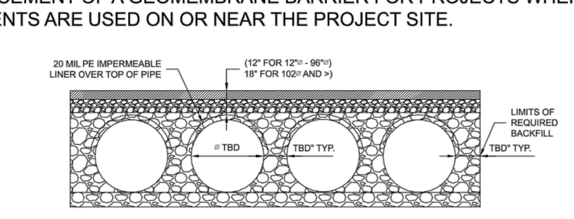


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

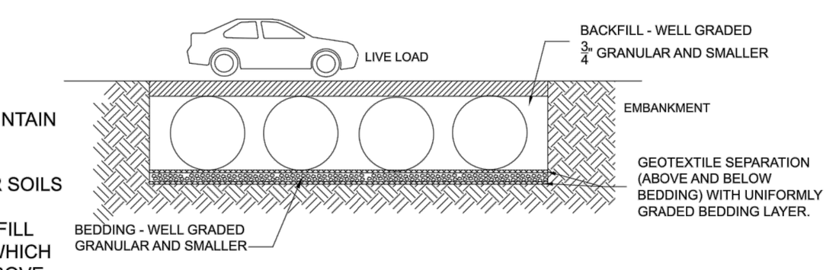
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

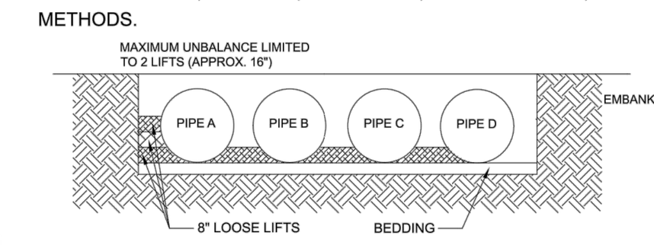
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



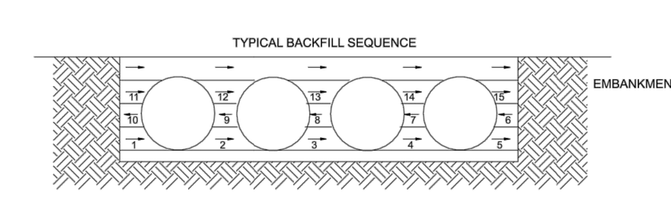
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

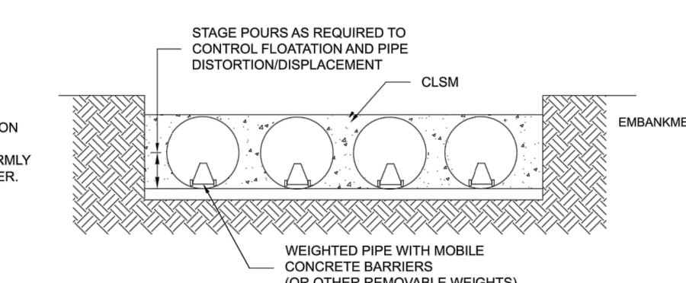


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

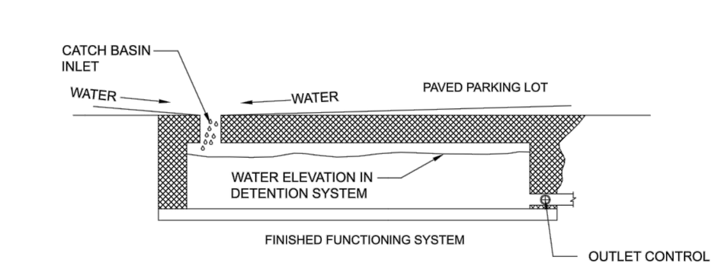


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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4 CONTECH INFILTRATION SYSTEM DETAILS
NOT TO SCALE

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

NO.	REVISION	BY	NO.	REVISION	BY
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PLAN DATE	JULY, 2022
PLOTTED	8/30/2022
SCALE	AS SHOWN
DESIGNER	RC
JOB NO	C22.0551

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SHEET C11 OF 11 SHEETS