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July 17, 2018

Robert L. Sands Jr. CEFP  
Vanir CM  
Chabot Community College  
25555 Hesperian Boulevard  
Hayward, CA 94545

Subject: Chabot Community College – B-2100 Biological Sciences Project

Dear Robert,

Further to our recent correspondence (*including letter dated 7/12/2018*), please find below and attached a *revised* summary of Modification Agreement No. 9 for augmented Architecture and Engineering fees related to the potential rerouting of the electrical feed to the B-2100 Biological Sciences Annex.

#### *Scope of Project*

The scope of this project is as follows:

- **Phase 1:** Review and analyze two alternate options for re-routing the electrical feeder in the new Biological Science Annex Building from the B2100 Main Switch Gear to another location (as per HED/Arup email to Greg Horne, SMC of 9/28/16 - attached) including verification of load capacity, and study of possible transformer locations. Provide sketches, narrative and initial cost assessment to the District for review and direction.
- **Phase 2:** Once owner direction is given on which single option is proceeding, prepare Contract Documents in the form of a Bulletin, with drawings and specifications. Prepare associated documentation for DSA approval. Note that alternate costs/hours are provided for the two options.
- **Phase 3:** Provide CA services based on a limited allowance of time (specified per consultant in the attached breakdown) of related discussion, correspondence including RFI and Submittal review, and attendance at meetings. Note that alternate costs/hours are provided for the two options.

I also attach a copy of Sandis' proposal letter dated July 12, 2018 which further defines the deliverables and scope, and outlines some of the challenges which will be faced.

#### *Fee Proposal*

Two alternate cost proposals are provided, relating to the two options you have asked us to study.

- **Modification No. 9 Option A:** Route Conduit from Substation C: **\$41,301.70**
- **Modification No. 9 Option B:** Switchgear (SW-3) Vault: Step-Down Transformer: **\$46,924.90**

A full breakdown of proposed fee and hours, per option and per phase, is attached.

Our fee for each of these options has been split into 3 phases of work – Phase 1 (the initial study) being the same regardless of which option the District ultimately proceeds with. Your written approval

**Chicago**

**Detroit**

**Los Angeles**

**San Diego**

**San Francisco**

of the fee proposal for Phase 1 is requested in order that our work can commence. Following completion of this study, we will proceed into Phase 2 on your further approval.

This lump sum fee includes a total design team staff time allowance relating to Construction Administration services on this area of additional scope of up to 40 hours for Option A, and up to 44 hours for Option B. This allowance includes time spent reviewing RFIs and Submittals, holding discussions with the DSA and IOR, attendance in meetings/calls and at site visits. Additional time spent assisting the construction activities will be considered additional services, and additional compensation will be sought.

#### *Clarifications*

Please note the following clarifications provided by Arup with regards to the electrical engineering scope and fee proposal:

Option A hours/fee cover additional site survey and further analysis of Substation C capacity. If usage data from the utility are not available, a 30-day metering study would need to be performed to determine available capacity per the NEC. Routing of conduit from substation C across the road to the site would be coordinated with all affected trades. A report would then be prepared detailing the results, recommendations and estimated costs (provided by TBD Cost Consulting). Once approved, design drawings would be updated in coordination with other affected trades and then sent to the DSA for permit. DSA comments would then be received and drawings updated/resubmitted as necessary. Review of all submittals and RFIs during the construction process would be supported, up to the maximum number of hours stated.

Option B hours/fee cover all items detailed above in Option A with the exception of routing conduit from Substation C and with the addition of coordinating a location for the medium voltage transformer, associated drawings and specifications. This includes new medium voltage detail sheet, new medium voltage specification section. Please note that Option B requires a higher fee due to the additional time and coordination required to locate the new medium voltage transformer and preparation of new medium voltage specification section / drawings (medium voltage detail sheet).

**IMPORTANT NOTE:** The time/fee involved to complete Option A or B accounts for the fact that all initial site investigation has already been completed to determine where the new electrical connection goes to (Substation C or Switchgear SW-3 vault). If any unforeseen conditions are discovered by the contractor in the field that will not allow for the underground conduit to connect to either substation C or SW-3 vault, then additional time and fee will be needed to investigate on-site an alternate connection point.

#### *Project Team*

Services will be provided by Arup (Electrical Engineering), TBD Consultants (Cost Consultancy), Sandis (Civil Engineering), and HED (Architecture, Management). Other sub-consultant services such as mechanical and geotechnical engineering, potholing and related site activities, and associated expenses are excluded. Please note that Cost Consultancy services will be provided in relation to

Phase 1 only, after which scope/services relating to costs will, we understand, pass to the District's General Contractor/CM.

*Fee Basis and Expenses*

The design team's fee for providing the services outlined above will be a lump sum amount inclusive of basic expenses for travel to the project site and in-house printing for our internal reference only.

Additional out-of-pocket expenses are excluded from this proposal. If required, they will be reimbursed at the rate of One and Fifteen Hundredths (1.15) times the actual cost to HED and/or our consultant.

Excluded expenses include:

- Travel expenses by HED, or our consultants, for trips to locations other than the project site.
- Reproduction and delivery-related expenses for documents to be used for permitting, bidding and construction phase purposes.
- Out-of-pocket expenses for the preparation of presentation graphics, renderings and models requested by the District.

*Schedule*

We are prepared to begin work immediately upon receipt of your authorization to proceed, and we estimate the following timescales:

- Phase A: 2.5 weeks to complete preparation of the study and cost estimate for District review.
- Phase B: 3 weeks to issuance of a draft of the contract documents for IOR/CM review ahead of DSA submission, following completion of utility potholing and timely receipt of District's clear direction (selection of Option A or Option B).

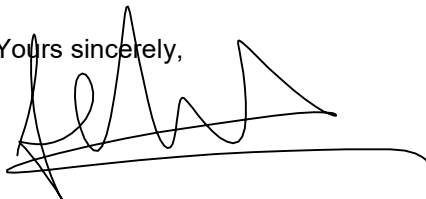
These timescales are provided on the basis that there are no unforeseen field conditions discovered in the course of, or related to, this work.

*Additional Services*

Additional Services shall be provided for the project if authorized or confirmed in writing by the District, or their appointed Construction Manager. The design team's fee for additional services beyond the scope of basic services outlined above, and which is in addition to the basic services fee amount, will be charged on an hourly basis.

Please feel free to give me a call with any queries.

Yours sincerely,



Anna MacDougall, RIBA

415-981-2345  
417 Montgomery Street, Suite 400  
San Francisco, CA 94104

# CHABOT B2100 BIOLOGICAL SCIENCES ANNEX

## MODIFICATION 9: RE-LOCATE ELECTRICAL FEED - 7/17/18 REVISION

### TASKS

Phase 1: Review and analyze 2 alternate options for re-routing the electrical feeder in the new Biological Science Annex Building from the B2100 Main Switch Gear to another location (as per HED/Arup email to Greg Horne of 9/28/16) including verification of load capacity, and study of possible transformer locations. Provide sketches, narrative and initial cost assessment to the District for review and direction.

Phase 2: Once owner direction is given on which option is proceeding, prepare Contract Documents in the form of a Bulletin, with drawings and specifications. Prepare associated documentation for DSA approval. Note that alternate costs/hours are provided for the two options.

Phase 3: Provide CA services based on a limited allowance of time (specified per consultant below) of related discussion, correspondence incl. RFI and Submittal review, and attendance at meetings. Note that alternate costs/hours are provided for the two options.

### OPTION A (ROUTE CONDUIT FROM SUBSTATION C) COSTS

#### Phase 1: Study and Report Generation

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	12	\$ 2,268.00
Civil Engineering - PM	Sandis	\$ 210.00	10	\$ 2,100.00
Civil Engineering - Project Eng	Sandis	\$ 157.50	1	\$ 157.50
Civil Engineering - Drafter	Sandis	\$ 115.50	2	\$ 231.00
Cost Analysis	TBD	\$ 194.25	16	\$ 3,108.00
Architecture/Coordination	HED	\$ 250.00	8	\$ 2,000.00
QA/QC and Management	HED	\$ 260.00	4	\$ 1,040.00

Phase Subtotal (Labor) \$ 10,904.50

#### Phase 2: Prepare Contract Documents

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	8	\$ 1,512.00
Electrical Engineering - BIM Tech	Arup	\$ 131.25	4	\$ 525.00
Civil Engineering - PM	Sandis	\$ 210.00	8	\$ 1,680.00
Civil Engineering - Project Eng	Sandis	\$ 157.50	17	\$ 2,677.50
Civil Engineering - Design Eng	Sandis	\$ 120.75	16	\$ 1,932.00
Civil Engineering - Drafter	Sandis	\$ 115.50	38	\$ 4,389.00
Civil Engineering - Snr Surveyor	Sandis	\$ 131.25	2	\$ 262.50
Civil Engineering - Survey Crew	Sandis	\$ 309.75	6	\$ 1,858.50
Cost Analysis	TBD	\$ -	0	\$ -
Architecture/Coordination	HED	\$ 250.00	12	\$ 3,000.00
QA/QC and Management	HED	\$ 260.00	4	\$ 1,040.00

Phase Subtotal (Labor) \$ 18,876.50

#### Phase 3: Construction Services

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	4	\$ 756.00
Civil Engineering - PM	Sandis	\$ 210.00	4	\$ 840.00
Civil Engineering - Project Eng	Sandis	\$ 157.50	20	\$ 3,150.00
Cost Analysis	TBD	\$ -	0	\$ -
Architecture/Coordination	HED	\$ 250.00	10	\$ 2,500.00
QA/QC and Management	HED	\$ 260.00	2	\$ 520.00

Phase Subtotal (Labor) \$ 7,766.00

**OPTION A COST SUMMARY**

<b>TOTAL DESIGN TEAM LABOR FEE</b>	\$	37,547.00	
<b>BASIC EXPENSES ALLOWANCE</b>	\$	3,754.70	10%
<b>TOTAL FEE</b>	\$	<b>41,301.70</b>	

**OPTION B (SWITCHGEAR SW-3 VAULT: STEP-DOWN TRANSFORMER) COSTS**

**Phase 1: Study and Report Generation**

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	12	\$ 2,268.00
Civil Engineering - PM	Sandis	\$ 210.00	10	\$ 2,100.00
Civil Engineering - PE	Sandis	\$ 157.50	1	\$ 157.50
Civil Engineering - CAD	Sandis	\$ 115.50	2	\$ 231.00
Cost Analysis	TBD	\$ 194.25	16	\$ 3,108.00
Architecture/Coordination	HED	\$ 250.00	8	\$ 2,000.00
QA/QC and Management	HED	\$ 260.00	4	\$ 1,040.00

**Phase Subtotal (Labor) \$ 10,904.50**

**Phase 2: Prepare Contract Documents**

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	24	\$ 4,536.00
Electrical Engineering - BIM Tech	Arup	\$ 131.25	8	\$ 1,050.00
Electrical Engineering - Admin	Arup	\$ 115.50	2	\$ 231.00
Civil Engineering - PM	Sandis	\$ 210.00	8	\$ 1,680.00
Civil Engineering - Project Eng	Sandis	\$ 157.50	15	\$ 2,362.50
Civil Engineering - Design Eng	Sandis	\$ 120.75	16	\$ 1,932.00
Civil Engineering - Drafter	Sandis	\$ 115.50	36	\$ 4,158.00
Civil Engineering - Snr Surveyor	Sandis	\$ 131.25	2	\$ 262.50
Civil Engineering - Survey Crew	Sandis	\$ 309.75	6	\$ 1,858.50
Cost Analysis	TBD	\$ -	0	\$ -
Architecture/Coordination	HED	\$ 250.00	16	\$ 4,000.00
QA/QC and Management	HED	\$ 260.00	4	\$ 1,040.00

**Phase Subtotal (Labor) \$ 23,110.50**

**Phase 3: Construction Services**

Discipline	Consultant	Rate (\$/hr.)	Hours	Cost
Electrical Engineering	Arup	\$ 189.00	6	\$ 1,134.00
Civil Engineering - PM	Sandis	\$ 210.00	4	\$ 840.00
Civil Engineering - Project Eng	Sandis	\$ 157.50	20	\$ 3,150.00
Cost Analysis	TBD	\$ -	0	\$ -
Architecture/Coordination	HED	\$ 250.00	12	\$ 3,000.00
QA/QC and Management	HED	\$ 260.00	2	\$ 520.00

**Phase Subtotal (Labor) \$ 8,644.00**

**OPTION B COST SUMMARY**

<b>TOTAL DESIGN TEAM LABOR FEE</b>	\$	42,659.00	
<b>BASIC EXPENSES ALLOWANCE</b>	\$	4,265.90	10%
<b>TOTAL FEE</b>	\$	<b>46,924.90</b>	

**Notes:**

Subconsultants hourly rates include a 5% administration fee/mark-up as per the Agreement for Architectural/Engineering Services



July 12, 2018  
Project No. 615093

Anna MacDougall  
Harley Ellis Devereaux  
445 Bush Street, Suite 400  
San Francisco, CA 94108  
T: 415.549.8827  
E: ammacdougall@hedeve.com

**RE: CHABOT COLLEGE NEW BIOLOGY BUILDING  
ASR #4 – CHABOT B2100 ELECTRICAL FEED  
HAYWARD, CA**

Dear Anna,

This letter is our amendment to the original proposal revised October 22, 2015 for the above referenced project. The already completed design for the electrical service to B2100 (Annex) showed the building being served from the existing building on the east side of B2100.

#### **PROJECT UNDERSTANDING**

Chabot is considering a change in the electrical service concept so that the Annex has its own individual power source. Arup has come up with two different options for supplying the Annex with independent power. Option A consists of routing conduit from Substation C to the west side of the Annex. Option B consists of connecting to the existing Switchgear Vault (SW-3), then constructing a step down transformer and routing conduit from that point to the west side of the Annex. We have been informed that at the present time, only the proposed fire water line along the south side of the Central Utility Plant has been installed.

HED has requested a detailed (hours + rates), three phase proposal for each option as follows:

- Phase 1 – Review and analyze the two alternatives.
- Phase 2 – Prepare construction documents and specifications.
- Phase 3 – CA services.

Phase 1 for both options will be identical. The Phase 2 deliverable will be the same, namely a plan view and profile of the conduits. The big difference will be in the amount of utility locating required and the difficulty of determining the appropriate horizontal and vertical alignment. There are numerous utility lines that will have to be crossed to reach the existing substation including, but not limited to, water lines (both domestic and fire), high voltage conduits and joint trench, irrigation and storm drainage, etc. In addition, the path at the northeast building corner is restricted by the new fire service lines already installed approximately 3' away. Phase 3 for Option A will be slightly higher due to the number of crossings that will be encountered.

The potholing of the existing utilities can either be subcontracted to a locating service or can be accomplished by the onsite contractor. This ASR assumes we will prepare a pothole plan indicating the locations we wish to have checked. We have included a field survey to locate the actual pothole locations and incorporate the locations into our plans. Further, upon receiving DSA approval, we have included the cost of incorporating the approved plans into our CDs.

#### **PROJECT PHASES & FEES**

The following are our proposed fees for the project

Phase 1:

Phase 2 – Option A:

Phase 2 – Option B:                   see attachment for hours and fees

Phase 3:

Option A Total Cost:

Option B Total Cost:



July 13, 2018  
Project No. 615093  
Anna MacDougall  
Harley Ellis Devereaux  
Page 2

**SCOPE OF WORK ASSUMPTIONS**

- Utility potholing to be performed by others. Sandis shall provide a site plan showing required pothole locations.
- The deliverable for DSA approval shall consist of a plan sheet, a detail sheet with the profile of the conduits and details of each utility crossing, and, if required, a second detail sheet for any additional details deemed necessary. Our plans shall be an attachment to the plans prepared by Arup.
- DSA processing shall be the responsibility of HED.
- We assume all project coordination meetings will be held in the San Francisco Bay Area or can be handled via teleconference. Should travel outside the San Francisco Bay Area be required, each meeting will be billed as a time and materials and may include travel time, airfare, ground transportation, hotel and per diem.
- Our work will be performed using AutoCAD version 2017, MS Word 013, MS Excel 2013, and Adobe Acrobat VII.

Our services will be provided for the amounts listed above and will be performed under the terms and conditions of our original contract. Pursuant to state law, no work can proceed on this project without written acceptance. Please return one signed copy of this proposal as our authorization to proceed.

Regards,

**SANDIS**



Michael Kuykendall, PE  
Associate Principal

Approved

**HARLEY ELLIS DEVEREAUX**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

CC: Rick Angrisani, Project Manager

Attachment: Fee Breakdown

**Phase 1**

Staff Type	Hourly Rate	Hours	Totals
Project Manager	\$200	10	\$2,000
Project Engineer	\$150	1	\$150
Design Engineer	\$115		\$0
Drafter	\$110	2	\$220
Senior Surveyor	\$125		\$0
2 Person Survey Crew	\$295		\$0
			<u>\$2,370</u>

**Phase 2 Option A**

Staff Type	Hourly Rate	Hours	Totals
Project Manager	\$200	8	\$1,600
Project Engineer	\$150	17	\$2,550
Design Engineer	\$115	16	\$1,840
Drafter	\$110	38	\$4,180
Senior Surveyor	\$125	2	\$250
2 Person Survey Crew	\$295	6	\$1,770
			<u>\$12,190</u>

**Phase 2 Option B**

Staff Type	Hourly Rate	Hours	Totals
Project Manager	\$200	8	\$1,600
Project Engineer	\$150	15	\$2,250
Design Engineer	\$115	16	\$1,840
Drafter	\$110	36	\$3,960
Senior Surveyor	\$125	2	\$250
2 Person Survey Crew	\$295	6	\$1,770
			<u>\$11,670</u>

**Phase 3 CA**

Staff Type	Hourly Rate	Hours	Totals
Project Manager	\$200	4	\$800
Project Engineer	\$150	20	\$3,000
Design Engineer	\$115		\$0
Drafter	\$110		\$0
Senior Surveyor	\$125		\$0
2 Person Survey Crew	\$295		\$0
			<u>\$3,800</u>

Note : Sub-consultant hourly rates indicated on this page do not include the 5% administration fee/mark-up as per the Agreement for Architectural/Engineering Services. Refer to full team breakdown on pages 4 and 5 of this document for final rates.



**From:** MacDougall, Anna  
**Sent:** Wednesday, September 28, 2016 3:05 PM  
**To:** Greg Horne <[GHorne@swinerton.com](mailto:GHorne@swinerton.com)>  
**Cc:** Mario Guttman <[mguttman@hed.design](mailto:mguttman@hed.design)>; Wilson Auyeung <[wcauyeung@hedev.com](mailto:wcauyeung@hedev.com)>; Ryan Barnacastle <[rpbarncastle@hedev.com](mailto:rpbarncastle@hedev.com)>  
**Subject:** Chabot: electrical feed re-design

Greg,

Further to our discussion last week, when you informed us that the demolition of B2100 could follow on immediately after occupation of the new Annex, we have started to review options for changing the design of the building's electrical feed as requested. We are concerned about such a late change, and will need to understand from you how you want us to manage this from a time (in terms of both our contracted deliverable schedule and the DSA code deadline) and financial (project costs and design team fees) perspective, but in order to keep things moving I wanted to keep you informed of the discussion to date...

Please see below. Arup have come up with two different options for supplying the Annex with independent power, which Sandis are currently reviewing. While they are doing so, please let us know asap if you have any comments or concerns on either option. We will then try to establish the full ramifications in terms of budget impact etc with TBD.

FYI – while this is unresolved the 50% CD set will continue to show the sub-feed approach, as per the approved DD package.

Thanks,

**Anna MacDougall** RIBA  
Project Management

**415.549.8827 d | 415.416.9317 c**  
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[amacdougall@hed.design](mailto:amacdougall@hed.design) | [www.hed.design](http://www.hed.design)

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**From:** Wyatt Kennedy [<mailto:wyatt.kennedy@arup.com>]  
**Sent:** Wednesday, September 28, 2016 11:26 AM  
**To:** MacDougall, Anna <[amacdougall@hed.design](mailto:amacdougall@hed.design)>  
**Cc:** John Pena <[john.pena@arup.com](mailto:john.pena@arup.com)>; Brian Cancimilla <[bcancimilla@sandis.net](mailto:bcancimilla@sandis.net)>; Felicia Ong <[fong@sandis.net](mailto:fong@sandis.net)>  
**Subject:** RE: Chabot: electrical feed re-design

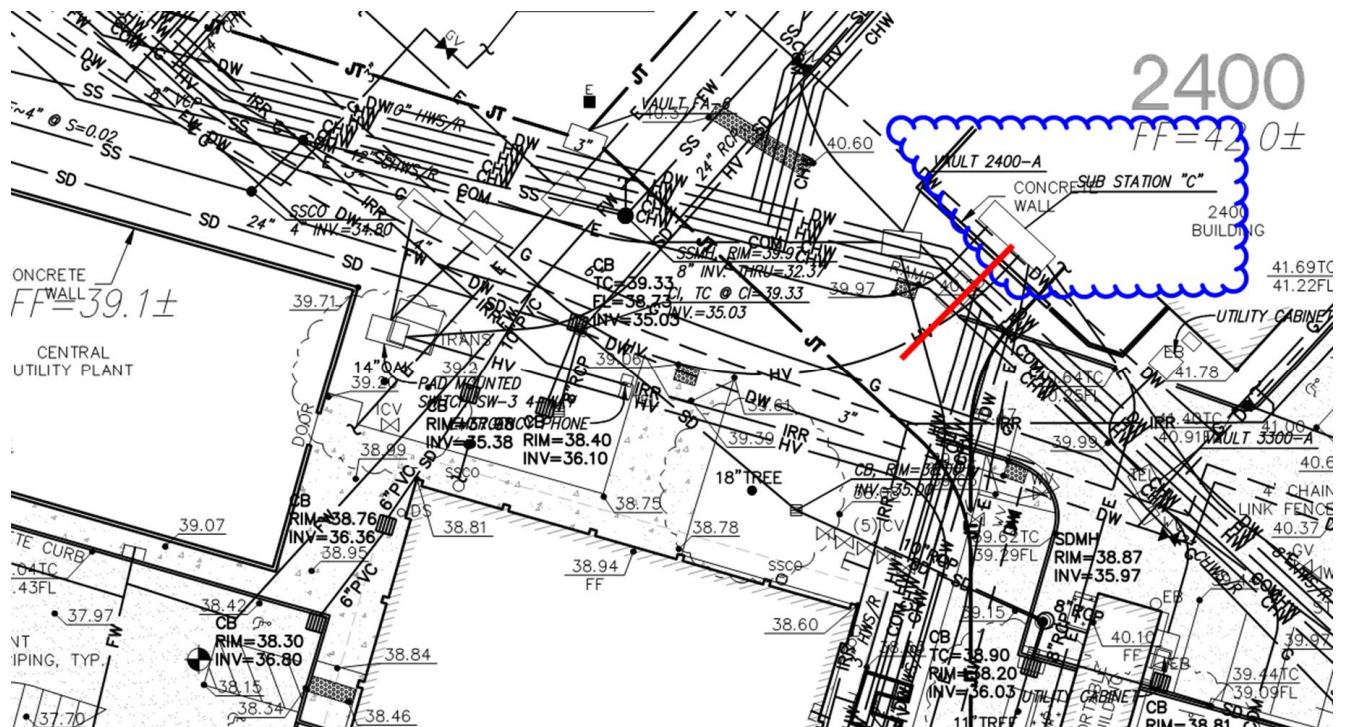
Hi Anna,

Regarding the electrical feed re-design work, I reviewed this with John Pena and have summarized the two design options below. If the underground coordination can be resolved by

Sandis then option A is the best option. I will leave Sandis to comment on the feasibility of this. See my summary below.

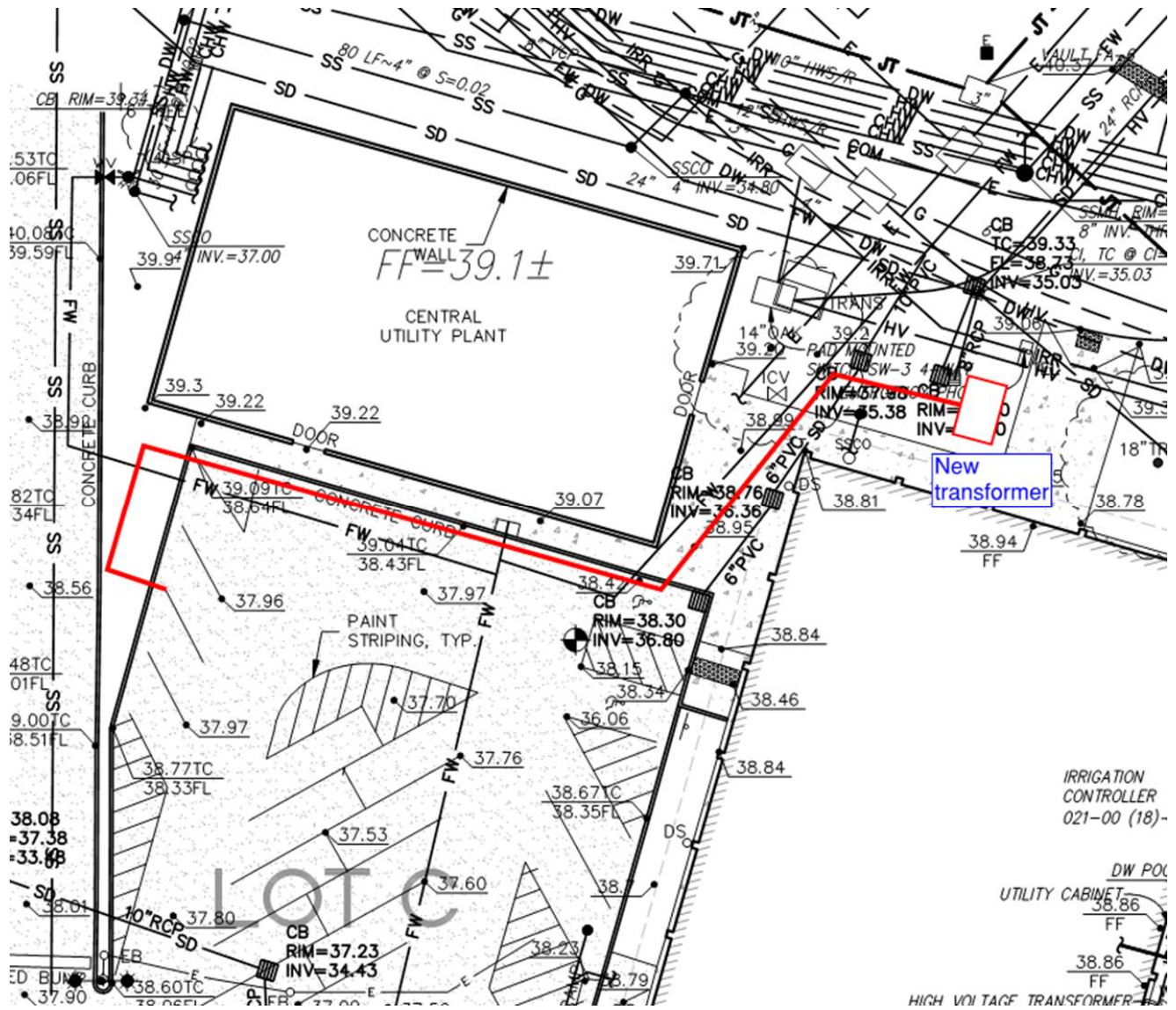
**Option A: Route Conduit from Substation C**

- Substation C is already at 480 V, requires a lot of coordination for Sandis to get through tangle of existing underground conduits and pipes
  - See screenshot of existing utility plan below for where the conduit has to cross a tangle of pipes and conduits
  - Could conduit cross under existing utility lines??
- Does not require large outdoor step down transformer from 12,000 V to 480 V
- Requires routing underground 2x 4" conduits, parallel feeds
- PROS:
  - Most cheap from a construction budget standpoint
  - Least amount of design time for Arup
- CONS:
  - Most complicated from an underground coordination standpoint, potentially more work for Sandis (TBD)
- Production work would require (at a minimum):
  - Single line diagram adjustment
  - Need new site utility plan



• **Option B: Switchgear (SW-3) Vault: step-down transformer**

- Existing switchgear SW-3 is 12,000 V
- Will require a step down transformer to 480 V
  - Maybe locate this due north of B2100, next to existing switchgear vault
- Transformer dimensions: 6' wide by 5' depth, 4' clearance in front)
- Requires routing underground 2x 4" conduits, parallel feeds from transformer to building
- Recommend locating new transformer due east of central utility plant/ice storage yard. See markup below. This appears to be the closest location where there is room to place the transformer and a proposed routing of the conduit.
- PROS:
  - Potentially less underground coordination for civil engineer (Sandis still to confirm)
- CONS:
  - Requires more design time from Arup than option A
  - Requires more construction \$\$
    - Finding a location for transformer may be challenging
- Production work would require (at a minimum):
  - Require new medium voltage specs
  - Need new site utility plan
  - Need additional details



Cheers,

Wyatt Kennedy PE  
Senior Engineer | Mechanical

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