

DOCKETED

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Project Title:	Sequoia Data Center
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APPENDIX TRANS DR-103

City of Santa Clara Planning Application and PCC Materials



PLANNING APPLICATION

CITY OF SANTA CLARA, PLANNING DIVISION

1500 Warburton Avenue, Santa Clara, California 95050

(408) 615-2450 Fax: (408) 247-9857

E-mail Planning@santaclaraca.gov

Website: www.santaclaraca.gov

See page 2 for application requirements

APPLICATION FOR:

(Please check all applicable boxes)

- ☐ VARIANCE
☐ USE PERMIT
☐ ZONING CHANGE
☐ TENTATIVE MAP
☐ TENTATIVE PARCEL MAP
☐ LOT LINE ADJUSTMENT
☐ MODIFICATION
☐ SPECIAL PERMIT
☐ HISTORICAL & LANDMARKS COMMISSION
☐ GENERAL PLAN AMENDMENT
☐ OFF-SITE PARKING PERMIT
☐ (OTHER):

ARCHITECTURAL REVIEW FOR:

- ☐ RESIDENTIAL
☒ NON-RESIDENTIAL
☐ MIXED-USE
☐ LANDSCAPE
☐ SIGNS
☐ TEMPORARY SIGNS

FOR PLANNING STAFF USE ONLY

Checked in by: _____ on _____

Fee: _____ Receipt number: _____

PCC-SC meeting date: _____

Tentative Commission date: _____

Tentative AC meeting date: _____

File number(s): _____

ENVIRONMENTAL REVIEW:

☐ EXEMPT ☐ NEG DEC ☐ EIR

Fax to: _____

Fax #: _____

Project Address: 2600 De La Cruz Blvd., Santa Clara CA 95050

County Assessor's Parcel Number (APN): 230 - 30 - 099

Development Project Description: 4 Story Data Center in Pre-Cast & Steel Structure

Building area: 703,450 square feet

Gross lot area: 14.9 Acres acres / square feet

Hazardous Wastes and Substances Statement (Calif. Gov. Code 65962.5):

- ☐ This site is **not** included on the Hazardous Wastes and Substances Sites List
☐ This site is on the Hazardous Wastes and Substances Sites List.
(Copies of the applicable Lists are available online at these addresses:
<https://www.envirostor.dtsc.ca.gov/public/> and <https://geotracker.waterboards.ca.gov/>)

Date of list: _____

Regulatory ID #: _____

- ☐ Urban Runoff Pollution Prevention Program (URPPP) information provided to applicant ([C.3. data form](#))

Please print all information legibly, including correct zip code.

Applicant: Dale Beverett

Mailing address: 571 Martin Ave., Santa Clara, CA 95050 Day phone: 415 - 720 - 0468

Company: Data Center Infrastructures

City: El Dorado Hills, CA

Zip code: 95762

Signature: _____ E-Mail: daleb@dcownersrep.com

Property Owner: C1-Santa Clara LLC

Mailing address: 2102 Cedra Springs Rd., Suite 900, Dallas, TX 75201 Day phone: 972 - 350 - 0060

Company: Cyrus One

City: Dallas, TX

Zip code: 75201

Signature: _____ E-Mail: jdevine@cyrusone.com

NOTE: Please attach the names and full addresses, including zip codes, of all other involved parties to which you would like agendas and minutes sent.

Statement of justification for the above APPLICATION:

This statement will be included in the staff report to the Planning Commission; a separate statement may be attached, if necessary): Contact staff for assistance on preparing a statement. _____

Tentative Map / Tentative Parcel Map / Lot-Line Adjustment application only:

Engineering firm: _____ Engineer's name: _____

Address: _____ Phone #: _____

Internet E-Mail (Optional) _____ Fax #: _____

Engineer's signature _____

STAFF COMMENTS: _____

TO BE COMPLETE, IN ADDITION TO FILING THE APPROPRIATE APPLICATION FEES AND ANY REQUIRED ENVIRONMENTAL INFORMATION, THE FOLLOWING PLANS AND ADDITIONAL INFORMATION MUST ACCOMPANY THE PLANNING APPLICATION, BASED UPON THE TYPE OF REQUEST BEING MADE:

Note: All submittals must be black line drawings. Please provide only one copy of the required plans in color, if applicable. All plans shall be folded, except plans over 20 sheets, which must be rolled individually.

TYPE OF APPLICATION REQUEST	REQUIRED MATERIALS TO BE SUBMITTED (stapled and collated)
VARIANCE, USE PERMIT, or ZONING CHANGE.....	12 COPIES of B; 12 COPIES of C; 12 COPIES of D; 1 COPY of A
MODIFICATION.....	4 COPIES of B; 4 COPIES of C; 4 COPIES of D
TENTATIVE MAP, TENTATIVE PARCEL MAP, or LOT-LINE ADJUSTMENT.....	12 COPIES of B; One (1) 8 1/2" x 11" reduction of B
HISTORICAL and LANDMARKS COMMISSION.....	11 COPIES (size: 11"x17") of B; 11 COPIES (size: 11"x17") of C; 11 COPIES (size: 11"x17") of D; 1 copy of A
SPECIAL PERMIT, GENERAL PLAN AMENDMENT, or TEMPORARY SIGN PERMIT, OFF-SITE PARKING PERMIT	(See Planning Division Personnel)

Architectural Review for:

RESIDENTIAL, NON-RESIDENTIAL, or MIXED-USE.....	4 COPIES of B; 4 COPIES of C; 4 COPIES of D
LANDSCAPING.....	4 COPIES of E
SIGNS.....	4 COPIES of B; 4 COPIES of L
SINGLE-FAMILY RESIDENTIAL.....	4 COPIES of O

REQUIRED ADDITIONAL APPLICATION MATERIALS:

- ☐ A non-refundable filing fee must accompany this application, when applicable; checks payable to the City of Santa Clara.
- ☐ Extra copies of these materials and/or additional information, such as photos or exterior-surface-material samples, may be requested by staff based upon pre-application discussions or upon review of application.
- ☐ All applications and materials, including reductions, must be LEGIBLE in order for the application to be deemed complete.
- ☐ Electronic copy of complete plan set submitted on a USB drive.
- ☐ A completed [PCC submittal checklist](#) for ALL projects going to **Project Clearance Committee (PCC)**
- ☐ 10 copies of the completed PCC submittal checklist.
- ☐ An application may be deemed incomplete and its review delayed if any of the required materials are not provided.

**An application may be deemed incomplete and its review delayed if any of the required materials are not provided.*

REQUIRED PLANS:

See the [PCC submittal checklist](#) for required information to be shown on all plan sheets.

- A. ☒ One 8 1/2" X 11" reduction of the full plan set.
- B. ☒ Fully dimensioned **SITE PLAN**
- C. ☒ Fully dimensioned **FLOOR PLANS**
- D. ☒ Fully dimensioned **ELEVATIONS**
- E. ☒ Fully dimensioned **LANDSCAPE SITE PLAN and PLANTING PLAN**
- F. ☒ **Green Building Checklist**
- G. ☒ **Engineering Division Plan** Requirements
- H. ☒ **Utility Department Plan** Requirements
- I. ☒ **Fire Department Plan** Requirements
- J. ☒ **Street Department Plan** Requirements
 - ☒ [Completed C.3. data form](#)
 - ☐ [3rd party verification letter for C.3 plan proposal](#)
- K. ☒ **Parks and Recreation Department** Requirements
- L. ☒ **Fully dimensioned SIGN ELEVATIONS, if applicable, showing:**
 - Each sign, existing and proposed, showing materials and colors
 - The building face or marquee with proposed signs attached (except for free-standing signs)
 - Square footage of all existing and proposed signs

REQUIRED PLANS AND APPLICATION MATERIALS FOR A SINGLE-FAMILY RESIDENCE:

- M. ☐ Property owner signed and completed planning application
- N. ☐ All required fees paid
- O. ☐ Plan set (fully dimensioned and to scale) including, but not limited to:
 - ☐ Site Plans
 - ☐ Floor Plans
 - ☐ Elevations
- P. ☐ Other additional information if requested

N/A



SUBMITTAL REQUIREMENTS FOR PROJECT CLEARANCE COMMITTEE REVIEW

How to fill out this form: Submit this completed form, and 10 copies with your application and plans. The checklist must list the page number of the plan where the information can be found OR indicate "Not applicable" for any item not included in the plans or submittal information. The CSC PCC team will be unable to respond with specific comments without complete information. Any application that does not follow these submission requirements will automatically be deemed "incomplete" for purposes of the Permit Streamlining Act Government Code § 65921, and delay in scheduling a PCC meeting date.

PCC CHECKLIST

PLANNING DIVISION REQUIREMENTS

<u>Drawing Number</u>	<u>Item</u>	<u>Description</u>
<u>C5.1; A00-01; A01-02; A01-15; L1.01 - L1.03</u>	1	Fully dimensioned <u>SITE PLAN</u> showing:
	C5.1	<input checked="" type="checkbox"/> Property lines, including distance from street centerlines and face of curb
	C5.1	<input checked="" type="checkbox"/> Building setbacks to property lines
	C5.1	<input checked="" type="checkbox"/> Location of all easements (proposed, existing, proposed to be vacated, if any)
	C5.1	<input checked="" type="checkbox"/> Existing and proposed buildings
	C5.1	<input checked="" type="checkbox"/> Existing and proposed driveways, parking spaces and circulation (including sidewalks or complete street details)
	L1.01 - L1.03	<input checked="" type="checkbox"/> Planting areas.
	A01-01; A01-02	<input checked="" type="checkbox"/> Exterior lighting
	A01-01; A01-02; A01-15	<input checked="" type="checkbox"/> Fences
	A01-02	<input checked="" type="checkbox"/> Trash enclosures
	NOT APPLICABLE	<input checked="" type="checkbox"/> Lot area dedicated for outdoor equipment or storage
<u>A02-01 - A02-04 COVER; A00-01; A01-01</u>	2	Fully dimensioned <u>FLOOR PLAN</u> showing existing and proposed areas (including interior dimensions of covered parking areas).
	3	<u>PROJECT DATA MATRIX</u> including the following:
	COVER	<input checked="" type="checkbox"/> Lot square footage, percentage of lot coverage
	NOT APPLICABLE	<input checked="" type="checkbox"/> Existing use and existing building square footage (for commercial/industrial land uses or number of dwelling units (for residential land uses)
	COVER	<input checked="" type="checkbox"/> Proposed use and proposed building square footage (for commercial/industrial land uses or number of dwelling units (for residential land uses)
	CYRUSONE	<input checked="" type="checkbox"/> If Existing Use is vacant, how long has it been vacant? This information is used to determine if a Traffic Impact Analysis (TIA) is needed.
	A01-01; A01-02	<input checked="" type="checkbox"/> Required and proposed parking layout and data (including compact and handicapped stalls)
	NOT APPLICABLE	<input checked="" type="checkbox"/> Restaurant seating counts
	NOT APPLICABLE	<input checked="" type="checkbox"/> Percentage of site dedicated to outdoor storage
<u>L1.01-1.03</u>	4	Fully dimensioned <u>LANDSCAPE SITE PLAN</u> showing existing trees, trees proposed for removal, planting plan, plant matrix with quantity.
<u>A05-01</u>	5	Fully dimensioned <u>ELEVATIONS</u> showing:
		<input checked="" type="checkbox"/> All principal proposed views
	NOT APPLICABLE	<input checked="" type="checkbox"/> Existing elevations (including materials)
		<input checked="" type="checkbox"/> Proposed materials, textures and colors of exposed surfaces

ENGINEERING DIVISION REQUIREMENTS

<u>Drawing Number</u>	<u>Item</u>	<u>Description</u>
<u>C5.1-C9.1</u>	1	Site plan.
<u>C5.1, C6.1, C7.1</u>	2	Building layout.
<u>C4.1-C9.1</u>	3	Drawings to scale.
<u>C4.1-C9.1</u>	4	Drawings with north arrow.
<u>C5.1</u>	5	Parcel lines/property lines with distances from face-of-curb and street centerline.
<u>C6.1,C7.1</u>	6	Composite utility plan, showing all existing and proposed public utilities (water, sanitary sewer, storm drain, gas, fiber optic, cable, communication, electric, etc.) and landscape improvements.
<u>C6.1,C7.1</u>	7	Public storm drain and/or sanitary sewer mains (type, size, and slope pipes) existing, proposed, and proposed to be abandoned, if any.
<u>C6.1,C7.1</u>	8	Public storm drain and sanitary sewer service lateral connections (type, size, and slope of pipes) existing, proposed, and proposed to be abandoned, if any.
<u>C8.1</u>	9	Storm water overland release path to convey the 100-year storm event flow without flooding private structures.
<u>C6.1- C6.3</u>	10	Sidewalk and ADA public street frontage improvements.
<u>C6.1- C6.3</u>	11	Location of existing, proposed, and proposed to be abandoned driveways.
<u>C9.1</u>	12	Triangle of Safety at driveways (see traffic diagram).
<u>C9.1</u>	13	Traffic visibility at public street corners (see traffic diagram).
<u>C4.1- C4.5</u>	14	Location of easements (proposed, existing, proposed to be vacated, if any).
<u>COVER; A00-01</u>	15	Existing use and existing building square footage (for commercial/industrial land uses or number of dwelling units (for residential land uses).
<u>COVER</u>	16	Proposed use and proposed building square footage (for commercial/industrial land uses or number of dwelling units (for residential land uses).
<u>NOT APPLICABLE</u>	17	If Existing Use is vacant, how long has it been vacant? This information is used to determine if a Traffic Impact Analysis (TIA) is needed.
<u>L1.02 ; A01-01</u>	18	Bicycle Parking Class I and II, number and location (at main entrance or high visibility areas) shown on site plan.

UTILITY DEPARTMENT REQUIREMENTS

<u>Drawing Number</u>	<u>Item</u>	<u>Description</u>
<u>C4.1- C9.1</u>	1	Plans scaled and dimensioned (standard engineering scales only).
<u>C1.0- C9.1</u>	2	Legal address of project is correctly identified in the title block.
<u>COVER</u>	3	Scope of work is clearly defined on the coversheet

	4	What is the "legal description" (NOT the "marketing description") of the type of units contained in this project? (Select all that apply): <input type="checkbox"/> Condominium <input type="checkbox"/> Apartment <input type="checkbox"/> Single Family Home <input type="checkbox"/> Townhome <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Other: _____
C4.1-C4.5; C6.1-C7.1	5	Plans show new (N) and existing (E) overhead and underground facilities in the work areas, including electric, water, gas, sewer, fiber, phone, catv, communications, existing easements, etc.
E00-01; E01-00C; E01-01A - E01-01F; E01-10A; E01-10B; E01-20	6	An electrical single-line diagram for all panels.
EP04-01	7	All electrical room / meter locations shown on plans, in accordance with SVP standards / rules and regulations.
EP04-01	8	Service being requested: 8.1 Electric Service requirements being requested: <input type="checkbox"/> 12kv (Primary) * Number of feeds: _____ <input type="checkbox"/> 120/208 <input type="checkbox"/> 120/240 <input type="checkbox"/> 480/277 <input checked="" type="checkbox"/> Substation <input type="checkbox"/> Other: _____ 8.2 Water Service requirements being requested: <input type="checkbox"/> 6" Fire Service <input checked="" type="checkbox"/> 8" Fire Service <input checked="" type="checkbox"/> Water Service * Size of water service: <u>3"</u> * Number of water services: <u>1</u> <input type="checkbox"/> Recycled Water <input type="checkbox"/> Irrigation Service
FP03-02	9	Location of transformers required for project (after initial meeting with SVP Planning personnel).
EP04-01	10	Location of all trenches, existing and new, on-site.
NOT APPLICABLE	11	Street sections.
C3.1	12	Fire pump required?
E01-20	13	Show separation between proposed electric trench and all other utilities per standard document UG 1000.
C10.1	14	Building footprints.
C5.1-C9.1	15	Property lines indicated.
C4.1-C4.5; C5.1; C6.1; C7.1	16	Additional electrical equipment locations required, including those for vacuum disconnect switch cabinets (after initial meeting with Distribution Planning Engineer).
NOT APPLICABLE	17	Composite utility overlay included? Composite utility plan shall show all utilities (water, sewer, storm, gas, fiber, electric) and landscape improvements.
C6.1, C7.1		

E00-01; E01-00C; E01-01A -
E01-01F; E01-10A; E01-10B;
E01-20

EP04-01

EP04-01

FP03-02

EP04-01

NOT APPLICABLE

C3.1

E01-20

C10.1

C5.1-C9.1

C4.1-C4.5; C5.1; C6.1; C7.1

NOT APPLICABLE

C6.1, C7.1

<u>C4.1-C4.5; C5.1; C6.1; C6.3</u>	18	Driveways (existing and proposed).
<u>NOT APPLICABLE</u>	19	Proposed new streets (public and private).
<u>A05-01</u>	20	Monument signs, billboards or signage. Indicate whether or not they are ground mounted or overhang off of a structure.
<u>C1.0, C4.1- C9.1</u>	21	North arrow indicated in all views.
<u>C6.1, C7.1</u>	22	Existing and proposed landscaping clearly defined in relation to the utilities at the same scale.
<u>C2.1</u>	23	Trench sections for all areas and showing separation between all utilities per standard document UG1000.
<u>C4.1- C4.5</u>	24	All existing and proposed easements for the site.
<u>A01-01</u>	25	All permanent structures indicated, e.g. trash enclosures, bike lockers, playground equipment, walls, fences, security gates, etc.
<u>CyrusOne</u>	26	Project in-service dates including project milestones, such as anticipated permit application, temp power requests, grading and foundation, etc.
<u>NOT APPLICABLE</u>	27	Indication of below-grade parking structures and verification that all utilities will be placed in "real dirt" locations.
<u>C4.1- C4.5</u>	28	Existing overhead structures clearly defined, including poles, traffic signals, area lighting, etc.
<u>E01-00A</u>	29	Electric load summary for entire project.

PARKS AND RECREATION DEPARTMENT REQUIREMENTS

Chapter 17.35 – Park and Recreational Land. Every person who constructs or causes to be constructed a dwelling unit or dwelling units or who subdivides residential property shall dedicate land, pay a fee in-lieu thereof, or provide a combination of such dedication and fee, **at the discretion of the City.**

<u>Drawing Number</u>	<u>Item</u>	<u>Description</u>
<u>NOT APPLICABLE</u>	1	<u>Public Parkland:</u> owner to provide adequate neighborhood and/or community parks subject to the provisions of the State of California Quimby Act (3 acres per 1,000 residents) and/or the Mitigation Fee Act (2.53 acres per 1,000 residents) to mitigate the impact of the new resident demand. Parkland shall be programmed, developed and dedicated to the City in fee title. The park parcel shall not include items required in other parts of the City code and shall be free of encumbrances. The City shall not bear the costs to maintain the dedicated parkland for a minimum of 40 years. While neighborhood parks are defined as between one (1) and fifteen (15) acres, a minimum of 6 contiguous acres is typical and appropriate to accommodate needed features and amenities that serve a residential neighborhood within the City. Community parks are more than fifteen (15) acres.

NOT APPLICABLE

- 2 Include a **fully dimensioned public park site plan** showing the location of the proposed public neighborhood parks, the programming, the associated set-backs, and the area calculations in square feet. Plans shall include the location of all utility (water, sewer, storm, gas, fiber, electric) service connections, easements, and signs at, near, and within the proposed public park. The playground diagram shall itemize the Elements of Play and physical activity: balancing, sliding, swinging, brachiating, spinning, climbing & running/free play/imagination in table format and indicate the quantity of each element and whether it is beginner, intermediate or advanced level of play (minimum of one at beginner and advanced level, two at intermediate). The park and layout should demonstrate use of universal design principles (inclusion), and a diversity of age-friendly and culturally sensitive elements. The playground and park elements should integrate well with natural elements and support natural habitat(s), native California/low water plant palate preferences, and environmental sustainability goals in sourcing, selection, life cycle durability and maintenance. Recycled water is preferred for irrigation of natural turf, trees and shrubs wherever feasible. The park diagram should show separately the ADA paths of travel, and safe routes from all portions of the new residential development. Public parks shall not be adjacent to tall buildings or structures which could cast shadow on the park such that the use or enjoyment of that park could be adversely affected. There shall be public access from public right of way, be free of encumbrances, and have adequate parking. Refer to the Parks & Recreation Department *Park Amenity & Design Standards* for more information. *These requirements shall also apply to the on-site private parkland and recreation amenity fully dimensioned site plans described in Item #9 below.

NOT APPLICABLE

- 3 Public design review and approval process for proposed public parks includes presentation of 2-3 conceptual design options to the Parks & Recreation Commission. This meeting shall be scheduled once the Project has been deemed complete for purposes of the Permit Streamlining Act Government Code § 65921, and well in advance of the Project going before City Council for approval. The Parks & Recreation Commissioners will ask questions and make comments, followed by public comment. Construction and maintenance costs are also addressed. A second meeting may be necessary to present further design improvements & show how design solutions were incorporated to address comments and priority concerns. The Commission then makes recommendation regarding preferred design option to City Council for final input and approval.

NOT APPLICABLE

- 4 Does this Project contain fifty (50) dwelling units or less? If so, the City may impose a fee only.

NOT APPLICABLE

- 5 *On-Site Private Recreation Amenities* – Developer **must submit a written request with the project application** for up to 50% credit for eligible recreational amenities devoted to *Active Recreational Uses*.

NOT APPLICABLE

- 6 The project must contain a minimum of four (4) of the eight (8) elements (select all that apply):
- ☐ Open, natural turf play field with a minimum contiguous and unobstructed area of one-half acre.
 - ☐ Children's play apparatus area that conforms to current Federal Consumer Product Safety Commission guidelines. Separate play areas for ages 2-5 & 6-12 with the inclusion of 6+1 key elements of play and physical activity: balancing, sliding, swinging, brachiating, spinning, climbing & running/free play/imagination.
 - ☐ Landscaped & furnished park-like quiet area.
 - ☐ Recreational community gardens.
 - ☐ Family picnic area.
 - ☐ Game, fitness or sport court area.
 - ☐ Accessible swimming pool with minimum dimensions of 42' x 75' and adjacent deck & lawn areas.
 - ☐ Recreation center buildings and grounds.

NOT APPLICABLE

- 7 The combined area of the elements must equal a minimum of 0.75 acres, or 32,670 sf, and shall take into consideration a minimum set-back from all buildings & structures of 4 feet. The calculation shall not include features required to be included by zoning & building codes and other applicable laws, including but not limited to yards, court areas, setbacks, decorative landscape areas required with residential site design and other open areas. Include area calculations, in square feet, with the fully dimensioned on-site private parkland and recreation amenity site plan.

NOT APPLICABLE

- 8 Irregularly shaped land of less than optimum utility or burdened by topographic considerations that render them unsuitable for *Active Recreational Uses* shall not be eligible for credit. Take into consideration such factors as size, shape, topography, geology, access, and location. Every resident shall have equal access to every feature in every building and not be restricted to the recreational elements and amenities in the building they reside.

NOT APPLICABLE

- 9 Include a fully dimensioned on-site private parkland and recreation amenity site plan. Details of the proposed recreational areas shall be included, and each of the 4-8 elements itemized in table format indicating: the location name (i.e. Courtyard 1), the items within each space (i.e. number of BBQs, Fitness Room, etc.), and the area calculation of each location in square feet less a 4' set-back from buildings and structures. * See Item #2 above.

NOT APPLICABLE

- 10 Provide the total number of units and the unit mix.

FIRE DEPARTMENT REQUIREMENTS

<u>Drawing Number</u>	<u>Item</u>	<u>Description</u>
<u>COVER</u>	1	The occupancy classifications and proposed use of the building(s) in accordance with the California Building Code shall be noted on the plans.
<u>COVER</u>	2	The construction type in accordance with the California Building Code, height, and square footage of the building(s) shall be noted on the plans.
<u>C4.1-C4.5</u>	3	All property lines and easement shall be noted on the plans.

<u>C5.1</u>	4	All public and private emergency vehicle access roadways shall be noted on the plans.
<u>CIVIL</u>	5	Private emergency vehicle access roadways must have emergency vehicle access easements (EVAE's) noted. The EVAE easements must be established prior to issuance of the final map, or building permit depending on the scope of the project.
<u>C10.1</u>	6	Plans shall note the surface material, width, turning radii, angle of approach, and required setbacks, clear height of emergency vehicle access roadways.
<u>NOT APPLICABLE</u>	7	Bridges or elevated surfaces shall be noted, and are required to be constructed in accordance with AASHTO HB-17.
<u>C5.1; C6.1</u>	8	Gates, barriers, or similar traffic calming elements crossing emergency vehicle access roadways shall be clearly noted.
<u>C5.1</u>	9	Plans shall note emergency vehicle access road are provide within 150 feet of any exterior portion of the building(s), and if not a roadway must be provided, or alternative means of protection approved.
<u>C10.1</u>	10	Plans shall note approved fire department turnarounds whenever dead-end access roads (s) are excess of 150 feet.
<u>C10.1</u>	11	Designated fire lanes around the perimeter of the building shall be noted on the plans.
<u>NOT APPLICABLE</u>	12	Residential projects of Type II-B, Type III-B, and Type V above two stories shall note emergency egress openings (rescue window) and fire department access details.
<u>C6.1; C7.1</u>	13	Overhead utility and power lines and trees (new and existing) shall be noted on the plans
<u>C7.1</u>	14	Private fire hydrants shall be clearly reflected showing that fire hydrants are located such that no part of any building is in excess of 250 feet from an approved hydrant. Wharf hydrants are not acceptable means of protection.
<u>C7.1</u>	15	All fire hydrants (public & private) in the vicinity of the project shall be noted on the plans.
<u>CyrusOne</u>	16	Written documentation that the require fire-flow from the Water & Sewer Department in accordance with the California Fire Code shall be incorporated into the submittal.
<u>SEE ATTACHED GEOTECH REPORT</u>	17	Environmental contamination (soil, vapor, or water), ground water treatment systems, or monitoring wells shall be noted on the plans.

STREET DEPARTMENT REQUIREMENTS

Stormwater treatment measures are required for all construction projects that create and/or replace 10,000 square feet or more of impervious surface (including road and trail projects).

<u>SEE ATTACHED</u>	1	Completed C.3. data form http://santaclaraca.gov/government/departments/public-works/environmental-programs/urban-runoff-pollution-prevention/stormwater-resources
<u>Will be provided prior to construction permitting</u>	2	3 rd party verification letter for C.3 plan proposal.

BASIS OF DESIGN

**Cyrus One
Santa Clara**



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EXECUTIVE SUMMARY

The CyrusOne Santa Clara data center is located in the city of Santa Clara, adjacent to the San Jose airport at 2600 De La Cruz Blvd, Santa Clara, CA 95050. The site was originally occupied by a one-story building, a cogeneration plant and a substation.

The new Data Center is planned to be located centrally on the site, which includes two vehicular entrances from the surrounding surface streets. It is a four-story building of approximately 703,450 gross sf with space for approximately 367,143 sf of critical space (data halls and mechanical galleries). The ultimate critical IT load planned is 67.5MW. The building structure is steel with an insulated precast concrete envelope. The office component and building main entry, along with parking, are located on the east side of the site.

PROJECT TEAM

Owner:	CyrusOne
Architect:	Corgan Associates, Inc.
MEP, FP, BMS:	KW Mission Critical Engineering
Civil:	Kier and Wright
Structural:	Bennett & Pless Inc.
Landscape:	JETT
Technology:	TLD Design Consulting LLC
Substation:	Patterson & Dewar Engineers Inc.

CODE ANALYSIS

The City of Santa Clara is under the following building codes:

- 2016 California Building Code
- 2016 California Residential Code
- 2016 California Electrical Code
- 2016 California Mechanical Code
- 2016 California Plumbing Code
- 2016 California Energy Code
- 2016 California Historical Building Code
- 2016 California Existing Building Code
- 2016 California Green Building Standards Code

OCCUPANCY CLASSIFICATION

The building occupancy classification group is S2. The construction type is Type II A; 1-hour fire resistance rating is required for structural frame, bearing walls, floor construction and roof construction. There are no fire resistance rating requirements for nonbearing walls and partitions.

PROGRAM SUMMARY

- Data Halls
- Electrical rooms
- UPS Rooms
- Mechanical support areas
- Fire Protection Room
- Fire Riser Room
- Mechanical CRAH Galleries
- MMR rooms
- CC rooms
- EPMS room
- IDF rooms
- Storage
- Fire pump room
- Restrooms
- Office
 - Lobby
 - Security room
 - Conference Rooms
 - Sales offices
 - Operations office
 - Breakroom
 - Restrooms and Janitor
 - Loading dock

SITE

OVERVIEW

Address: 2600 De La Cruz Blvd
Santa Clara, CA 95050

Area: 14.9 Acres

Previous Use: Paper mill

Zoning: MH Heavy Industrial



Figure 1 Illustrated proposed design site plan

The main vehicular entrance to the site is on the east side, off De La Cruz Boulevard where two security gates – one for employees, one for visitors - are located to give access to the secure parking lots on the east and north sides of the building. The main service/delivery vehicle entrance is on the southwest corner of the site off Martin Avenue and provides access to the loading dock and leading to an entry gate on the northwest corner to give access to the electrical substation. The substation is also accessible from a dedicated drive lane on the southwest corner off Martin Avenue.

UTILITIES

The proposed wet utilities consist of water, sanitary sewer and storm drain. The water lines connect to existing City sources on-site and within Martin Avenue and De La Cruz Boulevard. The water supply will provide for domestic, fire and irrigation demand of the development. The sewer lines connect to City facilities within De La Cruz Boulevard and are designed to meet plumbing flow requirements.

The storm drain will connect to an existing onsite storm drain line at an existing manhole approximately 120 feet west of De La Cruz Boulevard. This system consists of two parts: one which conveys storm runoff to the treatment planters and another that conveys the treated storm water to the point of connection to the subject existing storm drain line.

SITE DESIGN

The site design considers factors which include maintaining fire department access, allowing adequate ingress and egress, satisfying tenant use specifications, maintaining ADA accessibility requirements, and supplying storm water quality conveyance and controls.

The site's impervious surfaces consist of roof, concrete or asphalt pavement and concrete flatwork. Some of the landscaping is intended to treat the storm water runoff from the impervious surfaces. The proposed site includes approximately 459,000 square feet of impervious surface and 18,000 square feet of bio-planter to treat the runoff from the impervious areas in compliance with State and City requirements.

Roadways providing site access are established to ensure fire department and general tenant use access. They are designed around the building perimeter to provide access to both Martin Avenue and De La Cruz Boulevard. They are designed with slopes to satisfy City, ADA, and tenant requirements. The structural section will be based on geotechnical analysis and recommendations.

The parking areas are designed to have a maximum slope of 5% and a minimum of slope of 1%. The structural section is provided by geotechnical engineer's analysis. The total number of standard and ADA parking stalls and minimum dimensions are established per State, Local and City standards. The project proposes 143 parking spaces, 7 of which are ADA accessible.

LANDSCAPE

De La Cruz Boulevard will receive new shade trees located within the planting buffer to enhance the pedestrian experience. At the main building entry, seating, bike racks, and enhanced landscaping are provided for a vibrant arrival experience and employee/guest enjoyment.

The parking lot and perimeter landscaped areas will receive many new flowering and evergreen trees and low water use plant material. Tree replacements are mitigated in a one to one ratio throughout the site. Some areas will receive 3" of chipped mulch without landscape and irrigation, away from main parking and drive areas or where operations or foundations limit landscaping.

Stormwater is being mitigated in planted bioretention basins, using plants that are suitable for biotreatment planters and that comply with The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

The irrigation system is a fully automatic, weather-based system using rain sensor, low flow drip and bubbler distribution, and flow sensor. System is designed to provide the minimum amount of water necessary to sustain good plant health and will comply with the requirement of the State of California Model Water Efficient Landscape Ordinance (MWELO)

STRUCTURAL

OVERVIEW

The structural system shall be designed to support safely the nominal loads in load combinations that are defined by the building code without exceeding the appropriate specified allowable stresses for the materials of construction. The structural system shall be designed to have adequate stiffness to limit deflections and lateral drift to code-prescribed limits and limits based on materials of construction.

CODES AND STANDARDS

Structural systems will be designed and installed in conformance with the following codes and standards:

- The California Building Code, 2016 Edition
- The International Building Code, 2015 Edition
- American Society of Civil Engineers ASCE/SEI 7-10
- American Institute of Steel Construction Steel Construction Manual
- American Iron and Steel Institute North American Specification for the Design of Cold-Formed Steel Structural Members
- American Concrete Institute Building Code Requirements for Structural Concrete
- Pre-stressed Concrete Institute PCI Design Handbook
- Concrete Reinforcing Steel Institute Manual of Standard Practice
- American Welding Society Structural Welding Code
- American Society for Testing and Materials

MATERIALS

All material shall be new and shall conform to the standards where such have been established for the material in question. Publications and Standards of the organizations listed below are applicable to materials specified in this project. All installation of materials shall be in accordance with the published standards from the organizations as listed:

- American Society for Testing and Materials (ASTM)
- American Institute of Steel Construction (AISC)
- American Iron and Steel Institute (AISI)
- American Concrete Institute (ACI)
- Pre-stressed Concrete Institute (PCI)
- Concrete Reinforcing Steel Institute (CRSI)
- American Welding Society (AWS)
- American National Standards Institute (ANSI)

DESIGN LOAD CRITERIA

The structural system shall be designed for the following gravity design load criteria:

Roof		
Dead Load	Framing	Selfweight
	Roofing & Insulation	10 psf
Collateral Load	Over Data Hall	50 psf
	Over Corridor	100 psf
	Over Tenant Storage/Office	8 psf
Roof Live Roof live load reduction will be used in the design of the members.		20 psf
Snow Load		0 psf
M, E, P, FP Loads		Actual weight and location of equipment, see 1.08.K & 1.08.L.
Concentrated Load		Pounds applied at a location that produces maximum stress in the member
Elevated Floor		
Dead Load	Framing	Selfweight
Collateral Load	Data Hall	50 psf
	Corridor	100 psf
	Tenant Storage	8 psf
Office Partition Load		15 psf
Live Load Floor live load reduction will be used in the design of the members where applicable.	Data Hall	250 psf
	Battery Room	400 psf
	Corridor	100 psf
	Tenant Storage	125 psf
	Office	50 psf
M, E, P, FP Loads		Actual weight and location of equipment, see 1.08.K & 1.08.L.
Concentrated Load		Pounds applied at a location that produces maximum stress in the member.
First Floor Slab		
Dead Load	Concrete Slab	Selfweight
Office Partition Load		15 psf
Live Load Floor live load reduction will be used in the design of the members where applicable.	Data Hall	250 psf
	Battery Room	400 psf
	Corridor	100 psf
	Tenant Storage	125 psf
	Office	50 psf
M, E, P, FP Loads		Actual weight and location of equipment, see 1.08.K & 1.08.L.

Concentrated Load	Pounds applied at a location that produces maximum stress in the member
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The structural system shall be designed for the following lateral design load criteria:

Wind The basic velocity pressure shall be modified by the force coefficients and gust response coefficients in accordance with the building code and ASCE 7.	Basic Wind Speed	110 MPH
	Exposure Category	(C Open terrain with scattered obstructions)
	Basic Velocity Pressure	30.6 psf
Seismic	Risk Category	II
	Soil Site Class	(D)
	Spectral Response Coefficient at Short Period	($S_{DS}=1.00g$)
	Spectral Response Coefficient at One Second Period	($S_{D1}=0.60g$)
	Seismic Design Category	(D)
	Force-Resisting System	Special Concentrically Braced Frame

The structural system shall be designed for the following deflection design criteria:

Roof	Live Load Deflection	Span/360
	Total Load Deflection	Span/240
Floor	Live Load Deflection	Span/360
	Total Load Deflection	Span/240

SPECIAL INSPECTIONS

The Owner shall employ one or more special inspectors to provide inspections during construction for the types of work required for this project. These special inspections are in addition to the standard inspections and testing done for quality control. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection. The Owner shall supply the firm names, addresses and telephone numbers and individual inspector's names for completion of the required forms for permit. A Statement of Special Inspections shall be prepared as a condition for permit issuance including the following forms:

1. Schedule of Special Inspections
2. Statement of Special Inspections – Requirements for Seismic Resistance
3. Statement of Special Inspections – Requirements for Wind Resistance
4. Contractor Statement of Responsibility

5. Fabricator Certificate of Compliance
6. Final Report of Special Inspections

GEOTECHNICAL REPORT

The final geotechnical report was prepared by Kleinfelder dated Oct. 31, 2018.

The following requirements should be noted:

1. The site currently houses a papermill. There are many existing buried utilities and existing belled caisson deep foundations that are expected to cause coordination issues with a deep foundation system. Therefore, a post-tensioned mat foundation solution has been explored. This solution is discussed in more detail under section 1.08.G.
2. The existing site includes discontinuous layers of liquefiable soils which have the potential to cause liquefaction induced settlements. Flexible utility connections are recommended.
3. The recommended foundation system supporting site walls and equipment pads are shallow foundations
4. The allowable bearing capacity for shallow foundations is 2500 psf.
5. Structural slab recommended at grade with the deep foundation approach (option 1) to combat liquefaction and long-term settlement of a slab on grade.
6. Foundation and retaining wall design criteria are based on the drained condition:
 - a. Active pressure condition 40 psf/ft
 - b. At-rest pressure condition 60 psf/ft
 - c. Passive pressure condition 300 psf/ft
7. Water table location is not a potential liability.
8. Seismic site class is D.
9. Foundation recommendations provided by geotechnical engineer are estimated to limit total settlement to 3".

STRUCTURAL SYSTEM CONCEPTS

A. General Criteria

1. Bay Spacing: 33'-0" x 32'-0" in data hall.
2. Floor-to-Floor Heights: 20 ft
3. Floor-to-Roof Eave Height: 20 ft
4. Required Clear Heights: 17 ft
5. Exterior Wall Construction: Insulated Precast Concrete Panels.

B. Roof Framing

1. Roof framing system shall consist of a 5" composite deck with lightweight concrete over 2" metal deck spanning over structural steel framing.

2. Over the roof access penthouse and pump room, the roof framing system shall consist of 1.5" wide rib metal roof deck over structural steel framing.
3. Roof shall be sloped at 1/4 inches per foot to interior roof drains.
4. An expansion joint shall be required at gridline 9. An additional row of columns & bracing shall be provided on each side of expansion joint.

C. Floor Framing

1. Elevated floors shall consist of 5" composite deck supported by wide flange composite steel beams.
2. An expansion joint shall be required at gridline 9. An additional row of columns & bracing shall be provided on each side of expansion joint.

D. Lateral Load Resistance System

1. Lateral load resisting system consists of special steel concentrically braced frames. Special steel concentrically braced frames and their connections must be designed to a more rigorous standard than ordinary braced frames in order to allow more ductility and energy dissipation of the system. This lateral system has been selected due to the height of our building and the seismic design category D of our site.
2. Design of these frames is in accordance with AISC 341–10 - Seismic Provisions for Structural Steel Buildings, and California Building Code 2016.

E. Elevator Shafts and Stair Towers

1. There are seven stairwells, spaced throughout the building.
2. There are two passenger elevators in the office area, and one freight elevator in the loading dock/tenant storage area.
3. The freight elevator and one stairwell will extend to provide roof access.
4. Elevator shaft walls and interior stair towers in the office area will be steel framed with cold formed steel shaft walls.
5. The exterior stair towers will be steel framed with precast concrete cladding walls or curtain wall.
6. Stair towers and elevator shafts are not included as part of the lateral system of the building.

F. Exterior Walls

1. Exterior walls shall be precast concrete non- load bearing walls. Walls shall be 11" thick, including 8" concrete layer, 1" insulation layer, and 2" concrete exterior finish.
2. Curtain walls are intended to be supported laterally at each floor level, and designed by specialty engineer to support twisted louver façade feature.

G. Post-tensioned Mat Slab Foundation System

1. Mat slab shall be designed to support first floor load as well as columns supporting the elevated floors. Mat slab shall be post-tensioned in order to reduce potential for cracking as well as reduce slab thickness and weight and to minimize differential settlement.
2. Mat slab will require over excavation and existing foundation demolition to a depth of approximately three feet to provide an adequate subgrade for the mat and to avoid the creation of "hard spots" which could create stress concentrations.
3. Overall bearing stress of the mat will be limited in order to minimize long-term settlement due to liquefaction.

H. Mechanical Equipment Yard

1. An equipment yard is associated with each data hall to house equipment such as generators, transformers, and other equipment necessary for emergency backup power.
2. A steel grating platform shall be provided for access to the generators. Top of grating elevation shall be 4'-0" above finished floor of the building. Grating platforms, support framing, and associated stairs and handrails are to be designed and installed by equipment manufacturer.

I. Major Electrical Equipment Support

Equipment	Weight
Main Switchboard	6181
UPS	11354
Battery Cabinet	5090
Maintenance Bypass Switchboard	1694
Distribution Panel	200
PDU	2900
Distribution Transformer	1025
Branch Panel	200
Generator (dry tank)	90500
PadMount Transformer	17695

J. Major Mechanical Equipment Support

Equipment	Weight	Level	Quantity	General location
Air Cooled Chiller	37,800	Roof	52	Center roof
Roof top unit	6,800	Roof	5	Roof over admin
Exhaust Fan	150	Roof	3	Roof
Humidifier	450	2 THRU 4	22	Dh galleries
DCRAC	8,700	2 THRU 4	202	Dh galleries
UPS DCRAC	4,200	1 & 2	108	UPS rooms
CC/EPMS CRAH	4,500	1	5	Telecom center LV 1
IDF DCRAC	1,200	1 & 3	12	Corridor around IDF rooms
Chilled Water Pump	1,400	Roof	52	Center roof
CHW Pump Drive	200	Roof	52	Center roof
Expansion Tank	19,700	Roof	2	Roof penthouse
Chem feeder	100	Roof	1	Roof penthouse
VRF Condenser (per cell/tower)	700	Roof	44	Roof
Ducted VRV FCU	100	ALL	30	Boh/admin
Floor Mounted VRV FCU	50	1 THRU 4	1	Boh/admin
VRV BS box	8,000	1 THRU 4	2	Boh/admin
Wall Mounted VRV FCU	100	1 THRU 4	10	Boh/admin
Cassette VRV FCU	50	1 & 2	17	Admin

ARCHITECTURE

ARCHITECTURAL CONCEPT

The design concept of this 4-story data center celebrates the adjacency to San Jose airport and the mutual opportunity for views that it provides. The building captures the ideas of motion and agility into its façade, which are translated into twisting wood patterned screening devices which appear to shift when experienced in motion.

The design was responsive to the site and to the programmatic constraints of the building type. The front of the building faces De La Cruz Blvd and provides abundant natural light in the administration areas. The screening elements intend to provide directionality, guiding visitors from the parking lot to the front door which is announced by the white canopy as it is brought down to the entry level.

The first floor is mostly composed by stone cladding, intended to ground the administration glass walls. The long opaque sides of the building, containing the data center program, receive alternating vertically ribbed panels to reflect the vertical screening elements of the front.



ARCHITECTURAL NARRATIVE

EXTERIOR WALLS

The exterior materials will be a combination of insulated, prefinished precast concrete panels with reveals and form-liner patterns, storefront glazing systems as well as Architectural stone cladding and twisted wood textured powder coated aluminum tubes as screening elements. The delineation of these areas is included in the project construction drawings.

FENESTRATION

Glazing will be low-E coated, heat strengthened or laminated to meet wind resistance requirements. Glazing is limited to office and stair tower programs. Natural daylight will be maximized in personnel areas in non-critical spaces. Operable windows will not be provided.

ROOF DESIGN

The roof is generally considered flat with 2% slope for drainage.

The waterproofing membrane over the mission critical/hardened and office areas will consist of a concrete deck over the core structural system. Two layers of a self-adhered vapor barrier will be installed over 5/8" gypsum substrate board mechanically fastened to the deck. The vapor barrier will be topped with 2 layers of polyisocyanurate insulation, both layers set in a low-rise foam adhesive to achieve R-value required by local jurisdiction. The insulation will be topped with a 1/2" protection board set in a low-rise adhesive that is topped with a single ply fully adhered thermoplastic membrane (PVC). Taper insulation.

Interior roof drains will be provided at the interior of the office portion of the building as well as two of the stair towers. Overflow drains will be provided throughout.

Critical areas will be drained by scuppers and overflow scuppers. Primary scuppers will drain into conductor heads and downspouts. Overflow scuppers daylight at the parapet opening.

Equipment platforms will be provided for access and placement RTUs.

CORE

PLUMBING FACILITIES

Toilet rooms will be provided in the office. Gender neutral restrooms will be provided at the lobby, loading dock and at each floor near data halls. Two shower and changing rooms are provided on level 1.

JANITOR CLOSETS

Janitor's closet will be provided in proximity to toilet rooms.

MEP EQUIPMENT ROOMS

Equipment Rooms will be constructed of gypsum board partitions extended to underside of deck with exposed structure.

SUPPORT PROGRAM

Storage rooms

Fire pump/riser rooms

IDF rooms

AMENITIES

BREAK AREA

Break area will be provided in the office on level 2.

MAIN LOBBY & VESTIBULE

Entry will be through the office.

A security office is provided with a bullet proof counter and window for check in.

A seating area is provided.

Conference room is provided.

CONFERENCE ROOMS

Secure conference rooms will be provided in the CyrusOne suite and sales area.

INTERIOR ARCHITECTURAL CONCEPT

Exterior and Interior will align in overall design concept. Interior design concept is to bring the pattern of the wood textured louvers and architectural stone into the lobby space and shared areas, such as break room and conference rooms.

INTERIORS NARRATIVE

CEILINGS

Ceilings will vary throughout the space: open to structure in utility areas, gypsum board in restrooms, some corridors and conference rooms and lay-in ceiling grid and ceiling tile will be provided in the data hall, mechanical galleries, and some office spaces. Additionally, wood ceilings will be provided in breakroom, non-secure conference room and lobby area. The ceiling types directly correlate to the space type and need associated with each group. Reference Architectural RCP's.

WALLS AND PARTITIONS

1. The wall and partition finishes will primarily be painted gypsum board. Corner guards shall be applied at high traffic areas. Critical space perimeter partitions will receive a one-hour fire rating requirement.
2. Partitions:

- a. Interior partitions to deck to be 6" structural studs with 5/8" Type X GWB at a minimum.
 - b. Interior partitions not to deck to be 3 5/8" metal studs at 16" O.C. with 5/8" Type X GWB at a minimum.
 - c. White space partitions to be provided with insulation and vapor barrier.
 - d. 1 hour rated partitions to be provided around:
 - i. Electrical equipment rooms.
 - ii. Fire riser rooms.
 - iii. IDF rooms
 - iv. Vertical chases.
3. Other rated partitions by code.

DOOR HARDWARE

Solid core wood veneer doors, hollow metal / aluminum frame, and lever style hardware at all Office Spaces. Painted hollow metal doors and frames with associated hardware shall be specified at all back of house spaces. Metal coiling overhead doors shall be used at the dock.

- 1. Interior doors are to be a minimum of level 3 extra heavy duty 16 gage.
- 2. Interior frames are to be welded full profile.
- 3. Doors and frames will be fire rated to match partition construction.
- 4. Doors are designed to be large enough for installing IT, mechanical and electrical equipment.
- 5. Design will incorporate desired level of security.
- 6. Electrical rooms will require panic devices on two egress doors.
- 7. Kick plates and cart bumpers to be provided on doors as appropriate.

FLOOR FINISHES

Floor finishes will vary through the building. Vinyl flooring is intended at breakroom. Ceramic floor tile will be used in some corridors. Carpet is intended to be used in some office areas including operations, security, sales, corridors, etc. Sealed concrete shall be used at back of house areas. Reference finish schedule and sheet.

STAIRS

EGRESS STAIR CONSTRUCTION

- 1. Exterior stairs will be concrete construction with concrete treads and landings at loading dock and metal pan construction at generator yard and roof.

2. Interior egress stairs will be concrete filled pan construction with painted metal guard and handrails.
3. Roof access to be provided via southeast stair and freight elevator.

MECHANICAL

OUTSIDE AIR CONDITIONS

Cooling and heating calculations based upon ASHRAE statistical data for climatic conditions for maximum probability summer and winter conditions for design dry bulb(DB) and design wet bulb (WB).

MINIMUM OUTSIDE AIR REQUIREMENTS

Data Hall white space	0.06 cfm/sf	Minimum Code / ASHRAE 62.1
Battery Rooms	As calculated	Minimum Code for Hydrogen Purge
UPS Rooms	0.06 cfm/sf	Minimum Code / ASHRAE 62.1
Switchgear Rooms	0.06 cfm/sf	Minimum Code / ASHRAE 62.1
Office Areas	0.06 cfm/sf and 5 cfm/person	Minimum Code / ASHRAE 62.1
Loading Dock	0.8 cfm/sf	Minimum Code / ASHRAE 62.1
Corridors	0.06 cfm/sf	Minimum Code / ASHRAE 62.1

BUILDING EXHAUST RATES

Battery Rooms:	As calculated	Minimum Code
Loading Dock:	0.8 cfm/sf	Minimum Code / ASHRAE 62.1

CHILLED WATER SYSTEM CONFIGURATION

The chilled water infrastructure shall be dedicated to cooling only the critical load in the facility.

An air cooled chiller system will be provided in a NEED+7 configuration. The system will be arranged in a 'line up' fashion to promote modularity and growth.

Individual Chiller line ups shall include:

- One 500 ton, air cooled chiller with integral economizer
- One variable speed primary chilled water pump

As a minimum the initial Chilled Water System installation shall include:

- Six (6) 500 ton, air cooled chillers
- Six (6) variable speed primary chilled water pumps

Chilled water supply temperature shall be 65°F. Chilled water return temperature shall be 79°F.

Variable frequency drives on the compressors and condenser fans shall be provided on all air-cooled chillers for improved performance at part loads. Each chiller shall also be equipped with an integral, factory installed economizer coil to reduce mechanical work and comply with the California energy code.

The chiller line ups will utilize a variable primary flow chilled water pumping scheme. Pumps will be dedicated to run with their respective line-up equipment. All operating primary pumps will be controlled to run in unison to maintain a target differential pressure in the chilled water piping loop. A modulating control valve in a bypass line is provided to ensure minimum evaporator flow for each chiller line up.

The primary pumps will be vertical inline type and sized to operate at the full flow of their respective line up equipment.

CHILLED WATER PIPING

Chilled water distribution serving the facility critical loads is a looped configuration. This looped configuration along with appropriately placed isolation valves is concurrently maintainable. The isolation of any section of the chilled water loop shall not render out of service more equipment than is required for Need.

Cross connect piping is to be provided in the main chilled water piping loop to reduce the overall loop pipe size and provide for multiple flow paths.

High quality, bi-directional bubble tight butterfly valves shall be utilized in the main chilled water piping loop. These valves will be utilized to isolate sections of the piping for maintenance or repair. Between every set of isolation valves there shall be a ½ inch ball valve with a plug installed on the bottom of the pipe to aid in draining of each section.

Branch connections shall be installed for all DCRAC's and chiller line ups whether or not they are installed as part of the initial phase. Branch connections intended for future equipment shall be valved and blind flanged for future connection.

Chemical treatment of the chilled water system will be utilized. This system will control scaling, corrosion and bacteria and shall be fully tailored to the water quality of the data center locality.

DATA CENTER AIR HANDLING SYSTEMS

Perimeter Data Center Return Air Coolers (DCRAC) units shall be provided to serve the data halls. The DCRAC's shall be installed in equipment galleries at the perimeter of each Data Center.

Each DCRAC unit will be furnished with fans, chilled water-cooling coils and 65% filters. The fans will be plug type on EC motors with variable speed capabilities.

Air distribution will be via flooded room (cold aisle) with hot aisle containment to serve the computer equipment. CRAH fan speed will be controlled in unison to maintain a static pressure set point across the server racks

Cable leak detection shall be provided. The cable shall be located on the floor slab below the chilled water piping at each unit.

PRESSURIZATION AND HUMIDIFICATION OF DATA CENTER

Computer Rooms will be positively pressurized to help keep dust and particle infiltration to a minimum. Pressurization will be via a packaged constant volume roof top air handling unit. These units shall be supplied with direct drive fans, filters, and direct expansion (DX) heating and cooling coil.

Humidification will be via evaporative means for energy savings purposes. The Humidifier will be in the data hall galleries utilizing the hot return air temperature to absorb moisture to maintain space humidity levels.

UPS/BATTERY

The UPS rooms will be conditioned using horizontal, chilled water air handling units. Each AHU unit will be mounted above the clear walkway centered in the UPS room to allow for conditioned air supplied to front intakes of the UPS rooms.

MMR/IDF

The MMR rooms will be conditioned using horizontal, fan coil units connected to the VRF system. Each AHU unit will be mounted outside the MMR room and ducted into the room. CC rooms are conditioned by chilled water computer room air handling units.

FRONT OF HOUSE (ADMINISTRATION)

Roof mounted Direct Outside Air Systems (DOAS) provide code required ventilation air to all the zones in the front of house. The ventilation air is conditioned by the DOAS and ducted to each zone.

A Variable Refrigerant Flow (VRF) system provided heating and cooling for the front of house zones. Each VRF fan coil is piped to a condensing unit located on the roof. A combination of ducted fan coils and cassettes will distribute conditioned air to their respective zones.

BUILDING AUTOMATION

Control system consists of sensors, indicators, actuators, final control elements, interface equipment, other apparatus, accessories, and software connected to distributed controllers operating in multitasking,

multi-user environment on Ethernet network and programmed to operate mechanical systems according to sequences of operation indicated or specified.

System shall use the BACnet protocol for communication to the operator workstation or web server and for communication between control modules. Schedules, setpoints, trends, and alarms specified in this Section shall be BACnet objects.

The control system shall be in compliance with the continuous uptime requirements for this project. The control system shall automatically respond to a component failure within the chilled water plant and maintain chilled water flow continuously. The control system design shall not compromise the reliability and redundancy features incorporated into the design of the mechanical and electrical systems.

CODES AND STANDARDS

2016 California Mechanical Code based on Uniform Mechanical Code 2015

2016 California Building Code, which is based on the 2015 International Building Code

California Energy Commission Title 24

Applicable ASHRAE standards

Applicable SMACNA standards

Applicable NFPA standards

MATERIALS

Piping Systems

Chilled water water piping is black steel welded, standard weight for 12" and above and Sch40 for 3" to 10". Piping 2-1/2" and below is to be type "L" hard-drawn copper.

Condensate drain piping is to be type "L" hard-drawn copper pipe with wrought copper solder joint fittings.

Valves in the distribution loops are bi-directional, tight shutoff resilient seated butterfly valves.

Ductwork Systems

Interior ductwork is fabricated from hot dip galvanized sheet steel.

Ductwork installation, thickness/gauge and size and spacing of stiffeners supports and hangers are in compliance with ASHRAE & SMACNA standards and the local code requirements.

All ductwork connections are to be sealed. The low pressure supply ductwork is constructed at a positive pressure classification and class B seal classification. The medium pressure supply ductwork is constructed at a positive pressure classification and class B seal classification. The return and exhaust

ductwork is constructed at a negative pressure classification and class B seal classification. The outside air intake ductwork is constructed at a negative pressure classification and class B seal classification.

Ductwork passing through fire rated floors, walls, and/or partitions comply with appropriate standards and local code requirements regarding fire dampers, fire stopping and fire proofing.

Ductwork systems are furnished and installed with manual balancing devices to allow for proper system balancing, in accordance with the associated air balance council.

Test and Balance

All piping and ductwork systems are to be tested and balanced.

ELECTRICAL

GENERAL OVERVIEW

The power distribution system will be designed in 6 to make 5 topology and shall consist of a combination of electrical blocks that serve the data halls and mechanical systems throughout the facility. Each group of six blocks shall equate to 7.5MW of critical capacity.

The electrical topology shall be concurrently maintainable. Any block, or individual component within that block, (e.g. utility, generator, UPS, etc) shall be able to be disrupted and not affect the operation of the IT load. The equipment shall be able to be safely maintained by the Owner by means of de-energization, remote control, and other safety features.

The non-critical base building loads (house systems, eg. Lighting, general-use power, rooftop air handling equipment, elevators, etc.) will be served from a separate house transformer. Loads requiring generator backup are connected to a critical generator that has spare capacity due to chiller combined redundancies.

CAPACITY PLANNING

The electrical system infrastructure shall be sized to support the initial phase 1 IT load, consisting of one system of six blocks. As load increases beyond that point, the infrastructure shall be upgradable with minimal disruption to the facility and no disruption to the data center operation.

SYSTEM SIZING

Critical UPS Configuration	N+1 (6 to make 5)
Ultimate UPS Blocks	54 Blocks
Phase 1 UPS Blocks	6 Blocks
UPS System Capacities	1,500kW
Energy Storage Run Time	10 minutes, 75% load, end of life
Energy Storage Type	Valve-Regulated Lead-Acid Batteries
Generator Configuration	N+1 (6 to make 5)
Ultimate Standby Generators	54
Phase 1 Standby Generators	6 critical, 1 house
Generator Capacities	2,250kW

Generator Fuel	Diesel
Engine Transfer Configuration	Open Transition
Fuel Hour/Tank Size	24 Hours
Circuit Topology	2N
Mechanical load branch circuits	Dual Input with integral ATS
IT branch circuits (by tenant)	Dual input or rack-mounted STS

SYSTEM DESCRIPTION

UTILITY SERVICE

A new utility substation will be built to support this project. The substation will be located on the property to the west of the building. There will be a 60kV loop which will be owned and maintained by the local utility company SVP. The substation transformers and distribution switchgear will be owned and maintained by CyrusOne. While the total load will only be 96.5MW, redundant transformers will be required for maintenance.

MEDIUM VOLTAGE SWITCHGEAR (INCOMING UTILITY)

CyrusOne utilized a pad mounted SF6 switches instead of typical air insulated switchgear and breakers. There are two switches per system, each feeding one end of a loop of six transformers. The under-oil switches at the primary of the transformers provide the ability to control or isolate transformer in the MV loop feeds.

MEDIUM VOLTAGE TRANSFORMER

After the medium voltage under-oil switches, the voltage on each feeder will be reduced from 24.9kV to 480V at each exterior pad mounted transformer.

ENGINE GENERATOR SYSTEM

The standby power system consists of distributed and electrically independent diesel generator sets connected to each system. The generators will have 480V alternators. The generator sets will be housed in walk-in style, weatherproof and sound attenuated enclosures located on grade. The transformers shall be standby rated. Each generator will have diesel particulate filters to comply with California Environmental Protection Agency requirements. The sound attenuation dBA level of the generator enclosures shall be as required by the local City requirement. The generator emissions system will be designed to comply with EPA Tier 2 standards. Each generator shall connect to a breaker pair contained within each block's main switchboard. Diesel fuel belly tanks will supply generators for 24 hours of operation at 100% rated capacity.

LOW VOLTAGE SWITCHBOARD (GENERATOR TRANSFER)

The data center main 480V switchboards will be served by both utility and standby generator sources and shall contain separate main circuit breakers for each incoming source. The two electrically operated main circuit breaker pair will function as a standard automatic transfer controller for utility to generator source transfers, and vice versa.

CRITICAL UPS POWER

The UPS systems will consist of static double-conversion transformer-less technology with VRLA battery storage. The UPS system will consist of one 1,500kVA/1,500kW unit per block and is referenced on the electrical one-line diagrams. UPS efficiency shall have a minimum efficiency of 96% at full load. The UPS output for each block will terminate in the maintenance bypass switchboard. Each switchboard load section contains the module output breaker, maintenance bypass breaker, and multiple feeder breakers to downstream critical distribution. The switchboard shall contain an SKRU interface to prevent transfers to maintenance bypass source unless the UPS system is first placed into static bypass mode.

CRITICAL POWER DISTRIBUTION

The distribution components that distribute critical power from the switchboard load section boards consists of distribution breakers directly to PDUs in a distributed redundant topology.

Critical power distribution will end at the PDUs. Any further distribution to the IT equipment racks is still to be determined and not part of the scope of this project. The electrical design is flexible and can accommodate various distribution scenarios.

VOLTAGES

Primary Design Voltages

- Utility Service: 24.9kV, 3 phase, 3 wire
- Building Service: 480V, 3 phase, 3 wire
- UPS distribution: 480V, 3 phase, 3 wire
- IT Service: 415/240V, 3 phase, 4 wire

Secondary design Voltages

- LV Motors larger than 1/2HP: 480V, 3 phase, 3 wire
- LV Motors 1/2HP and smaller: 120V, 1 phase, 2 wire
- Lighting: 277V, 1 phase, 2 wire
- Receptacles: 120V, 1 phase, 2 wire

LIGHTING

A complete lighting system for all indoor and outdoor illumination will be provided. The lighting system shall consist of energy-efficient LED lighting fixtures in all spaces throughout.

The lighting controls will primarily consist of wall and ceiling mounted occupancy sensors with manual override switches. The exception will be in the MEP rooms where automatic shutoff of lighting is deemed hazardous. In these spaces, lights will be controlled using manual toggle switches. The lighting controls system will be utilized to control receptacles per Title 24 requirements.

Edge-lit LED exit signs will be provided throughout the building in accordance with the life safety code.

Emergency lighting shall be provided through the facility in accordance with the life safety code.

Egress lighting and exit signs will be powered from a centralized battery inverter system with 90 minutes of battery reserve power and shall conform to NEC Article 700 – Emergency Systems.

Any areas where emergency lights must be switched, the emergency lights shall use UL 924 listed emergency transfer relays to automatically restore emergency lighting in case of a power failure.

Design lighting levels, average maintained foot-candles:

- Data Halls: 40-60
- MEP rooms: 20-40
- Corridors: 20-30
- Office/Control Room: 30-50
- Toilets: 10-20
- Exterior Entrance: 5-10
- Exterior Pathway: 3-5

FIRE ALARM SYSTEMS

The fire alarm system will be a stand-alone, fully addressable. The fire alarm system will be comprised of initiation smoke detectors, duct detectors, manual pull station, audio/visual notification devices, and Air-Sampling Smoke Detection (ASSD) systems.

The main Fire Alarm Control Panel (FACP) will be located behind the security desk and will be the central controller for the fire alarm system. An additional annunciator may be placed at the front entrance as required by the authority having jurisdiction. Additional annunciators may also be placed at critical building-operator spaces to immediately alert facility staff as to the nature of an alarm event.

The data hall space will be protected with ASSD systems above the ceiling and at the ceiling. Each sampling location will cover no more than 400 sq ft and will have a transport time no greater than 60 seconds. A reference detector may be placed to sense any air transferred into the hall from the exterior of the building.

The ASSD systems shall be configured as a separate network. An operator shall be capable of directly observing and altering settings from a dedicated workstation within the operations center. The ASSD

network will be integrated with the main building fire alarm system through a high level interface capable of reporting all individual points. In addition, a computer workstation will be provided for maintenance of the ASSD system and determining histories and trend data.

The BAS system is to be capable of receiving the status of all fire alarm points through a text-only point input via the BACnet standard. The system shall be capable of displaying alarms, recording full testing histories, and maintaining false alarm incident data for the owner.

The building is to be equipped throughout by a horn/strobe system capable of alerting occupants to an alarm event. This system will consist of control at the main FACP and power distribution through remote power supplies placed throughout the facility.

The fire alarm will also trigger various dual-action preaction sprinkler valves in the facility. The fire alarm will monitor the associated spaces and upon an ASSD "FIRE 2" or other alarm device will trigger. This trigger will activate a solenoid valve and provide a first action required to release water into the pipe network.

Due to the nature of the battery technology for this project, the electrical rooms containing uninterruptable power supplies will be equipped with ASSD at the ceiling with a spacing not to exceed 400 sq ft per sampling port. This system will also facilitate maintenance by limiting the need to have personnel work above or near electrical equipment.

GROUNDING

A complete, solidly grounded, grounding electrode system will be provided for the building. The grounding electrode system will include ground bars, the main water service line, structural steel, concrete-encased structural reinforcement, and grounding ring around the perimeter of the building. The equipment grounding system will extend from the building service entrance equipment to the branch circuit. All grounding system connections will be made using exothermic welds.

Bonding jumpers will be provided as required across pipe connections to water meters, dielectric couplings in a metallic cold water system, and across expansion/deflection couplings in conduit and piping systems.

All feeders and branch circuits will be provided with an equipment ground conductor. Under no circumstances will the raceway system solely be used as an equipment grounding conductor.

Ground bars (GBs) will be provided in each electrical room, pump room and mechanical rooms and shall be connected to the perimeter ground loop.

Separate telecommunications ground bars (TGBs) will be provided in the data hall(s), TELCO, MDF and IDF rooms for grounding of IT equipment and shall be connected to the perimeter ground loop.

LIGHTNING PROTECTION SYSTEMS

A lightning protection system will be provided to protect the building with a system of conductance designed to safely divert the energy of a lightning strike to the earth while minimizing damage to the facility. Installing Contractor will provide a UL Lightning Protection Inspection Certificate (UL Master Label) for the completed system.

FIRE PROTECTION

PREACTION SPRINKLER SYSTEM

SYSTEM DESCRIPTION

Preaction sprinkler systems will be installed to protect the data center, UPS, and electrical areas of the building.

DESIGN CRITERIA

The preaction sprinkler systems will be designed and installed in accordance with NFPA 13. The preaction systems will be double interlock system.

The preaction system valves will be actuated as described below.

If there are no special Client standards or Client insurance carrier recommendations, the following sprinkler design densities shall apply:

1. Areas designated as Light Hazard will be designed for a minimum sprinkler flow of 0.10 gpm per sq ft.
2. Areas designated as Ordinary Hazard Group 1, and where stockpiles of combustibles do not exceed 8 ft, will be designed for a minimum sprinkler flow of 0.15 gpm per sq ft.
3. Areas designated as Ordinary Hazard Group 2, and where stockpiles of combustibles do not exceed 12 ft, will be designed for a minimum sprinkler flow of 0.20 gpm per sq ft.
4. The system demand will be based upon the most remote 1950 sq ft for ceilings that are pitched less than or equal to a 2 in 12 slope. Ceilings exceeding this pitch will require that the 1950 sq ft be increased by 30%.

The pipe sizing for the systems will be as required to satisfy the hydraulic demand.

DISTRIBUTION

The sprinkler system will be provided throughout the protected area in accordance with NFPA 13 and, when required by the Owner, with insurance carrier recommendations.

Preaction mains will use corridors as pathways between valve rooms and spaces being protected. A preaction system main will not traverse a critical space it does not serve.

The following table conveys the design intent:

Space Type	Detection Strategy		Suppression Activation		Suppression Agent	Suppression Scheme
IT	ASSD	Smoke Detector	Smoke Detector	Sprinkler Actuation	Water	Double Interlock Preaction System
Electrical	ASSD	Smoke Detector	Smoke Detector	Sprinkler Actuation	Water	Double Interlock Preaction System
UPS						
Mechanical	Spot	Smoke Detector	Smoke Detector	Sprinkler Actuation	Water	Double Interlock Preaction System
Support Space						

The double interlock preaction sprinkler system sequence of operation is as follows:

1. ASSD detectors early warning will only connect to the fire alarm and BMS for operator notification.
2. Activation of a spot smoke detector or ASSD Fire 2 alarm arms the sprinkler system.
3. Activation of loss of pressure in the sprinkler line (sprinkler fusible link melts or glass bulb breaks) will discharge the water.

NON-CRITICAL SPRINKLER SYSTEM

The office areas will be protected by a wet pipe sprinkler system

In areas with ceilings, concealed pendent heads on flexible connections will be utilized. In unfinished areas, upright sprinklers will be utilized.

Shipping and receiving areas will be dry pipe systems.

Long-term and short-term storage areas will incorporate a preaction sprinkler system.

STANDPIPE SYSTEM

SYSTEM DESCRIPTION

A manual wet Class I standpipe system will be installed throughout the building. The system will be downstream of the fire pump but will require fire department pumping to meet design criteria. The system will be separate from all sprinkler systems

DESIGN CRITERIA

Hose valves will be installed in all required exit stairways. Additional hose valve cabinets will be located throughout the building as necessary so that all points of the facility can be reached within 150 feet of travel from a hose valve.

The system will be designed to provide 250 gpm per hose valve at the two highest hose valves on the most remote standpipe, along with 250 gpm from the highest hose valves on the next most remote standpipes. The fire department will be needed to boost the pressure and flow to meet NFPA 14 criteria.

FIRE PUMP SYSTEM

SYSTEM DESCRIPTION

An electric-driven, horizontal split-case, centrifugal fire pump will be installed to meet hydraulic demands and water-delivery requirements of sprinkler systems.

DESIGN CRITERIA

- The fire pump will be sized to provide 75 psi at 750 gpm. It will be connected upstream of all fire sprinkler and standpipe systems.
- An automatic transfer switch, integral to the pump controller, will transfer power to the generator upon AC failure.
- An electric, vertical inline jockey pump will maintain pressure in the fire protection piping.
- Pump appurtenances will include pump bypass, flow meter loop (with air vent), and test header.

PLUMBING

CODES

APPLICABLE CODES, GUIDELINES, AND STANDARDS

The Piping Systems will be designed in accordance with the following codes:

- California Plumbing Code
- Locally adopted amendments

STORM DRAINAGE

DESCRIPTION

A storm drainage system will be provided to convey rainwater from flat roofs to site storm sewers. Secondary roof drainage will be accomplished by using a dedicated piped overflow drainage system separate from the primary storm drainage system which will discharge through the building wall onto grade.

DESIGN CRITERIA

The primary storm drainage system will be sized based on a maximum rainfall rate of 2 in/hr. The secondary storm drainage system will be sized based on the same design criteria as the primary system.

DISTRIBUTION

- Below ground storm piping will be Schedule 40 PVC.
- Above ground storm piping will be hubless cast iron pipe with heavy-duty stainless-steel clamps.
- Horizontal Roof and overflow drain above ground storm piping as well as drain bodies will be insulated.

SANITARY WASTE AND VENT

DESCRIPTION

- A sanitary waste and vent system will be provided for all plumbing fixtures and other devices that produce sanitary waste. Plumbing fixtures will be drained by gravity through building drains to the building sewer.
- All fixtures will have traps and will be vented through the roof. Vent terminals will be located away

from air intakes, exhausts, and doors at distances required by the plumbing code.

DESIGN CRITERIA

- The sanitary waste piping will be pitched to maintain a minimum velocity of 2 fps when flowing half full.
- The sanitary vents and the venting system will be designed and installed so that the water seal of a trap will be subject to a maximum pneumatic pressure differential equal to 1" water column. This will be accomplished by sizing and locating the vents in accordance with the venting tables contained in the plumbing code.

EQUIPMENT AND MATERIAL

Floor drains, floor sinks and indirect waste receptors will be provided with elastomeric trap seals when subject to loss of their trap seals due to evaporation caused by infrequent use.

DISTRIBUTION

- Below ground sanitary waste and vent piping will be Schedule 40 PVC.
- Above ground sanitary waste and vent piping will be hubless cast-iron pipe with heavy-duty stainless-steel clamps.

DOMESTIC WATER

- Domestic water will be provided to all toilet room fixtures, water coolers/ drinking fountains, sinks, and any other devices that require a domestic water supply. Hose bibs are planned in each mechanical, air compressor, and Fire Suppression Valve rooms.
- Hot water at 110°F will be provided to all fixtures and devices that require hot water.

DESIGN CRITERIA

The piping will be sized to limit the velocity in any section of the system to a maximum of 8 fps for cold water systems and 4 fps for hot water systems.

EQUIPMENT AND MATERIAL

- A water meter will be provided on the building service entrance. The water meter will be sized for the building's maximum design flow rate.
- Domestic hot water will be produced by a central gas fire unit. All hot water demands in office area will be served by a 95% efficiency rated natural gas fired water heater with integral storage and power ventilation. This unit will be in the Boiler Room. Unisex restrooms in the back of house will be equipped with under counter mounted point-of-use electric water heaters.

- Water hammer arrestors will be provided at all quick closing solenoid valves and at other potential water hammer sources.

DISTRIBUTION

- The domestic cold water systems will be Type L copper tube with wrought copper fittings and soldered joints. Piping materials shall bear label, stamp, or markings NSF®-61 and NSF®-372 (or NSF®-61-G) or other accepted certifier marks demonstrating third party certification with these requirements.
- Comply with NSF/ANSI 61, "Drinking Water System Components - Health Effects; Sections 1 through 9," for potable domestic water piping and components
- The hot water system will be insulated in accordance with Code. The cold-water system will be insulated to prevent condensation from forming. Isolation valves will be provided at devices requiring maintenance.

PLUMBING FIXTURES

All plumbing fixtures will be new, commercial grade products.

EQUIPMENT AND MATERIAL

- Water closets will be wall hung, vitreous china, with elongated bowls. Flush valves will be manually operated using 1.28 gallon flush.
- Urinals, if required, will be wall hung, vitreous china. Flush valves will be manually operated using 0.125 gallon flush.
- Lavatories will be vitreous china under counter mounted. Faucets will be battery powered hands free operation with pre-mixed supply. A below counter ASSE mixing valve will mix the hot and cold water supplies to ensure a max outlet temp of 100 deg. F. Aerators will have fixed 0.5 gpm flow rate.
- Sinks will be under counter mounted stainless steel. Faucets will be hot and cold mixing type, 1 gpm flow control.
- Exterior hose bibbs will be flush mounted, freeze resistant, with vacuum breakers and loose key operators.
- Mechanical room hose bibbs will be surface mounted, with vacuum breakers.
- Products intended to dispense water for human consumption through drinking shall have A weighted average lead content of not more than 0.25% as determined by NSF/ANSI 372, and NSF/ANSI 61.
- Water distribution main ball valves two inches and larger in diameter are exempted from the 0.25% weighted average lead content requirement. Product shall be certified compliant with these requirements by an American National Standards Institute (ANSI) accredited certification organization.

NON-POTABLE WATER

Non-potable water will extend from a new backflow preventer & offset provide make-up water to serve maintenance hose bibbs on roof & to mechanical (HVAC) systems such as heating hot water.

DESIGN CRITERIA

The piping will be sized to limit the velocity in any section of the system to a maximum of 8 fps.

EQUIPMENT AND MATERIAL

Water hammer arrestors will be provided at all solenoid valves and at other potential water hammer sources.

DISTRIBUTION

The non-potable water system piping will be Type L copper tube with wrought copper fittings and soldered joints. Solder will be lead-free, 95-5 type solder. The non-potable water system will be insulated to prevent condensation from forming. Isolation valves will be provided at all fixtures requiring maintenance.

FUEL OIL

FUEL OIL STORAGE

Each generator will be provided with a common “belly-tank” of sufficient capacity to support full load operation for a minimum of 24 hours. Each generator tank is 6,800 gallons, so the first phase buildout of seven generators will be $(7) * 6800 = 47,600$ gallons. Final buildout with 54 generators will be 367,200 gallons.

Each enclosure will have fuel oil monitoring and fill infrastructure that will integrate into the building automation system.

Each tank will be directly filled without a central fuel system. Overflow protection will be provided on the fill drop tube as well as an alarm indication for the driver.

Fuel polishing will be done locally with a portable system where required.

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A02-01A	FLOOR PLAN - LEVEL ONE - SEGMENT A				
A02-01B	FLOOR PLAN - LEVEL ONE - SEGMENT B				
A02-01C	FLOOR PLAN - LEVEL ONE - SEGMENT C				
A02-01D	FLOOR PLAN - LEVEL ONE - SEGMENT D				
A02-01E	FLOOR PLAN - LEVEL ONE - SEGMENT E				
A02-01F	FLOOR PLAN - LEVEL ONE - SEGMENT F				
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A02-02B	FLOOR PLAN - LEVEL TWO - SEGMENT B				
A02-02C	FLOOR PLAN - LEVEL TWO - SEGMENT C				
A02-02D	FLOOR PLAN - LEVEL TWO - SEGMENT D				
A02-02E	FLOOR PLAN - LEVEL TWO - SEGMENT E				
A02-02F	FLOOR PLAN - LEVEL TWO - SEGMENT F				
A02-02G	FLOOR PLAN - LEVEL TWO - SEGMENT G				
A02-02H	FLOOR PLAN - LEVEL TWO - SEGMENT H				
A02-03	FLOOR PLAN - LEVEL THREE - OVERALL				
A02-03A	FLOOR PLAN - LEVEL THREE - SEGMENT A				
A02-03B	FLOOR PLAN - LEVEL THREE - SEGMENT B				
A02-03C	FLOOR PLAN - LEVEL THREE - SEGMENT C				
A02-03D	FLOOR PLAN - LEVEL THREE - SEGMENT D				
A02-03E	FLOOR PLAN - LEVEL THREE - SEGMENT E				
A02-03F	FLOOR PLAN - LEVEL THREE - SEGMENT F				
A02-03G	FLOOR PLAN - LEVEL THREE - SEGMENT G				
A02-03H	FLOOR PLAN - LEVEL THREE - SEGMENT H				
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A02-04A	FLOOR PLAN - LEVEL FOUR - SEGMENT A				
A02-04B	FLOOR PLAN - LEVEL FOUR - SEGMENT B				
A02-04C	FLOOR PLAN - LEVEL FOUR - SEGMENT C				
A02-04D	FLOOR PLAN - LEVEL FOUR - SEGMENT D				
A02-04E	FLOOR PLAN - LEVEL FOUR - SEGMENT E				
A02-04F	FLOOR PLAN - LEVEL FOUR - SEGMENT F				
A02-04G	FLOOR PLAN - LEVEL FOUR - SEGMENT G				
A02-04H	FLOOR PLAN - LEVEL FOUR - SEGMENT H				
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A02-RB	ROOF PLAN - SEGMENT B				
A02-RC	ROOF PLAN - SEGMENT C				
A02-RD	ROOF PLAN - SEGMENT D				
A02-RE	ROOF PLAN - SEGMENT E				
A02-RF	ROOF PLAN - SEGMENT F				
A02-RG	ROOF PLAN - SEGMENT G				
A02-RH	ROOF PLAN - SEGMENT H				
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A03-01B	REFLECTED CEILING PLAN - LEVEL ONE - SEGMENT B				
A03-01C	REFLECTED CEILING PLAN - LEVEL ONE - SEGMENT C				
A03-01D	REFLECTED CEILING PLAN - LEVEL ONE - SEGMENT D				
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A03-01G	REFLECTED CEILING PLAN - LEVEL ONE - SEGMENT G				
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A03-02C	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT C				
A03-02D	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT D				
A03-02E	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT E				
A03-02F	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT F				
A03-02G	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT G				
A03-02H	REFLECTED CEILING PLAN - LEVEL TWO - SEGMENT H				
A03-03	REFLECTED CEILING PLAN - LEVEL THREE - OVERALL				
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A03-03B	REFLECTED CEILING PLAN - LEVEL THREE - SEGMENT B				
A03-03C	REFLECTED CEILING PLAN - LEVEL THREE - SEGMENT C				
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A03-04H	REFLECTED CEILING PLAN - LEVEL FOUR - SEGMENT H				
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A04-22	VERTICAL CIRCULATION DETAILS				
A04-23	VERTICAL CIRCULATION DETAILS				
A04-24	VERTICAL CIRCULATION DETAILS				
A04-25	VERTICAL CIRCULATION DETAILS				
A04-26	VERTICAL CIRCULATION DETAILS				
A04-27	VERTICAL CIRCULATION DETAILS				
A04-28	VERTICAL CIRCULATION DETAILS				
A04-29	VERTICAL CIRCULATION DETAILS				
A04-30	VERTICAL CIRCULATION DETAILS				
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A08-21	DOOR AND FRAME DETAILS				
A08-41	WINDOW AND FRAME DETAILS				
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A09-01B	FINISH FLOOR PLAN - LEVEL ONE - SEGMENT B				
A09-01C	FINISH FLOOR PLAN - LEVEL ONE - SEGMENT C				
A09-01D	FINISH FLOOR PLAN - LEVEL ONE - SEGMENT D				
A09-01E	FINISH FLOOR PLAN - LEVEL ONE - SEGMENT E				
A09-01F	FINISH FLOOR PLAN - LEVEL ONE - SEGMENT F				
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E00-02B	ELECTRICAL SITE ROUTING AND POWER PLAN - NORTH		
E00-02C	ELECTRICAL SITE ROUTING AND POWER PLAN - SOUTH		
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E01-04D	ONE-LINE DIAGRAM - UPS ROOM D04		
E01-04E	ONE-LINE DIAGRAM - UPS ROOM E04		
E01-04F	ONE-LINE DIAGRAM - UPS ROOM F04		
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E03-02W	GROUNDING PLAN - LEVEL TWO - WEST		
E03-03	GROUNDING PLAN - LEVEL THREE - OVERALL		
E03-03E	GROUNDING PLAN - LEVEL THREE - EAST		
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GENERAL NOTES

- ALL WORK SHALL BE IN CONFORMANCE WITH THE CITY OF SANTA CLARA DEPARTMENT OF PUBLIC WORKS' STANDARD SPECIFICATIONS AND DETAILS. ALL WORK SHALL BE SUBJECT TO APPROVAL OF AND INSPECTION BY THE CITY ENGINEER.
- AT LEAST ONE SET OF APPROVED PLANS SHALL BE ON THE SITE AT ALL TIMES FOR INSPECTION. ANY DEVIATION FROM THE APPROVED PLANS DURING CONSTRUCTION WILL REQUIRE 48 HOURS PRIOR NOTICE AND APPROVAL OF THE CITY ENGINEER.
- THE PERMITTEE/CONTRACTOR SHALL NOTIFY THE CITY OF SANTA CLARA ENGINEERING DIVISION TWO (2) BUSINESS DAYS PRIOR TO THE START OF ANY WORK.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE EXISTENCE OF ANY AND ALL UNDERGROUND FACILITIES, WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF HIS OPERATIONS. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT (800) 642-2444, 48 HOURS PRIOR TO ANY EXCAVATION. WORK SHALL START WITHIN 5 DAYS AFTER THE ISSUANCE OF A USA INQUIRY IDENTIFICATION NUMBER. COMPLETE REMOVAL OF THE USA MARKINGS SHALL BE WITHIN 2 WORKING DAYS AFTER COMPLETION OF THE EXCAVATION, BACKFILL, AND SURFACE REPLACEMENT OR FOURTEEN (14) CALENDAR DAYS FOLLOWING THE ISSUANCE OF THE INQUIRY IDENTIFICATION NUMBER WHICHEVER IS EARLIER.
- CONTACTING USA DOES NOT RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO DETERMINE LOCATION AND DEPTH OF BURIED UTILITIES OR REPAIR OF BURIED UTILITIES DAMAGED BY HIS OPERATION.
- ALL GRADING, SITE PREPARATION, PLACING AND COMPACTION OF FILL SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SANTA CLARA STANDARDS, SPECIFICATIONS, SPECIFIC NOTES, DETAIL DRAWINGS AND PER THE RECOMMENDATIONS SPECIFIED IN THE "GEOTECHNICAL INVESTIGATION" BY KLEINFELDER, DATED OCTOBER 31, 2018, FILE NO. 20180787.001A.
- A GRADING PERMIT IS REQUIRED PRIOR TO COMMENCEMENT OF GRADING. A COPY OF THE GRADING PERMIT IS REQUIRED TO BE ON SITE AT ALL TIMES.
- GRADING OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE SOILS INVESTIGATION REPORT. THE SOILS ENGINEER WILL BE RESPONSIBLE FOR THE ON SITE INSPECTION AND QUALITY CONTROL FOR THE GRADING OPERATION. PLAN REQUIREMENTS AND CONSTRUCTION CONTROL WITH RESPECT TO EARTHWORK, SLOPE STABILITY, SETTLEMENT, COMPACTION, ETC., AS SHOWN HEREIN ARE PROVIDED BY THE SOILS ENGINEER. THE CONTRACTOR SHALL READ AND BE FULLY AWARE OF THE SOILS REPORT BEFORE STARTING WORK. ALL WORK SHALL MEET THE APPROVAL OF THE CITY OF SANTA CLARA.

SUBSEQUENT TO THE COMPLETION OF THE WORK, THE SOILS/GEOTECHNICAL ENGINEER SHALL SUBMIT A REPORT TO THE CITY ENGINEER STATING THAT ALL WORK HAS BEEN DONE IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION" PREPARED BY BY KLEINFELDER, DATED OCTOBER 31, 2018, FILE NO. 20180787.001A.
- NOISE-PRODUCING CONSTRUCTION AND GRADING OPERATIONS SHALL BE LIMITED TO WEEKDAYS (MONDAY THROUGH FRIDAY) EXCEPT CITY HOLIDAYS AND FROM THE HOURS OF 7:30 A.M. TO 6:00 P.M. ALL EQUIPMENT SHALL BE ADEQUATELY MUFFLED AND MAINTAINED. NO CHANGES SHALL BE ALLOWED WITHOUT PRIOR WRITTEN CONSENT OF THE CITY. ALL REQUESTS FOR CHANGE MUST BE MADE A MINIMUM OF 72 HOURS PRIOR TO THE REQUEST FOR CHANGE.
- IT SHALL BE UNDERSTOOD THAT THE TERM "CITY ENGINEER" AS USED HEREIN IS THE CITY ENGINEER OF THE CITY OF SANTA CLARA OR HIS AUTHORIZED REPRESENTATIVE.

NO WORK SHALL BE DONE ON THIS PROJECT PRIOR TO A PRE-CONSTRUCTION CONFERENCE TO BE HELD IN THE ENGINEERING DIVISION. CONTACT CITY OF SANTA CLARA ENGINEERING DEPT. TO ARRANGE FOR THE CONFERENCE.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AT LEAST TWO WORKING DAYS IN ADVANCE OF COMMENCEMENT OF ANY CONSTRUCTION WORK FOR THE IMPROVEMENTS DELINEATED WITHIN THIS SET OF PLANS. THE FOLLOWING INDIVIDUALS SHALL BE IN ATTENDANCE: OWNER/DEVELOPER, CONTRACTOR (S), CITY ENGINEER, ENGINEER, SOILS ENGINEER, CONSTRUCTION INSPECTOR, OR THEIR AUTHORIZED REPRESENTATIVES.
- THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF ALL GRADING OPERATIONS AND RECEIVE APPROVAL OF SAID SCHEDULE FROM THE CITY ENGINEER PRIOR TO OR THE DAY OF THE PRE-CONSTRUCTION CONFERENCE.
- THE CONSTRUCTION CONTRACTOR AGREES, THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR SHALL PROVIDE EMERGENCY TELEPHONE NUMBERS FOR PUBLIC WORKS, AMBULANCE, POLICE, AND FIRE DEPARTMENTS AT THE JOB SITE.
- THE CONTRACTOR SHALL NOT DISTURB OR DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE CITY ENGINEER. IN THE EVENT IT BECOMES NECESSARY TO REMOVE OR DISTURB A MONUMENT, THE PERSON SO DOING SHALL FIRST OBTAIN PERMISSION, IN WRITING, FROM THE CITY ENGINEER AND SHALL DEPOSIT WITH THE CITY ENGINEER A SUFFICIENT AMOUNT, BASED UPON THE CITY ENGINEER'S ESTIMATE, TO COVER THE COST OF PRELIMINARY RE-ENGINEERING AND FINAL RELOCATION OF THE MONUMENTS.
- ALL CONSTRUCTION STAKING SHALL BE DONE BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR. UPON COMPLETION OF GRADING, THE CONTRACTOR SHALL REQUEST THE LICENSED LAND SURVEYOR TO CHECK THE GRADES AND CERTIFY THAT THE PADS ARE GRADED TO WITHIN \pm 0.10 FOOT OF FINISH PAD GRADE.
- THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO THE WORK AREA THROUGHOUT THE PERIOD OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS, WITH A SMOOTH TRANSITION IN GRADE AVOIDING ANY ABRUPT OR APPARENT CHANGES IN GRADE OR CROSS SLOPE, LOW SPOTS OR HAZARDOUS CONDITIONS.
- EXISTING CURB AND SIDEWALK WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DISPLACED, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED, EVEN IF THE DAMAGE OR DISPLACEMENT OCCURRED PRIOR TO ANY WORK PERFORMED BY THE CONTRACTOR. CONTRACTOR SHALL DOCUMENT CONDITION VIA PHOTOGRAPHS PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL CONTROL DUST BY WATERING EXPOSED SURFACES AS NEEDED. INCREASED WATERING SHALL BE REQUIRED WHEN WIND SPEEDS EXCEED 10 MPH OR WHEN DIRECTED BY THE CITY.
- NO PERSON SHALL, WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, PAPER, OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREETS OR OTHER PUBLIC PLACE, ALLOW MATERIAL TO BLOW OR SPILL OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY. ALL LOADS LEAVING THE SITE SHALL BE COVERED.
- THE CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCE TO PREVENT THE TRACKING OF SOIL, DUST, MUD, OR CONSTRUCTION DEBRIS ON PUBLIC STREETS.
- MUD TRACKED ONTO STREETS OR ADJACENT PROPERTIES SHALL BE REMOVED IMMEDIATELY. STREET SHALL BE SWEEPED WITH A POWER SWEEPER (NOT PRESSURE WASHED) AS DIRECTED BY THE CITY.
- A DISPOSAL SITE FOR ANY OFF-SITE HAUL OF DIRT MATERIALS SHALL BE APPROVED BY THE CITY PRIOR TO APPROVAL OF THE GRADING PERMIT. THE OFF-SITE HAUL ROUTE FOR EXCESS DIRT OR CONSTRUCTION DEBRIS IS SUBJECT TO APPROVAL OF THE CITY ENGINEER.
- EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING AND SHEETING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR SHALL EFFECT NECESSARY REPAIRS OR RECONSTRUCTION AT HIS OWN EXPENSE. WHERE THE EXCAVATION FOR A TRENCH, STRUCTURE AND/OR BORING OR JACKING PIT IS FIVE FEET OR MORE IN DEPTH THE CONTRACTOR SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA.
- ALL TRENCHES IN EXISTING CITY STREETS SHALL BE BACKFILLED AND PAVED WITHIN 24 HOURS OF EXCAVATION. STEEL PLATES MAY BE PLACED OVER UNBACKFILLED TRENCHES BEYOND THE 24 HOUR PERIOD WITH THE SPECIFIC APPROVAL OF THE CITY ENGINEER.
- ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III OR BETTER, UNLESS OTHERWISE NOTED.
- OPERATION OF VALVES ON THE CITY OF SANTA CLARA WATER SYSTEM SHALL BE PERFORMED BY WATER BUREAU PERSONNEL ONLY.

SITE IMPROVEMENT PLANS

OF

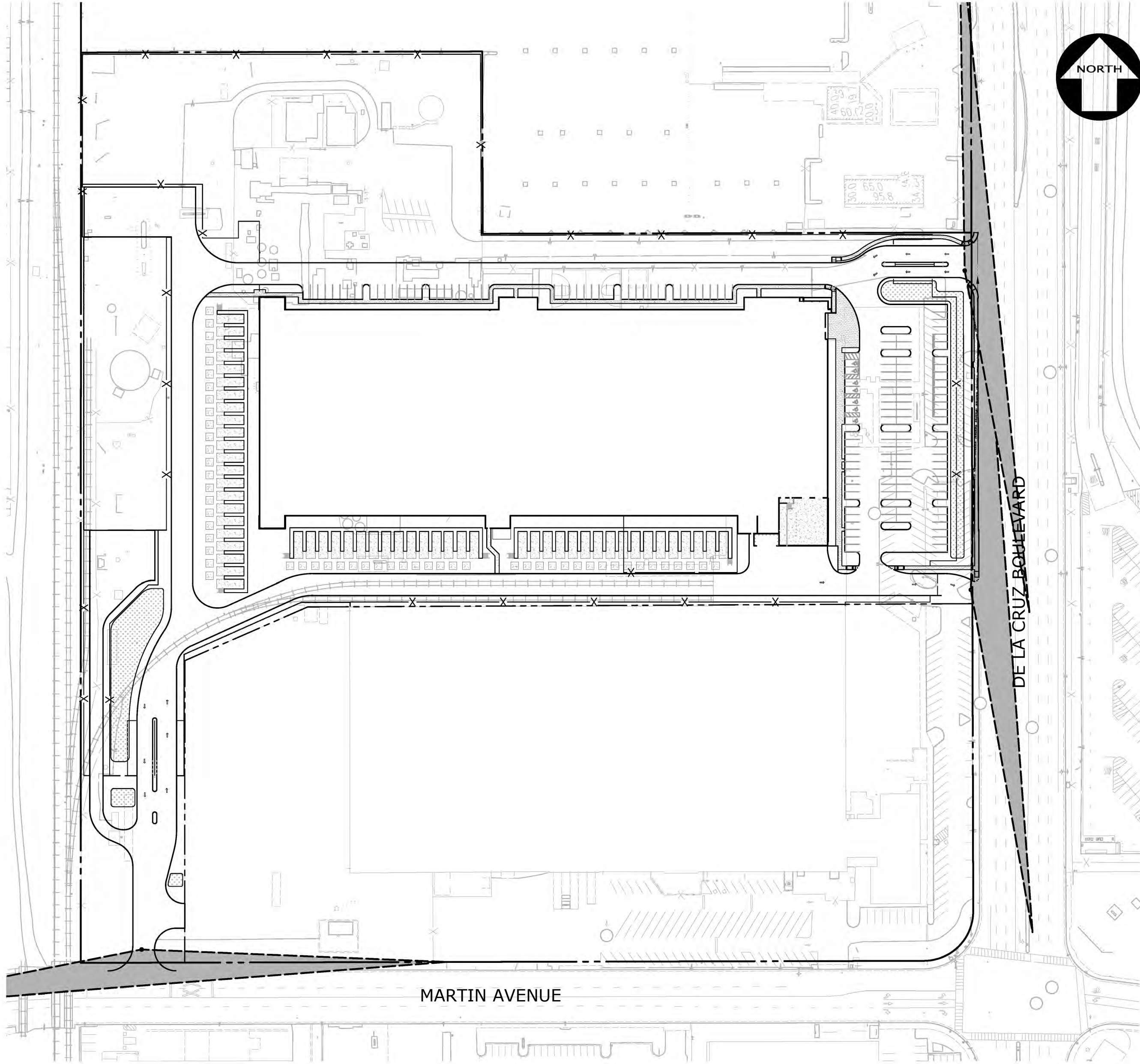
2500 DE LA CRUZ BOULEVARD

FOR

CYRUS ONE

SANTA CLARA

CALIFORNIA



DEVELOPER

CYRUS ONE
ATTN: JEFF DEVINE
2101 CEDAR SPRING RD, STE 900
DALLAS, TX 75201
855.564.3198

CIVIL ENGINEER

KIER & WRIGHT CIVIL ENGINEERS & SURVEYORS, INC.
ATTN: CHUCK MCALLUM, P.E.
2850 COLLIER CANYON ROAD
LIVERMORE, CA 94551
925.245.8788

ELECTRICAL ENGINEER

KW MISSION CRITICAL ENGINEERING
ATTN: RICK SPARKMAN, P.E.
40 E RIO SALADO PKWY, 4TH FLOOR
TEMPE, AZ 85281
971.221.6819

LANDSCAPE ARCHITECT

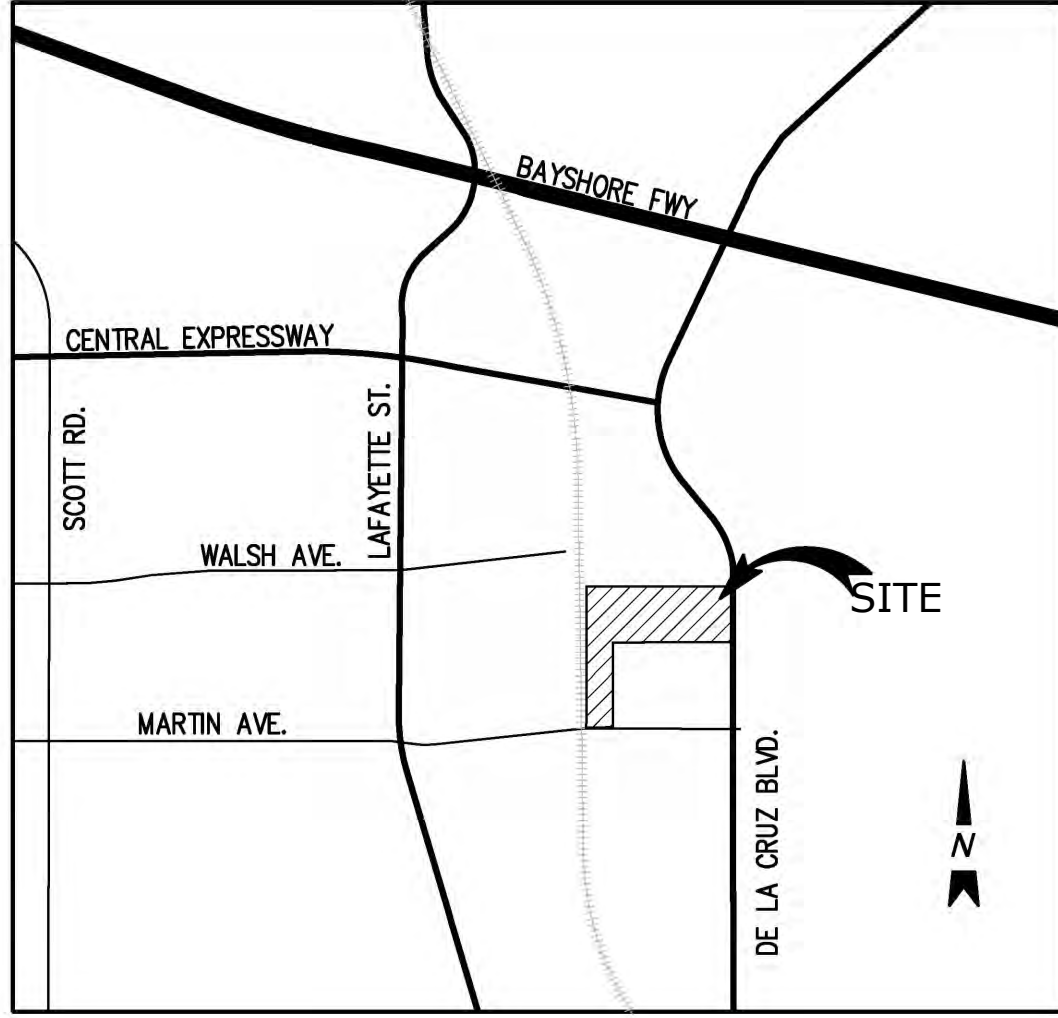
JETT LANDSCAPE ARCHITECTURE & DESIGN
ATTN: JESSE MARRIMAN
2 THEATRE SQUARE
ORINDA, CA 94563
925.254.5422

ARCHITECT

CORGAN
ATTN: MARCELA DELONG, AIA
401 N. HOUSTON ST.
DALLAS, TX 75202
214.752.1835

STRUCTURAL ENGINEER

BENNETT & PLESS
ATTN: CHAD WARREN
47 PERIMETER CENTER EAST, STE 500
ATLANTA, GA 30346
470.375.0286



VICINITY MAP

NOT TO SCALE

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C O R G A N

Corgan
401 N. Houston St.
Dallas, TX 75202
T: 214-748-2000 F: 214-653-8281

kw KW Mission Critical
Engineering, d.p.c.
433 River Street, Suite 7002, Troy, NY 12180

bp Bennett & Pless Inc.
47 Perimeter Central East,
Suite 500 Atlanta, GA 30346

TC Design Consulting LLC
103 E Haring St. Howe TX 75469

kw KIER+WRIGHT
4081 Mission Oaks Blvd, Suite B Camarillo, Ca 93012

ISSUES

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2	08/01/2019	ISSUE FOR PERMIT
3	08/23/2019	PCC REVIEW PACKAGE

REVISIONS

1	09/16/2019	ADDENDUM 01
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Civil Engineer:



Date of issue:
08-01-2019

SANTA CLARA

2600 De La Cruz Blvd
Santa Clara, CA 95050

CyrusOne



Know what's below.
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COVER

PROJECT NUMBER 17125-0300

DATE 08-01-2019

SHEET NUMBER C1.0

ALL GRADING SHALL BE DONE IN ACCORDANCE WITH RECOMMENDATIONS IN THE GEOTECHNICAL AND FOUNDATION INVESTIGATION PREPARED FOR THIS SITE BY KLEINFELDER, DATED OCTOBER 18, 2019, FILE NO. 20190787.001A.

CONTRACTOR SHALL DETERMINE HIS OWN EARTH QUANTITIES AND BASE HIS BID ACCORDINGLY.

TOP OF CURB ELEVATION IS 0.5' ABOVE THE A.C. PAVING AND SPOT ELEVATIONS ARE TO FINISHED SURFACE (UNLESS OTHERWISE NOTED).

COMPACTION TO BE DETERMINED USING ASTM D1557, LATEST EDITION LABORATORY TEST PROCEDURE.

STORM DRAIN DESIGNATED AS "50" SHALL BE CLASS III RCP, SDR 35 PVC OR HDPE AS STATED BELOW. PVC AND HDPE PIPES SHALL ONLY BE USED WHEN MINIMUM COVER REQUIREMENTS ARE MET AS SPECIFIED IN THE PIPING PIPE BEDDING DETAIL AS SHOWN ON THESE PLANS. SUBSTITUTIONS FOR ANY PIPE WITH A PARTICULAR MATERIAL SPECIFIED ON THIS PLAN SHALL ONLY BE MADE WITH THE WRITTEN APPROVAL OF THE ENGINEER.

STORM DRAIN PIPE SHALL BE: 10" DIAMETER AND SMALLER SDR 35 PVC OR HDPE WITH RUBBER GASKETS MEETING ASTM F477, 12" DIAMETER TO BE SDR 35 PVC, CLASS III RCP OR BLUE SEAL HDPE AS MANUFACTURED BY HANCOCK WITH WATER TIGHT JOINTS MEETING ASTM F477 AND ASTM D3212 15" THROUGH 24" DIAMETERS; PIPE TO BE CLASS III RCP OR BLUE SEAL HDPE AS SPECIFIED ABOVE. PIPES LARGER THAN 24" IN DIAMETER SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED. NO MATERIAL SUBSTITUTION SHALL BE ALLOWED FOR DUCTILE IRON PIPE (DIP).

ALL UTILITY STRUCTURES INCLUDING, BUT NOT LIMITED TO MANHOLES, CATCH BASINS, WATER VALVES, FIRE HYDRANTS, TELEPHONE AND ELECTRIC VAULTS, AND PULL BOXES, THAT LIE WITHIN THE PUBLIC RIGHT-OF-WAY EASEMENTS OR AREAS AFFECTED BY WORK ON THIS PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OR THE RESPECTIVE UTILITY COMPANY FOR WHICH THE CONTRACTOR IS RESPONSIBLE TO AFFECT CORRECTION.

THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS IMPROVEMENT PLANS OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ANY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, THE ENGINEER CAN NOT ASSUME RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THEIR DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT ARE NOT SHOWN ON THESE DRAWINGS.

CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY AND SOWER LINES WHERE THEY ARE TO BE GRADED ABOVE OR BELOW BY THE NEW FACILITY BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADE AND TO ASSURE THAT THERE IS SUFFICIENT CLEARANCE. PIPE SHALL NOT BE STRUNG NOR TRENCHING COMMENCED UNTIL ALL CROSSINGS HAVE BEEN VERIFIED FOR CLEARANCE. IF THE CONTRACTOR FAILS TO FOLLOW THIS PROCEDURE, HE WILL BE SOLELY RESPONSIBLE FOR ANY EXTRA WORK OR MATERIAL REQUIRED IF MODIFICATIONS TO THE DESIGN ARE NECESSARY.

1. THE CONTRACTOR SHALL SET HIS STRING OR WIRE THROUGH AT LEAST THREE GRADE STAKES TO VERIFY GRADE. IF THE STAKES DO NOT PRODUCE A UNIFORM GRADE, NOTIFY THE ENGINEER IMMEDIATELY AND HAVE THE GRADES CHECKED PRIOR TO THE TRENCHING OR PLACEMENT OF CONCRETE.

2. ADJUSTMENTS TO BUILDING PAD ELEVATIONS OR PARKING LOT GRADES TO ACHIEVE EARTHWORK BALANCE SHALL BE MADE ONLY WITH APPROVAL OF THE ENGINEER.

3. ALL WORK, ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY, SHALL CONFORM TO THE CITY OF SANTA CLARA STANDARDS AND REQUIREMENTS.

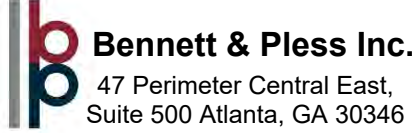
1. BACKFILLING AND COMPACTOR FOR ALL TRENCHES SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER.
2. CONTRACTOR TO VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONSTRUCTION PRIOR TO ANY SITE WORK. ALL WORK FOR STORM DRAIN AND SANITARY SEWER INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONNECTION POINT. THIS WILL ALLOW FOR ANY NECESSARY CORRECTIONS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE. IF THE CONTRACTOR FAILS TO BEGIN AT THE DOWNSTREAM CONNECTION POINT AND WORKS UPSTREAM, HE SHALL PROCEED AT HIS OWN RISK AND BE RESPONSIBLE FOR ANY ADJUSTMENTS NECESSARY.
3. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF SANTA CLARA STANDARDS AND REQUIREMENTS.
4. GENERAL CONTRACTOR SHALL COORDINATE ALL UNDERGROUND UTILITIES. PROVIDE 6" MINIMUM BETWEEN PIPES CROSSING ELECTRICAL LINES HORIZONTALLY AND 12" MINIMUM BETWEEN PARALLEL PIPES CROSSING ELECTRICAL LINES.
5. FOR UTILITY MATERIALS AND TYPES, SEE THE PROJECT SPECIFICATIONS IF APPLICABLE AND NOT IDENTIFIED ON THESE PLANS.
6. WATER LINES SHALL BE 12" MINIMUM ABOVE SANITARY SEWER LINE AT ALL CROSSINGS.
7. MINIMUM COVER FOR WATER LINES IS 3.0 FEET.
8. MINIMUM COVER FOR FIRE SERVICE LINES IS 4.0 FEET.
9. SANITARY SEWER SHALL BE PVC SDR 35 EXCEPT WHERE DUCTILE IRON PIPE (DIP) IS NOTED OR AS REQUIRED BY THE LOCAL JURISDICTION. CONTRACTOR SHALL VERIFY REQUIREMENTS PRIOR TO PLACING HIS BID. DUCTILE IRON PIPE (DIP) SHALL BE CLASS 50.
10. DOMESTIC WATER LINES 8"-3" SHALL BE SCHEDULE 40 PVC, 4" AND ABOVE SHALL BE C900 DR 18 PIPE.
11. FIRE SERVICE LINES 6"-12" SHALL BE C900 DR 14, UNLESS SPECIFIED OTHERWISE ON FIRE SHOP DRAWINGS.

1. THE UNDERGROUND FIRE PROTECTION SYSTEM SHOWN ON THIS DRAWING IS SCHEMATIC AND IS NOT INTENDED TO BE AN INSTALLATION DRAWING. THIS DRAWING SHALL NOT BE USED AS A BASE SHEET FOR SHOP DRAWINGS WITHOUT WRITTEN APPROVAL OF THE PREPARER.
2. THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL PREPARE SHOP DRAWINGS SHOWING ALL INFORMATION REQUESTED BY SPECIFICATIONS, NFPA 13, 24 AND THE LOCAL FIRE MARSHAL.
3. THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL SUBMIT SHOP DRAWINGS TO THE LOCAL FIRE MARSHAL/BUILDING OFFICIAL AND THE OWNER'S REVIEWING AGENT FOR PERMIT AND APPROVAL/ACCEPTANCE.
4. THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT, ALLOWING TIME FOR REVIEW AND ACCEPTANCE, PRIOR TO START OF WORK. REQUIREMENTS FOR SHOP DRAWINGS SUBMITTAL ARE LISTED IN SPECIFICATIONS.
5. SHOP DRAWINGS, APPROVED BY THE LOCAL FIRE MARSHAL AND OWNER'S REVIEWING AGENT, SHALL BE SUBMITTED BY THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLER, TO THE ARCHITECT, PRIOR TO REQUESTING FINAL APPROVAL AND PAYMENT. REQUIREMENTS FOR SHOP DRAWINGS SUBMITTAL ARE LISTED IN SPECIFICATIONS.
6. REFER TO SPECIFICATIONS FOR UNDERGROUND FIRE PROTECTION SYSTEM REQUIREMENTS. SPECIFICATIONS ARE PART OF THE CONTRACT DOCUMENTS AND APPLIES TO THE GENERAL CONTRACTOR AND THE FIRE PROTECTION SYSTEM INSTALLER.
7. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF COMPLIANCE OF THE SHOP DRAWINGS TO THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTAL.
8. GENERAL CONTRACTOR SHALL NOT DIVIDE THE WORK SPECIFIED UNDER THIS SECTION BETWEEN SUBCONTRACTORS.
9. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND EQUIPMENT LOCATIONS. RISER LOCATIONS ARE SHOWN ON ARCHITECTURAL DRAWINGS.
10. SEE ARCHITECTURAL FLOOR PLANS FOR DIMENSIONED AUTOMATIC SPRINKLER RISER (ASR) LOCATIONS.

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EFFECTIVE FOR THE DURATION OF CONSTRUCTION.
2. AFTER THE UNDERGROUND STORM DRAIN SYSTEM IS INSTALLED, THE CATCH BASINS WILL BE INSTALLED (AS SOON AS PRACTICAL) AND ROCK BARRIER BAGS WILL BE PLACED AROUND THOSE CATCH BASINS AS SHOWN ON THIS PLAN UNTIL THIS SITE IS PAVED.
3. SHOULD THE ON-SITE STORM DRAINS NOT BE INSTALLED COMPLETELY BY OCTOBER 15, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT BASINS AT THE EXISTING STORM PIPES STUBBED TO THE SITE.
4. PERSON RESPONSIBLE FOR IMPLEMENTATION OF EROSION AND SEDIMENTATION PLAN.

NAME: XXXXXXXXXXXXXXXXXXXXXXX
ADDRESS: XXXXXXXXXXXXXXXXXXXXXXX
TELEPHONE: XXXXXXXXXXXXXXXXXXXXXXX
5. THE CONTRACTOR SHALL PLACE 3"-6" COARSE AGGREGATE AS A GRAVEL ROADWAY (12" MIN. THICK FOR THE FULL WIDTH AND 10 FEET LENGTH) AT EACH B/W ENTRANCE TO SITE. ANY MUD THAT IS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED THAT SAME DAY AND AS REQUIRED BY THE CITY OF SANTA CLARA.
6. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE CITY ENGINEER.
7. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT-LADEN RUN-OFF TO ANY STORM DRAINAGE SYSTEM.
8. THIS PLAN COVERS ONLY THE FIRST WINTER FOLLOWING GRADING. PLANS ARE TO BE RESUBMITTED FOR CITY APPROVAL PRIOR TO THE SEPTEMBER FIRST OF EACH SUBSEQUENT YEAR UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED BY THE CITY.
9. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY.
10. SEDIMENT BASINS SHALL BE CLEANED OUT WHENEVER SEDIMENT REACHES THE SEDIMENT CLEANOUT LEVEL INDICATED ON THE PLANS.
11. BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE CITY ENGINEER.
12. ALL CUT AND FILL SLOPES ARE TO BE PROTECTED TO PREVENT OVERBANK FLOW.
13. INLETS WHICH ARE NOT USED IN CONJUNCTION WITH ROCK BARRIER BAGS OR SEDIMENT BASINS SHOULD BE COVERED, OR OTHERWISE ADJUSTED TO PREVENT INFLOW, UNLESS THE AREA DRAINAGE IS UNOBTURSED OR STABILIZED.
14. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF THE ENGINEER.
15. DETAILS FOR THE CONSTRUCTION OF FACILITIES ARE SHOWN ON THESE PLANS.
16. THIS PLAN IS INTENDED TO BE USED FOR EROSION CONTROL ONLY, OTHER INFORMATION SHOWN HEREIN MAY NOT BE THE MOST CURRENT. SEE SHEET C2 FOR OTHER INFORMATION.

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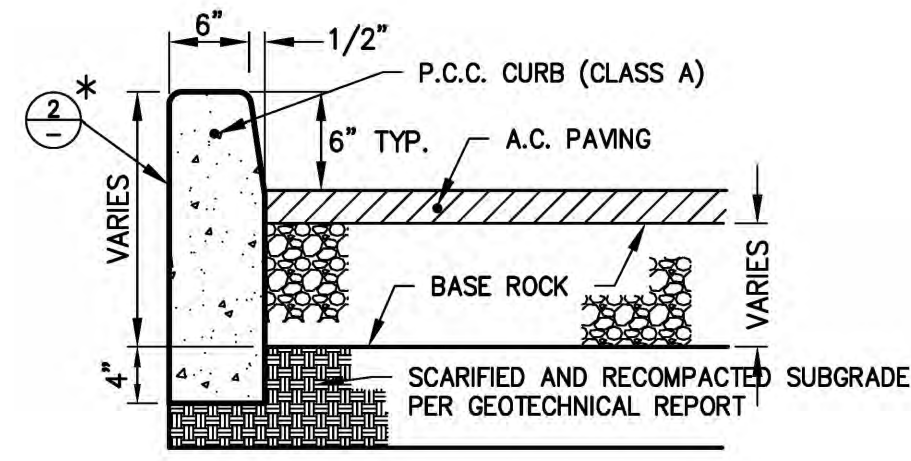
~~PROJECT 17125.0300~~

~~PROJECT 17125.0300~~

DATE 08-01-2019

SHEET NUMBER

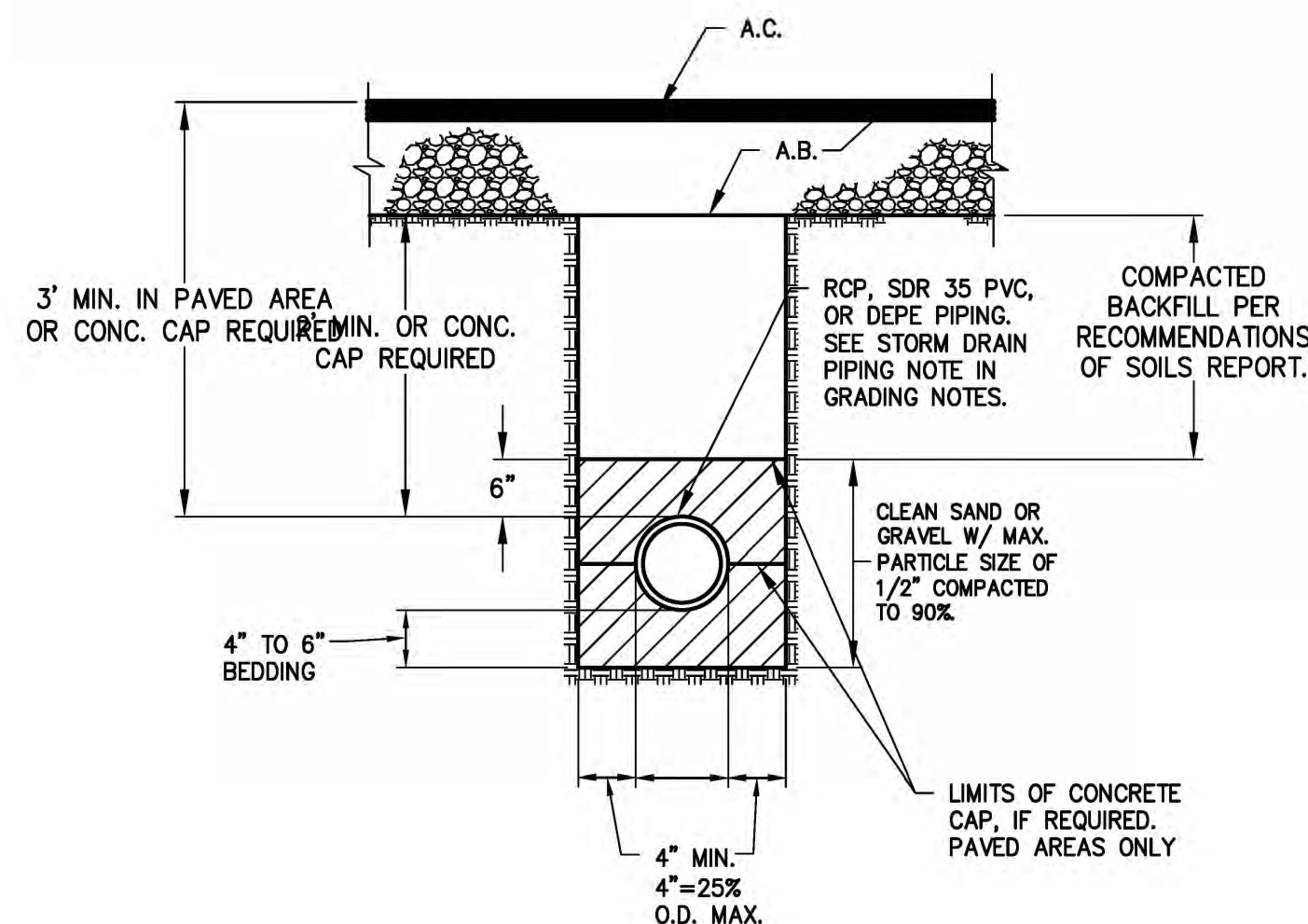
C1.1



* WEEPHOLES TO BE PLACED ON ALL CURBS AND CURB & GUTTER WHERE LANDSCAPING SLOPES TOWARD CURB. WEEPHOLES SHALL BE PLACED AT 10' O.C. OR AT EACH SCORELINE OF THE CURB.

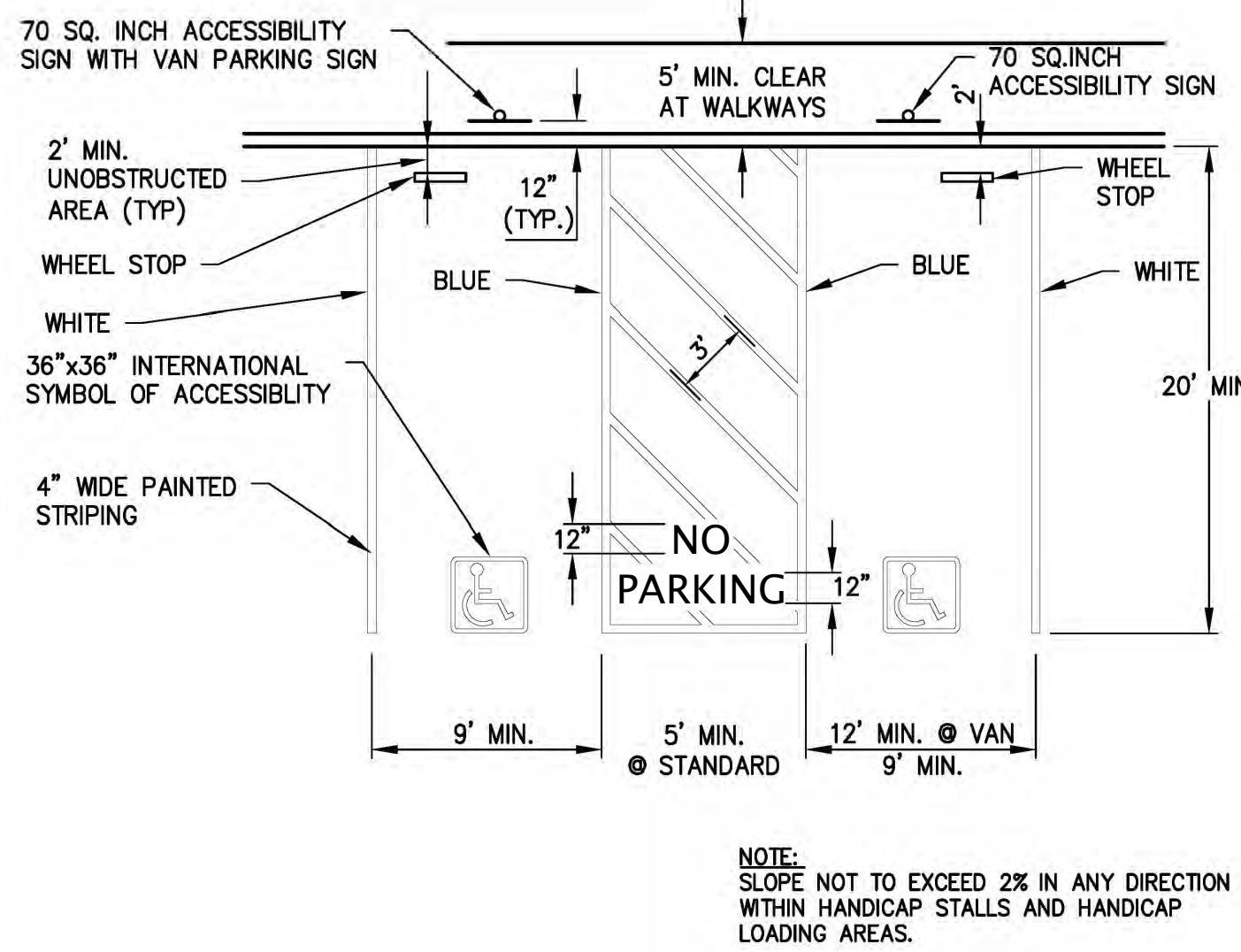
CONCRETE CURB
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1



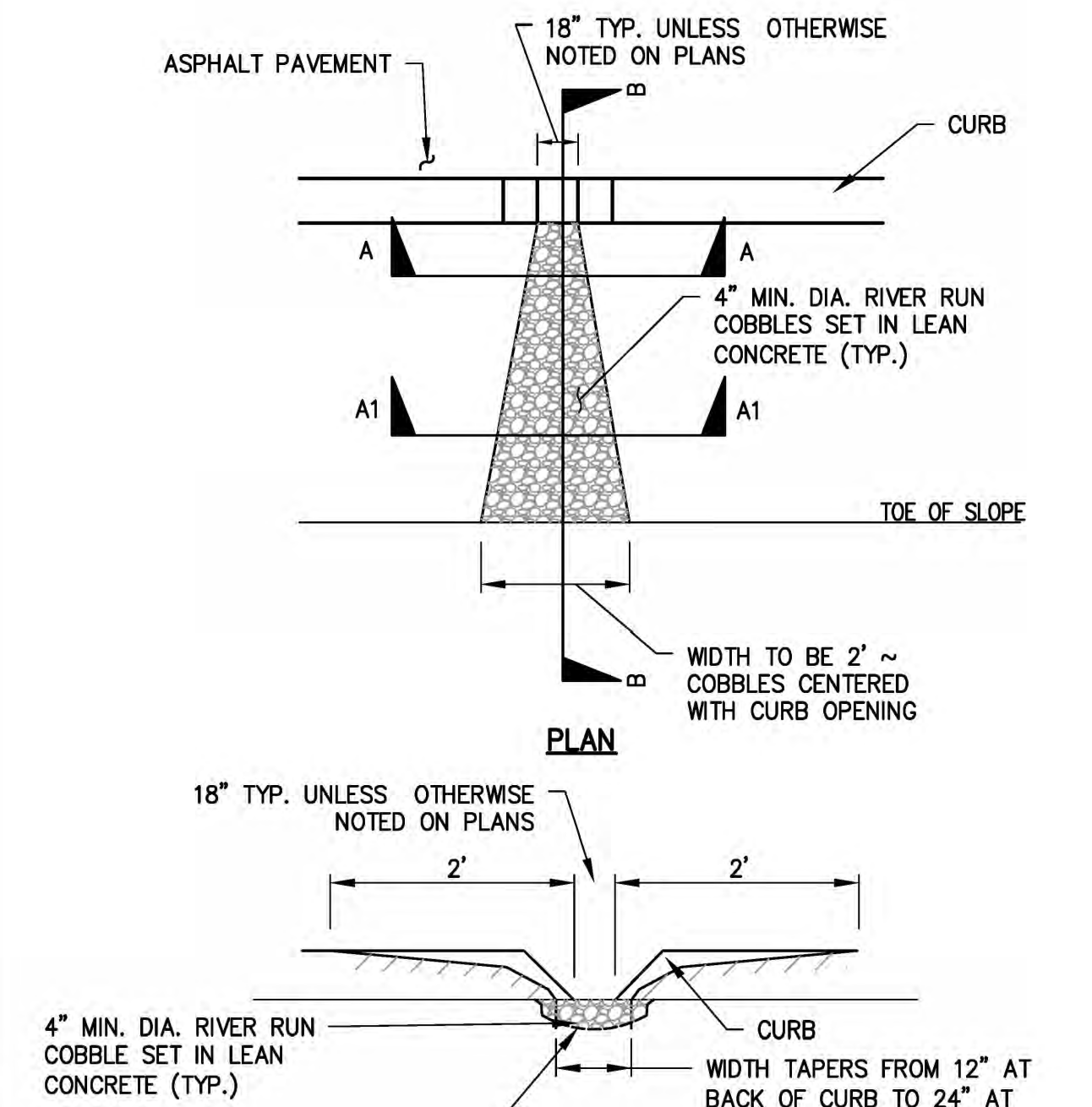
P.V.C. & H.D.P.E.
PIPE BEDDING DETAIL
NOT TO SCALE

5



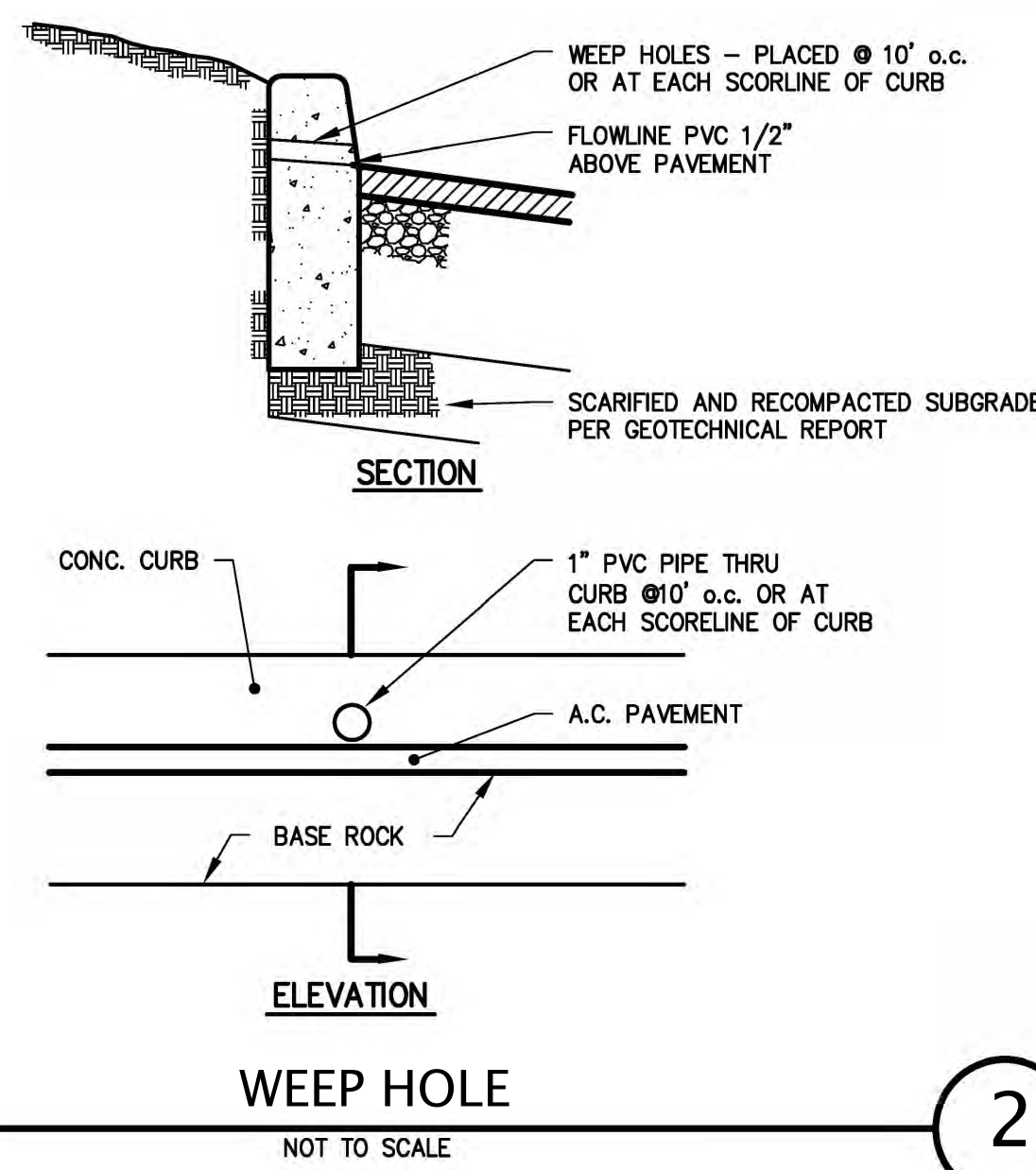
ACCESSIBLE PARKING
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8



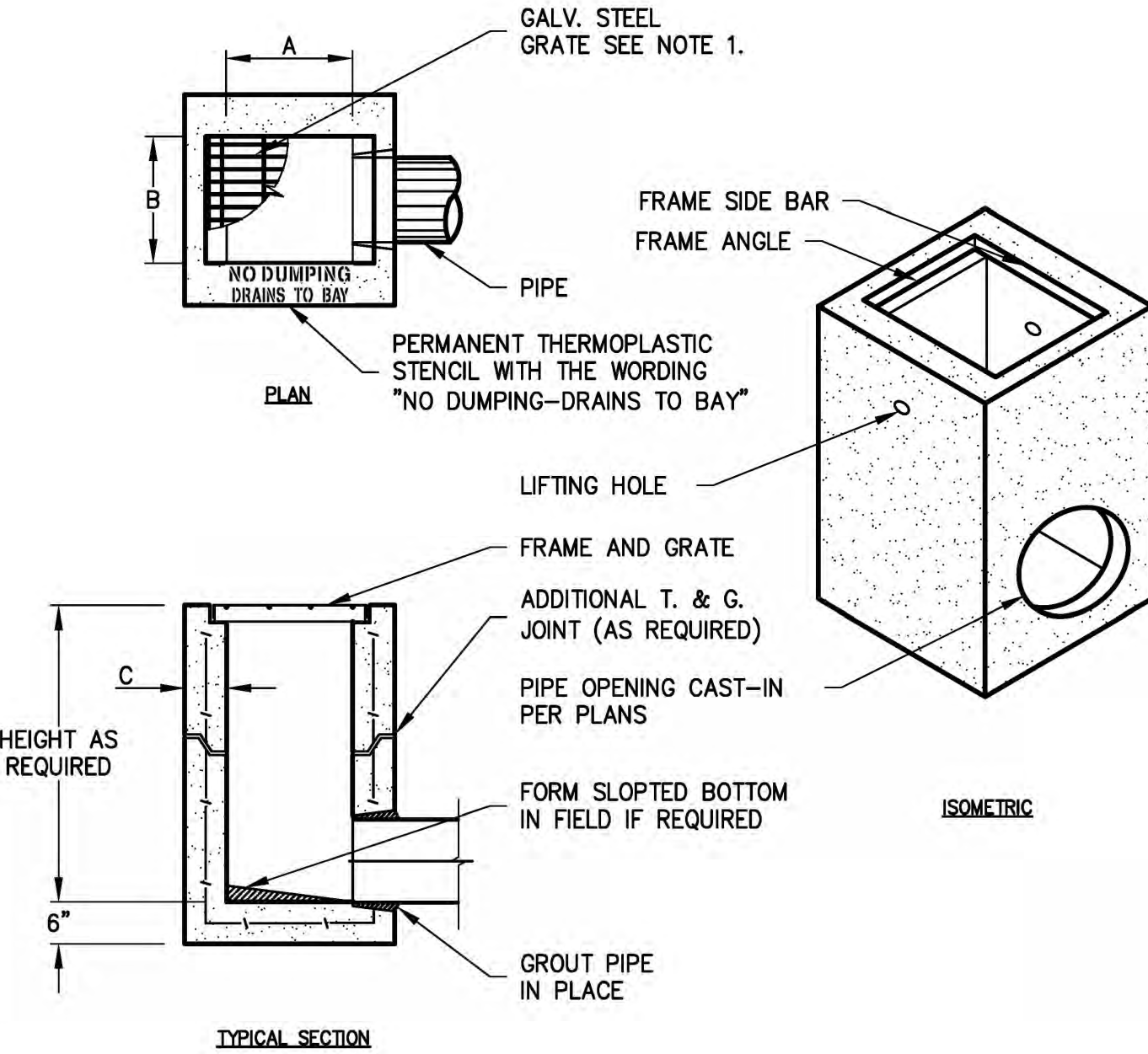
VALLEY GUTTER
NOT TO SCALE

17



WEEP HOLE
NOT TO SCALE

2



TYPICAL SECTION

NOTES:

1. FRAMES AND GRATES MAY BE SPECIFIED FOR PEDESTRIAN OR H2O TRAFFIC LOADING. ALL GRATES ARE BICYCLE PROOF. OPTIONAL GRATE LOCKING DEVICE AVAILABLE ON REQUEST SEE DRAWING "LOCK" ON PAGE 1-7 OF THE CENTRAL PRECAST CATALOG. CLOSED-MESH GRATES OR CAST IRON FRAME AND GRATES ARE AVAILABLE ON REQUEST.

2. FOR SURFACE AND DISCHARGE OPTIONS AVAILABLE SEE DRAWING NO. 1A-50" AND 1A-51" OF THE CENTRAL PRECAST CATALOG.

3. FRAMES AND GRATES DETAILS SEE PAGES 1-8, 1-9, AND 1-10 OF THE CENTRAL PRECAST CATALOG.

4. WALL THICKNESSES ON ALL D.I.S. CAN BE CHANGED UNDER REQUEST.

5. 18" WIDE D.I.S. REPLACE THE 18" WIDE BOX BK & L.

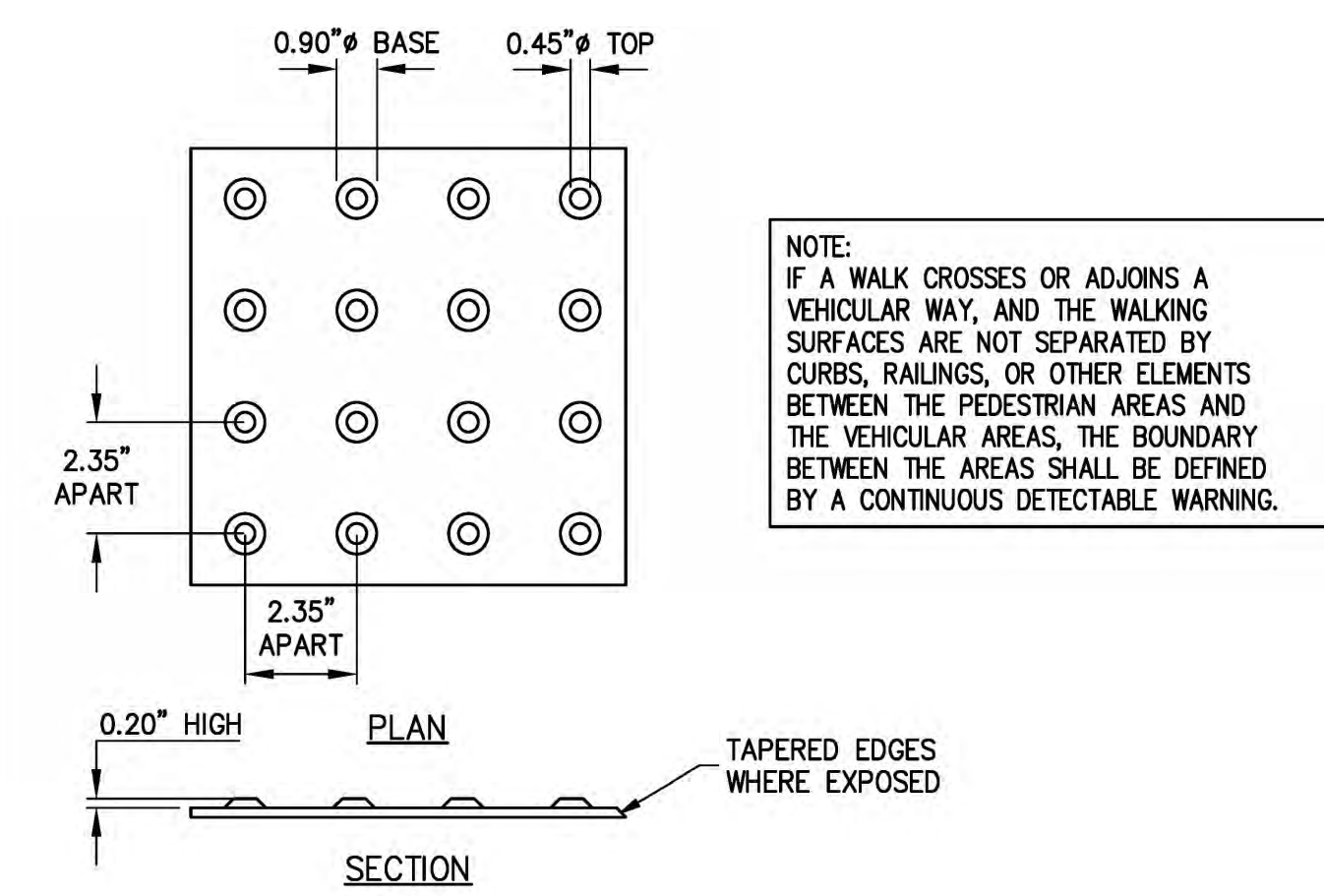
6. JUNCTION BOXES SHALL HAVE SOLID CHECKER PLATE RATED TO H2O LOADS

DROP INLET TABLE

MODEL No.	CPC MODEL NAME	A			B			C		
		IN	MM	IN	MM	IN	MM	IN	MM	
CP1212	EX	12	300	12	300	4	100			
CP1818	OK	18	450	18	450	5	125			
CP1824	1K*	18	450	24	600	5	125			
CP2424	2K	24	600	24	600	5	125			
CP2430	3K	24	600	30	750	5	125			
CP3030	5K	30	750	30	750	6	150			
CP2436	1L	24	600	36	900	6	150			
CP3636	1M	36	900	36	900	6	150			
CP2448	3L	24	600	48	1200	6	150			
CP3648	3M	36	900	48	1200	6	150			
CP4848	1R	48	1200	48	1200	6	150			

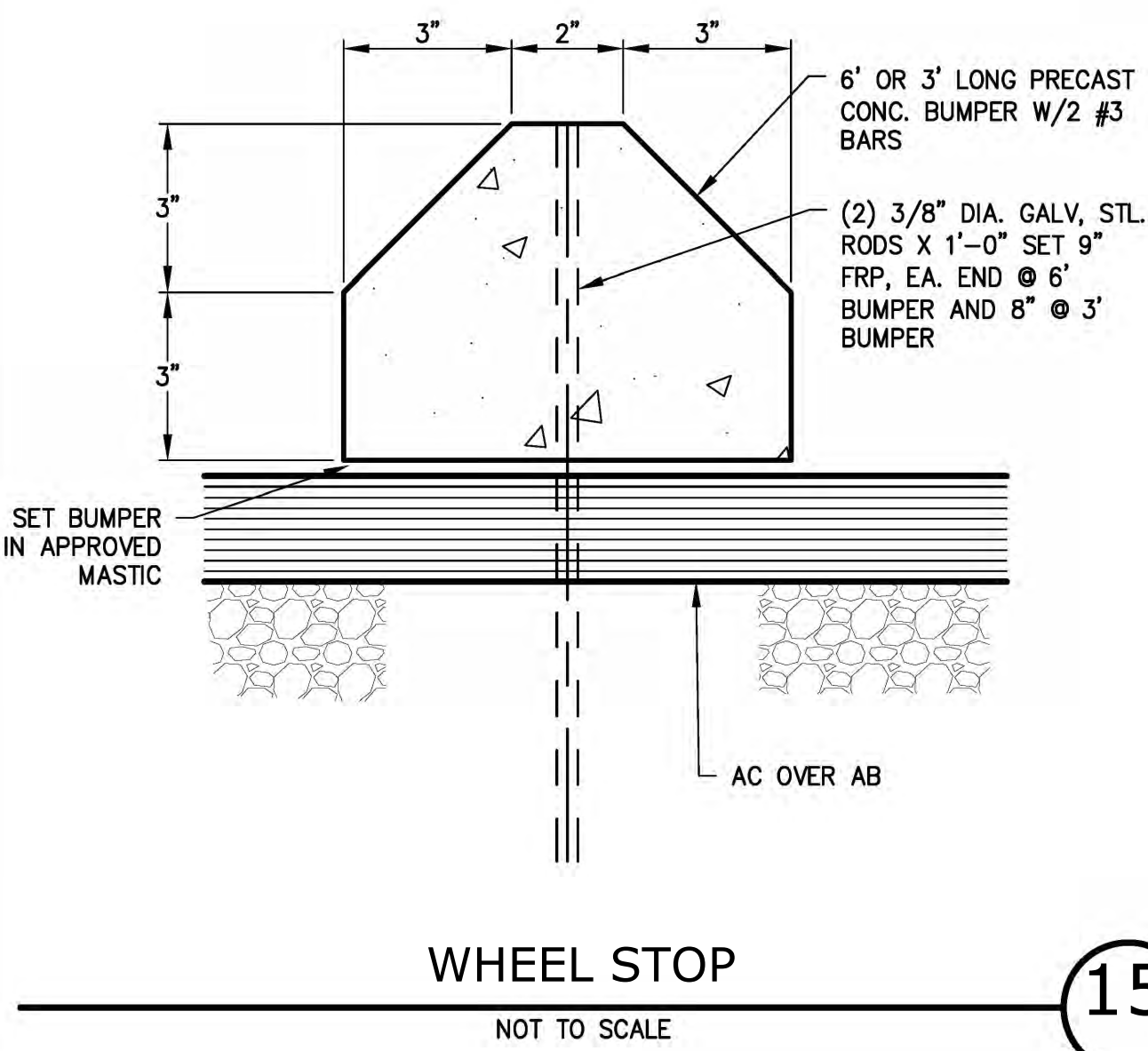
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6



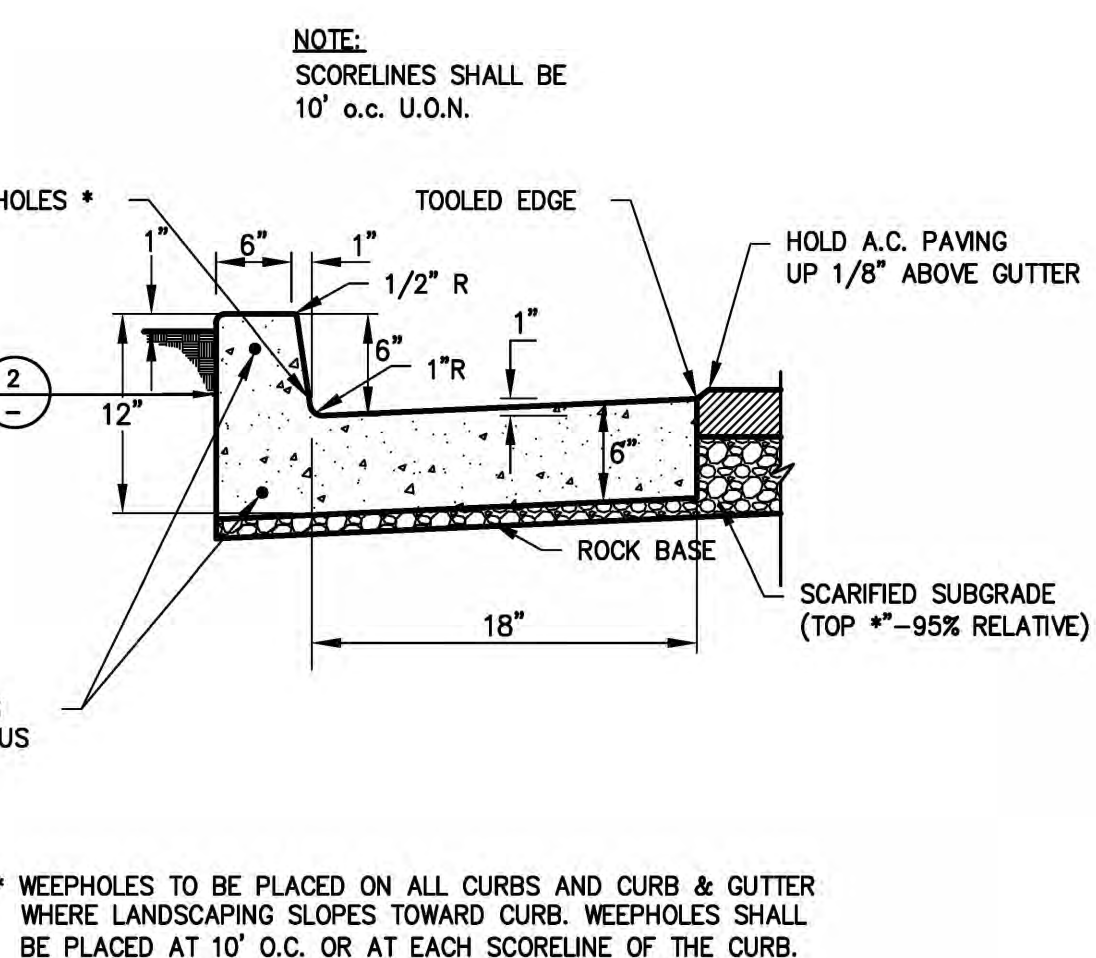
TRUNCATED DOMES
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10



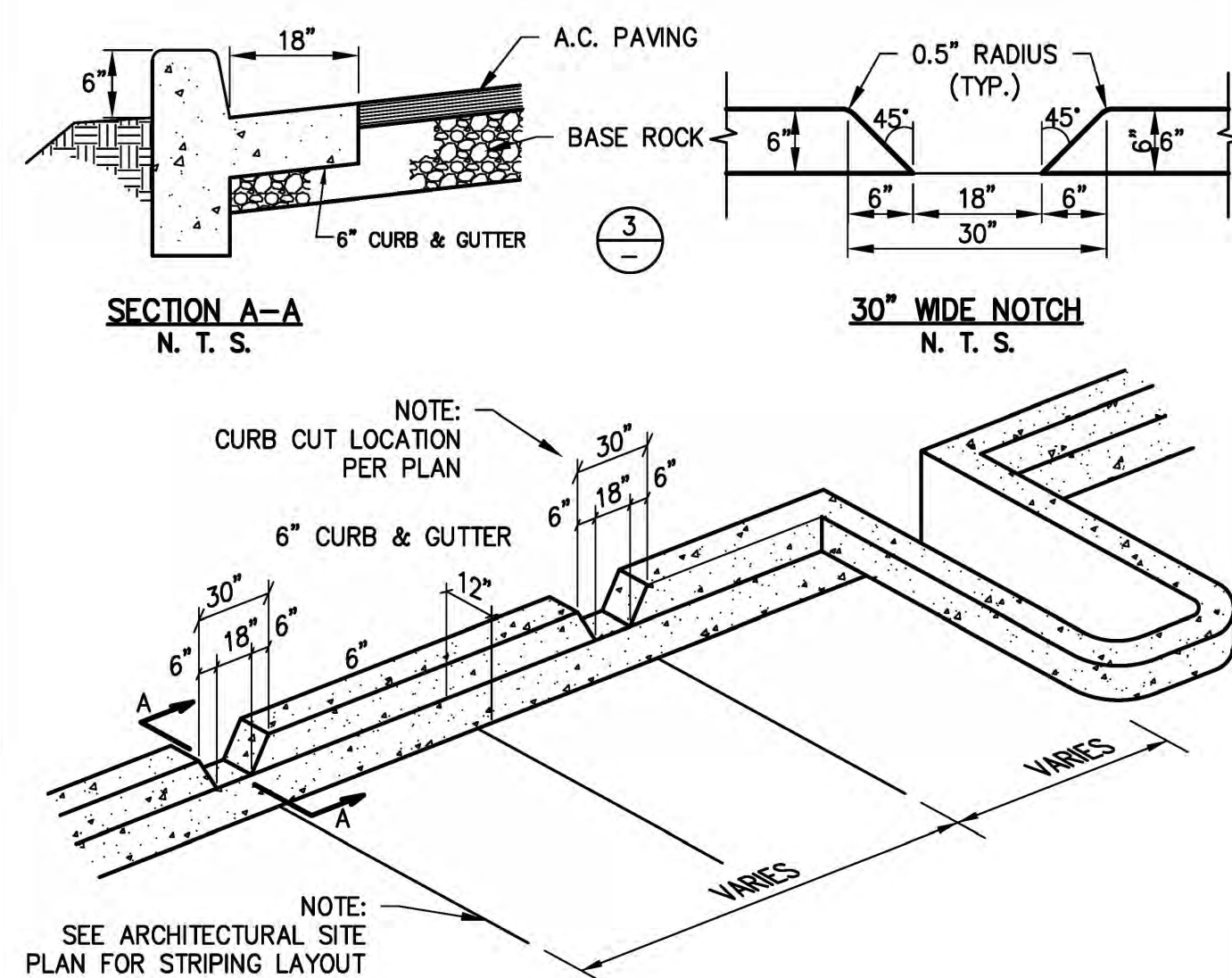
WHEEL STOP
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15



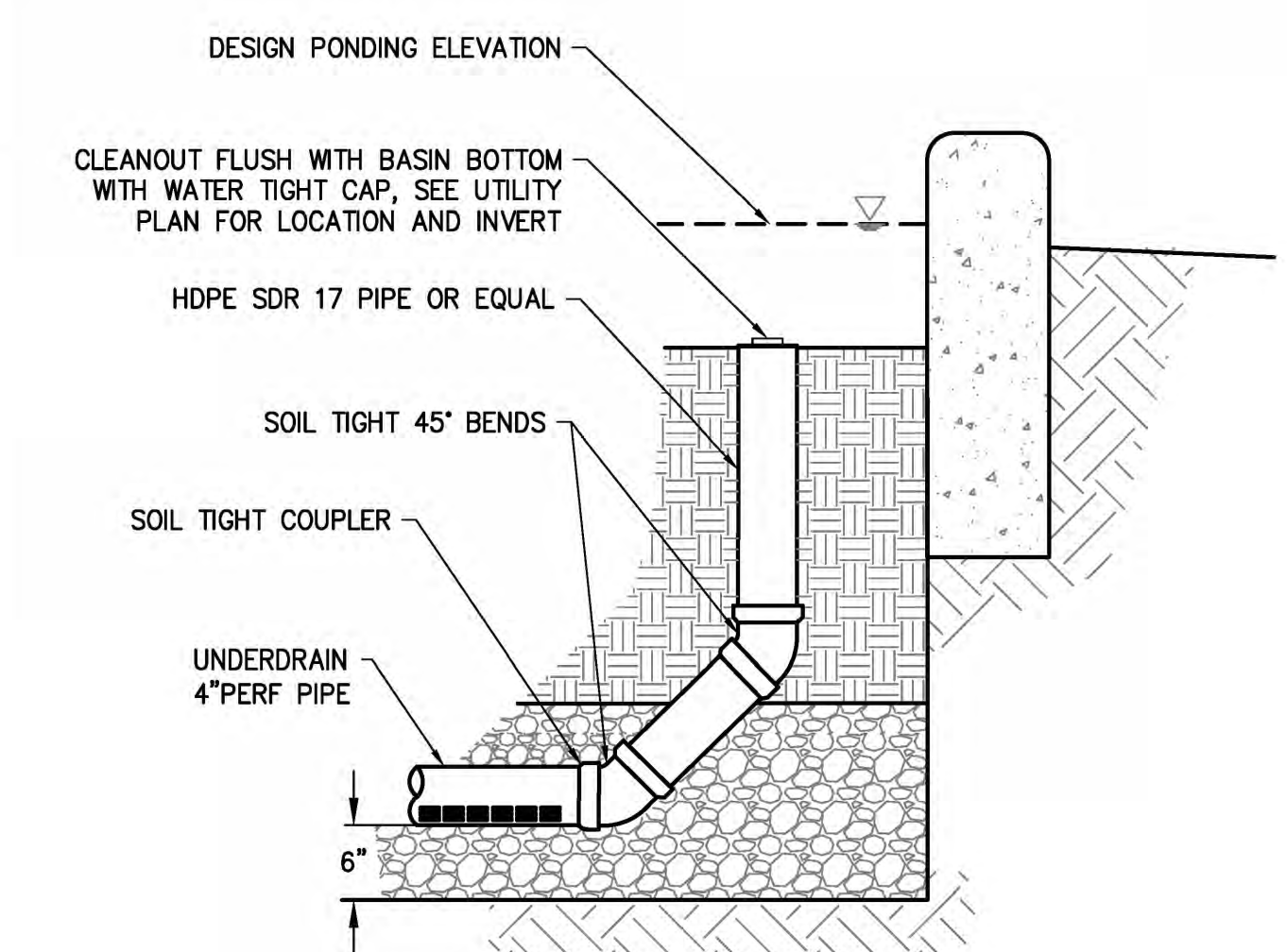
CONCRETE CURB & GUTTER
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3



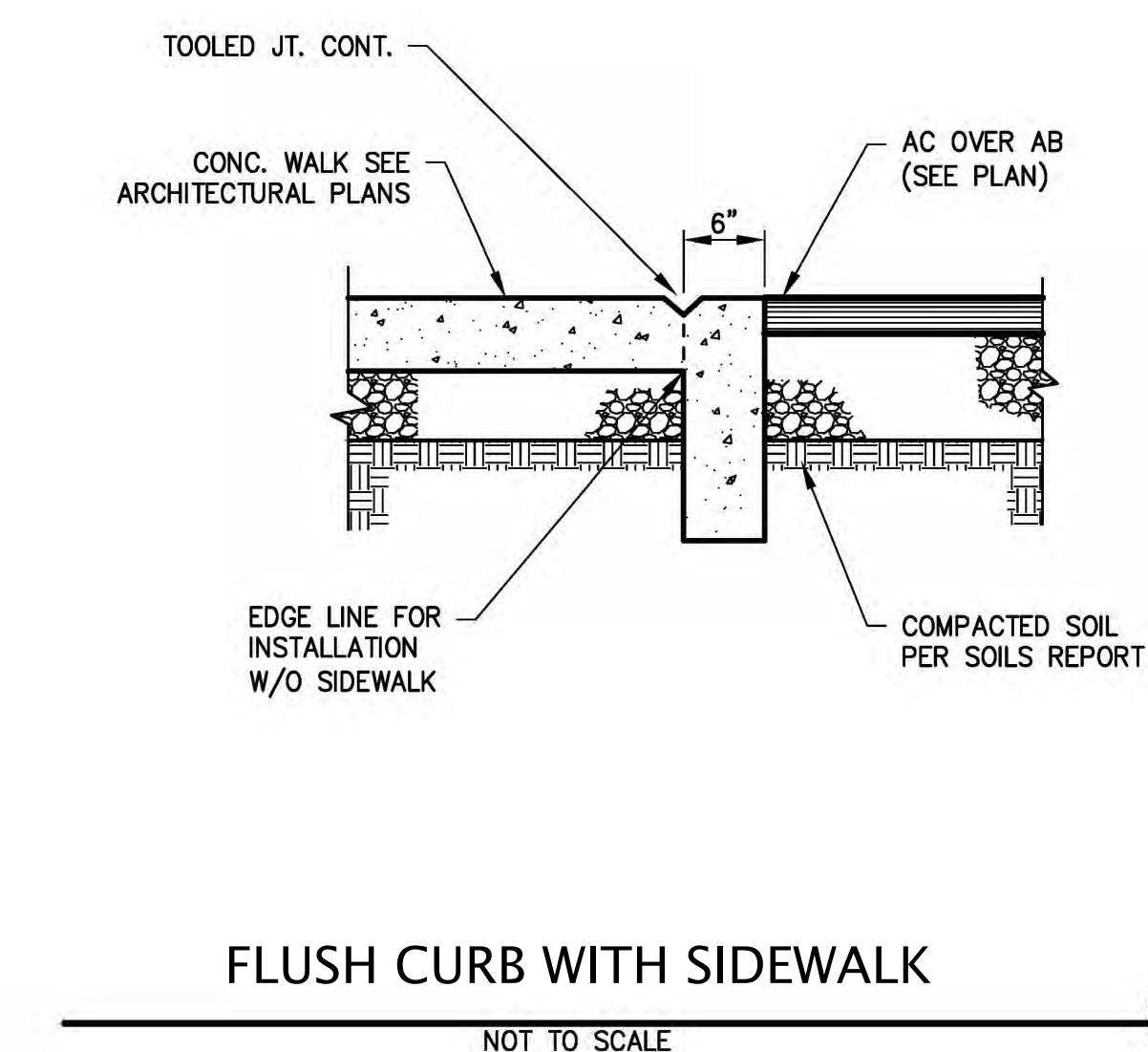
NOTCHED CURB & GUTTER
NOT TO SCALE

4



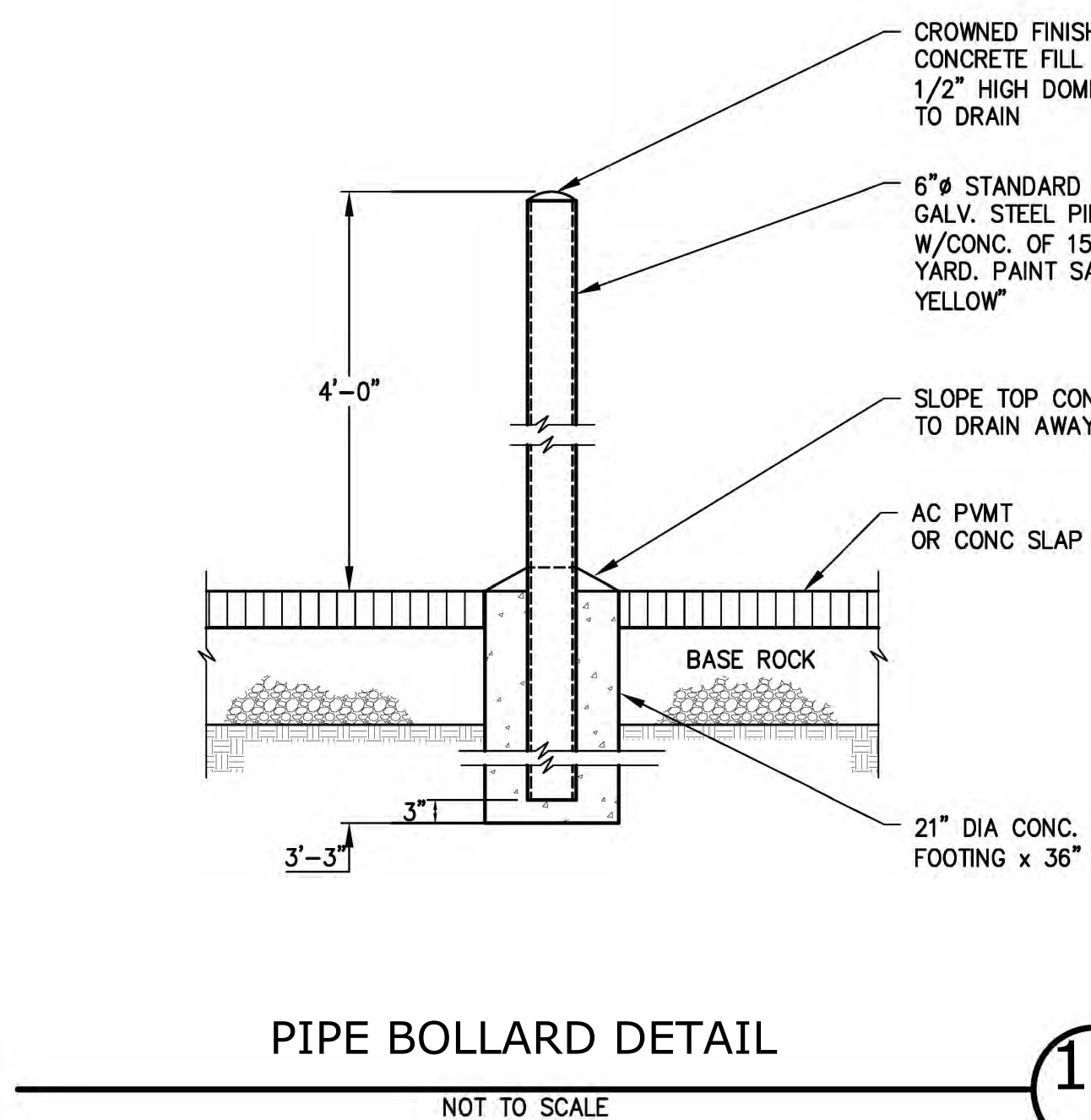
STORM DRAIN CLEAN OUT
NOT TO SCALE

7



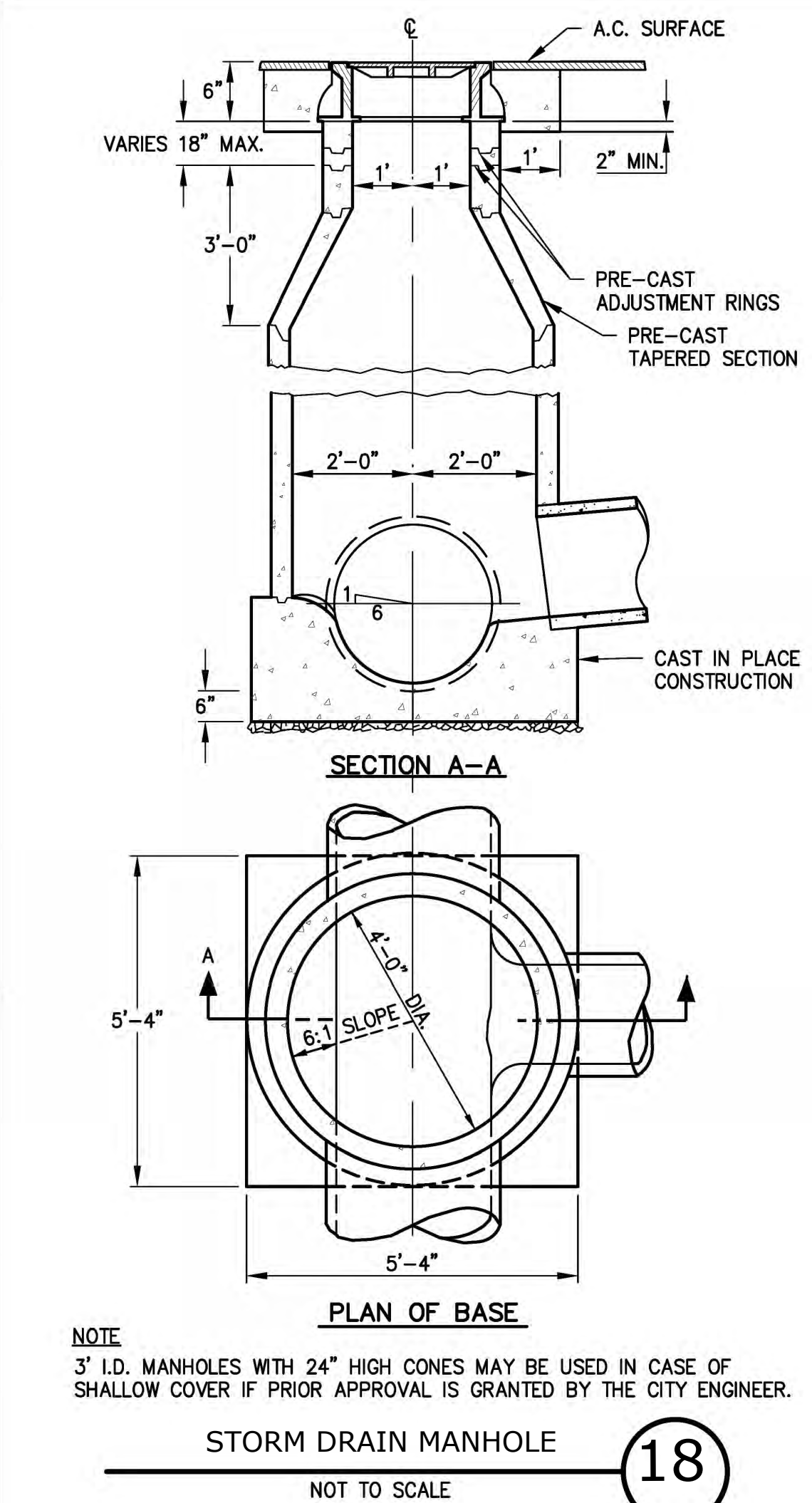
FLUSH CURB WITH SIDEWALK
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11



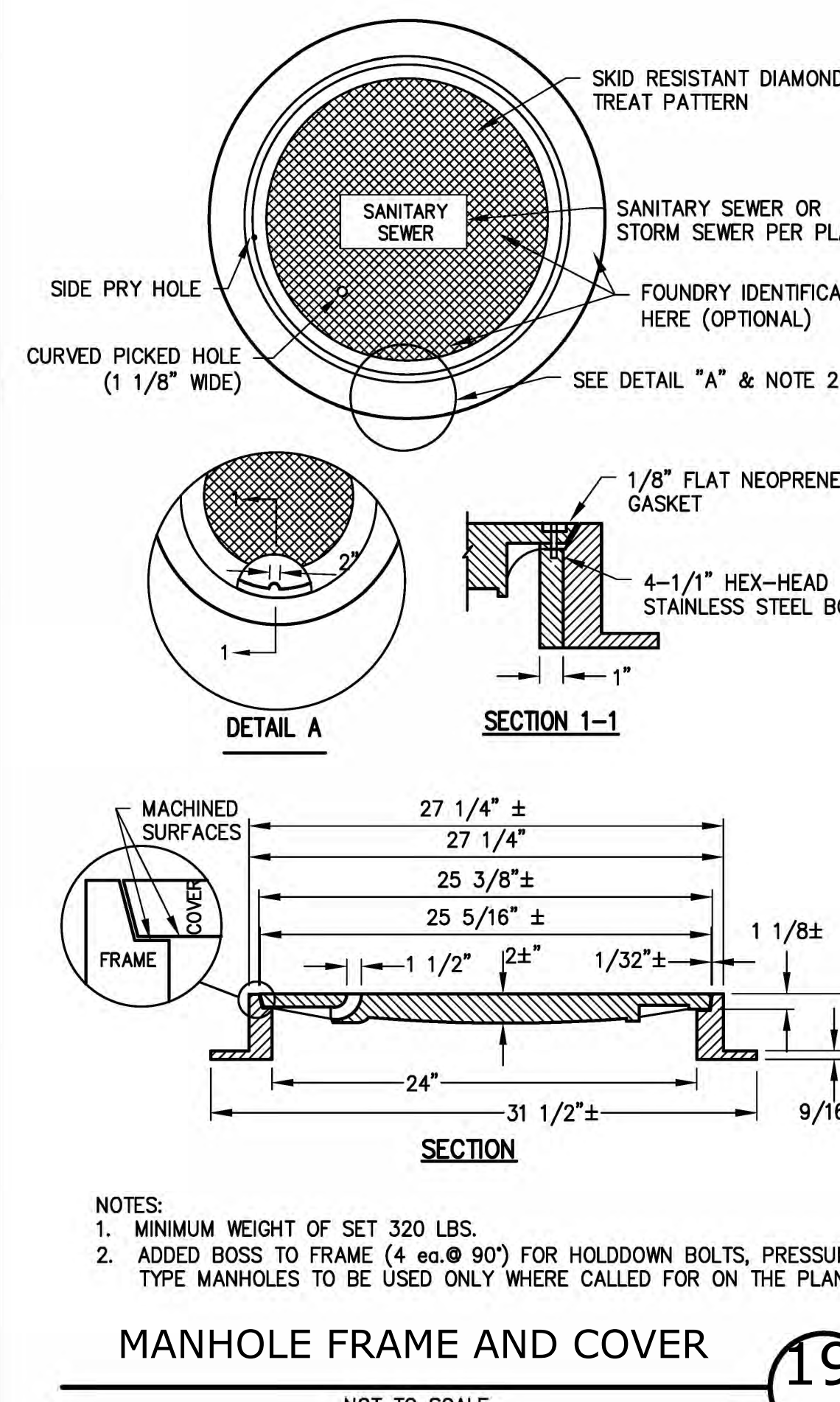
PIPE BOLLARD DETAIL
NOT TO SCALE

16



STORM DRAIN MANHOLE
NOT TO SCALE

18



MANHOLE FRAME AND COVER
NOT TO SCALE

19



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Suite 500 Atlanta, GA 30346

Design Consulting LLC
103 E Haring St. Howe TX 75469

KIER+WRIGHT
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ISSUES	
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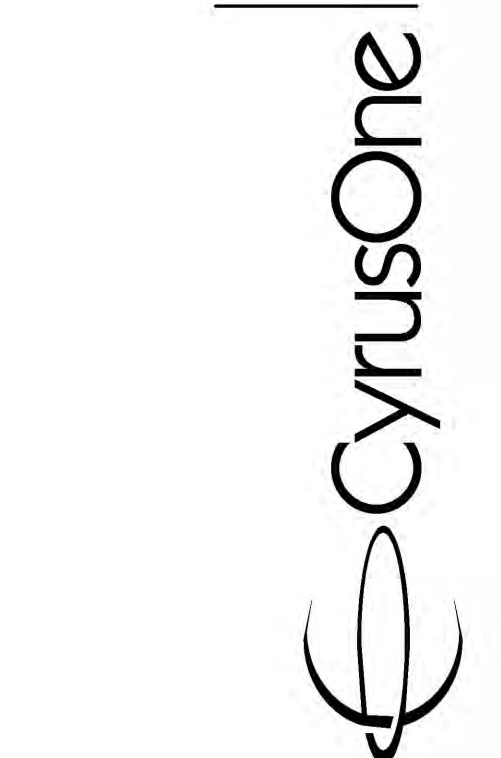
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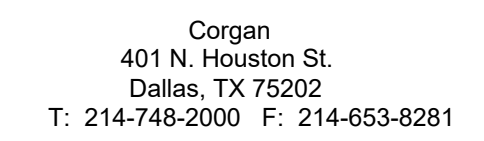
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DETAILS

PROJECT NUMBER 17125-0300
DATE 08-01-2019
SHEET NUMBER C2.1

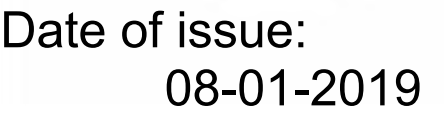


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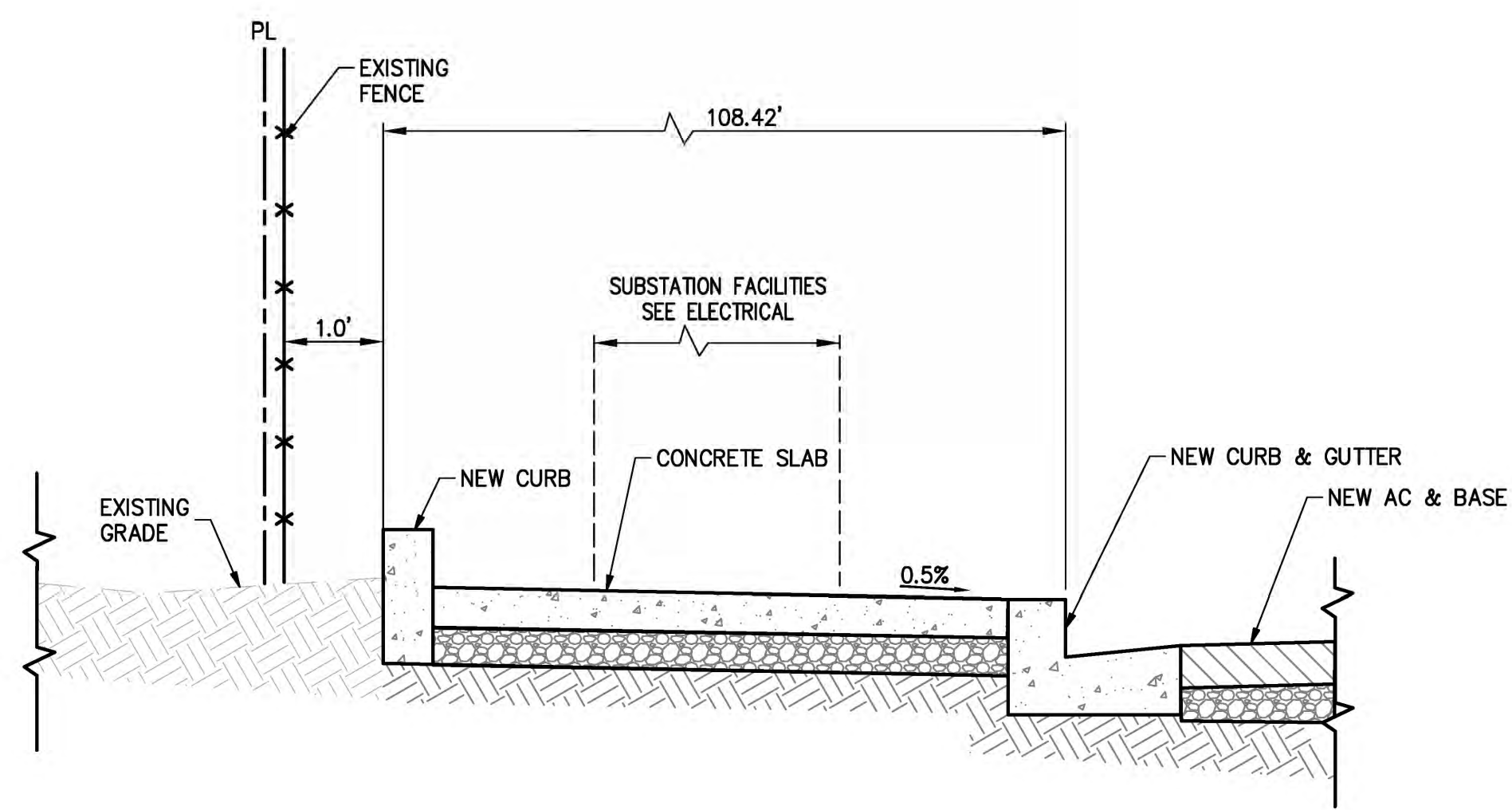
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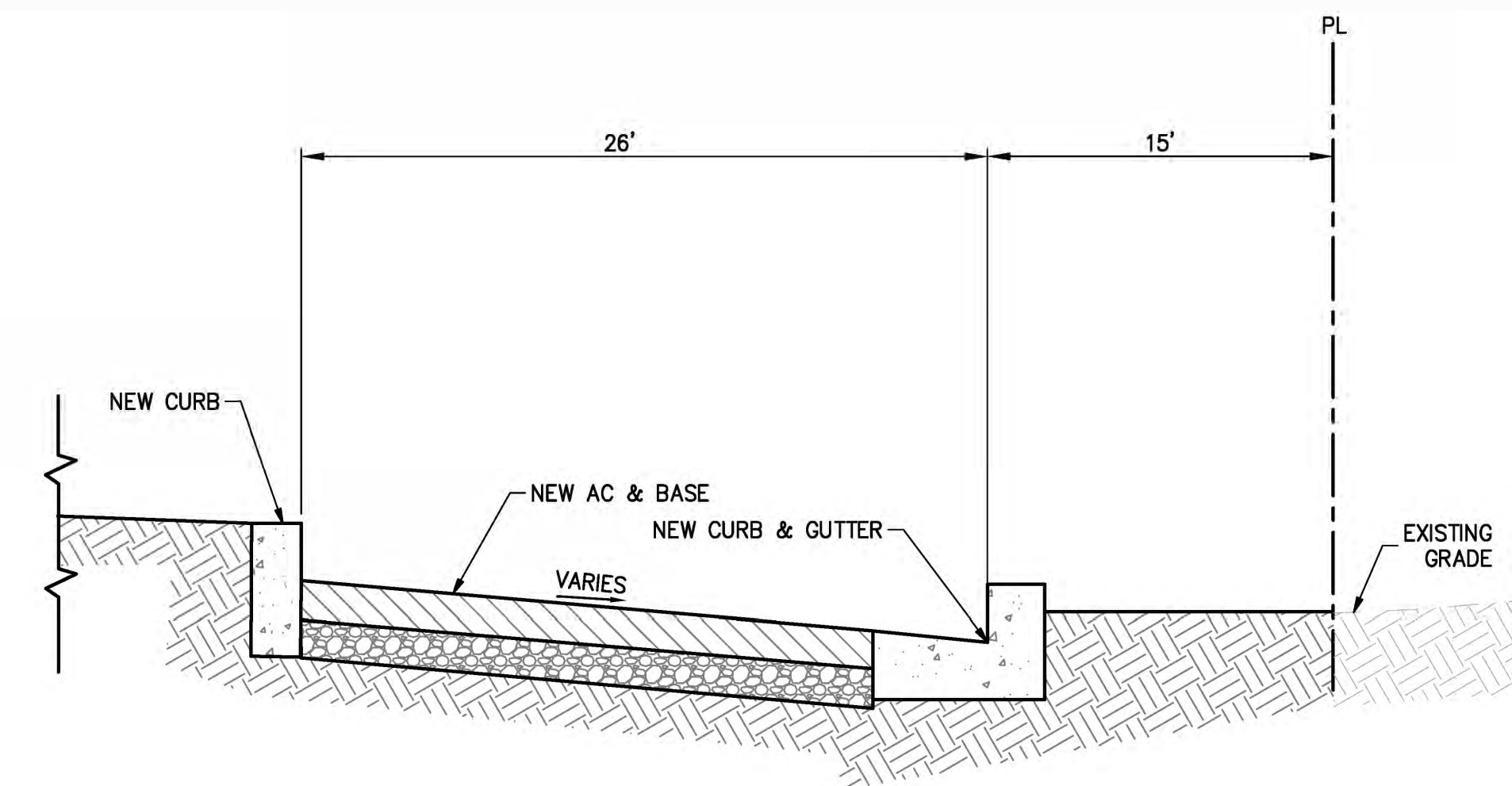
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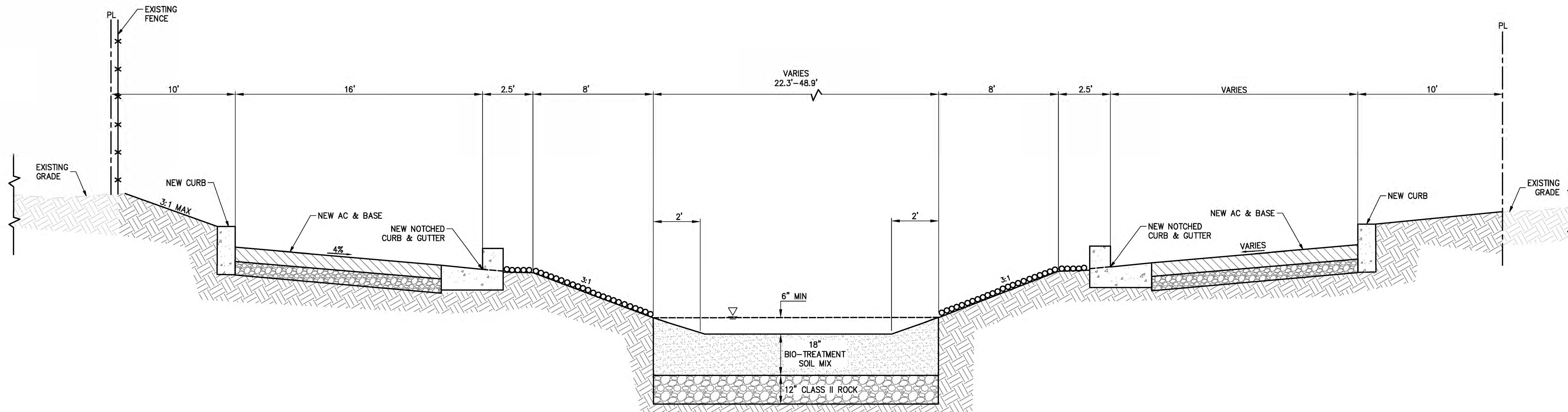
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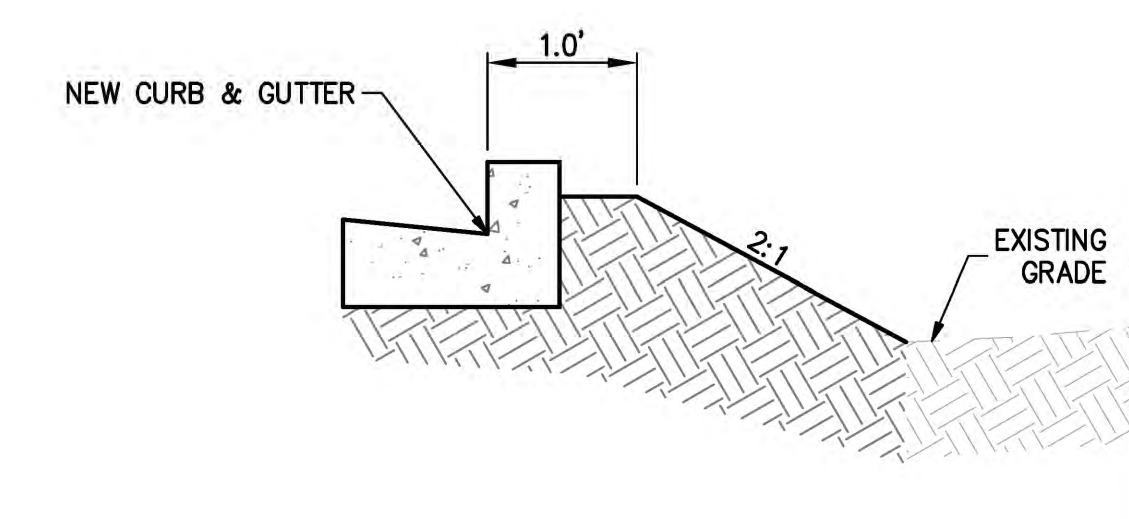
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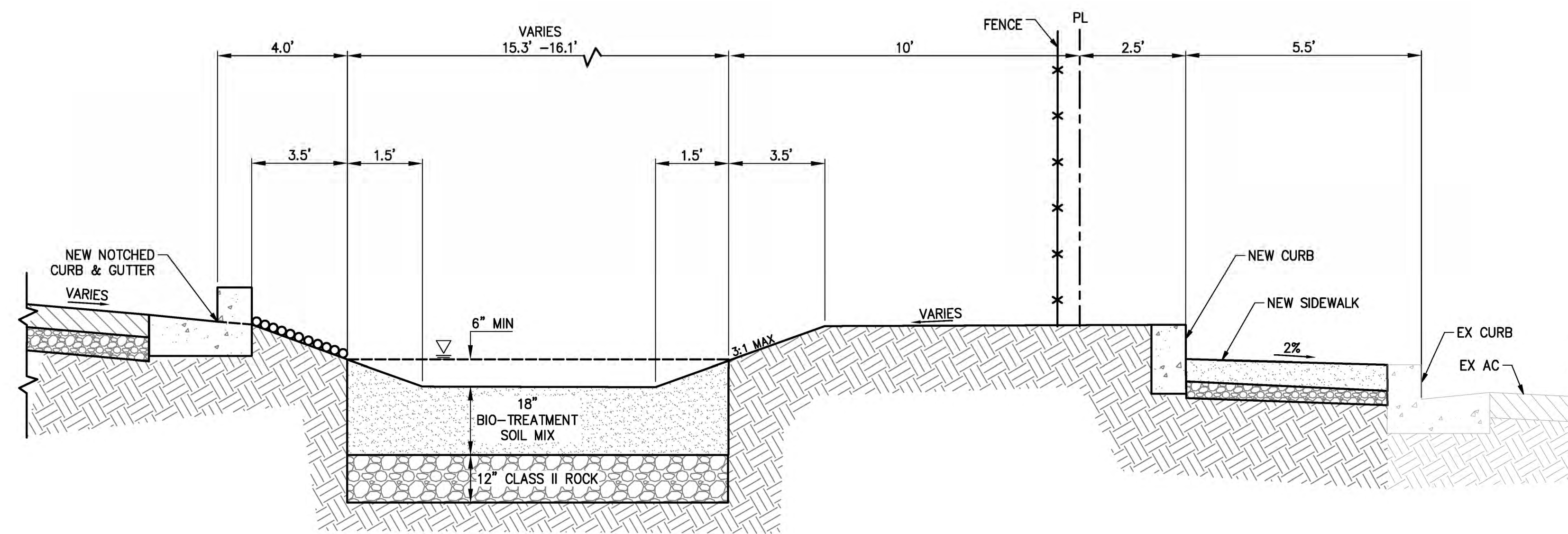
SECTION D



SECTION B



SECTION E



SECTION C



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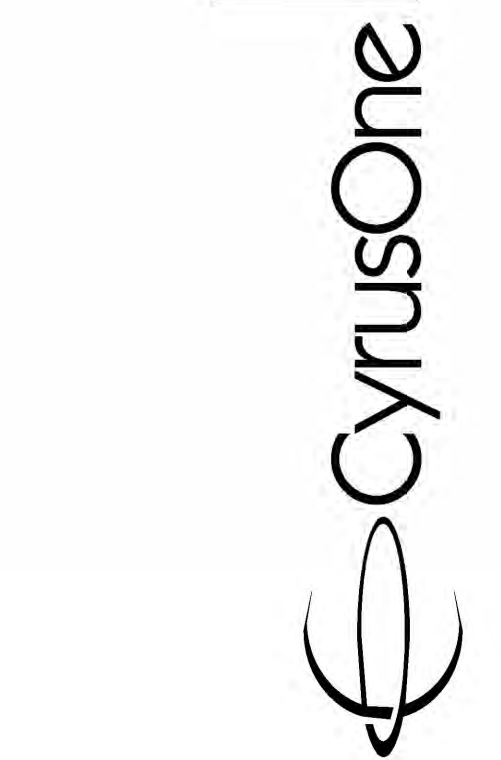
RCE
STAMP

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SECTIONS

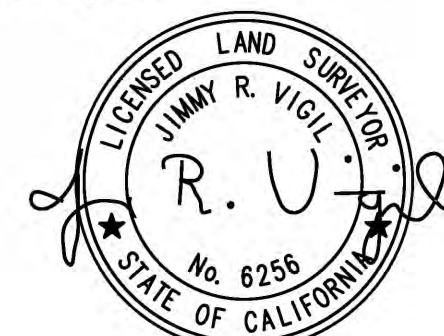
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DATE 08-01-2019
SHEET NUMBER

C3.1

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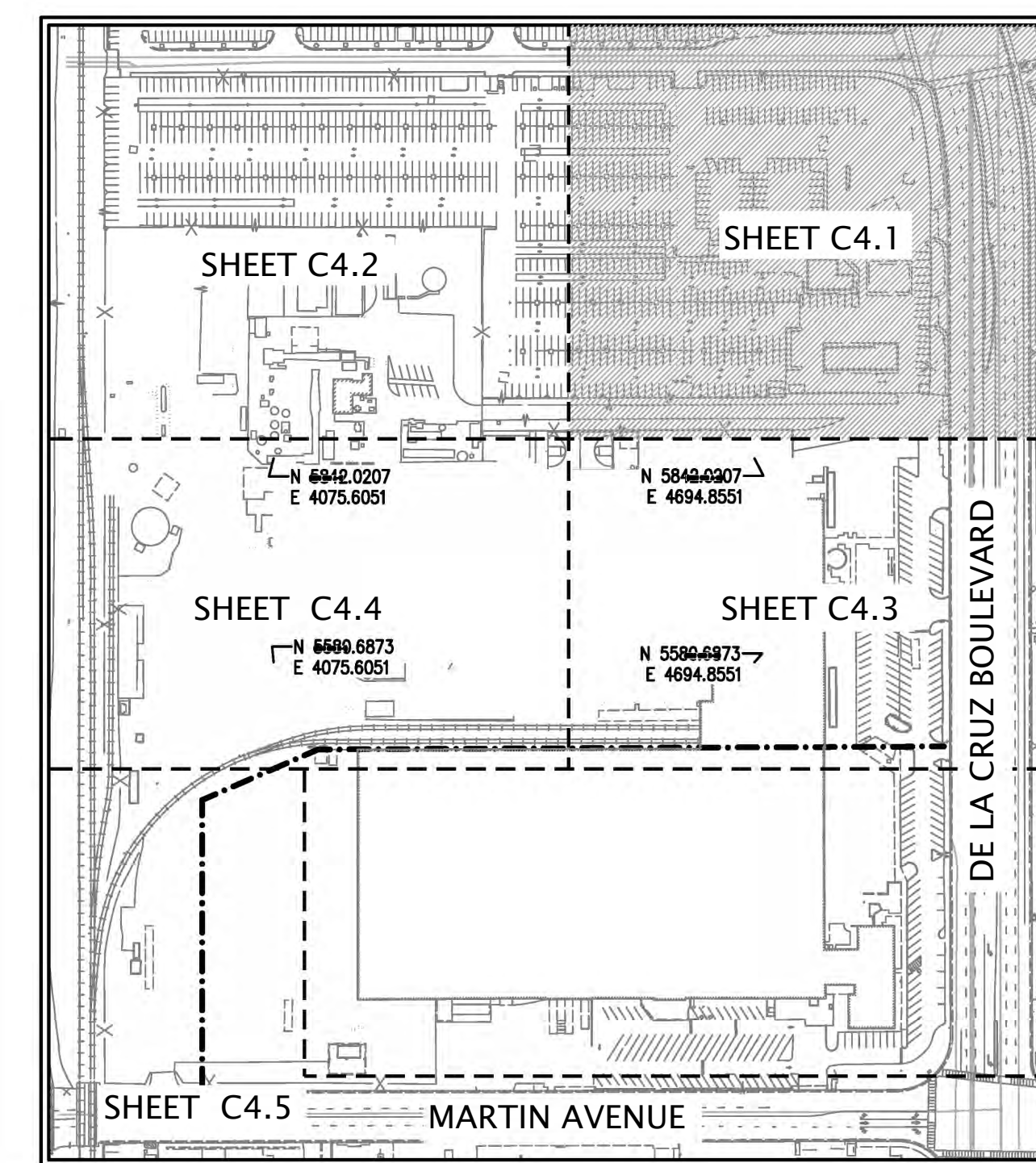
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KEYPLAN

PROJECT NUMBER 17125.0300
DATE 08/01/2019
SHEET NUMBER 04

C4.1



KEY MAP

NOT TO SCALE

NOTES

1. THIS SURVEY WAS PREPARED FROM INFORMATION FURNISHED IN A COMMITMENT FOR TITLE INSURANCE, PREPARED BY CHICAGO TITLE INSURANCE COMPANY DATED AS OF DECEMBER 4, 2018, COMMITMENT NUMBER FWPS-1018002183, FURNISHED TO KIER & WRIGHT CIVIL ENGINEERS & SURVEYORS, INC. BY CRYSTONE CONCRETE ON DECEMBER 21, 2018. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY, ALL ON-SITE UNDERGROUND UTILITIES SHOWN WERE FIELD LOCATED AND MAPPED BY SUBDYNAMIC LOCATING ON DECEMBER 20, 2018. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE BELIEF HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
4. BENCHMARK:
CITY OF SANTA CLARA BK K-1; DE LA CRUZ BOULEVARD & MARTIN AVENUE, SOUTHEAST CORNER, TOP OF LETTER "C" IN WORD "CLARA" ON TOP OF CAST BASIN HOOD.
ELEVATION: 40.29 FEET (DATUM NAVD 88)
5. A.P.N.: 230-03-099 AND 230-03-105
6. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL ENGINEERING MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR SANTA CLARA COUNTY, CALIFORNIA, MAP NUMBER 0608500227H FOR FLOOD ZONE NUMBER BROOK 2 (CITY OF SANTA CLARA), WITH AN EFFECTIVE DATE OF MAY 18, 2009, AS BEING LOCATED IN FLOOD ZONE "X", ACCORDING TO FEMA THE DEFINITION OF ZONE "X" IS:

INFORMATION WAS OBTAINED FROM THE FEMA WEBSITE ON DECEMBER 18, 2018.
7. BASIS OF SURVEY:
THE BEARING OF NORTH 00°09'00" WEST TAKEN ON THE CENTERLINE OF DE LA CRUZ BOULEVARD AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON MAY 17, 2012 IN BOOK 852 OF MAPS AT PAGES 32-33, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS OF ALL BEARINGS SHOWN HEREON.
8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS WHICH BECOME THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 877(1)(G) OF THE PROFESSIONAL LAND SURVEYORS ACT.

DATE 07/01/2019

DATE

PREPARED BY OR UNDER THE SUPERVISION OF
JIMMY R. VIGIL, L.S. 6256



ABBREVIATIONS

AC	ASPHALTIC CONCRETE	O.R.	OFFICIAL RECORD
AMSL	ABOVE MEAN SEA LEVEL	PL	PROPERTY LINE
BFP	BACK FLOW PREVENTER	P.L.E.	PRIVATE LANDSCAPE EASEMENT
BL	BUILDING	PMWA	PROPOSED MONITORING WELL AREA
BW	BACK OF WALK	P.R.E.E.	PROPOSED RECIPROCAL INGRESS EGRESS EASEMENT
CO	CURB CUT	P.D.E.	PRIVATE DRAIN EASEMENT
COMM	COMMUNICATION BOX	P.U.E.	PUBLIC UTILITY EASEMENT
CTV	CABLE TELEVISION	RM	RIM ELEVATION
DI	DROP INLET	SD	STORM DRAIN
EB	ELECTRIC BOX	SSM	STORM DRAIN MANHOLE
EQAB	ELECTRIC CABINETS	SLB	STREET LIGHT BOX
EMH	ELECTRICAL MANHOLE	SN	SANITARY SEWER
EV	ELECTRIC VAULT	SSMH	SANITARY SEWER MANHOLE
FC	FACE OF CURB	TB	TELEPHONE BOX
FF	FINISH FLOOR	TMH	TELEPHONE MANHOLE
FNC	FENCE	TDB	TRAFFIC SIGNAL BOX
FND	FOUND	UB	UTILITY BOX
INV	INVERT ELEVATION	U.G.E.E.	UNDERGROUND ELECTRIC EASEMENT
I.P.	IRON PIPE	WB	WATER BOX
L/S	LANDSCAPE	W.C.E.	WIRE CLEARANCE EASEMENT
LH	LIGHT	WM	WATER METER
OH	OVERHEAD	WW	WATER VALVE



LEGEND

ASPHALT BERM
AVIGATION EASEMENT ELEVATION
ABOVE MEAN SEA LEVEL
PER (2249 0.R.249)
BUILDING LINE
CENTERLINE
CONCRETE /B/LOCK/RETAINING WALL
CONCRETE CURB
CONCRETE CURB & GUTTER
EASEMENT LINE
EDGE OF PAVEMENT
ELECTRIC LINE
FENCE LINE
GAS LINE - VALVE & METER
LOT LINE
MONUMENT/MONUMENT LINE
OVERHEAD POWER LINE
PROPERTY LINE
STORM DRAIN/SEWER-MANHOLE & CLEANOUT
SIDEWALK
STORM DRAIN-MANHOLE & CATCH BASIN
TELEPHONE LINE
WATER LINE & VALVE
BIKE OPTICS LINE
BACKFLOW PREVENTION DEVICE
ELECTRIC FLY HYDRANT
GUY ANCHOR
POWER POLE/JOINT POLE
TRAFFIC SIGNAL POLE
TRAFFIC SIGN
UTILITY BOX
WATER VALVE
WELL
RAILROAD TRACKS

MATCH LINE

MATCH LINE

SEE SHEET C4.2

SEE SHEET C4.1

Z:\2018\A18149-1\DWG\CIVIL\BUILDING PERMIT\A18149-1 CDS.dwg 9-19-19 03:29:49 PM dking

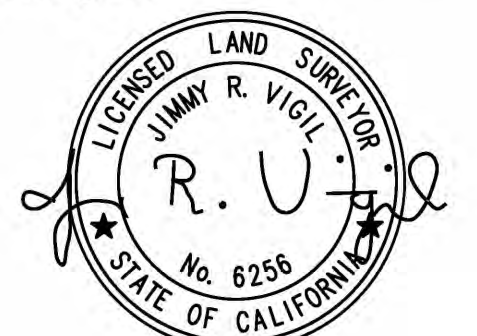
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REVISIONS

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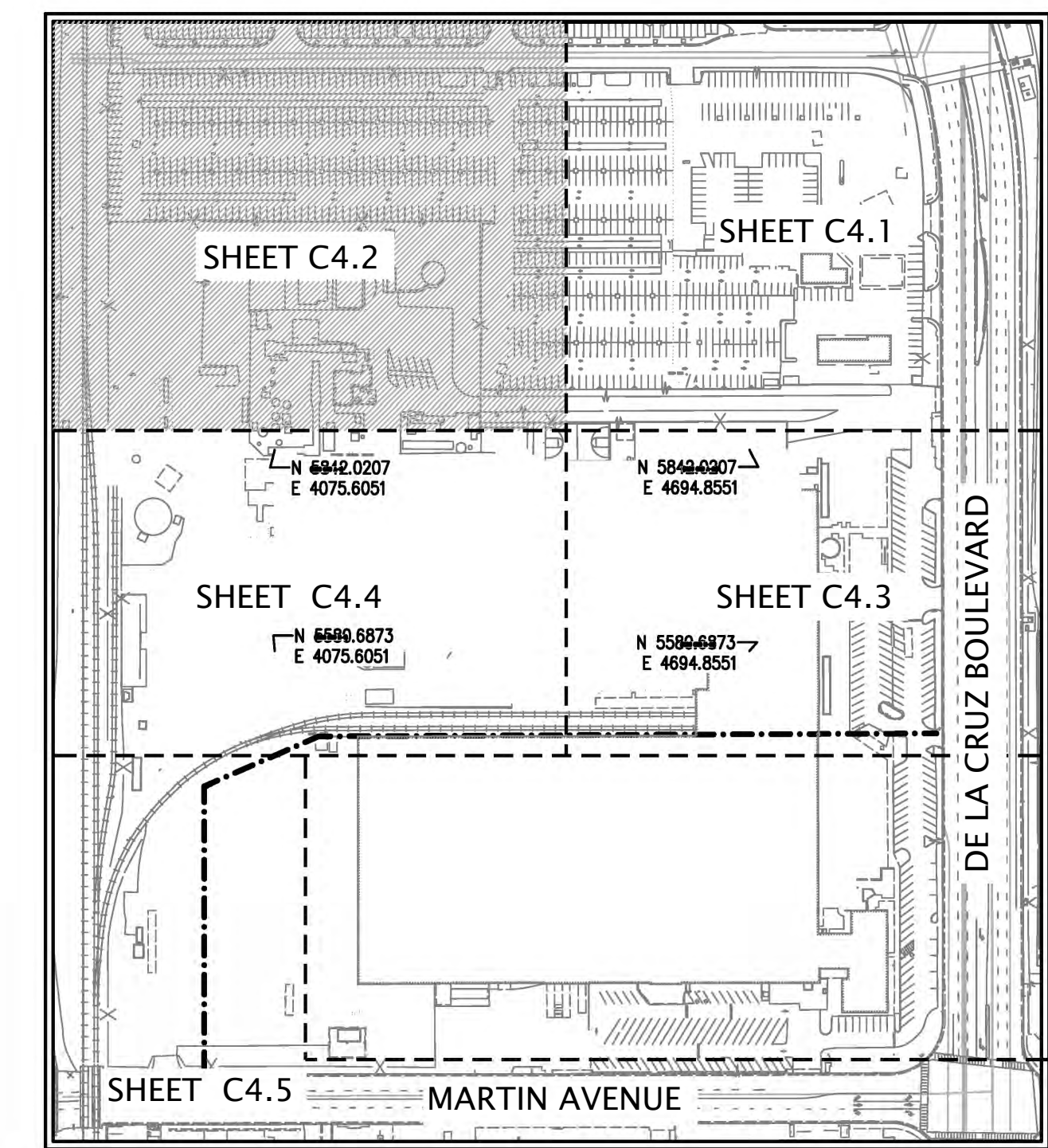
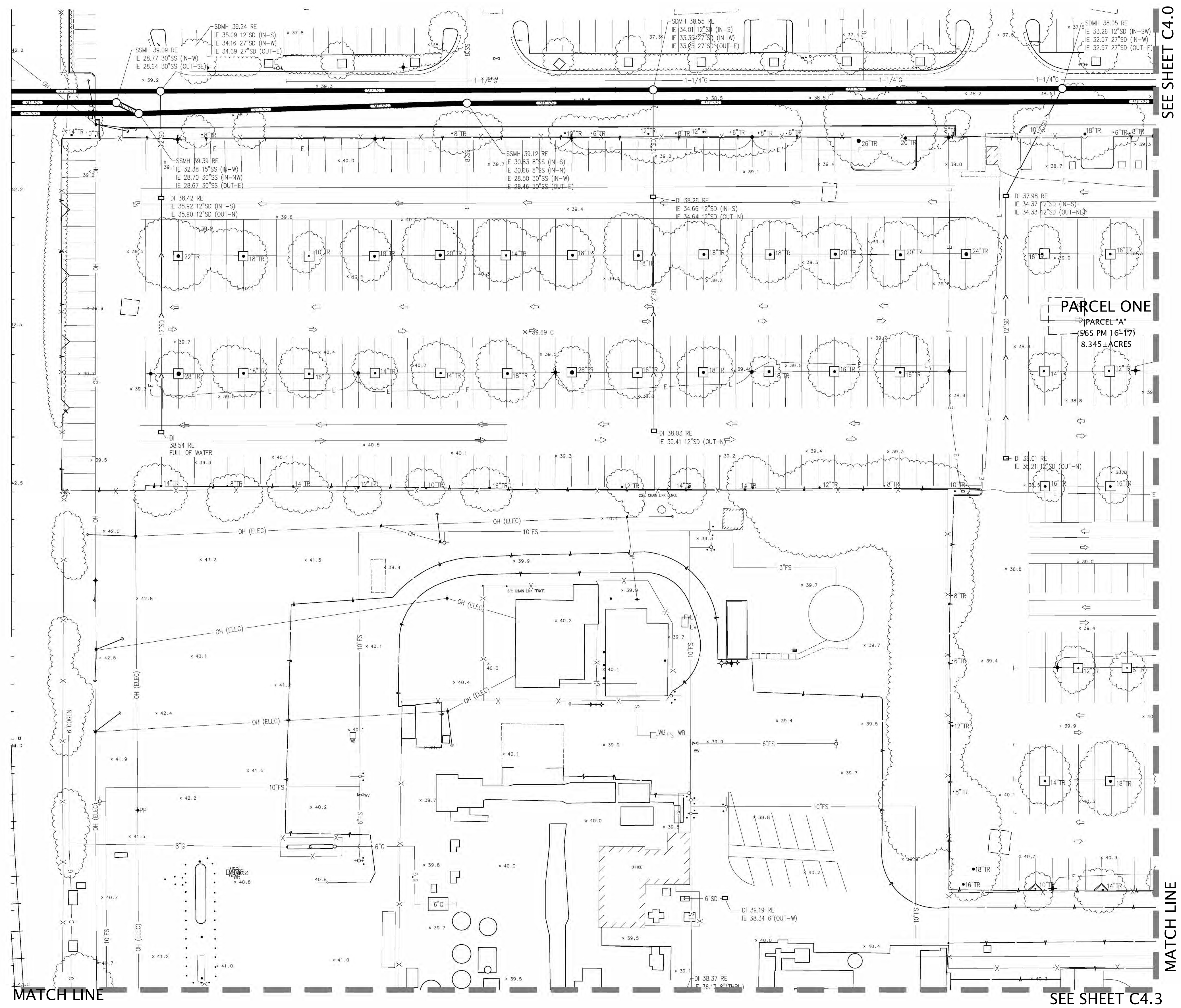
KEYPLAN

PROJECT NUMBER	17125.0300
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DATE 08/01/2019

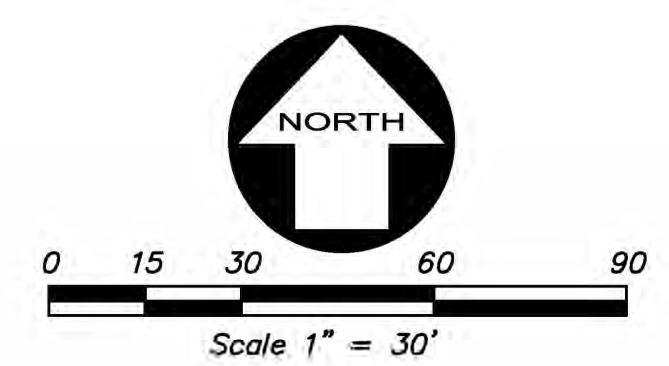
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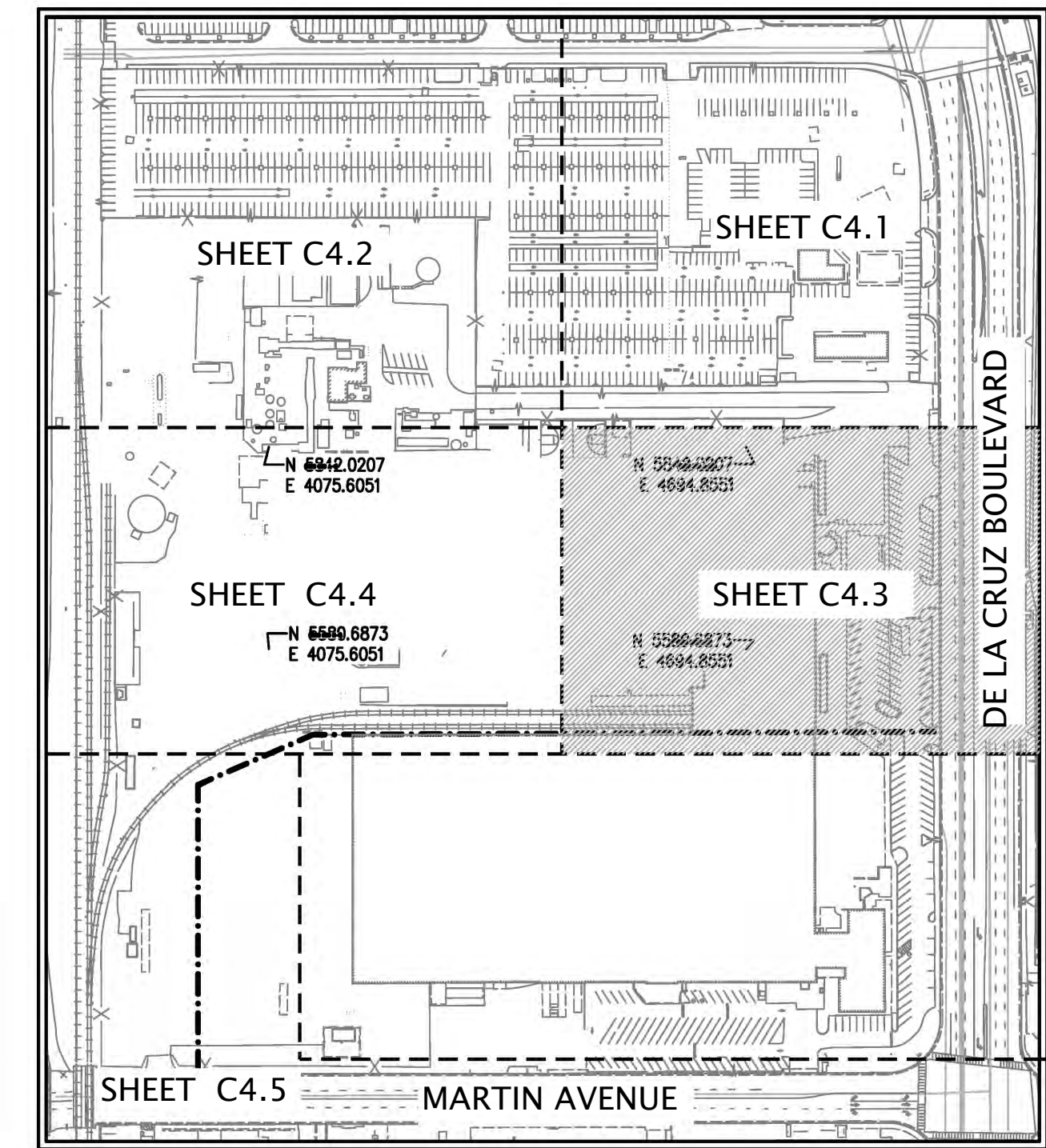
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KEY MAP

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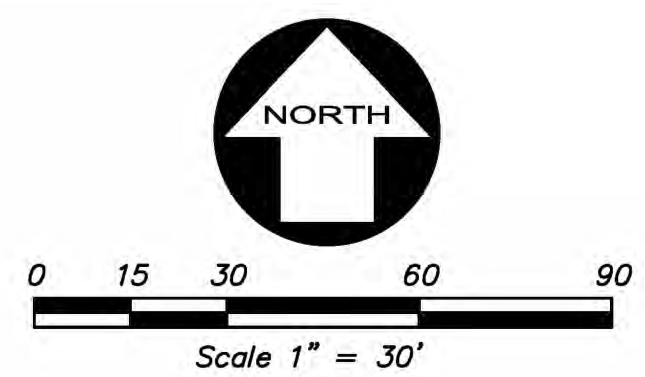
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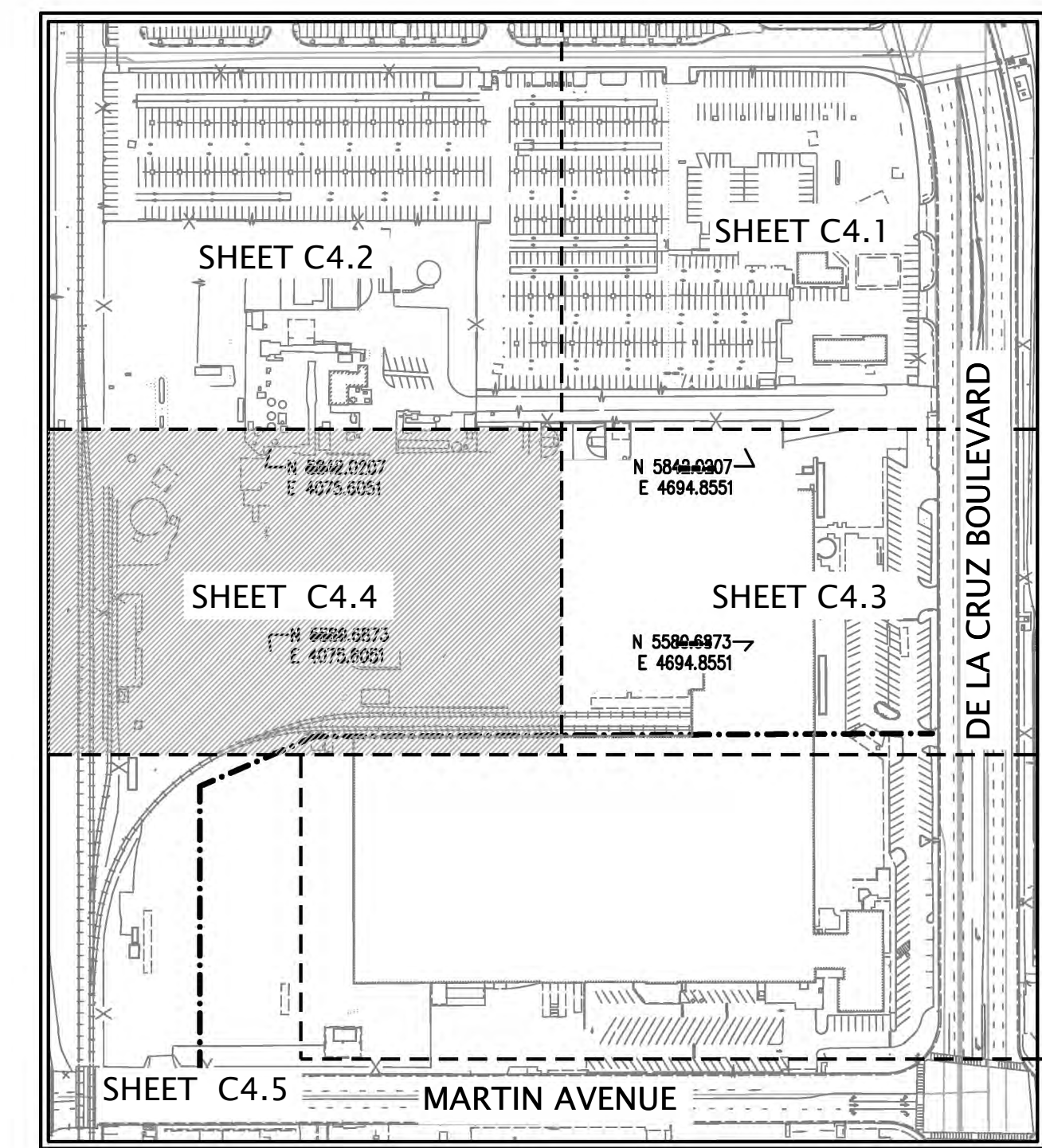
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2600 De La Cruz
Santa Clara, CA
95050



KEYPLAN

PROJECT
NUMBER 17125.0300
DATE 08/01/2019
SHEET NUMBER C4.3





CORGAN

 **kW Mission Critical
Engineering, d.p.c.**
433 River Street, Suite 7002, Troy, NY 12180

Bennett & Pless Inc.
47 Perimeter Central East,
Suite 500 Atlanta, GA 30346

TD Design Consulting LLC
103 E Haning St. Howe TX 75459

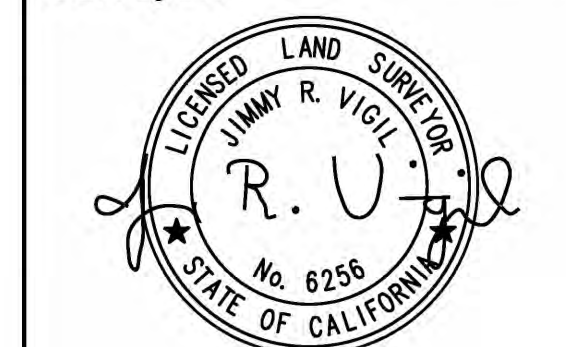


KIER+WRIGHT
4081 Mission Oaks Blvd. Suite. B Camarillo, Ca 93010

		ISSUES
1	08/01/2019	DESIGN DEVELOPMENT
2	08/01/2019	ISSUE FOR PERMIT
3	08/23/2019	PCC REVIEW PACKAGE

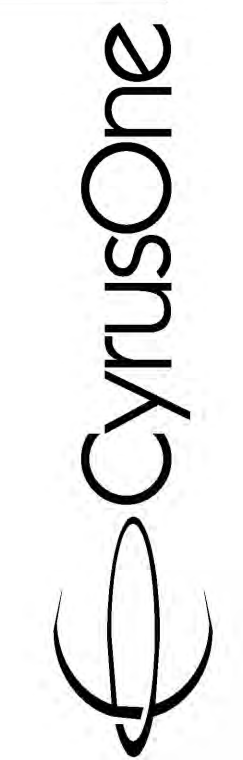
Δ	REVISIONS
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Surveyor:



Date of issue:
08-01-2019

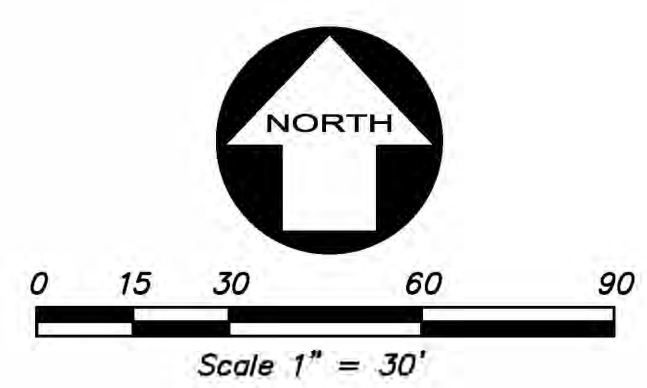
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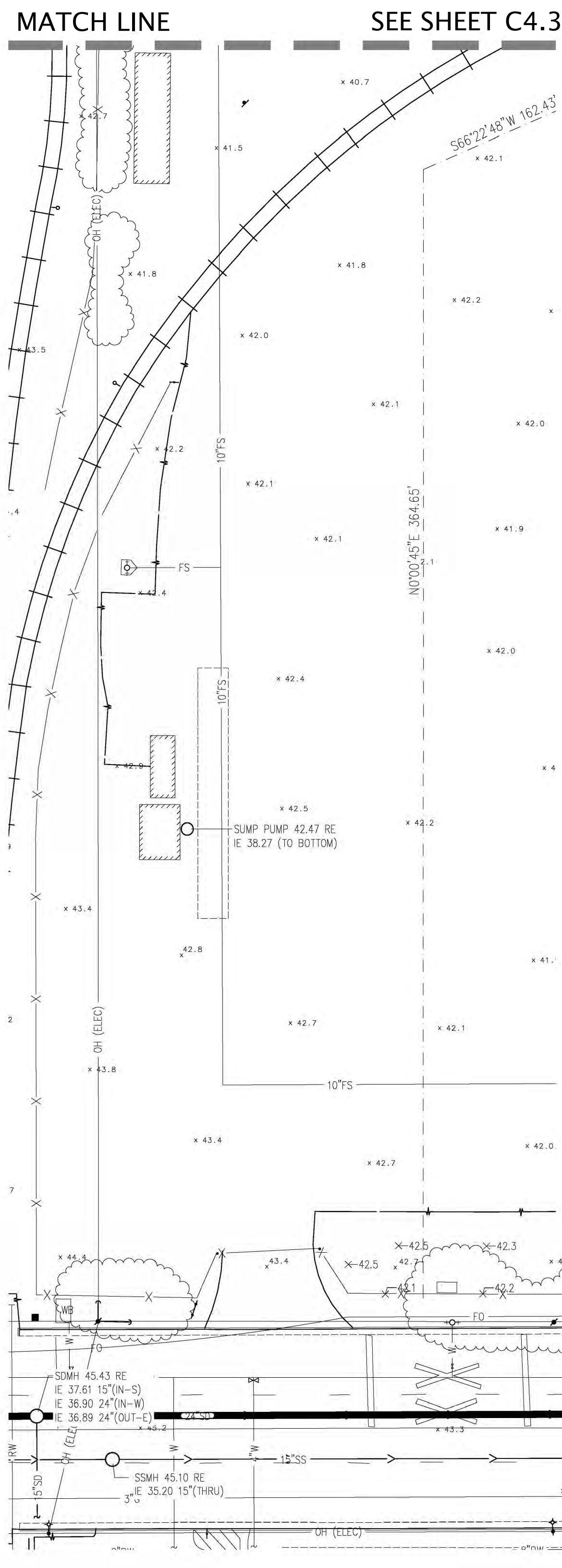


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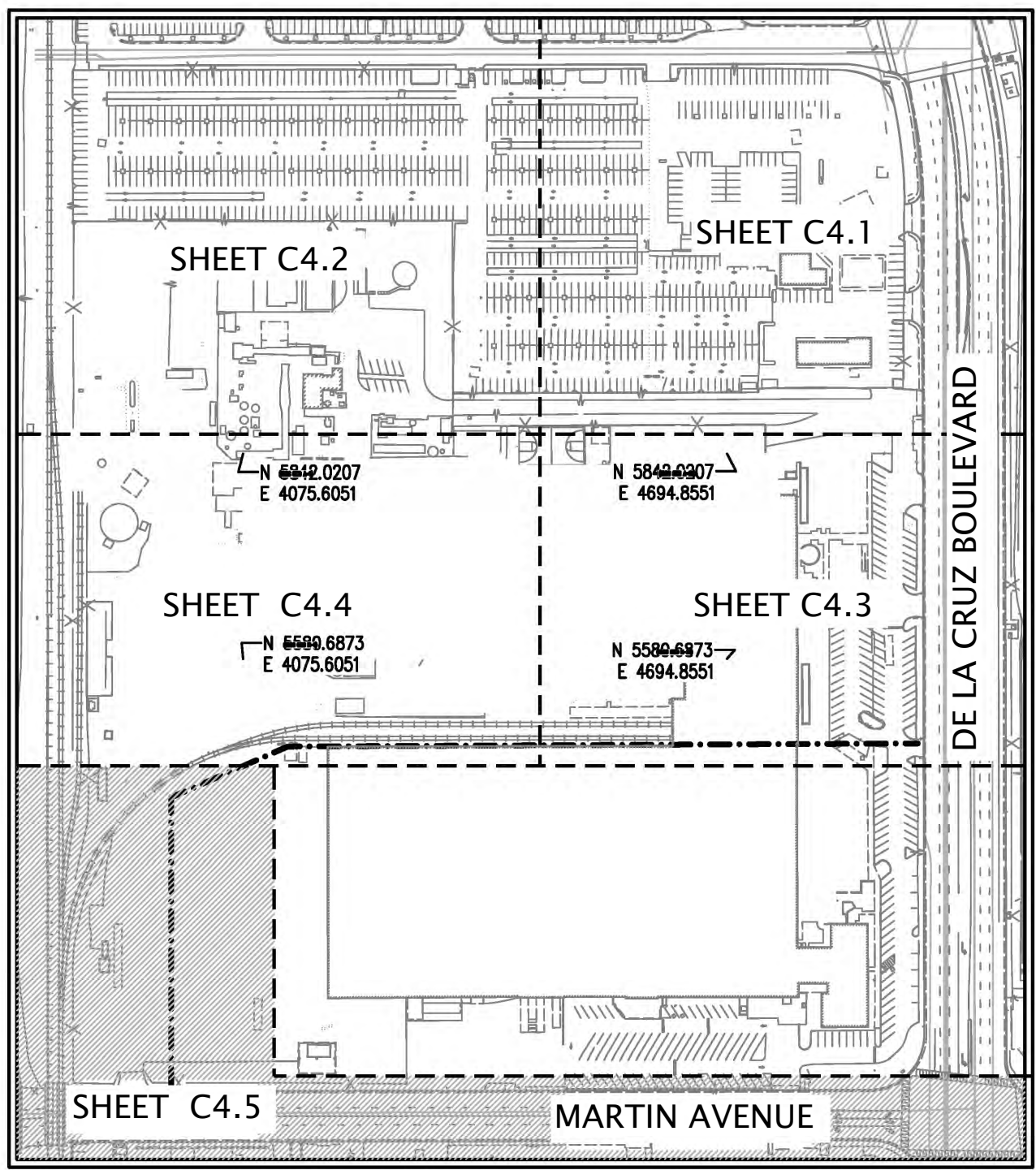
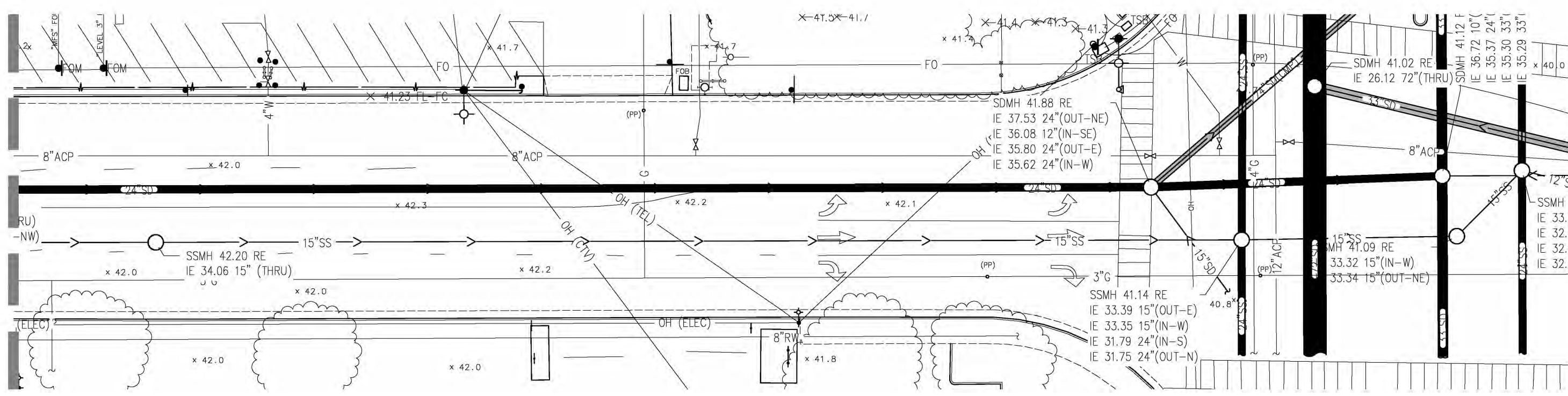
PROJECT NUMBER	17125.0300
DATE	08/01/2019
SHEET NUMBER	C4.4

C4.4





MATCH LINE SEE BELOW RIGHT



KEY MAP
NOT TO SCALE

ISSUES	
1	08/01/2019 DESIGN DEVELOPMENT
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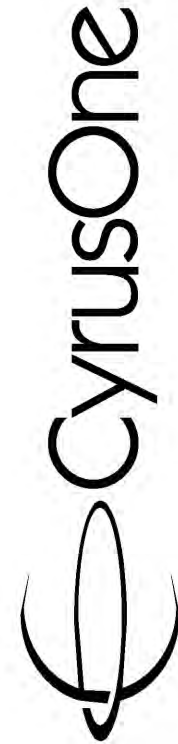
REVISIONS	
1	08/16/2019 ADDENDUM 01

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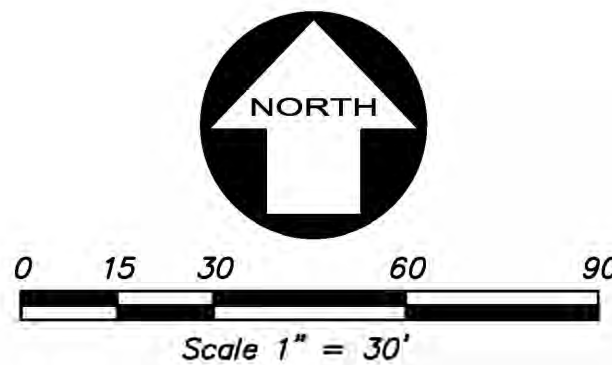


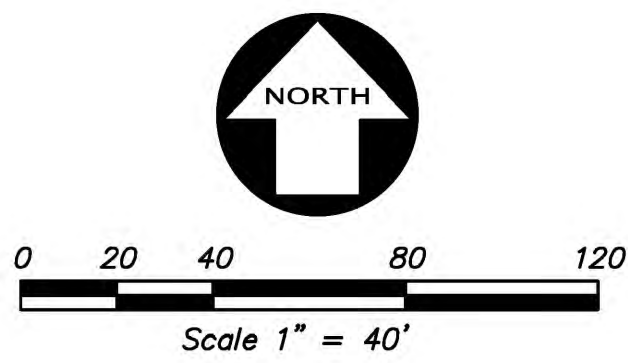
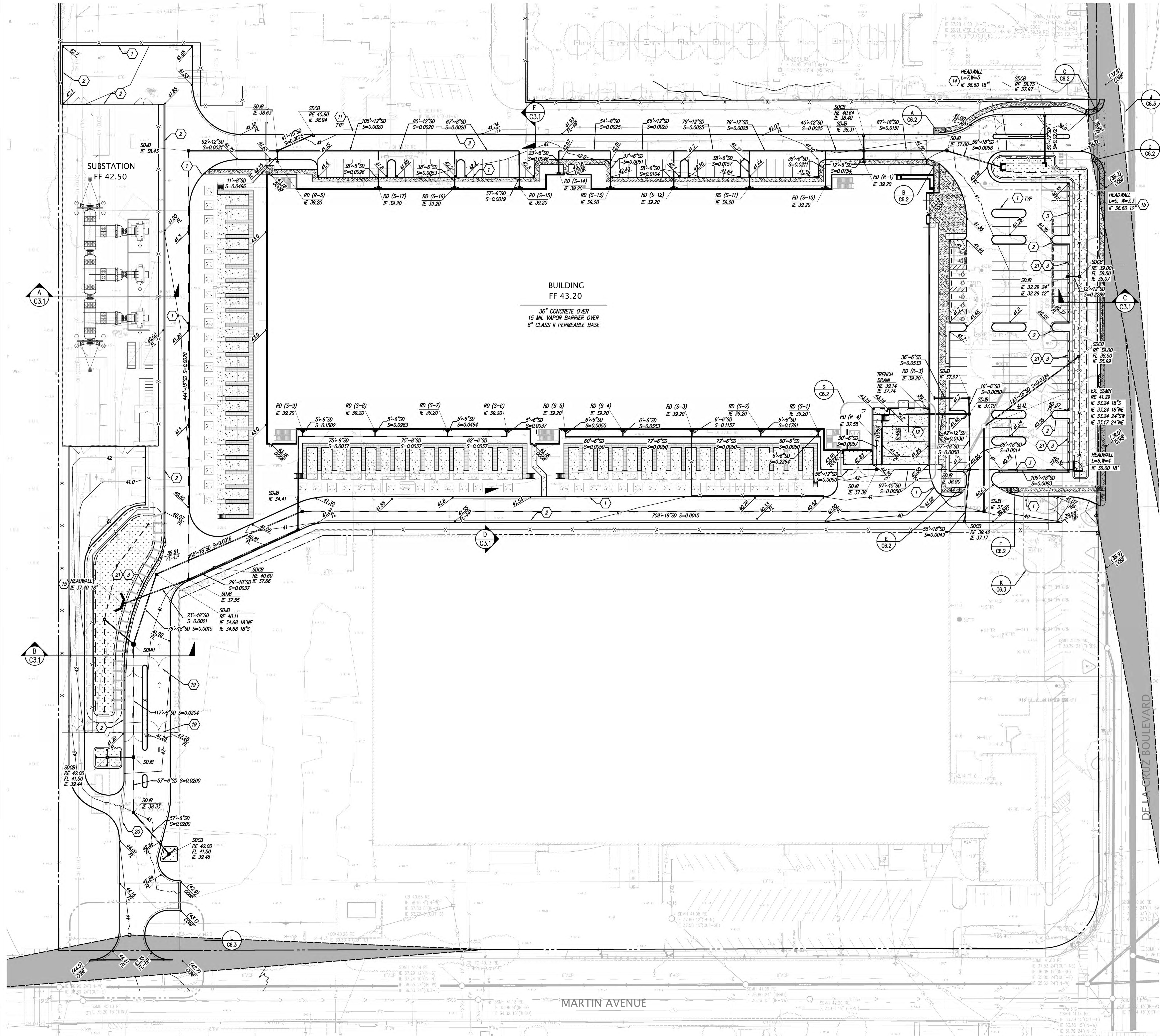
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Santa Clara, CA
95050



PROJECT NUMBER	17125.0300
DATE	08/01/2019
SHEET NUMBER	C4.5





LEGEND	
PROPOSED	EXISTING

- GRADING KEYNOTES**
1. CONSTRUCT CONCRETE CURB PER DETAIL 1/C2.1.
 2. CONSTRUCT CONCRETE CURB AND GUTTER PER DETAIL 3/C2.1.
 3. CONSTRUCT NOTCHED CURB AND GUTTER PER DETAIL 4/C2.1.
 4. ACCESSIBLE PARKING PER DETAIL 8/C2.1. SLOPE 2% MAX IN ANY DIRECTION.
 5. INSTALL ACCESSIBLE PARKING SIGN PER DETAIL 9/C2.1.
 6. SEE ARCHITECTURAL AND PLUMBING PLANS FOR EXACT ROOF DRAIN LOCATIONS.
 7. TRUNCATED DOMES PER DETAIL 10/C2.1.
 8. SPILLWAY PER DETAIL 12/C2.1.
 9. FLUSH CURB PER DETAIL 11/C2.1.
 10. CONSTRUCT TRASH ENCLOSURE PER ARCHITECTURAL & STRUCTURAL PLANS.
 11. INSTALL SITE LIGHTING PER ELECTRICAL PLANS.
 12. CONSTRUCT 4" ADD TRENCH DRAIN WITH IN-LINE CATCH BASIN, MODEL S100K. CONTRACTOR TO SUBMIT PROFILE (SHOP DRAWING) OF TRENCH DRAIN.
 13. INSTALL STEEL PIPE BOLLARD PER DETAIL 16/C2.1.
 14. CONSTRUCT HEADWALL PER CALTRANS STD DETAIL D-89, DOUBLE "L" CONFIGURATION.
 15. CONSTRUCT STRAIGHT HEADWALL PER CALTRANS STD DETAIL D-89.
 16. CONSTRUCT 4' LONG 0'-6" CURB TRANSITION.
 17. INSTALL WHEEL STOP PER DETAIL 13/C2.1.
 18. CONSTRUCT HEADWALL PER CALTRANS STD DETAIL D-89, SINGLE "L" CONFIGURATION.
 19. GATES AND FENCES PER ARCHITECTURAL PLANS.
 20. CONSTRUCT VALLEY GUTTER PER DETAIL 17/C2.1.
 21. CONSTRUCT SPILLWAY PER DETAIL 12/C2.1 AT EACH CURB NOTCH.

EARTHWORK SUMMARY	
CUT:	17,000 CY
FILL:	4,000 CY
EXPORT:	13,000 CY

NOTE:
THE EARTHWORK QUANTITIES LISTED ON THESE PLANS ARE STATED ONLY FOR CALCULATION OF GRADING AND BUILDING PERMIT FEES. THESE QUANTITIES DO NOT INCLUDE TRENCH OR FOOTING SPOILS, SHRINK OR SWELL FROM COMPACTING EFFORTS OR OTHER VARIABLES. THE ENGINEER MAKES NO REPRESENTATION THIS SITE WILL BALANCE. THE CONTRACTOR SHALL DETERMINE HIS OWN EARTHWORK QUANTITIES AND BASE HIS BID ACCORDINGLY.

C O R G A N

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TC Design Consulting LLC
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KIER+WRIGHT
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ISSUES

NO.	DATE	DESCRIPTION
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REVISIONS

NO.	DATE	DESCRIPTION
1	08/16/2019	ADDENDUM 01

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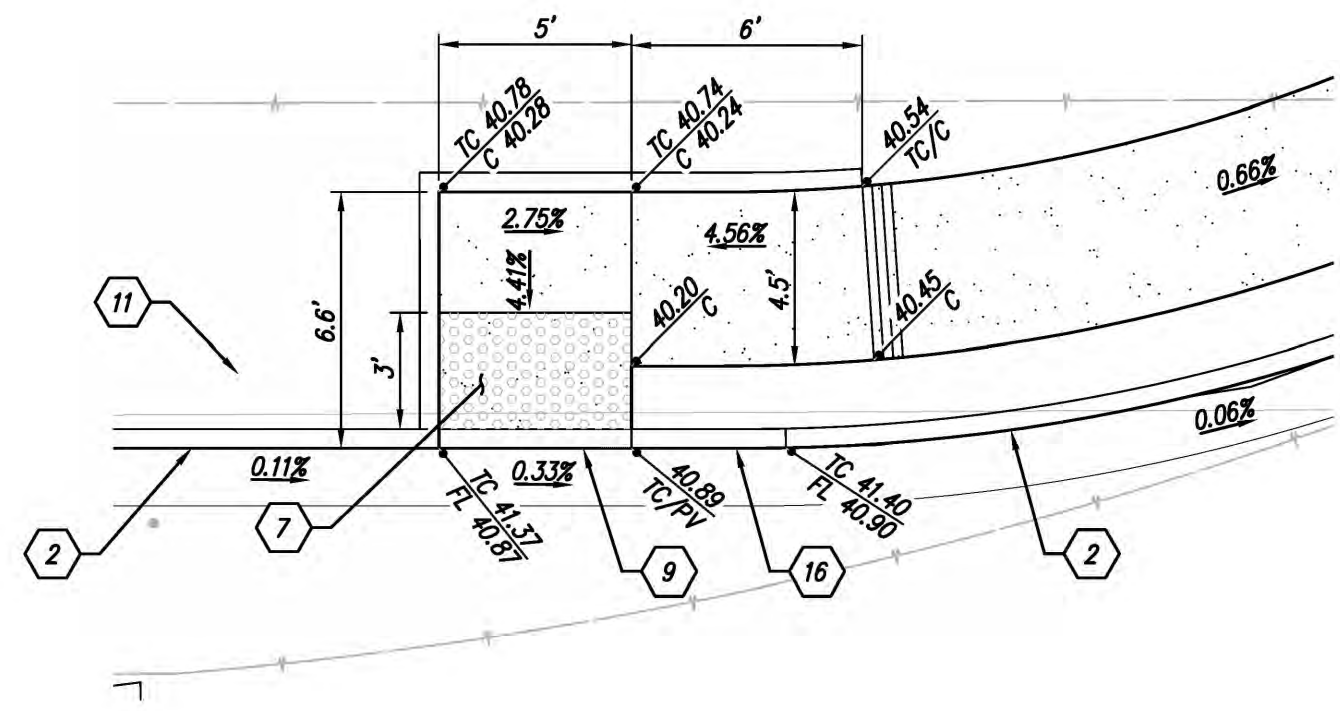
GRADING AND DRAINAGE
PLAN

PROJECT 17125-0300
NUMBER

DATE 08-01-2019

SHEET NUMBER

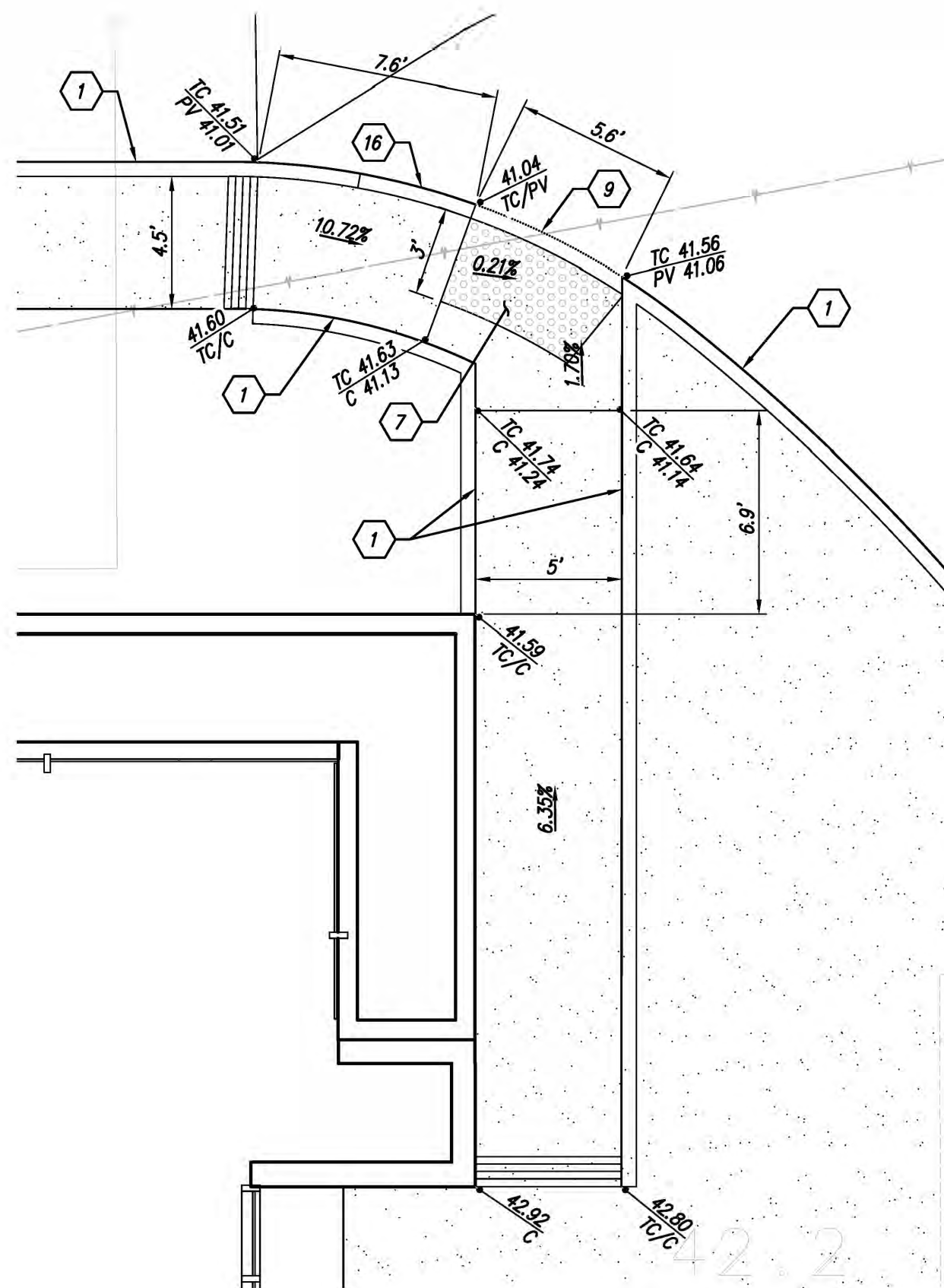
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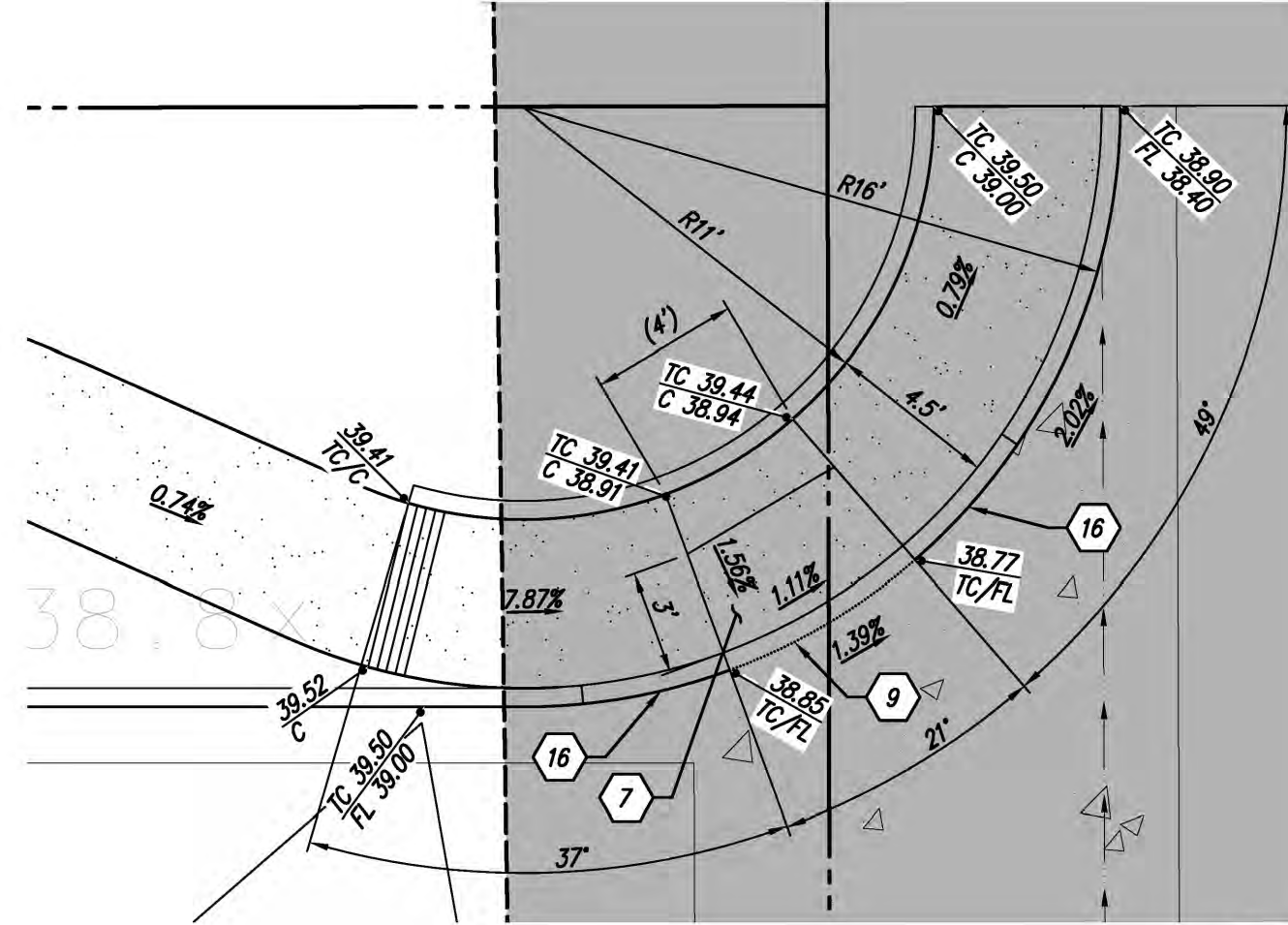
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RAMP DETAIL

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B



RAMP DETAIL

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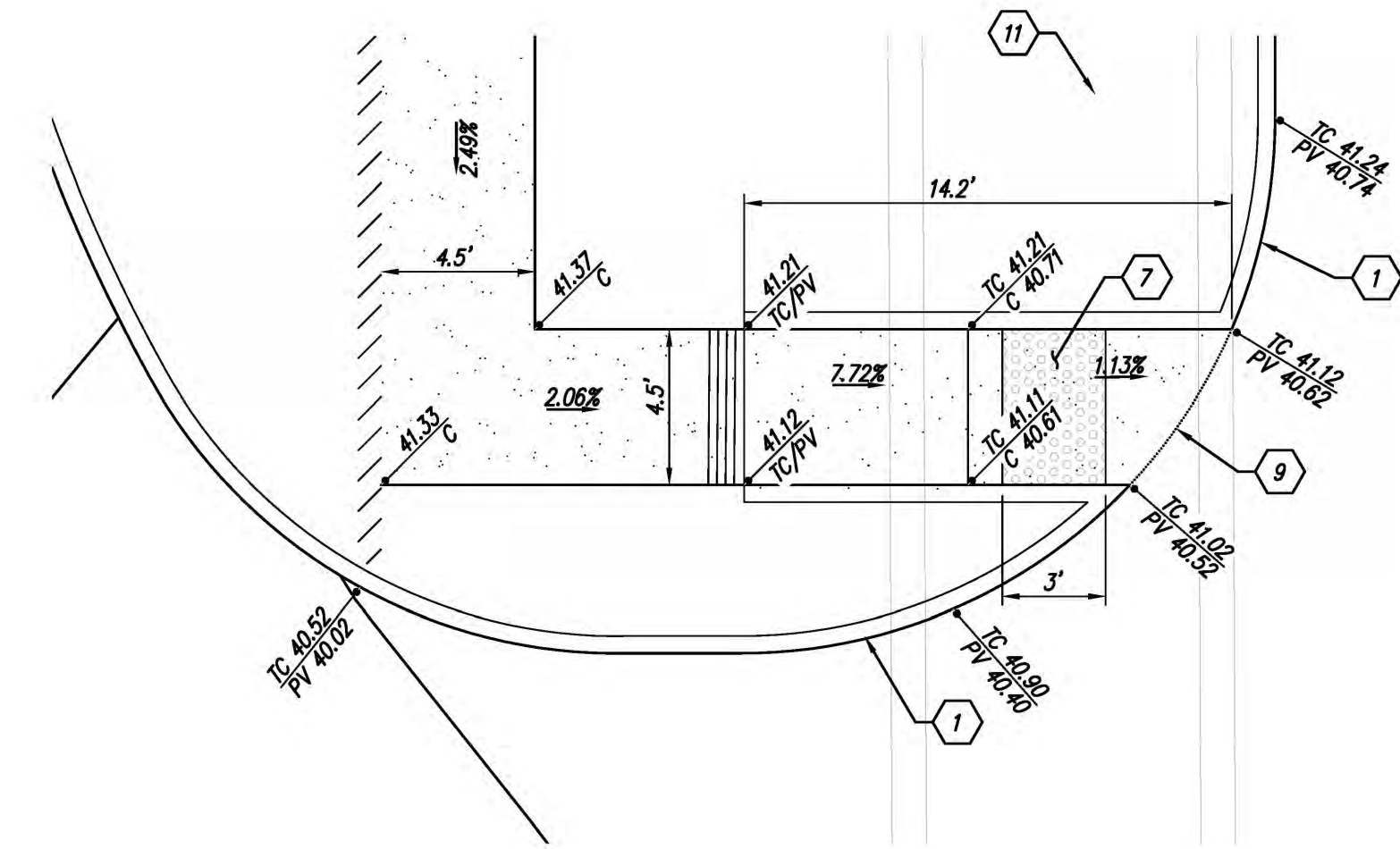
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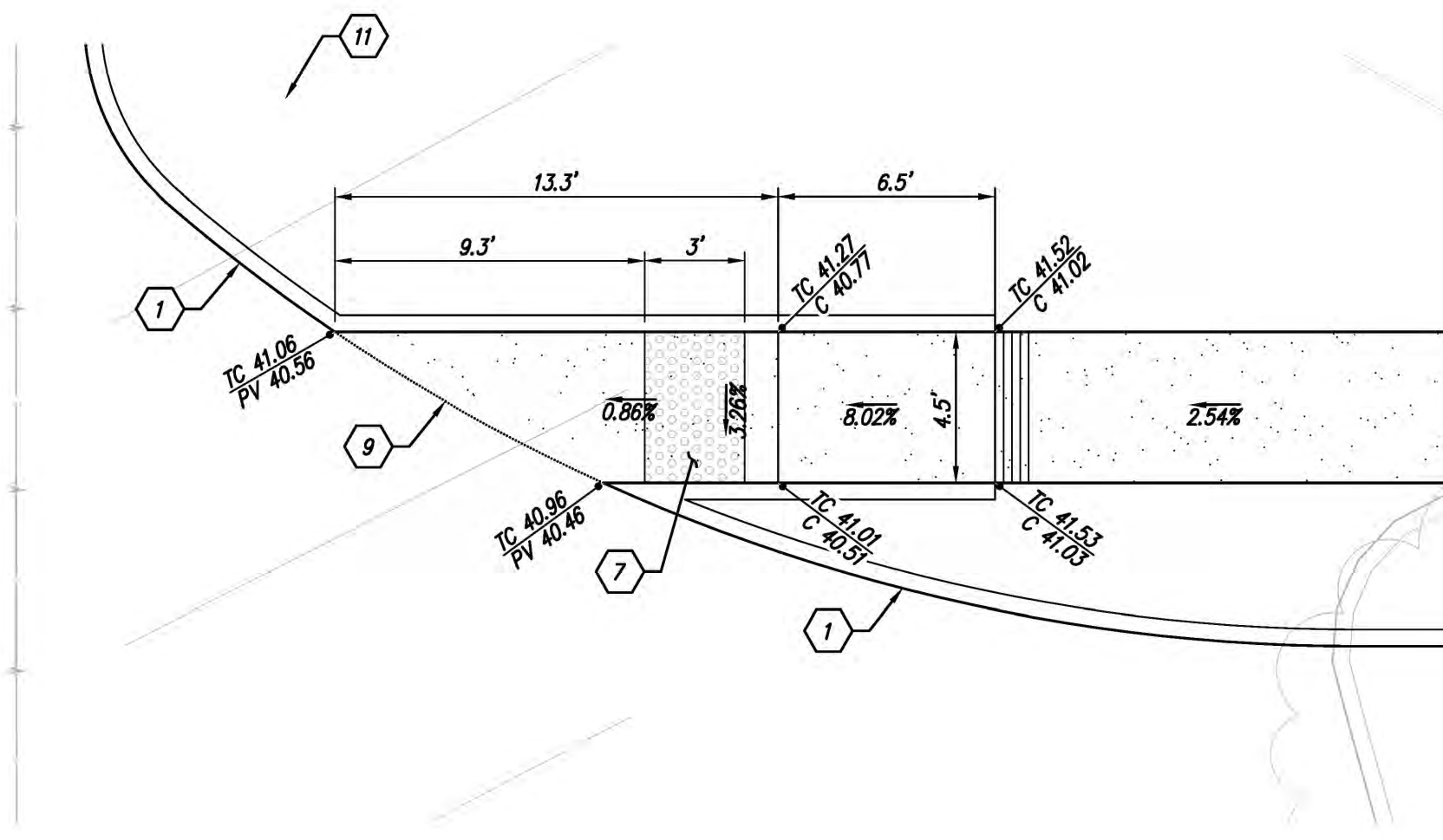
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RAMP DETAIL

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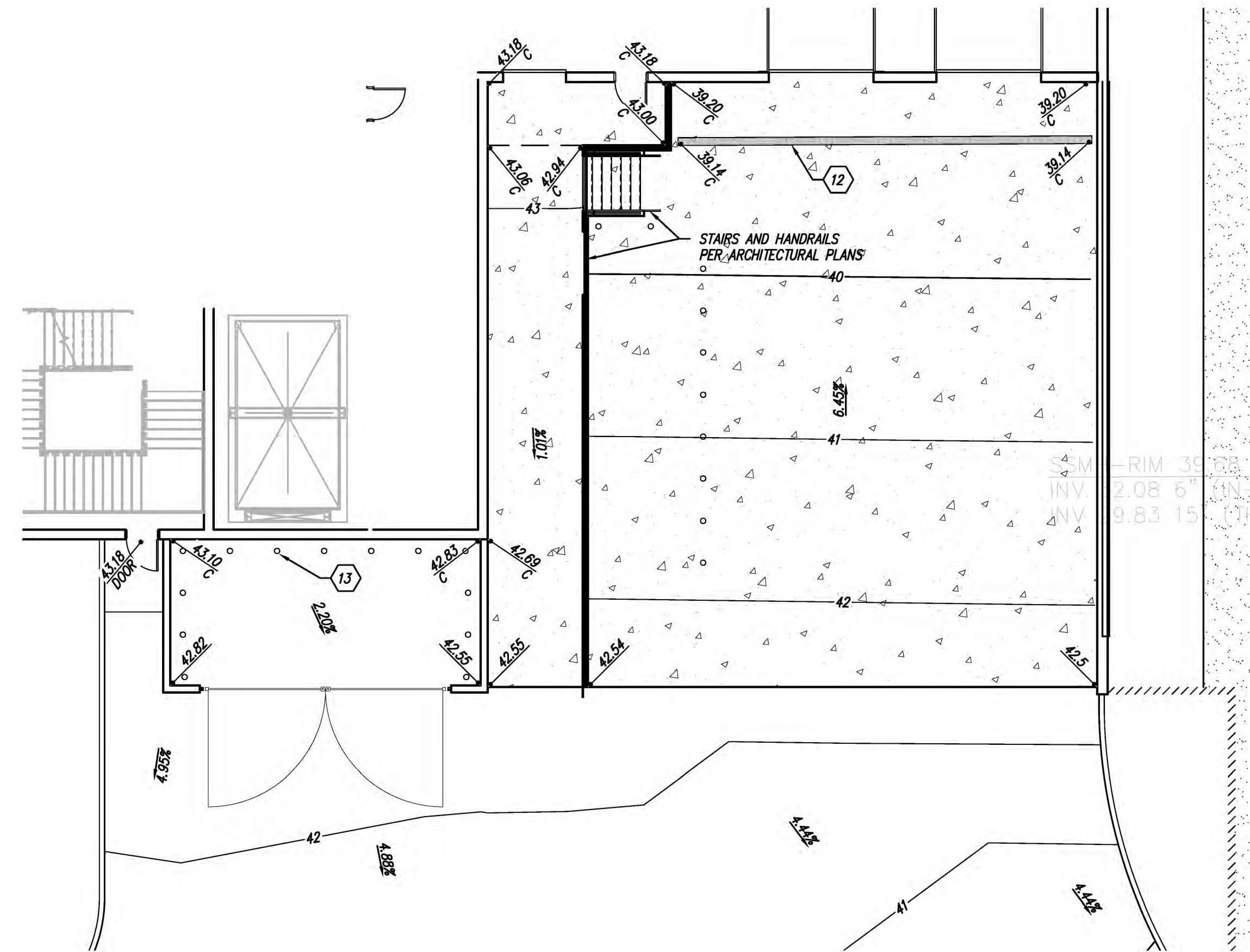
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RAMP DETAIL

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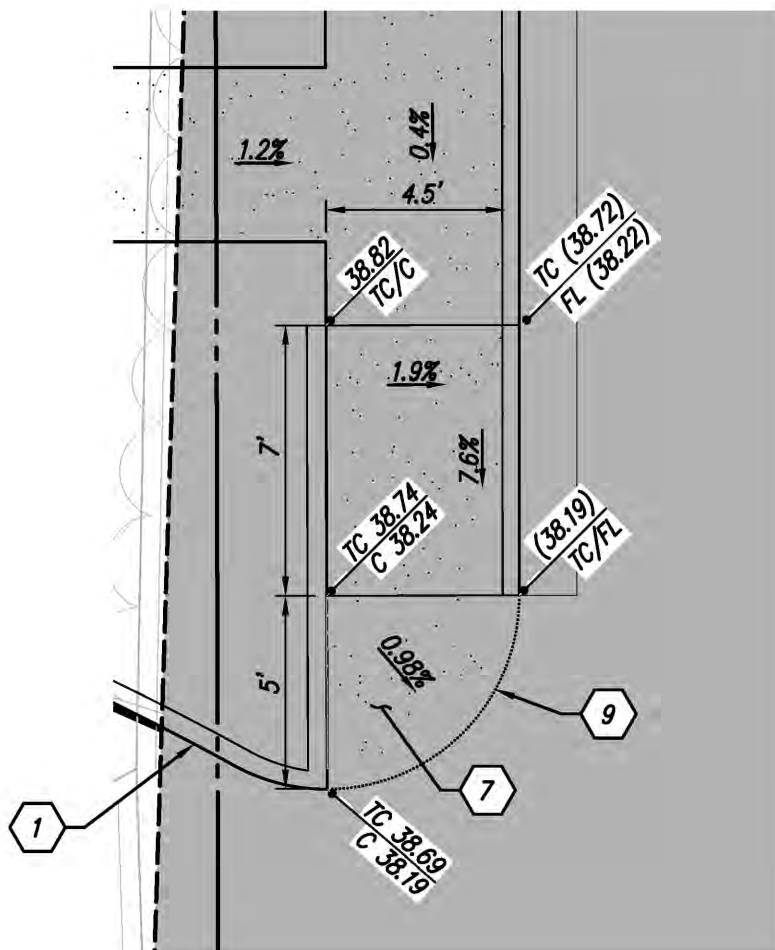
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LOADING DOCK DETAIL

SCALE: 1"=10'

G



RAMP DETAIL

SCALE: 1"=5'

H

GRADING KEYNOTES

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REVISIONS

1	08/16/2019	ADDENDUM 01
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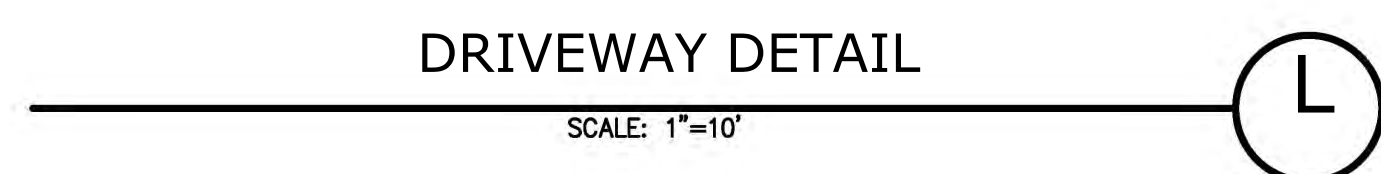
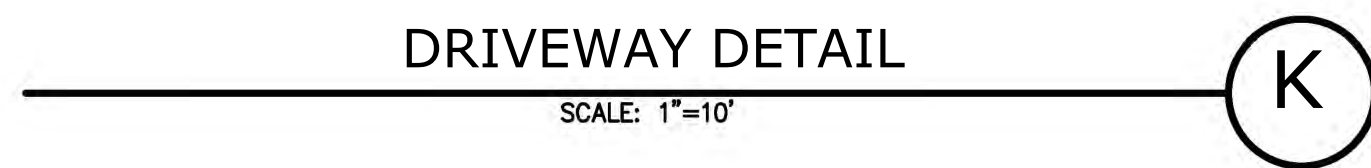
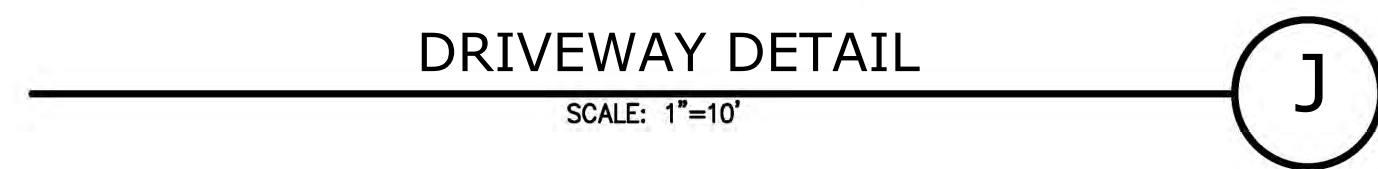
GRADING DETAILS

PROJECT NUMBER 17125-0300

DATE 08-01-2019

SHEET NUMBER

C5.2



1. CONSTRUCT CONCRETE CURB PER DETAIL 1/C2.1.
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