

DRAWING LIST - ARCHITECTURAL INTERIM

A000-I COVER - INTERIM EXCHANGE A001 CONTEXT PLAN - PROPOSED FACILITY (REFERENCE ONLY)

A100-I SITE PLAN - EXISTING

A101-I CONTEXT PLAN - INTERIM EXCHANGE

A121-I TRANSIT EXCHANGE SITE AT GRADE A122-I TRANSIT EXCHANGE SITE PLAN ABOVE CANOPIES

A123-I LAYOVER & EXCHANGE CANOPY PLAN A601-I CANOPY SECTION - LONGITUDINAL

A701-I CANOPY PLANS & SECTION A702-I CANOPY DETAILS

DRAWING LIST - STRUCTURAL INTERM

S101 GENERAL NOTES S102 GENERAL NOTES S103 GENERAL NOTES S801 CANOPY PLANS

S802 CANOPY DETAILS

S803 CANOPY DETAILS DRAWING LIST - ELECTRICAL INTERIM

E001 ELECTRICAL SITE PLAN - INTERIM E100 LIGHTING PLANS - INTERIM

E200 POWER & LOW TENSION PLAN - INTERIM E500 ELECTRICAL SPECIFICATIONS - INTERIM

DRAWING LIST - CIVIL INTERIM

CIVIL DESIGN - UTILITES EXISTING CONDITIONS CIVIL DESIGN - ABANDON AND DEMOLITION PLAN CIVIL DESIGN - NOTES AND DETAILS CIVIL DESIGN - UTILITES OVERALL SITE SERVICING CIVIL DESIGN - UTILITES SITE SERVICING CIVIL DESIGN - UTILITES SITE SERVICING

PAVING - GEOMETRY STUDENT UNION BLVD PAVING - GRADING STUDENT UNION BLVD CROSS SECTIONS STUDENT UNION BLVD

CROSS SECTIONS STUDENT UNION BLVD PAVING - GEOMETRY WESTBROOK MALL PAVING - GRADING WESTBROOK MALL

PAVING - GRADING WESTBROOK MALL PAVING - GRADING WESTBROOK MALL CROSS SECTIONS WESTBROOK MALL CROSS SECTIONS WESTBROOK MALL

CROSS SECTIONS WESTBROOK MALL PAVING - GEOMETRY INTERIM BUS LOOP STAGE 1 PAVING - GEOMETRY INTERIM BUS LOOP STAGE 2

PAVING - GRADING INTERIM BUS LOOP STAGE 1 PAVING - GRADING INTERIM BUS LOOP STAGE 2 CROSS SECTIONS INTERIM BUS LOOP

CROSS SECTIONS INTERIM BUS LOOP PAVING - GEOMETRY AND GRADING UNIVERSITY BLVD C23 STRIPING AND SIGNAGE STUDENT UNION BLVD STRIPING AND SIGNAGE WESTBROOK MALL

STRIPING AND SIGNAGE WESTBROOK MALL

C26 STRIPING AND SIGNAGE INTERIM BUS LOOP ELECTRICAL SITE SERVICING PLAN

DRAWING LIST - SURVEY INTERIM

8613GP LAYOUT 17 8613GP-A LAYOUT 17A

8613GP-B LAYOUT 17B 8613GP-C LAYOUT 17C

DRAWING LIST - GEOTECHNICAL INTERIM

GEOTECHNICAL REPORT

DRAWING LIST - LANDSCAPE INTERIM

L001 TREE MAINTENANCE AND SURFACE DEMOLITION L101 PHASE 1 PAVING

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DIALOG®

1 2016-02-05 ISSUE FOR BID - INTERIM EXCHANGE

3 2016-04-22 IFC - INTERIM EXCHANGE

UBCPT SHHS

UBC

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UBC EXCHANGE GAGE SOUTH RESIDENCE

COVER - INTERIM EXCHANGE

DRAWN: Author

CHECKEChecker

PROJECT INFORMATION

PROJECT LOCATION:

CLIENT: UBC PROPERTIES TRUST & TRANSLINK

LEGAL DESCRIPTION: PID: 015-891-909

LEGAL: DL 3044, GROUP 1, NWD

UNIVERSITY OF BRITISH COLUMBIA, GAGE SOUTH

PID: 010-814-540 LEGAL: DL 4804, GROUP 1, NWD

PROJECT DESCRIPTION: TRANSIT EXCHANGE & LAYOVER INTERIM FACILITY

UBC EXCHANGE & LAYOVER INTERIM FACILITY

PROJECT TEAM

ARCHITECTURAL

DIALOG 401 - 611 Alexander Street Vancouver, BC, Canada, V6A 1E1 Tel: 604.255.1169

STRUCTURAL

GLOTMAN SIMPSON CONSULTING **ENGINEERS** 1661 West 5th Avenue Vancouver, BC, Canada, V6J 1N5

Tel: 604.734.8822

MECHANICAL

AME GROUP 1100 - 808 West Hastings Street Vancouver, BC, Canada, V6C 2X4

Tel: 604.684.5995

ELECTRICAL

AES ENGINEERING 1330 Granville Street Vancouver, BC, Canada, V6Z 1M7

TRAFFIC

Tel: 604.685.6427

BUNT & ASSOCIATES ENGINEERING Suite 1550 - 1050 West Pender Street Vancouver, BC, Canada, V6E 3S7

LANDSCAPE (PODIUM)

DIALOG 401 - 611 Alexander Street Vancouver, BC, Canada, V6A 1E1 Tel: 604.255.1169

LANDSCAPE (SITE) PFS STUDIO 1777 West 3rd Avenue Vancouver, BC, Canada,

V6J 1K7

Tel: 604.736.5168

201 - 12448 82 Ave, Surrey, BC, CANADA V3W 3E9 Tel: 604.597.9189

SURVEY

MURRAY & ASSOCIATES

CORE GROUP CONSULTANTS 320 - 8988 Fraserton Court Burnaby, BC, Canada, V5J 5H8

Tel: 604.299.0605

GEOTECHNICAL

GEOPACIFIC CONSULTANTS 215 - 1200 West 73rd Avenue Vancouver, BC, Canada, Tel: 604.439.0922

V7J 2A2

BKL CONSULTANTS LTD. #308 - 1200 Lynn Valley Road

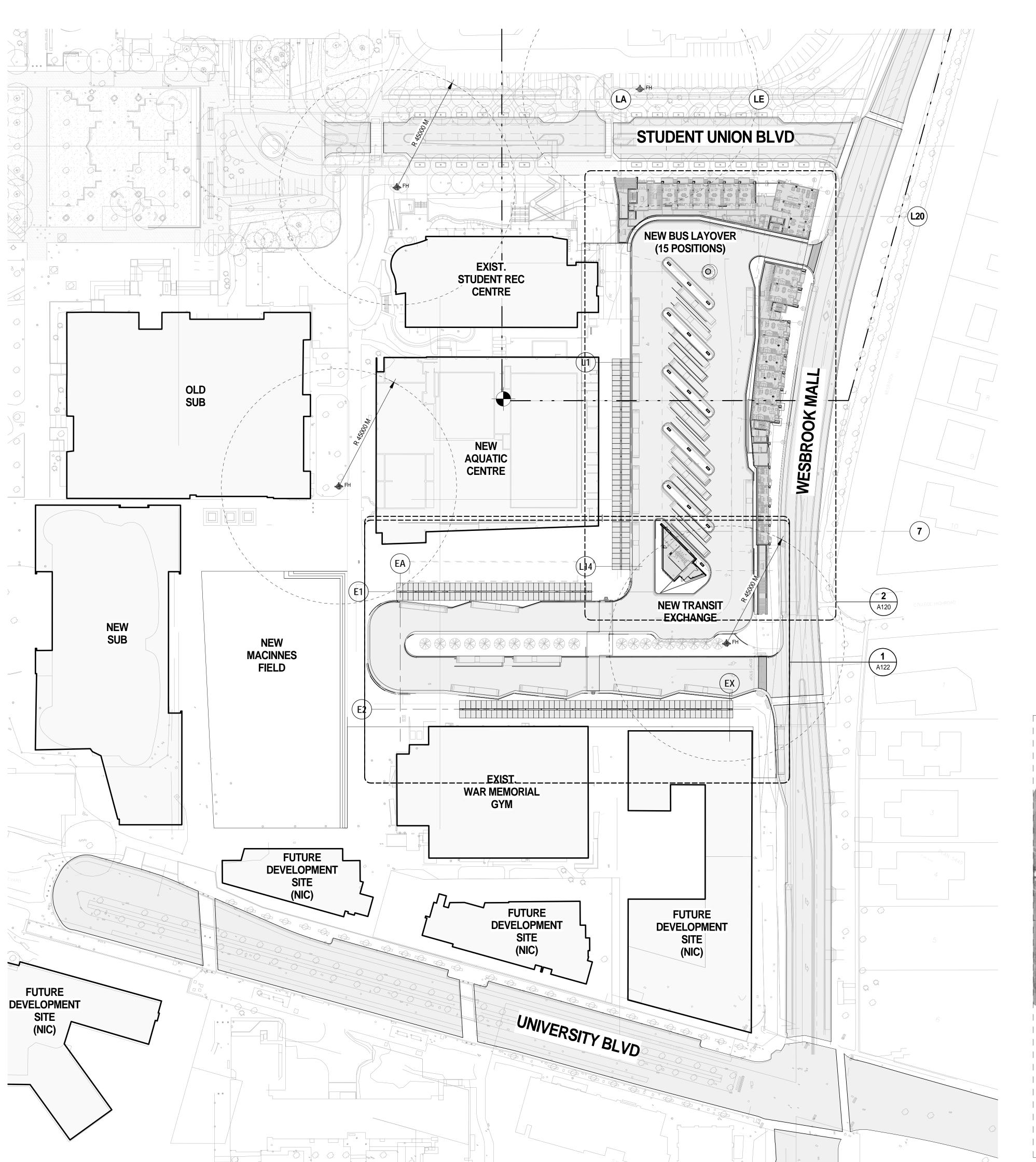
ACOUSTICAL

North Vancouver, BC, Canada Tel: 604.988.2508

TRAFFIC SAFETY AUDITOR **OPUS INTERNATIONAL** CONSULTANTS 210 - 889 Harbourside Drive North Vancouver, BC, Canada

V7P 3S1

Tel: 604.880.8285



CONTEXT PLAN
SCALE: 1:750



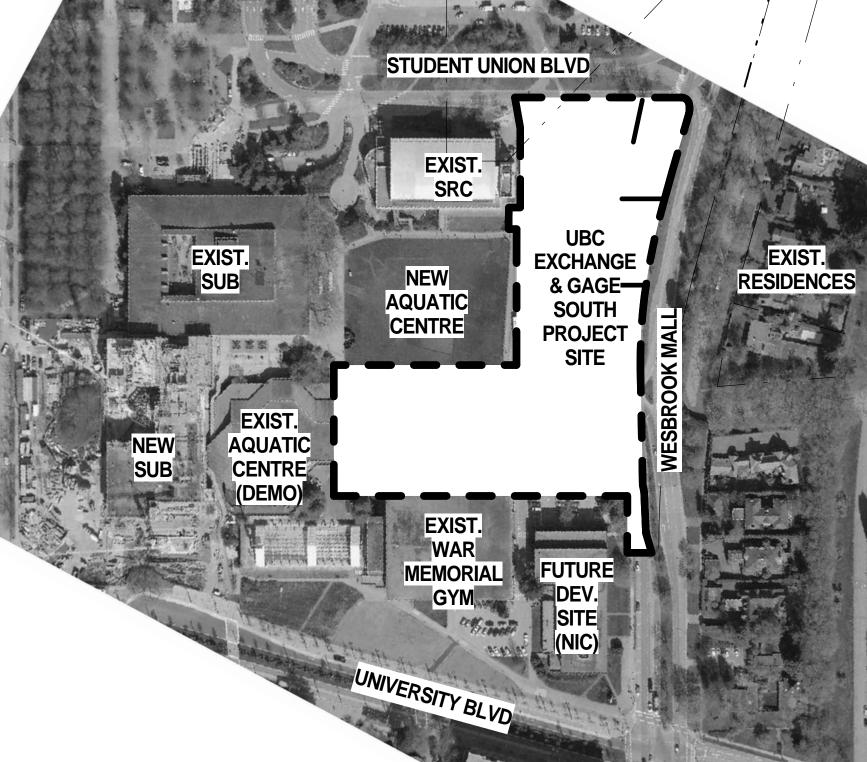
SITE LEGEND

FIRE HYDRANT

— - - — PROPERTY LINE

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FOR INFORCONSTRUCTION
FOR PORTEOR CONSTRUCTION



2 CONTEXT ORTHO PHOTO
SCALE: 1:2000

METRIC

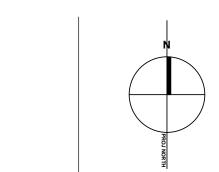
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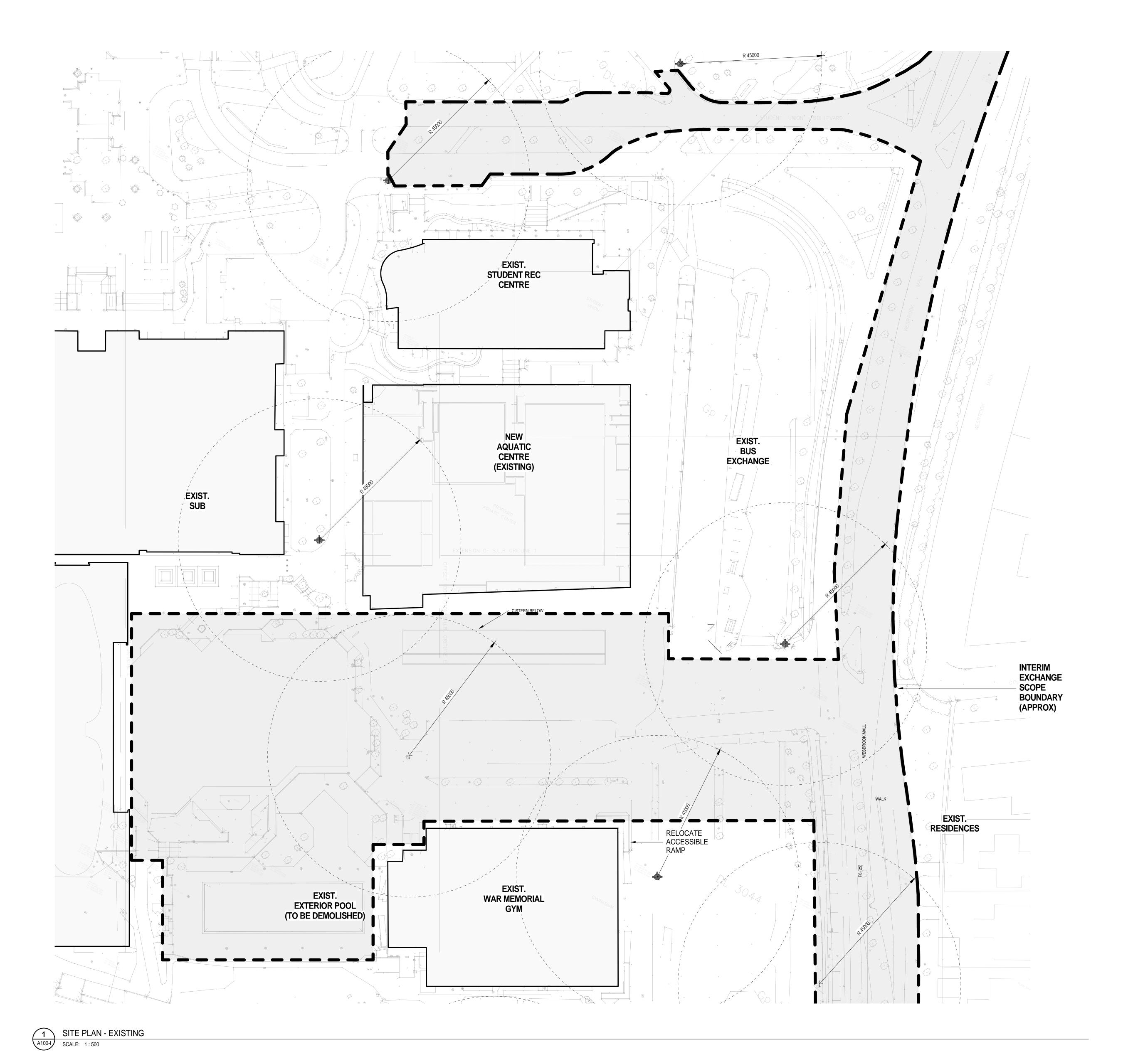


UBC EXCHANGE GAGE SOUTH RESIDENCE

CONTEXT PLAN -PROPOSED FACILITY (REFERENCE ONLY)

VN: Author CI

A001





DRAWN: Author

A100-I

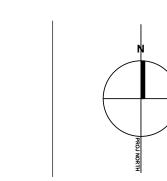
UBC UBCPT SHHS TRANS ISSUED FOR

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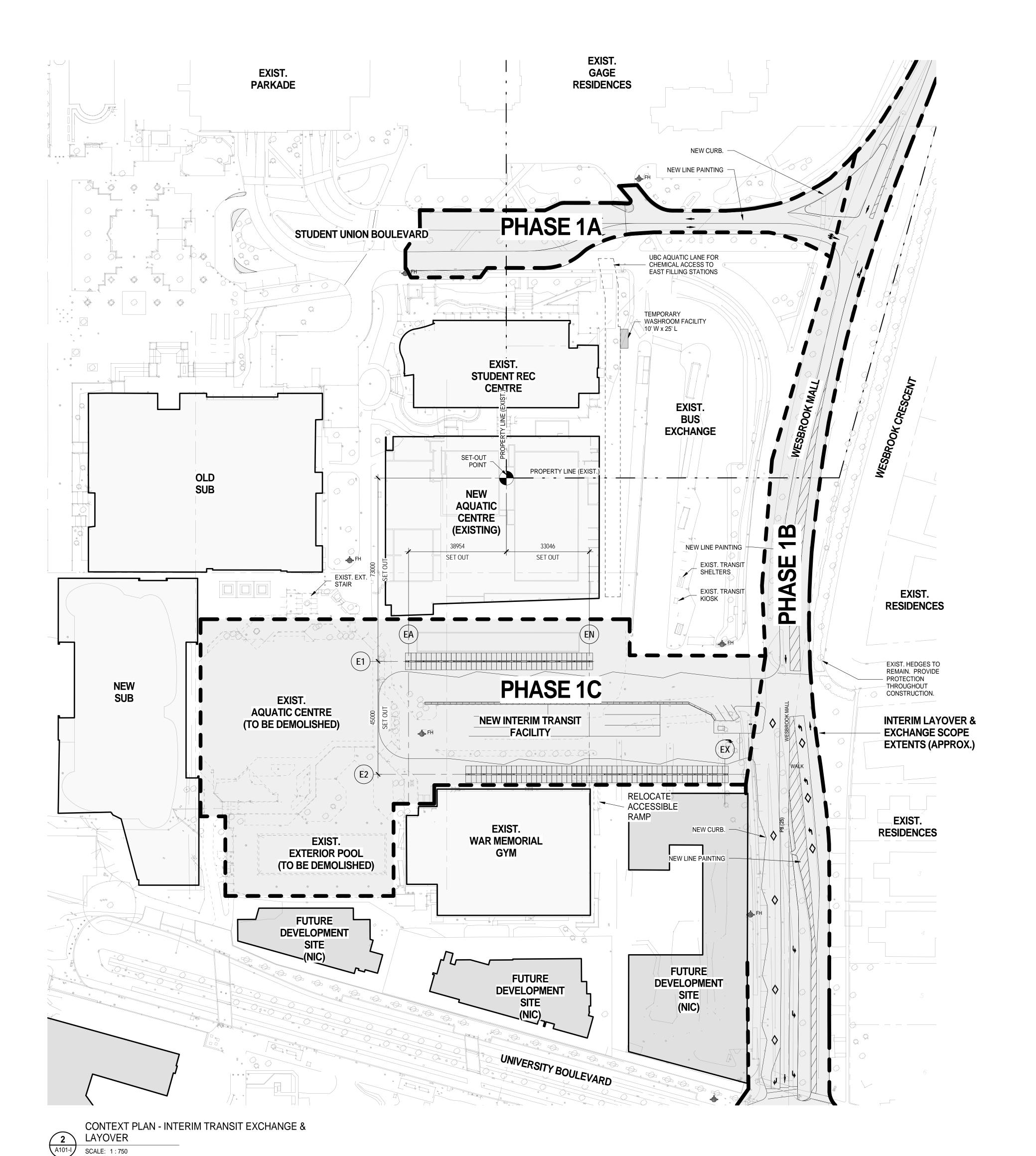
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UBC EXCHANGE GAGE SOUTH RESIDENCE

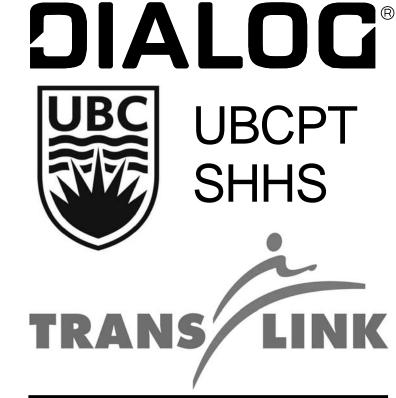
SITE PLAN - EXISTING

CHECKEChecker



INTERIM EXCHANGE GENERAL NOTES:

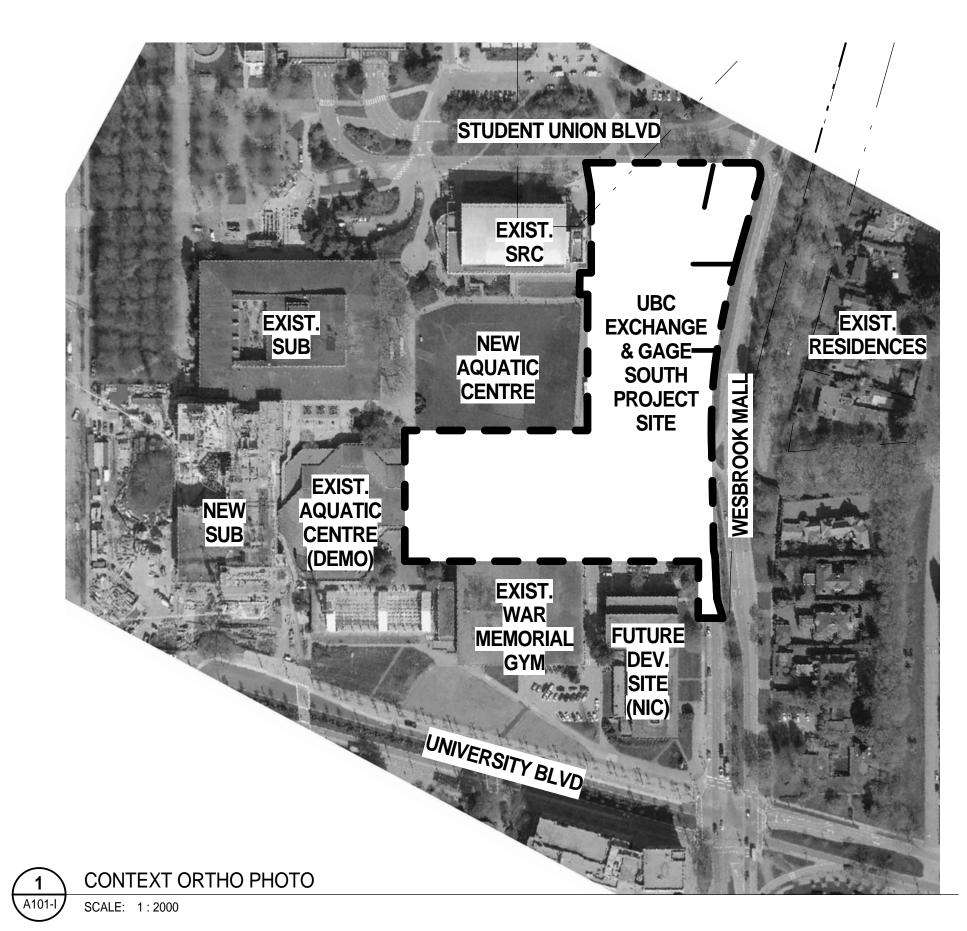
- 11. REFER TO EXISTING SURVEY PLAN FOR LOCATION OF ALL SERVICES, STRUCTURES, FACILITIES AND SURFACES.
- 12. REFER TO PRECINCT CIVIL AS-BUILTS FOR LOCATION OF SERVICES.
- 13. SITE VERIFY LOCATION AND EXTENT OF ALL ABOVE AND BELOW GRADE FACILITIES.
- 14. PRODUCE MATERIAL SURVEY REPORT OF FACILITIES TO BE DEMOLISHED FOR MATERIAL RE-USE AND RECYCLING ASSESSMENTS PRIOR TO COMMENCING WORK.
- 15. PRODUCE LAYDOWN AND STOCKPILE PLAN PRIOR TO COMMENCING WORK.
- 16. REFER TO PROJECT CIVIL DRAWINGS FOR EXTENT OF CIVILS WORKS.
- 17. REFER TO PROJECT ELECTRICAL DRAWINGS FOR EXTENT OF ELECTRICAL WORK.
- 18. REFER TO PROJECT LANDSCAPE DOCUMENTS FOR EXTENT OF LANDSCAPE WORK.
- 19. REFER TO GEOTECHNICAL REPORT FOR SOILS INFORMATION.
- I10. SCOPE BOUNDARY APPROXIMATE ONLY. COORDINATE HOARDING AND CONSTRUCTION BOUNDARIES WITH ADJACENT CONSTRUCTION PROJECTS, PROPERTIES AND STAKEHOLDERS. PRODUCE CONSTRUCTION HOARDING DIAGRAM PRIOR TO COMMENCING WORK.
- I11. FOR PLANTING ALONG EAST SIDE OF WESBROOK MALL, PROVIDE TREE & HEDGE PROTECTION PLAN PRIOR TO COMMENCING WORK.
- 112. EXISTING TRANSIT FACILITY TO REMAIN FULLY OPERATION FOR DURATION OF INTERIM FACILITY CONSTRUCTION. COORDINATE WITH UBC AND TRANSLINK ANY WORK THAT MAY TEMPORARILY AFFECT TRANSIT OPERATIONS.
- I13. CONFIRM ALL EXISTING STRUCTURE, SERVICES AND PROPERTY LINES (FOR SET-OUT) BY SITE SURVEY PRIOR TO COMMENCING WORK



ISSUED FOR

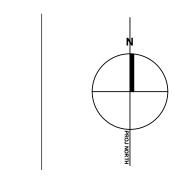
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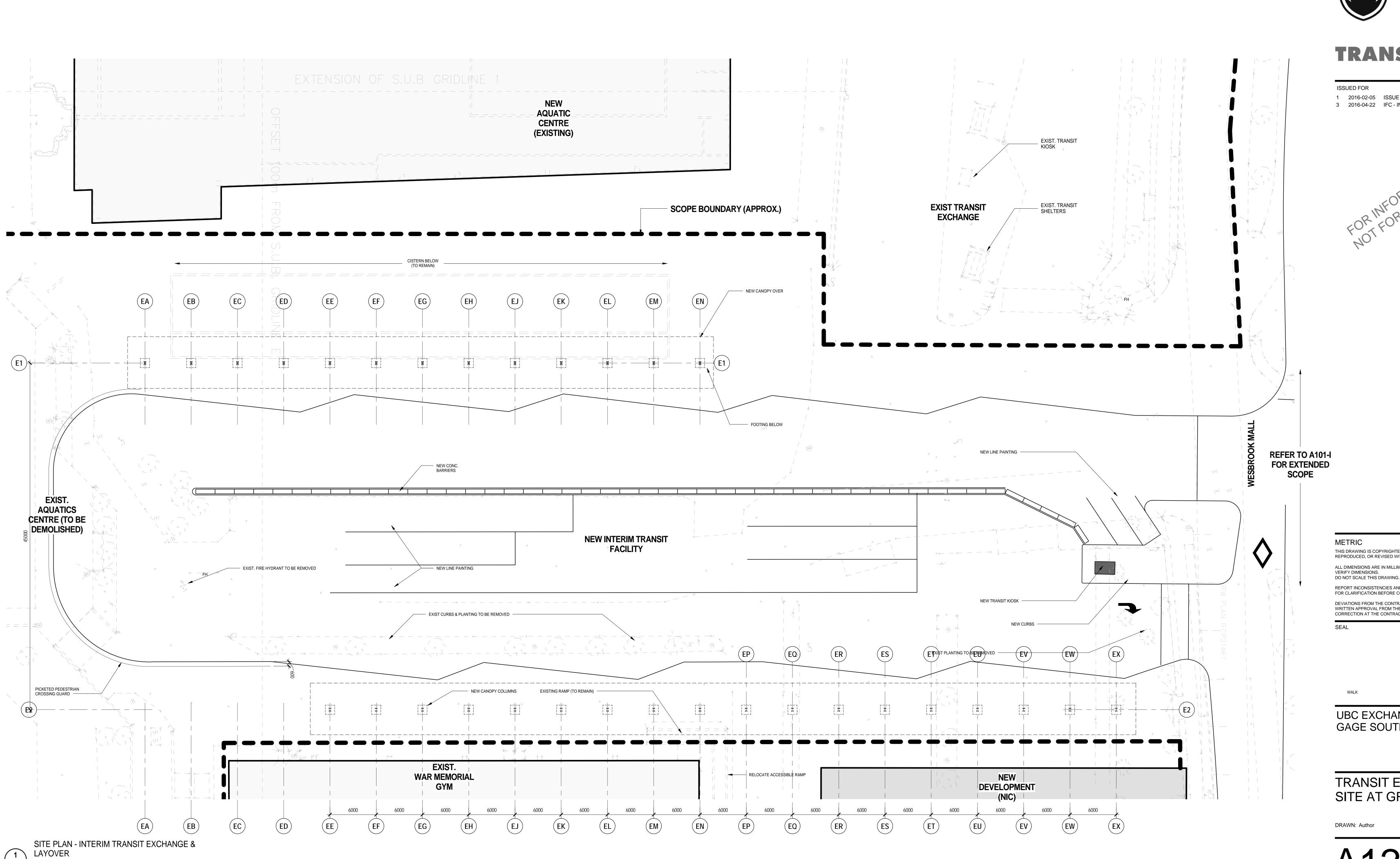
UBC EXCHANGE GAGE SOUTH RESIDENCE

CONTEXT PLAN -INTERIM EXCHANGE

DRAWN: JT

CHECKED: NH

A101-I



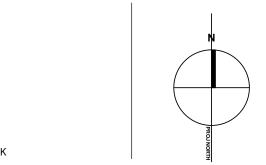
UBC UBCPT

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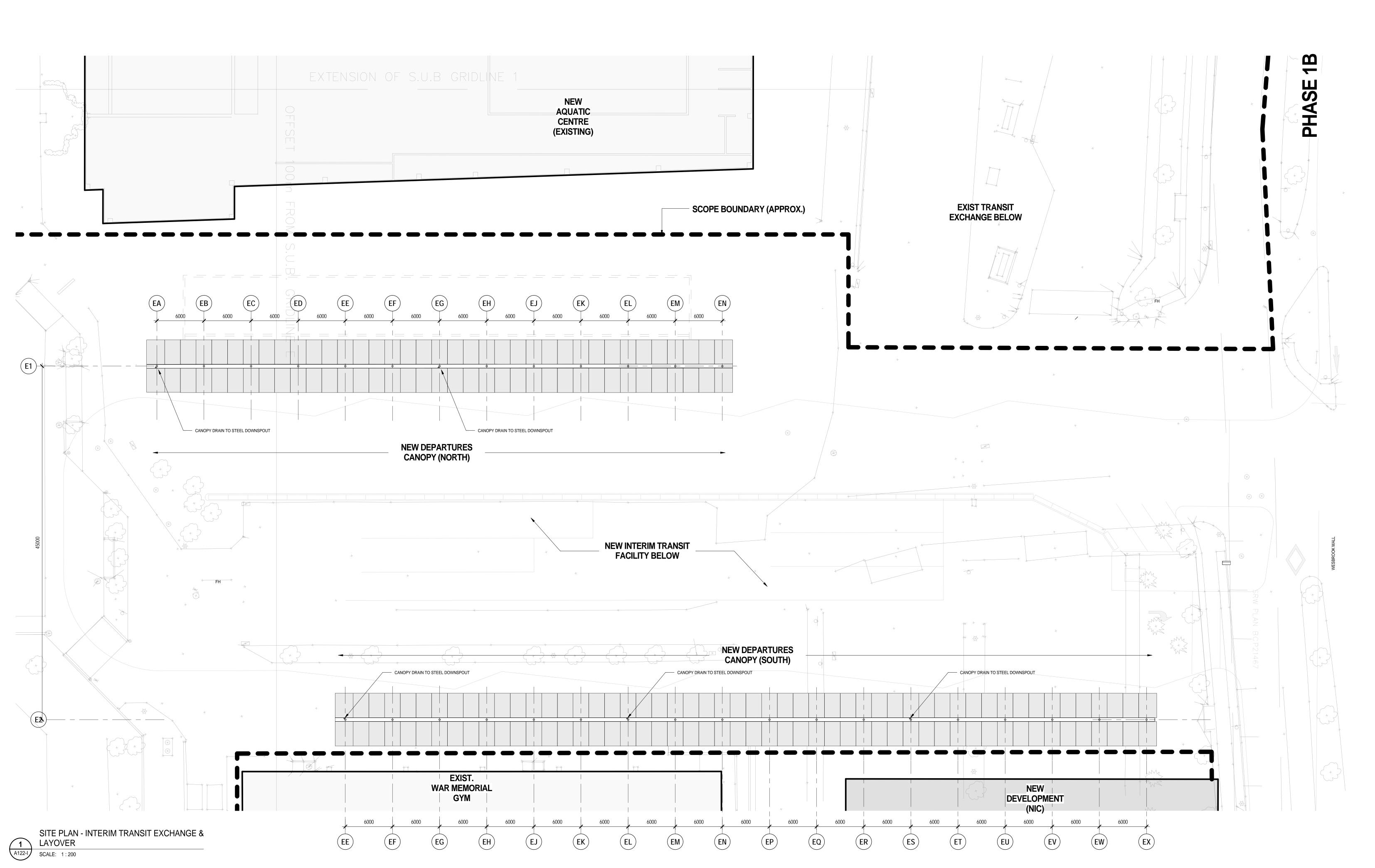
CORRECTION AT THE CONTRACTOR'S EXPENSE.



UBC EXCHANGE GAGE SOUTH RESIDENCE

TRANSIT EXCHANGE SITE AT GRADE

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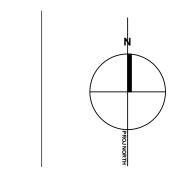
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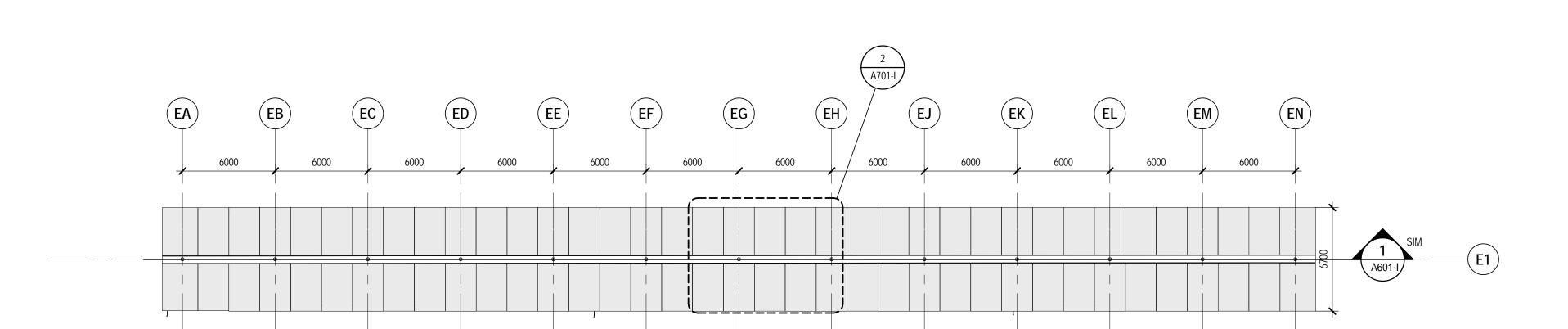
UBC EXCHANGE GAGE SOUTH RESIDENCE

TRANSIT EXCHANGE SITE PLAN ABOVE CANOPIES

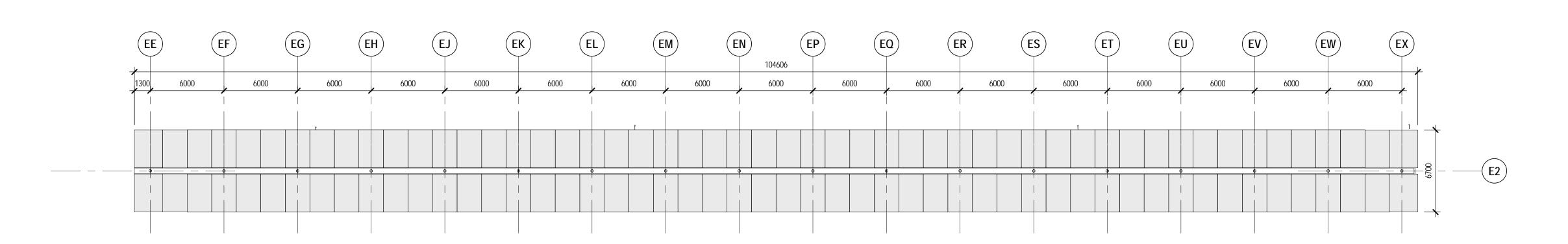
DRAWN: Author

CHECKEChecker

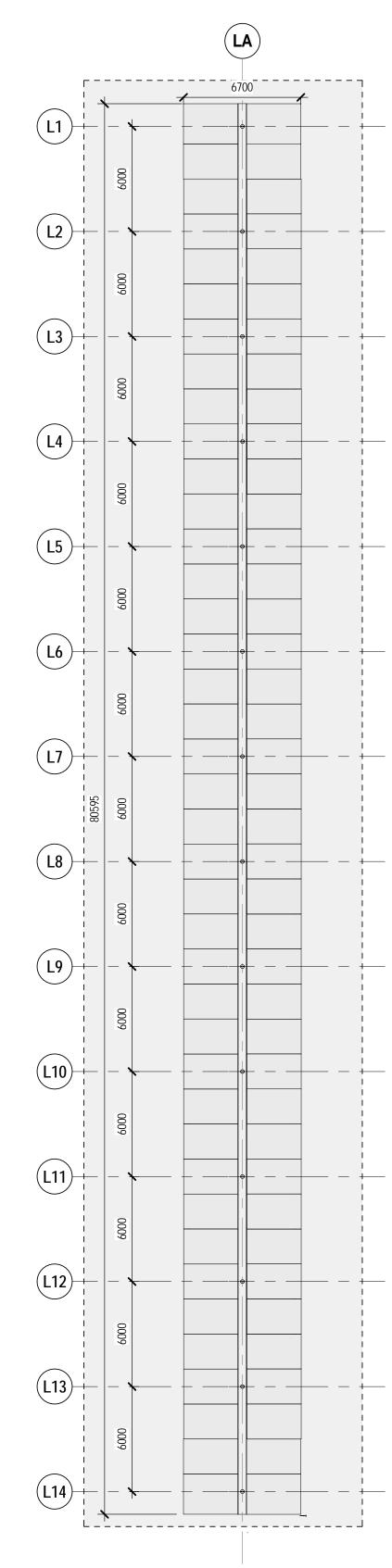
A122-I



1 A140 CANOPY PLAN - DEPARTURES NORTH SCALE: 1:200



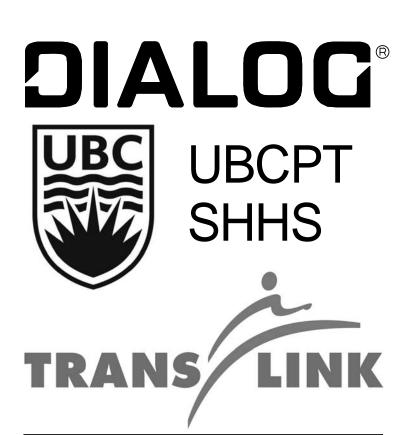




3 A140 CANOPY PLAN - ALIGHTING ARRIVALS

SCALE: 1:200

REFERENCE ONLY - NOT IN INTERIM PHASE

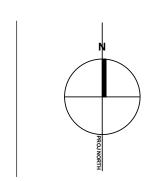


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UBC EXCHANGE GAGE SOUTH RESIDENCE

LAYOVER & **EXCHANGE CANOPY** PLAN

DRAWN: Author

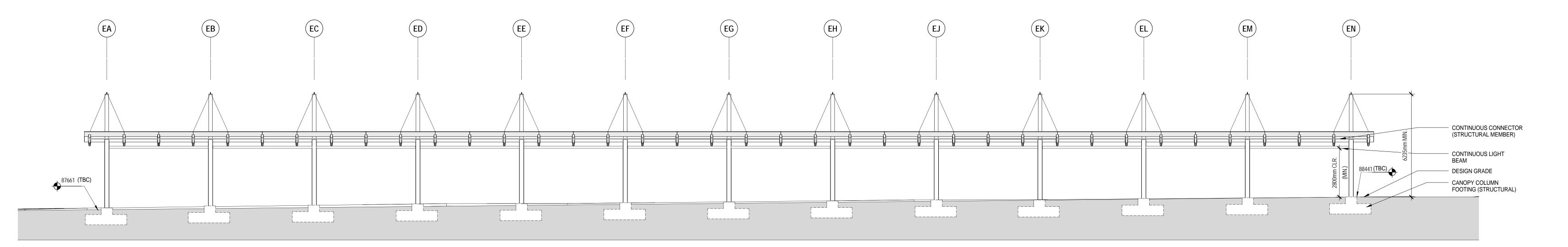
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NORTH DEPARTURE PLATFORM

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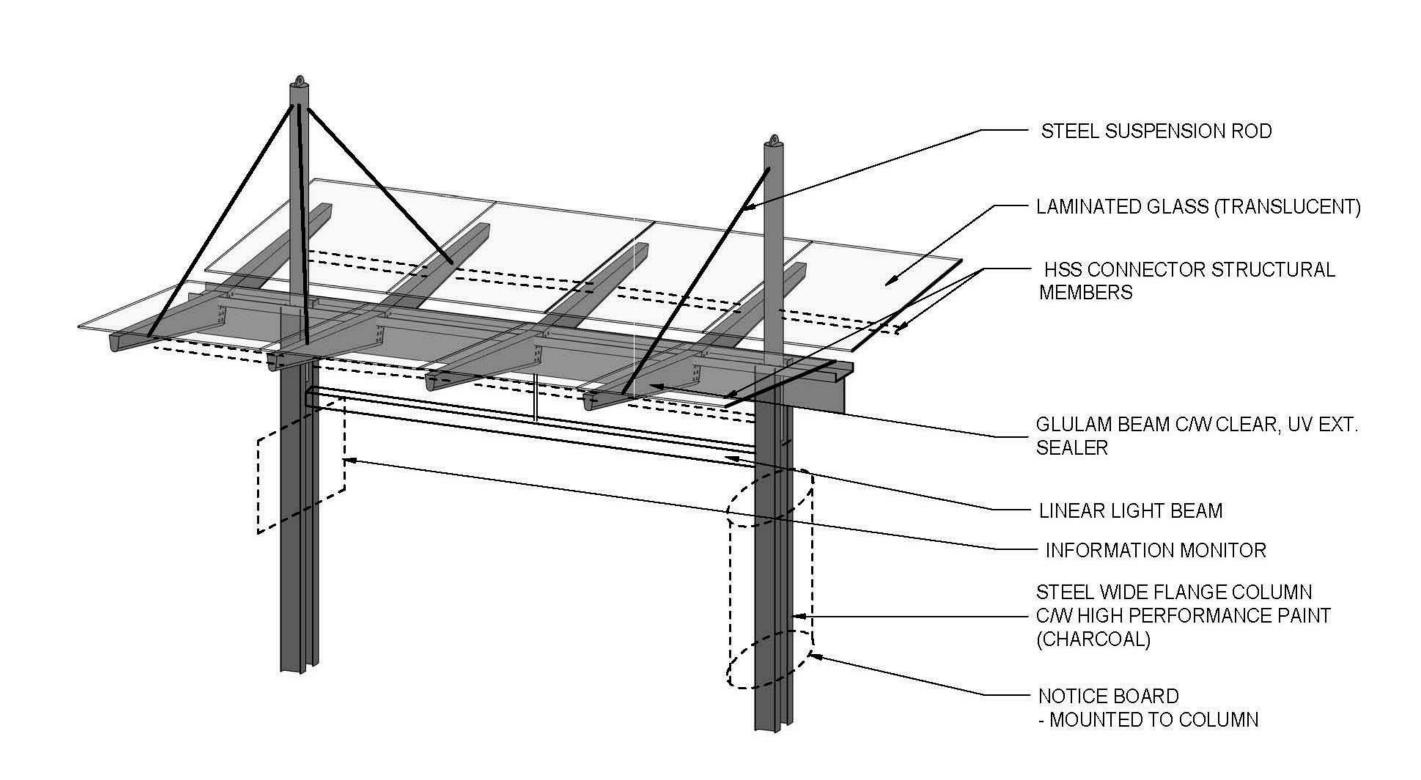
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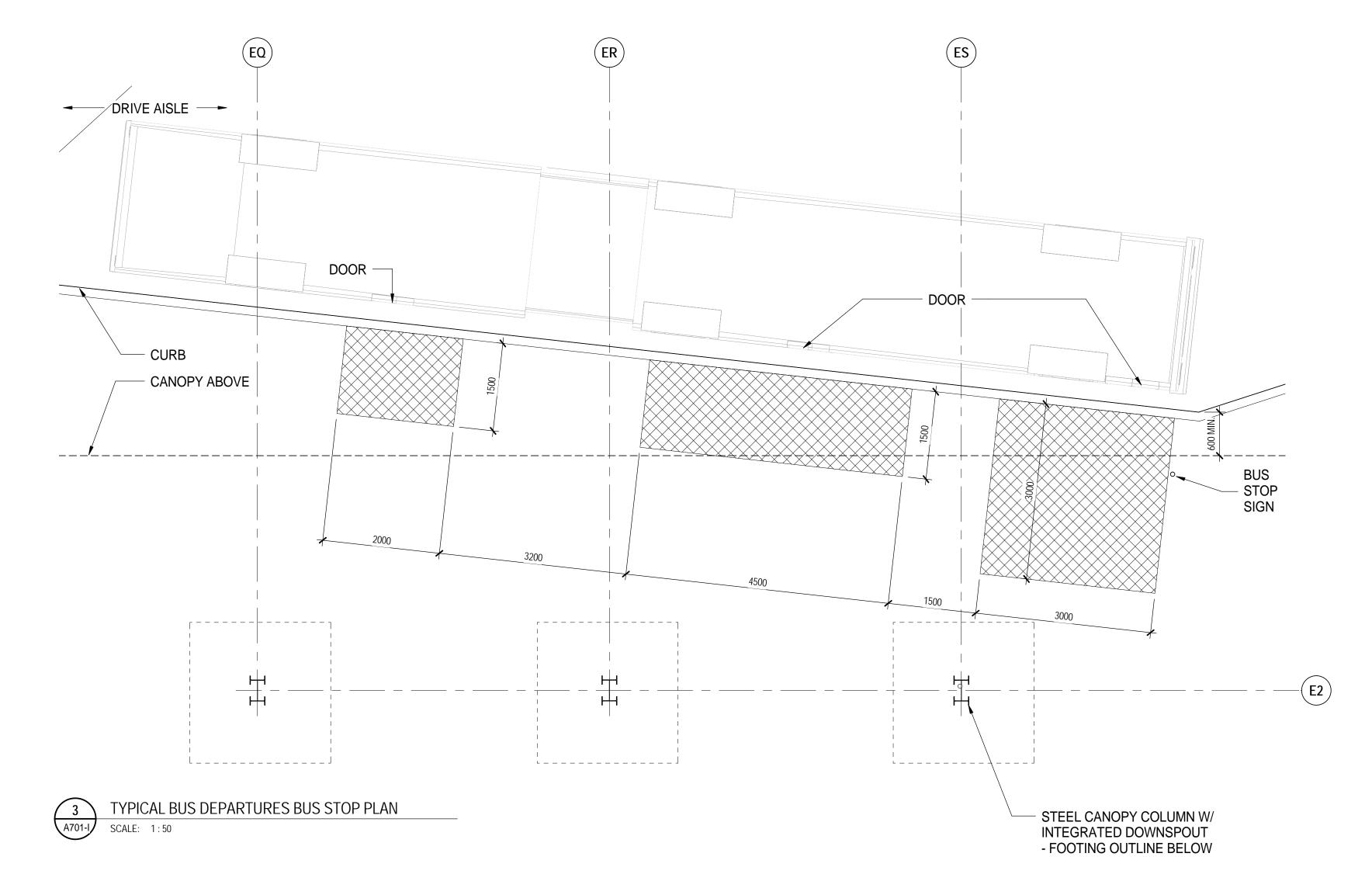
UBC EXCHANGE GAGE SOUTH RESIDENCE

CANOPY SECTION -LONGITUDINAL

DRAWN: Author

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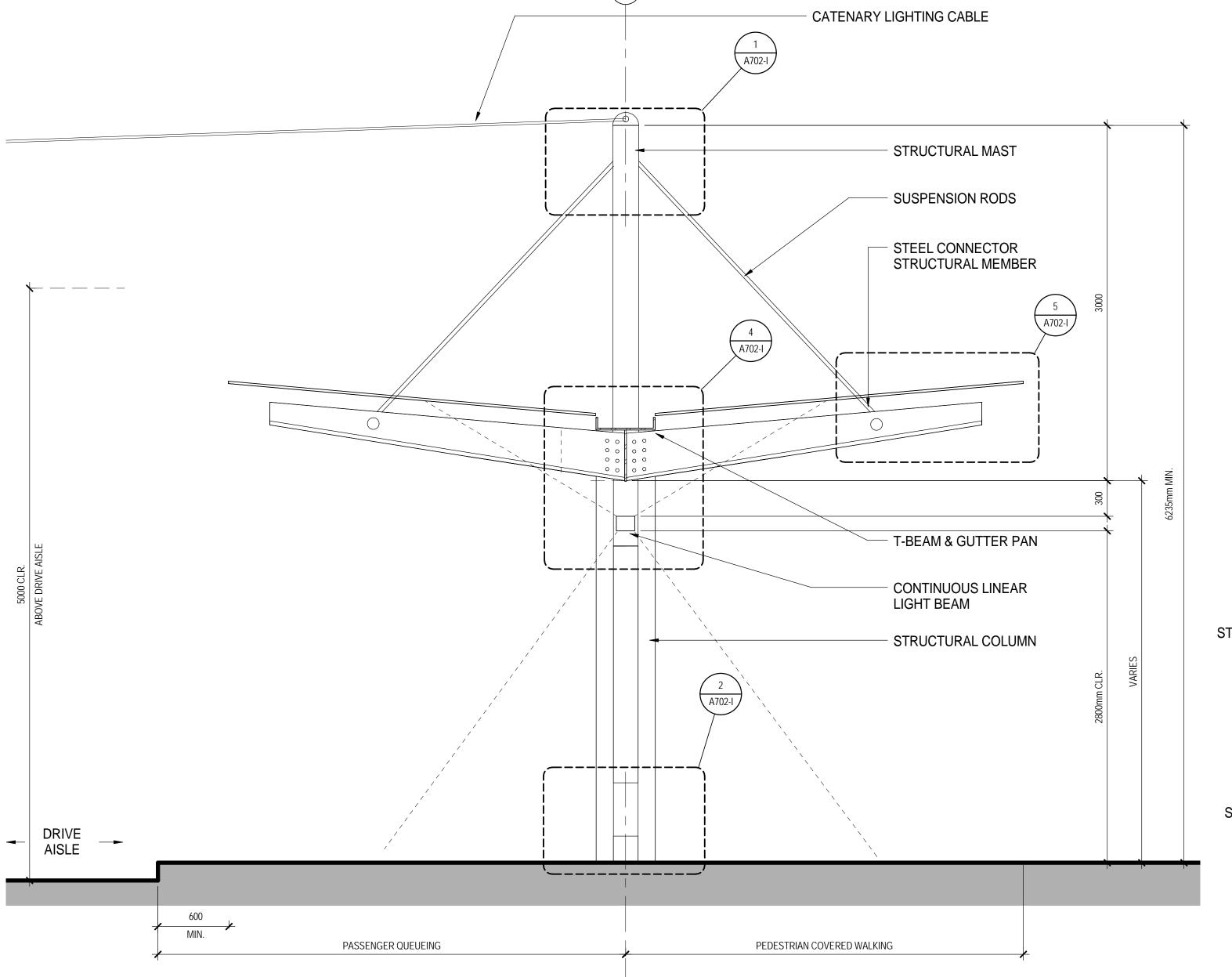


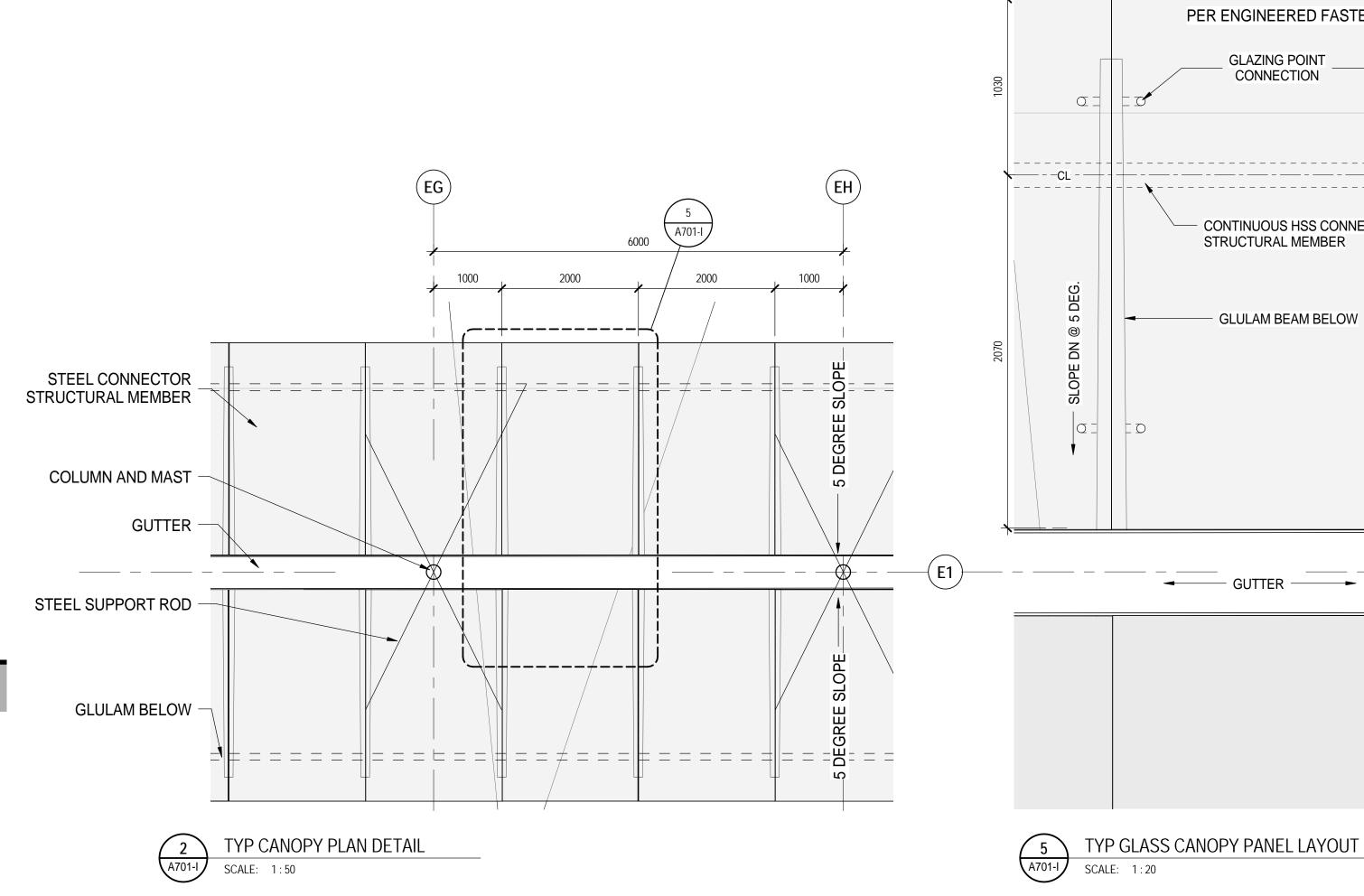




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CANOPY MODULE 3-D VIEW A701-I SCALE:

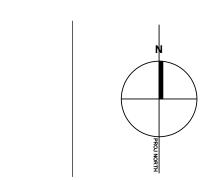




PER ENGINEERED FASTENER-GLAZING POINT CONNECTION VERIFY DIMENSIONS. DO NOT SCALE THIS DRAWING. REPORT INCONSISTENCIES AND OMISSIONS TO THE CONSULTANT CONTINUOUS HSS CONNECTOR STRUCTURAL MEMBER CORRECTION AT THE CONTRACTOR'S EXPENSE. GLULAM BEAM BELOW -UBC EXCHANGE GUTTER ——— SECTION

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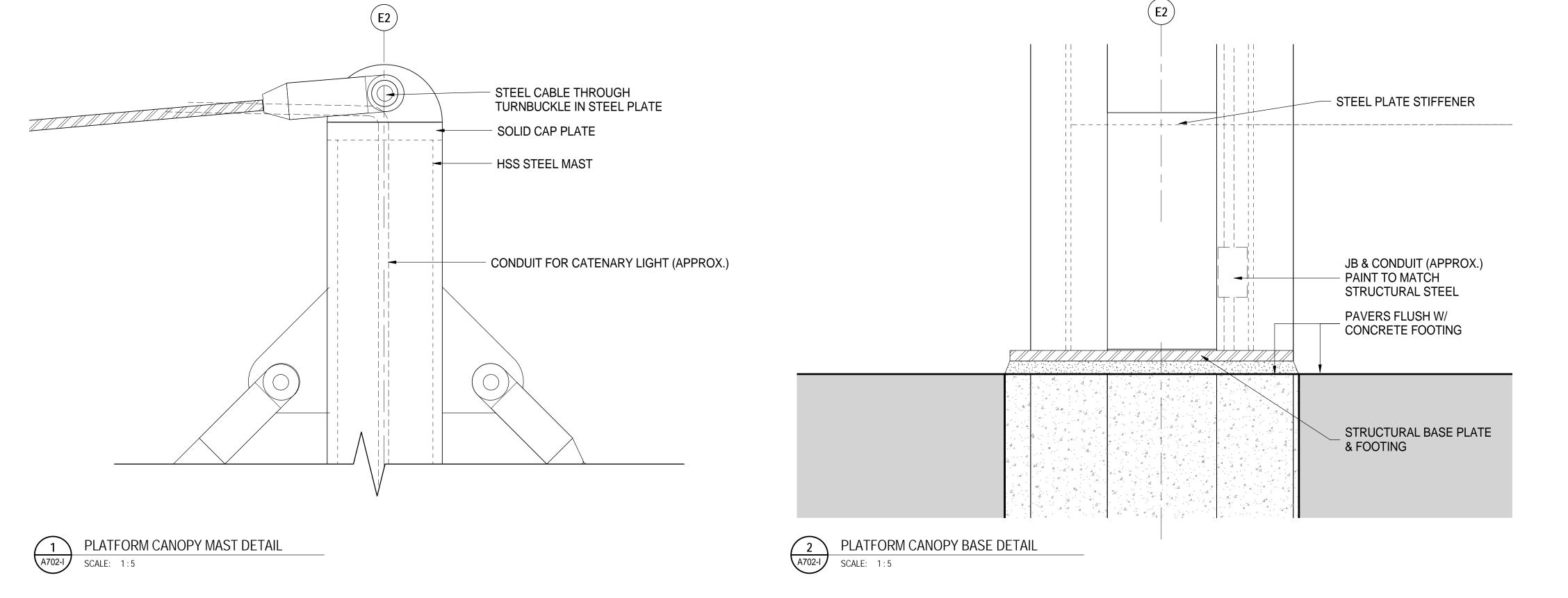


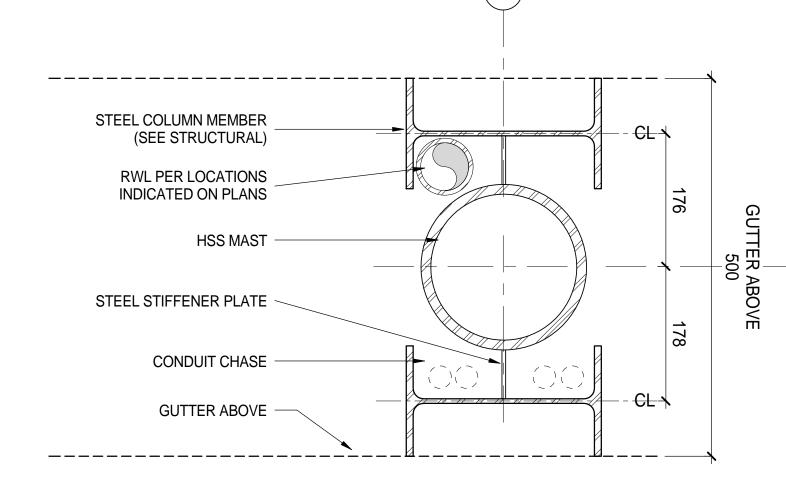
GAGE SOUTH RESIDENCE

CANOPY PLANS &

DRAWN: Author

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PLATFORM CANOPY COLUMN DETAIL

A702-I

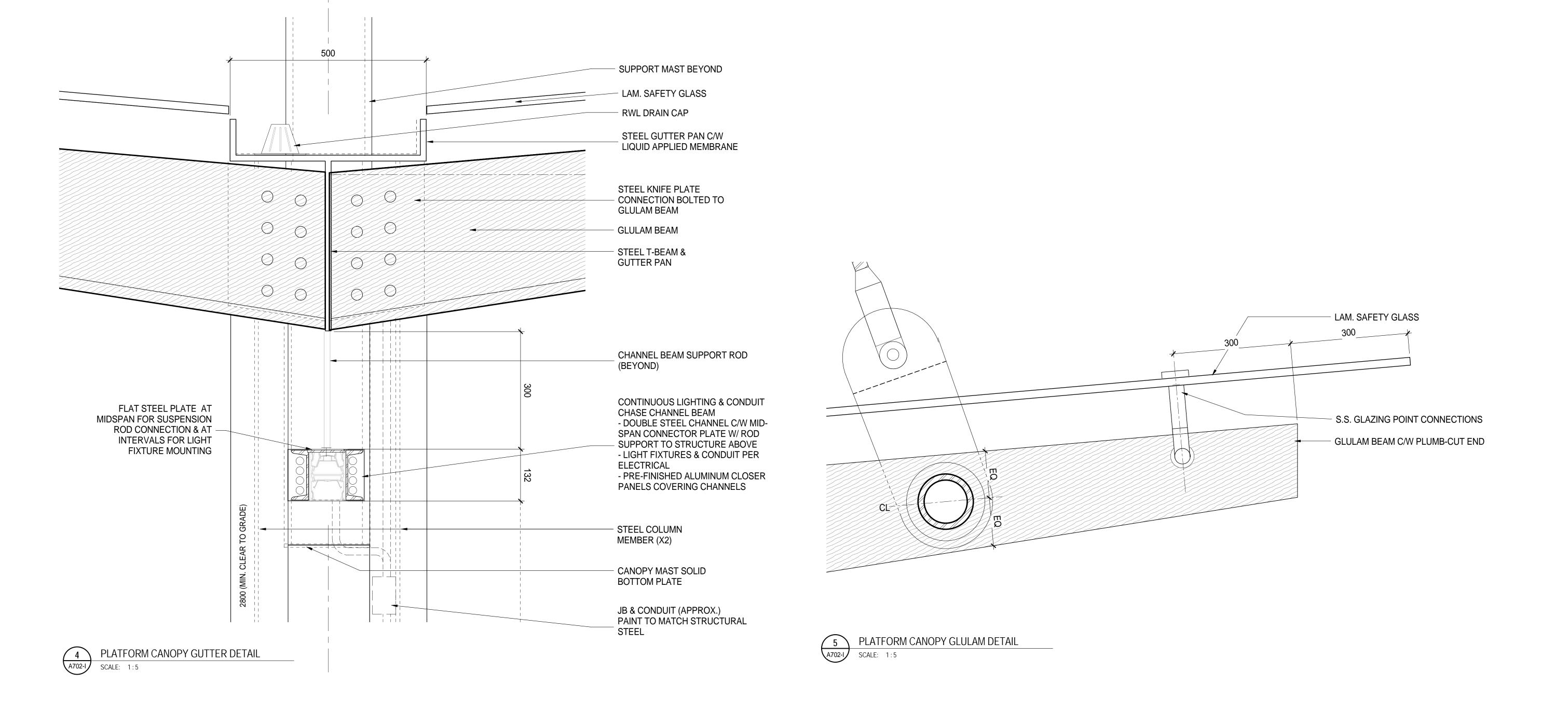
SCALE: 1:5



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DEVIATIONS FROM THE CONTRACT DOCUMENTS WITHOUT

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SEVI

SEAL

UBC EXCHANGE
GAGE SOUTH RESIDENCE

CANOPY DETAILS

DRAWN: Author

CHECKEChecker

A702-I

GENERAL NOTES

CONSTRUCT THE BUILDING TO THE INTENT OF THE DRAWINGS.

NOTES, PLANS, DETAILS AND SPECIFICATIONS (IF ANY) SHALL BE READ AS ONE DOCUMENT.

READ AND UNDERSTAND THE INTENT OF STRUCTURAL DESIGN AND OTHER CONSULTANT DRAWINGS INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, GEOTECHNICAL, LANDSCAPE, ETC. APPLICABLE PROJECT CODES:

THIS SECTION INDICATES CODES APPLICABLE TO THE DESIGN OF THIS BUILDING AS PRESENTED IN THE DRAWINGS. THIS SECTION ALSO APPLIES TO THE DESIGN OF STRUCTURAL ELEMENTS WHICH ARE THE RESPONSIBILITY OF OTHERS TO BE DESIGNED BY SPECIALTY STRUCTURAL ENGINEERS. THE GOVERNING BUILDING CODE SHALL BE: THE BRITISH COLUMBIA BUILDING CODE, 2012 EDITION

FOR THE DESIGN OF STRUCTURAL SYSTEMS ONLY. THE SUPPLEMENT TO THE NATIONAL BUILDING CODE OF CANADA, 2010 EDITION SHALL BE USED WHERE IT COMPLIMENTS THE ABOVE MENTIONED

STANDARDS SHALL INCLUDE THE FOLLOWING:

CAN/CSA A23.1-09 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION CAN/CSA A23.2-09 TEST METHODS AND STANDARD PRACTICES FOR CONCRETE CAN/CSA A23.3-04 (R2010) DESIGN OF CONCRETE STRUCTURES PRECAST CONCRETE MATERIALS AND CONSTRUCTION CAN/CSA A23.4-09 CAN/CSA S413-07 (R2012) PARKING STRUCTURES CAN/CSA S16-09 DESIGN OF STEEL STRUCTURES CAN/CSA 086-09 CONSOLIDATION ENGINEERING DESIGN IN WOOD CAN/CSA S136-07 (R2012) NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS CAN/CSA S304.1-04 (R2010) DESIGN OF MASONRY STRUCTURES

AND ALL REFERENCE CODES AND STANDARDS LISTED WITHIN THESE APPLICABLE STANDARDS

SUBMITTALS

SUBMIT SHOP DRAWINGS ELECTRONICALLY FOR REVIEW AS A PDF DOCUMENT ONLY. SUBMIT SEALED SHOP DRAWINGS ELECTRONICALLY AS A PDF DOCUMENT ONLY. SUBMIT SEALED LETTERS OF ASSURANCE IN ORIGINAL DOCUMENT FORM. SHOP DRAWINGS SHALL BE SUBMITTED VIA THE ARCHITECT WITH A MINIMUM OF 3 WEEKS FOR REVIEW. DOCUMENTS REQUIRING THE SEAL OF A SPECIALTY STRUCTURAL ENGINEER OR MATERIALS CONSULTANT SHOULD BE SEALED AND ACCOMPANIED BY APPROPRIATE LETTERS OF ASSURANCE WHEN SUBMITTED FOR REVIEW. DOCUMENTS RECEIVED WITHOUT APPROPRIATE USE OF THE SEAL

MAY BE RETURNED AND ALL INCOMPLETE SUBMISSIONS MAY REQUIRE A FURTHER COMPLETE

REVIEW OF SHOP DRAWINGS IS ONLY FOR GENERAL COMPATIBILITY WITH THE DESIGN CONCEPT. THE CONSULTANT DOES NOT WARRANT OR REPRESENT THAT THE INFORMATION CONTAINED ON THE SHOP DRAWINGS IS EITHER ACCURATE OR COMPLETE. SOLE RESPONSIBILITY FOR CORRECT DESIGN. DETAILS AND DIMENSIONS SHALL REMAIN WITH THE PARTIES SUBMITTING THE DRAWING. REVIEW IS NOT APPROVAL OF DESIGN AND SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO SATISFY REQUIREMENTS OF THE CONTRACT DOCUMENTS.

LETTERS OF ASSURANCE

LETTERS OF ASSURANCE FOR THE DESIGN OF PRIMARY AND SECONDARY STRUCTURAL COMPONENTS BY SPECIALTY STRUCTURAL ENGINEERS AND OTHER REGISTERED PROFESSIONALS SHALL BE OF THE FORM "SCHEDULES S-B AND S-C" AS PROVIDED BY THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF BRITISH COLUMBIA. LETTERS OF ASSURANCE SHOULD BE ANNOTATED TO REFER SPECIFICALLY TO THE AREA OF WORK ENCOMPASSED BY THE REGISTERED PROFESSIONAL

LETTERS OF ASSURANCE BY SPECIALTY STRUCTURAL ENGINEERS ARE REQUIRED FOR: ALL CASES WHERE PROFESSIONAL ENGINEERING IS REQUIRED FOR STRUCTURAL OR SEMI-STRUCTURAL ELEMENTS OF THE BUILDING · MATERIALS CONSULTANT TO CONFIRM THAT MATERIALS FOR THE PROJECT CONFORM WITH APPLICABLE CODES AND SPECIFICATIONS FOR THE BUILDING. SPECIALTY STRUCTURAL ENGINEERS FOR DESIGN AND FIELD REVIEW OF BUILDING ELEMENTS OF COMPONENTS THAT FORM PART OF THE FINAL PRIMARY STRUCTURE INCLUDING THOSE INDICATED IN THE FOLLOWING NOTES SPECIALTY STRUCTURAL ENGINEERS FOR DESIGN AND FIELD REVIEW OF SECONDARY

STRUCTURAL ELEMENTS OF THE BUILDING REQUIRED TO FACILITATE THE ARCHITECTURAL DESIGN OF THE BUILDING. SPECIALTY STRUCTURAL ENGINEERS FOR TEMPORARY WORKS SUCH AS BUILDING STABILITY, FORMWORK, RESHORING, COMPONENT TEMPORARY STABILITY OR STRENGTH, CONFIRMATION OF TEMPORARY LOADS ON THE STRUCTURE, CONSTRUCTION LOADS ON THE STRUCTURE SEQUENCING OF CONSTRUCTION, ETC. WHETHER ON BEHALF OF THE OWNER OR TH

 SPECIALTY STRUCTURAL ENGINEERS FOR SECONDARY AND SEMI-STRUCTURAL ELEMENTS AND ARCHITECTURAL ELEMENTS INCLUDING BUT NOT LIMITED TO STEEL STUDS. SEISMIC TIES FOR BRICK WORK, STONE TIES, ARCHITECTURAL PRECAST, GLAZING, HANDRAILS, ESCALATOR DESIGN AND CONNECTION, WINDOW WASHING ANCHORAGE AND SYSTEMS, ELEVATOR DIVIDER BEAMS, AND SIMILAR ITEMS AS REQUIRED TO FACILITATE THE BUILDING DESIGN. GEOTECHNICAL CONSULTANT FOR ALL SOILS AFFECTS INCLUDING SOILS LATERAL LOADING TO THE STRUCTURE, COMPACTION, LIQUEFACTION, BEARING CAPACITY, PASSIVE RESISTANCE, ETC. AS IT RELATES TO BOTH THE TEMPORARY CONSTRUCTION CONDITION OF THE BUILDING AND TO THE FINAL COMPLETED BUILDING • SPECIALTY STRUCTURAL ENGINEERS COMMONLY KNOWN AS "SEISMIC CONNECTION ENGINEERS FOR THE DESIGN AND FIELD REVIEW OF THE ANCHORAGE AND RESTRAINT FOR GRAVITY, WIND

AND SEISMIC LOADING INCLUDING DETAILED DESIGN OF THE CONNECTION TO THE PRIMARY STRUCTURAL ELEMENT OF THE BUILDING AS DETERMINED BY THE STRUCTURAL ENGINEER OF · REGISTERED PROFESSIONALS PROVIDING SERVICES TO THE PROJECT AFFECTING OR FORMING PART OF THE PRIMARY STRUCTURE OF THE BUILDING. REGISTERED PROFESSIONALS AS MIGHT BE REQUIRED BY THE OWNER OR OTHER CONSULTANTS

THE PRIMARY PURPOSE OF THESE LETTERS IS TO VERIFY FULL AND COMPLETE SERVICE BY THE SPECIALTY CONSULTANT. THE EXTENT AND DEPTH OF SERVICE REQUIRED SHALL BE CONSISTENT WITH THAT OF THE STRUCTURAL ENGINEER OF RECORD. FULL TIME SUPERVISION OF THE DESIGN OR WORK IN THE FIELD IS NOT REQUIRED EXCEPT AS DEEMED NECESSARY BY THE SPECIALTY ENGINEER IN THE CIRCUMSTANCES. THE ENGINEER IS RESPONSIBLE FOR CONDUCTING THE NECESSARY FIELD REVIEWS FOR HIS WORK AND SHALL APPLY HIS PROFESSIONAL DISCRETION WITH REGARD TO THE EXTENT OF FIELD REVIEW AND REVIEW AT FABRICATION PLANTS. IN ADDITION, AND NOT TO ANNUL OR DIMINISH THE RESPONSIBILITY OF THE SPECIALTY CONSULTANT, THE STRUCTURAL ENGINEER OF RECORD MAY REQUIRE ADDITIONAL SITE REVIEW BY THE SPECIALTY CONSULTANT OR ALTERNATIVE PARTIES AS HE MAY DEEM SUITABLE. REGARDLESS OF SUCH ADDITIONAL REVIEW, THE FULL ENGINEERING RESPONSIBILITY FOR THE SPECIALTY ELEMENTS SHALL BE BOURN BY THE SPECIALTY CONSULTANT ALONE.

SEE OTHER CONSULTANTS FOR REQUIREMENTS FOR LETTERS OF ASSURANCE PERTAINING TO STRUCTURAL OR NON-STRUCTURAL BUILDING COMPONENTS PERTAINING TO THE WORK OF OTHER CONSULTANTS OR THE OWNER.

SPECIALTY STRUCTURAL ENGINEER

A SPECIALTY STRUCTURAL ENGINEER IS AN ENGINEER REGISTERED IN BRITISH COLUMBIA, EMPLOYED BY A CONTRACTOR(S), THE OWNER, OR OTHERS, WHO POSSESSES SPECIALTY KNOWLEDGE OR EXPERIENCE AND IS RESPONSIBLE FOR DESIGN AND FIELD REVIEW OF SPECIFIC COMPONENTS OF THE PRIMARY STRUCTURE AND/OR OTHER SEMI-STRUCTURAL BUILDING COMPONENTS WHETHER FORMING PART OF THE STRUCTURE OR AS PART OF THE WORK SPECIFIED BY OTHER CONSULTANTS ON THE PROJECT. WORK BY A SPECIALTY STRUCTURAL ENGINEER IS INDEPENDENT OF THE STRUCTURAL ENGINEER OF RECORD.

TENDER DOCUMENTS

OR THE AUTHORITY HAVING JURISDICTION.

THOSE PRICING OR TENDERING SHOULD OBTAIN A COMPLETE SET OF CURRENT DOCUMENTS INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, SURVEY, GEOTECHNICAL AND OTHER DRAWINGS AND SPECIFICATIONS. CERTAIN INFORMATION REQUIRED TO PROPERLY PRICE WORK INDICATED ON THE STRUCTURAL DRAWINGS MAY BE FOUND IN OTHER CONSULTANTS

USE DOCUMENTS ONLY FOR THE PURPOSE INDICATED. DO NOT USE TENDER DOCUMENTS FOR CONSTRUCTION, AND DO NOT PRICE FROM DRAWINGS WHICH ARE NOT ISSUED FOR TENDER OR

TEMPORARY AND ANCILLARY WORKS AND SITE SAFETY

THESE ENGINEERING DRAWINGS SHOW THE REQUIREMENTS FOR PERMANENT COMPLETED STRUCTURE ONLY. TEMPORARY WORKS REQUIRED TO COMPLETE THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS. GLOTMAN SIMPSON ARE NOT RESPONSIBLE FOR DESIGN OR FIELD REVIEW OF TEMPORARY AND ANCILLARY WORK.

THE CONTRACTOR ALONE IS RESPONSIBLE FOR SAFETY IN AND AROUND THE JOBSITE. PROPER AND SAFE METHODS OF CONSTRUCTION SHALL BE USED AT ALL TIMES INCLUDING GUYING AND BRACING OF INCOMPLETE STRUCTURES, FORMWORK, SHORING, RESHORING, FALSEWORK, PLATFORMS, SCAFFOLDING, BARRIERS, WALKWAYS, ETC. AND CONTROL THE INTENSITY, DURATION AND LOCATION OF CONSTRUCTION LOADS UPON THE STRUCTURE

WHERE SAFETY IS CONCERNED DURING THE COURSE OF CONSTRUCTION. A SPECIALTY ENGINEER SHALL BE ENGAGED TO ASSURE THE SAFETY AND STABILITY OF THE STRUCTURE UNDER FEMPORARY CONDITIONS AND CONSTRUCTION LOADS UNTIL THE STRUCTURE OF THE BUILDING IS

FORMWORK

FORMWORK SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE CODE, THE FOLLOWING REQUIREMENTS AND ACI 347 "GUIDE TO FORMWORK FOR CONCRETE" WHEREVER TH ACI REQUIREMENTS DO NOT DIMINISH THE INTENT OR REQUIREMENTS OTHERWISE STATED HEREIN. FORMWORK SHALL BE DESIGNED TO SAFELY SUPPORT THE PRESSURES AND LOAD FROM CONCRETE AND MEN AND EQUIPMENT. FORMWORK SHALL BE DESIGNED TO AVOID ANY OVERLOAD TO THE STRUCTURE OF THE BUILDING. FORMWORK INCLUDING BRACING, RESHORING, FALSEWORK, ETC. SHALL BE DESIGNED AND INSPECTED BY A SPECIALTY ENGINEER WHO IS A REGISTERED PROFESSIONAL ENGINEER WITH EXPERIENCE IN THE PROPOSED METHODS OF FORMWORK CONSTRUCTION. DO NOT CAST CONCRETE ON SUSPENDED FORMWORK OR FOR WALLS OR COLUMNS HIGHER THAN 1200 WITHOUT DESIGN AND INSPECTION BY THE FORMWORK DESIGN ENGINEER.

WORKSAFE BC

THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE TO ADMINISTER AND PROVIDE FOR ALL MATTERS RELATED TO THE WORKERS SAFETY INCLUDING AUTHORITIES ADMINISTERING GOVERNMENTAL LAWS AND BYLAWS PERTAINING TO WORKER SAFETY INCLUDING BUT NOT LIMITED TO SITE SAFETY, TEMPORARY AND ANCILLARY WORKS. TRAINING. AND CONTROL OF THE WORK AND WORK PROCESSES. THE CONTRACTORS SHALL ENSURE COMPLIANCE WITH WORKERS HEALTH AND SAFETY REGULATIONS AND GOOD WORK PRACTICES AND WHERE NECESSARY OR PRUDENT SHALL PROVIDE ENGINEERING EXPERTISE TO CONFIRM SUCH COMPLIANCE.

DEMOLITION NOTES

DEMOLITION IS "TEMPORARY WORKS" UNDER THE CONTROL AND SUPERVISION OF THE CONTRACTOR. SEE GENERAL NOTES FOR TEMPORARY WORKS. DEMOLITION OF ANY PORTIONS OF PRIMARY STRUCTURE SHALL BE PERFORMED ONLY UNDER THE GUIDANCE OF A SPECIALTY ENGINEER RESPONSIBLE FOR THE DEMOLITION SEQUENCE, METHODS AND PROCEDURES. SEE GENERAL NOTES FOR SPECIALTY ENGINEER. PROVIDE ALL NECESSARY GUYING, SHORING, RESHORING, UPGRADING, STRENGTHENING, STIFFENING AND OTHER METHODS NECESSARY TO PROVIDE FOR A STRUCTURE THAT IS SAFE DURING TH COURSE OF DEMOLITION AND DURING THE NEW CONSTRUCTION UNTIL THE BUILDING STRUCTURE IS COMPLETED IN ITS FINAL FORM AS SHOWN ON THE STRUCTURAL DRAWINGS SPECIALTY ENGINEER TO CONSIDER AND PROVIDE DESIGN AND FIELD REVIEW TO CONFIRM OVERALL BUILDING STABILITY DURING ALL INDIVIDUAL STEPS OF THE DEMOLITION. SPECIALTY ENGINEER SHALL ALSO PROVIDE FOR LOCALIZED BUILDING STABILITY DURING THE VARIOUS STEPS OF DEMOLITION INCLUDING BUCKLING STRENGTH, ECCENTRICITY OF LOADING, PARTIAL DEMOLITION, ETC.

SITE CONDITIONS AND **CONTRACTOR REQUESTED CHANGES**

DIMENSIONS AND SKETCHES OF ALL MODIFICATIONS TO THE STRUCTURE WHICH WERE MADE AS A RESULT OF FIELD CONDITIONS AND CONSTRUCTION PROCEDURES NOT PREDICTED AT THE TIME OF DESIGN AND/OR TENDER. THIS SHALL INCLUDE AS-BUILT MARKUPS OF CONCRETE OUTLINES, CONSTRUCTION JOINT DETAILS, REINFORCEMENT CHANGES, COLUMN LOCATIONS, SIZES, ETC. CONTRACTORS ARE ENCOURAGED TO SUBMIT REQUESTS FOR CHANGES WHERE SUCH CHANGE CAN RESULT IN MORE EFFICIENT CONSTRUCTION WITH THE SAME OR BETTER PRODUCT. EACH REQUEST FOR CHANGE SHOULD BE ACCOMPANIED BY A SKETCH INDICATING THE PROPOSED CHANGE TO THE DRAWINGS. WHICH MAY BE REVIEWED OR MODIFIED BY THE ENGINEER. THE STRUCTURAL ENGINEER MAY ACCEPT, REJECT OR MODIFY THE SUBMISSION AT HIS SOLE

THE GENERAL CONTRACTOR SHALL MARK UP A SET OF STRUCTURAL DRAWINGS WITH DETAILED

DESIGN BY CONTRACTORS

STRUCTURAL ELEMENTS REQUIRED BUT NOT INDICATED IN THE DRAWINGS SHALL BE DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER. CONNECTIONS BETWEEN STRUCTURAL ELEMENTS REQUIRED BUT NOT SHOWN SHALL BE DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER. SEMI-STRUCTURAL ELEMENTS INDICATED ON ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER DRAWINGS, OR REQUIRED TO FULFILL THE INTENT OF THE WORK SHALL BE DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER FOR GRAVITY AND SEISMIC INTEGRITY AND CONNECTION TO PRIMARY STRUCTURE ALTERNATE DESIGNS SUBMITTED BY CONTRACTORS AS SUBSTITUTES TO THE ORIGINAL DESIGN SHALL BE DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER. DESIGN OF COMPONENTS WHICH RELY ON THE PRIMARY STRUCTURE FOR SUPPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INDICATE CLEARLY THE METHOD AND MEANS OF ATTACHMENT AND THE MAGNITUDE OF FORCES THAT THE STRUCTURE MUST WITHSTAND. REVIEW BY THE ENGINEER OF RECORD MAY RESULT IN THE NEED TO MODIFY THIS MEANS OF CONNECTION WHICH MUST THEN BE REDESIGNED BY THE SPECIALTY STRUCTURAL ENGINEER. ALL CONSTRUCTION, DESIGN, MATERIALS AND PRACTICES SHALL COMPLY WITH THE CURRENT EDITIONS OF APPLICABLE CODES AND SHALL INCLUDE SUITABLE LETTERS OF ASSURANCE. ALL DESIGN BY CONTRACTORS SHALL INCLUDE SUCH MATERIALS AND ELEMENTS AS NECESSARY TO MAKE CONNECTION TO THE PRIMARY STRUCTURE IN A MANNER AND AT A LOCATION WHERE THE PRIMARY STRUCTURE CAN SUSTAIN THE FORCES APPLIED BY THE CONNECTION WITHIN GENERALLY ACCEPTED DESIGN LIMITS. THE DESIGN PROVIDED BY THE CONTRACTOR SHALL NOT BE LIMITED TO CONNECTION TO OTHER SECONDARY ELEMENTS SUCH AS, FOR EXAMPLE, TO STEEL STUDS UNLESS THE SECONDARY ELEMENTS ARE CONFIRMED SUITABLE TO RECEIVE THE LOAD AND, IN TURN. DELIVER THE LOAD TO THE PRIMARY STRUCTURE IN A MANNER AND AT A LOCATION WHERE THE PRIMARY STRUCTURE CAN SUSTAIN THE FORCES APPLIED.

FIELD REVIEW BY GLOTMAN-SIMPSON

THE CONTRACTOR(S) SHALL GIVE NOTICE THAT APPROPRIATE PORTIONS OF THE WORK ARE COMPLETE AND AVAILABLE FOR FIELD REVIEW. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE FIELD REVIEW INSPECTIONS IN A TIMELY MANNER SUITABLE TO THE METHODS AND SCHEDULE OF CONSTRUCTION. WORK COVERED BY FINISHES PRIOR TO FIELD REVIEW BY THE CONSULTANT OR BY SPECIALTY ENGINEERS INCLUDING CONCRETE CAST AROUND REBAR MAY REQUIRE REMOVAL IN ORDER TO REVIEW THE WORK. THE COST OF REMOVAL FOR INSPECTION PURPOSES SHALL BE BOURN BY THE CONTRACTOR. INSTRUCTIONS FOR REMOVAL OF FINISHES OR CONCRETE ARE AT THE SOLE DISCRETION OF THE STRUCTURAL ENGINEER OF RECORD. FIELD REVIEW IS AT THE PROFESSIONAL DISCRETION OF GLOTMAN-SIMPSON AND IS TO ASCERTAIN GENERAL COMPLIANCE WITH THE STRUCTURAL PLANS AND SUPPORTING DOCUMENTS FOR THE INTEGRITY OF THE PRIMARY STRUCTURAL COMPONENTS OF THE BUILDING ONLY. FIELD REVIEW DOES NOT MAKE GLOTMAN SIMPSON GUARANTORS OF THE CONTRACTORS WORK. FIELD REVIEW IS NOT FOR THE BENEFIT OF THE CONTRACTOR AND MAY NOT FORM PART OF THE CONTRACTORS CONSTRUCTION QUALITY CONTROL WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR(S). GLOTMAN SIMPSON SHALL NOT BE RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR OR FOR THE CONTRACTORS FAILURE TO FULFILL THE INTENT OF THE DESIGN

THE CONTRACTOR SHALL PROVIDE AT LEAST 24 HR. ADVANCE NOTICE ON A BUSINESS DAY TO INSPECT THE PLACEMENT OF REINFORCEMENT IN ALL CONCRETE POURS ON A BUSINESS DAY. INSPECTIONS SHALL BE DURING NORMAL WORKING HOURS ONLY. INSPECTIONS AT OTHER TIMES REQUIRE 72 HR. NOTICE AND SHALL BE PAID BY THE CONTRACTOR. INSPECTIONS REQUIRING SUBSTANTIAL TRAVEL TIME MUST BE GIVEN ADEQUATE NOTICE.

INSTRUCTIONS GIVEN AS A RESULT OF FIELD REVIEW SHALL NOT BE CAUSE FOR EXTRA CHARGE TO THE CONTRACT. FIELD REVIEW BY GLOTMAN SIMPSON DOES NOT REPLACE FIELD REVIEW REQUIRED BY SPECIALTY WORK MUST BE COMPLETE AT THE TIME OF INSPECTION. WHERE WORK IS INCOMPLETE AT THE TIME OF THE INSPECTION. THE ENGINEER MAY REQUIRE A DULY AUTHORIZED REPRESENTATIVE OF THE MATERIALS CONSULTANT OR OTHER QUALIFIED PARTY TO COMPLETE THE INSPECTION WHEN THE WORK IS FULLY COMPLETE. THE COST OF SUCH INSPECTION SHALL BE PAID BY THE CONTRACTOR. COPIES OF ALL REPORTS SHALL BE FORWARDED TO THE ENGINEER AND THE

CONTRACTOR AS BUILDER CONSTRUCTION AND QUALITY CONTROL

THE GENERAL CONTRACTOR PROVIDES AND IS RESPONSIBLE FOR THE LABOUR, MATERIALS AND EQUIPMENT FOR THE EXECUTION AND QUALITY CONTROL OF THE WORK AS SHOWN IN THE CONTRACT DOCUMENTS. FURTHER, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTION AND PROGRAMS ASSOCIATED WITH THE CONSTRUCTION WORK. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT THE BUILDING STRUCTURE IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS, TO CHECK AND CONFIRM THAT CONSTRUCTION CONFORMS TO THESE DOCUMENTS AND TO RECORD AND REPORT ERRORS AND OMISSIONS IN CONSTRUCTION TO THE ENGINEER FOR HIS REVIEW. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR QUALITY CONTROL OF ITS OWN AND ITS SUB—CONTRACTOR'S WORK AND THE GENERAL CONTRACTOR SHALL MAINTAIN OVERALL

VERIFICATION OF CONSTRUCTION BY

RESPONSIBILITY FOR CONFORMANCE OF THE WORK TO THE DESIGN DRAWINGS WITHOUT

SUBROGATING THIS RESPONSIBILITY TO OTHERS.

WHERE A CONTRACTOR, TRADE, SUPPLIER, OWNER OR OTHER, INCLUDING ANOTHER CONSULTANT, PROVIDES WORK, MATERIALS, OR SPECIFICATIONS THAT RELY UPON THE STRUCTURE IN ANY WAY, SUCH PARTY SHALL INSPECT THE STRUCTURE IN DRAWING FORM AND AS CONSTRUCTED AND DETERMINE WHETHER THE DESIGNED OR AS-BUILT CONDITION OF THE STRUCTURE IS SUITABLE TO THEIR REQUIREMENTS. NOTIFY THE PRIME CONSULTANT OF ALL LOCATIONS WHERE THE STRUCTURE MIGHT ADVERSELY AFFECT CONSTRUCTION BY OTHERS, OR WHERE THE STRUCTURE MIGHT BE ADVERSELY AFFECTED BY THE CONSTRUCTION AND PROVIDE THE NECESSARY REMEDIES.

GENERAL 1. STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL PLUMBING, ELECTRICAL, SURVEY AND OTHER DRAWINGS AND SPECIFICATIONS. SPECIFICATIONS SHALL CONTROL OVER THESE DRAWINGS AND GENERAL NOTES ONLY WHERE THE SPECIFICATION PROVIDES FOR MORE STRINGENT REQUIREMENT. READ AND UNDERSTAND THE INTENT OF DESIGN. DRAWINGS SHALL BE READ AS A WHOLE IN CONTEXT WITH THE PROJECT AND IN CONJUNCTION WITH DRAWINGS AND INFORMATION BY OTHERS. DRAWINGS ARE SCHEMATIC REPRESENTATIONS OF THE PROJECT. DRAWINGS ARE NOT INTENDED TO BE PICTORIALLY ACCURATE REPRODUCTIONS OF THE CONSTRUCTION BUT. RATHER, TO PROVIDE SUFFICIENT INFORMATION TO CONVEY THE INTENT OF THE DESIGN SECTIONS AND DETAILS ARE SHOWN TO EXPLAIN THE INTENT OF THE DRAWINGS. SECTIONS ARE NOT CALLED UP AT EVERY OPPORTUNITY HOWEVER THE OBJECTIVE OF THE DRAWINGS IS TO PROVIDE AN EXPERIENCED AND KNOWLEDGEABLE PERSON SUFFICIENT REFERENCES TO HELP DEMONSTRATE THE INTENT OF DESIGN. 4. USE THESE DRAWINGS ONLY FOR THE PURPOSES SPECIFICALLY NOTED IN THE REVISION COLUMN. DO NOT CONSTRUCT BY THESE DRAWINGS UNLESS INDICATED: "FOR CONSTRUCTION". THE TERM ISSUED FOR BUILDING PERMIT INDICATES THAT THE DRAWINGS ARE COMPLETE FOR DESIGN OF ALL KEY STRUCTURAL DESIGN ELEMENTS HOWEVER FINAL COORDINATION AND INSTRUCTIONS FOR CONSTRUCTION MAY NOT BE FULLY COMPLETE. THESE DRAWINGS ARE PREPARED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS BY THE ARCHITECT IS PRIME CONSULTANT AND REGISTERED COORDINATING PROFESSIONAL FOR THE PROJECT AND IS RESPONSIBLE FOR GENERAL COORDINATION OF THE DRAWINGS. DISCREPANCIES AND INCOMPATIBILITIES IN THE DRAWINGS SHALL BE REPORTED TO THE ARCHITECT. ALL CORRESPONDENCE SHOULD BE SUBMITTED OR DUPLICATED TO THE ARCHITECT WITHOUT DELAY. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR GRADES, FLOOR AND ROOF ELEVATIONS AND SLOPES, AND FOR DIMENSIONS AND LOCATIONS OF DOORS, WINDOWS, RECESSES, SLEEVES, WINDOW WASHING ANCHORAGE AND SYSTEMS, EQUIPMENT, SHAFTS, INSERTS, NAILERS, CHAMFERS, AND SIMILAR ITEMS. GRADES, ELEVATIONS AND SLOPES SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY AND MUST BE CONFIRMED. MAINTAIN STRUCTURAL THICKNESS INDICATED. SLOPES FOR DRAINAGE REQUIREMENTS MUST BE OBTAINED FROM THE ARCHITECT. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATIONS AND REQUIREMENTS RELATING TO FIRE RATINGS, FIRE STOPPING, SMOKE SEALING REQUIREMENTS, ETC. 10. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ALL ASPECTS OF WATERPROOFING, SEALING, JOINTING, TAPING, AIR BARRIER, FLASHING, VENTING, AND SIMILAR REQUIREMENTS FOR BUILDING CONSTRUCTION. 11. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR NON-STRUCTURAL CONCRETE INCLUDING ELEMENTS NOT FORMING PART OF THE PRIMARY STRUCTURE, FLOOR TOPPINGS NOT FORMING PART OF THE STRUCTURAL FLOOR, EXTERIOR FINISH MATERIALS INCLUDING LANDSCAPING MATERIALS AND SIDEWALKS, ETC. SOME NON-STRUCTURAL CONCRETE MAY BE SHOWN FOR CONVENIENCE ONLY AND MUST BE CONFIRMED WITH ARCHITECTURAL 12. CONSTRUCT THE BUILDING TO THE INTENT OF THE DRAWINGS. WHERE UNCLEAR, PROVIDE FOR THE INTENT OF THE DESIGN AND LAYOUT CONSIDERING ARCHITECTURAL, STRUCTURAL AND OTHER CONSULTANT INFORMATION. FXTRA CHARGES THAT ARE REQUESTED FOR CONSTRUCTION OF ITEMS THAT COMPLETE OR EXTEND THE DETAIL OF THE BUILDING BUT DO NOT CHANGE THE INTENT OF DESIGN WILL NOT BE GRANTED. WHEN IN DOUBT ALLOW FOR THE MORE ONEROUS ALTERNATIVE. WHEN IN DOUBT, STATE ANY ASSUMPTIONS MADE. 13. PROPERTY LINES MUST BE CLEARLY STAKED AND VISIBLE ON SITE. DO NOT CONSTRUCT OUTSIDE PROPERTY LINES WITHOUT RECEIVING SPECIFIC INSTRUCTION FROM THE ARCHITECT OR OWNER. IF WORK IS SHOWN OUTSIDE THE PROPERTY LINES ON THESE DRAWINGS, FIRST VERIFY WITH THE ENGINEER AND WITH THE ARCHITECT THAT THE WORK SHOULD CONTINUE. ANY WORK OUTSIDE THE PROPERTY LINES THAT IS CONSTRUCTED WITHOUT SPECIFIC VERIFICATION IS SUBJECT TO REMOVAL WITHOUT COST. 14. WHERE NOTED HEREIN, THE TERM GENERAL CONTRACTOR OR GC SHALL ALSO REFER TO THE PROJECT, CONSTRUCTION OR CONTRACTS MANAGER. 15. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND OUTLINES WITH THE ARCHITECTURAL DRAWINGS AND NOTIFY ANY ERRORS OR OMISSIONS PRIOR TO COMMENCING WITH WORK. DISCREPANCIES NOT REPORTED ARE THE RESPONSIBILITY OF THE CONTRACTOR(S 16. SHOULD THE BIDDERS OF THIS PROJECT FIND DISCREPANCIES IN, OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR DOCUMENTS, OR SHOULD HE BE IN DOUBT AS TO THEIR MEANING, THEY MUST NOTIFY THE ENGINEER WHO MAY SEND A WRITTEN INSTRUCTION TO 17. THE CONTRACTOR(S) SHALL REVIEW ALL AVAILABLE INFORMATION FOR TENDER AND, WHERE CONFLICT OCCURS BETWEEN ITEMS, INCLUDE THE MORE ONEROUS IN THE TENDER, UNLESS OTHERWISE INDICATED BY THE CONSULTANT PRIOR TO TENDER CLOSING. INFORMATION TRANSMITTED TO CONTRACTORS THROUGH TELEPHONE CONVERSATION MUST BE CONFIRMED IN WRITING TO BE BINDING. 19. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS IN THE FIELD TO SUIT EXISTING CONDITIONS. HE SHALL SITE MEASURE AND CONTROL THE PRODUCTION OF WORK ON SITE AND ELSEWHERE TO FULFILL THE INTENT OF THE DRAWINGS. NOTIFY THE ENGINEER OF ANY DIMENSIONAL VARIATION FROM THE PLANS. 20. CONTRACTOR(S) SHALL RECORD AND REPORT ANY SITE CONDITIONS WHICH MAY EFFECT THE STRUCTURE (BUILDINGS, BUILDING COMPONENTS, PROPERTY LINES, SOIL CONDITIONS, ETC.). 21. CONFIRM HEADROOM CLEARANCES, OPENING WIDTH AND HEIGHT, FLOOR-TO-FLOOR. AND OTHER DIMENSIONS WITH DRAWINGS PROVIDED BY OTHER CONSULTANTS AND REPORT ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION OF THE BUILDING ELEMENT. 22. MAKE AVAILABLE TO THE ENGINEER, AFTER CONTRACT AWARD, A COMPLETE BREAKDOWN OF COSTS FOR THE STRUCTURAL PORTIONS OF THE WORK AS PREPARED FOR THE TENDER. 23. CHARGES FOR EXTRAS TO THE CONTRACT MUST BE BROUGHT TO THE ENGINEERS ATTENTION BEFORE THE WORK PROCEEDS. ADEQUATE TIME MUST BE ALLOWED FOR REVIEW AND APPROVAL OF EXTRAS BY THE ARCHITECT AND/OR OWNER. WORK WHICH PROCEEDS PRIOR TO APPROVAL BY THE CONSULTANT MIGHT NOT BE GRANTED EXTRA PAYMENT. 24. DO NOT CUT OR DRILL INTO STRUCTURAL MEMBERS. OR CUT REBAR PROJECTIONS WITHOUT FIRST CONTACTING AND OBTAINING THE PERMISSION OF GLOTMAN SIMPSON. 25. WHERE WORK PROCEEDS CONTRARY TO THE INSTRUCTIONS OF THESE GENERAL NOTES. THE CONTRACTOR SHALL BRING THIS MATTER TO THE ATTENTION OF THE ENGINEER FOR HIS CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. IN ANY EVENT, THE ENGINEER SHALL BE MADE FULLY AWARE OF ALL MODIFICATIONS TO THE DESIGN OR PROCEDURES 26. IT IS COMMON TO FIND THAT SOME OF THE INFORMATION IN THE DESIGN DOCUMENTS ARE INCONSISTENT OR INCOMPLETE. THE CONTRACTOR SHALL REVIEW THE DRAWINGS AND CONSTRUCTION AS IT PROCEEDS TO ENSURE THAT THE ASSUMPTIONS MADE IN THE DRAWINGS REFLECT THE REQUIREMENTS OF THE BUILDING CONSTRUCTION AND FIELD CONDITIONS ENCOUNTERED IN THE BUILDING. WHERE DISCREPANCIES ARISE OR THERE IS A MISMATCH BETWEEN THESE DRAWINGS AND THE REQUIREMENTS OF CONSTRUCTION. REPORT IMMEDIATELY TO THE ENGINEER. TO AVOID SCHEDULE DELAY, THE CONTRACTOR SHOULD LOOK AHEAD TO DISCOVER WHETHER THERE ARE ANY DIFFERENCES BETWEEN THE DRAWINGS

DESIGN PARAMETERS

THEIR PRUDENT RESPONSE TIME REQUIRES.

DESIGN SUPERIMPOSED LOADS:

EXISTING BUILDING.

SPECIFIED LIVE LOADS (kPa): (SEE ALSO LOAD MAPS) OFFICE AREAS ABOVE GROUND LEVEL GROUND FLOOR (EXCEPT LIVING AREA) HALLWAYS, EXITS, STAIRS, STORAGE, ÉTC. PARKING AREAS - INTERIOR

MECHANICAL FLOOR (EXCEPT UNIT WEIGHTS NOTED)

BACKFILL PRESSURE (SEE LOADING DIAGRAM)

EXTERIOR AREAS (WALKWAYS, ETC.) FIBRE OPTICS ROOMS ELECTRICAL ROOMS (EXCEPT TRANSFORMER LOADS SHOWN) FIRE TRUCK ACCESS - VEHICLE WEIGHT: 80,000 LB., 50,000 LB. POINT LOAD LOADING BAY AND DESIGNATED TRUCK ROUTES GROUND SNOW LOAD RAIN LOAD

AND THE REQUIREMENTS OF CONSTRUCTION SO THAT TIME IS PERMITTED FOR REDESIGN SO

. RFI REQUESTS FOR INFORMATION WHETHER FORMAL OR INFORMAL MUST BE SUBMITTED WITH

ADEQUATE TIME FOR REVIEW AND RESPOND INCLUDING CONSIDERATION OF THE COMPLEXITY

GROUNDS FOR REQUIRING FULL TIME INSPECTION AND/OR SUPERVISION OF THE PROJECT BY

THE ENGINEER OR OTHER INDEPENDENT INSPECTION $\stackrel{.}{\mathsf{AGENCY}}$. ALL COSTS FOR ADDITIONAL

CONTROL OF THE PROJECT AS DEEMED APPROPRIATE BY THE STRUCTURAL ENGINEER IN HIS

CONTROL, INSPECTION, TESTING, SUPERVISION OR OTHER ACTIONS NECESSARY FOR QUALITY

SOLE DISCRETION SHALL BE TO THE ACCOUNT OF THE CONTRACTOR REQUIRING THE ADDED

PROJECT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE GOOD. THIS

OBLIGATION REMAINS ALIVE BEYOND SUBSTANTIAL COMPLETION OF THE PROJECT OR ANY

OF THE QUESTION. EACH SUBMISSION OF EACH RFI MUST BE ALLOWED AT LEAST ONE CALENDAR WEEK RESPONSE TIME BY GLOTMAN SIMPSON. RFI SENT LATE COULD BE

DELAYED. LATE RFI DO NOT BIND GLOTMAN SIMPSON TO RESPOND ANY FASTER THAN

28. SITE PRACTICES BY CONTRACTORS OR SUBCONTRACTORS THAT PURPOSELY AVOID PROPER

PERFORMANCE OF THE WORK AS DEEMED BY THE STRUCTURAL ENGINEER SHALL BE

29. WORK FOUND DEFECTIVE AFTER COMPLETION OF THE WORK OR COMPLETION OF THE

PORTION THEREOF, REGARDLESS OF PRIOR ACCEPTANCE OR APPROVAL.

THAT THE SCHEDULE WILL NOT BE JEOPARDIZED DUE TO MISINFORMATION ABOUT THE

SOIL IN EXTERIOR LANDSCAPING (SEE LANDSCAPE LOADING PLAN) SPECIFIED DEAD LOADS (kPa):

PARTITIONS ROOFING MATERIALS GREEN ROOFS

SEISMIC: Sa(0.2)=1.0 Sa(0.5)=0.69 Sa(1.0)=0.34 Sa(2.0)=0.18PGA = .46Site Class = C Rd=3.5 Ro=1.6T=FROM DYNAMIC ANALYSIS

q50=0.48 kPa BASIC WIND PRESSURE WIND PRESSURE: DESIGN PRESSURE TO BE CALCULATED FOR INDIVIDUAL ELEMENTS WIND UPLIFT ON ROOFS, CANOPIES AND OVERHANGS TO BE CALCULATED IMPORTANCE FACTORS:

ls= 1.0 0.75 lw = 1.0le= 1.0 WATER TABLE ELEVATION:

CONSTRUCTION LOADS INCLUDING SHORING AND RESHORING, MEN AND EQUIPMENT, ETC. SHALL NOT EXCEED THE SPECIFIED DESIGN LIVE LOAD FOR THE STRUCTURAL ELEMENTS. CONTRACTORS MUST CONFIRM ANY QUESTIONABLE LOADING AS REQUIRED FOR TEMPORARY CONDITIONS OF CONSTRUCTION, UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER. THE PRIMARY STRUCTURE OF THIS BUILDING HAS BEEN DESIGNED FOR SEISMIC AND WIND LOADS IN ACCORDANCE WITH APPLICABLE PROJECT CODES.

CONTRACTORS SHALL REPORT TO THE STRUCTURAL ENGINEER ANY LOADS TO THE BUILDING

EXCEEDING THE LOADS INDICATED ON THE PLANS, OR ANY LOADS EXCEEDING 500 POUNDS NOT

SPECIALTY PRODUCTS USED IN DESIGN

CERTAIN PRODUCTS HAVE BEEN SPECIFIED IN THE DESIGN WHICH ARE SPECIALTY OR PROPRIETARY PRODUCTS. THESE PRODUCTS HAVE RATED CAPACITIES AND CHARACTERISTICS WARRANTED BY THE MANUFACTURER. THESE PRODUCTS HAVE BEEN SELECTED AND SPECIFIED BASED UPON THE MANUFACTURERS REPRESENTATIONS AND GLOTMAN-SIMPSON SHALL NOT BECOME GUARANTORS OF THE PRODUCT. SUCH PRODUCTS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND PROPER WORKMANSHIP OF THE INSTALLATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

ALTERNATE SYSTEMS MAY BE ACCEPTABLE IF THEY PROVIDE EQUAL SAFE WORKING LOADS AND A WRITTEN REQUEST IS ACCOMPANIED WITH ENGINEERED DESIGN DATA FOR THE ALTERNATE SYSTEM.

PRE-DRILLED ANCHORS

SUPPORT AT 1-800-363-4458.

ALL ANCHORS INTO EXISTING OR NEW CONCRETE/MASONRY SHALL BE SET IN CLEAN DRY HOLES OF STANDARD LENGTH AND SIZE AS INDICATED BY THE PRODUCT MANUFACTURER BUT NOT LESS THAN THE DEPTH SHOWN ON THE STRUCTURAL DRAWINGS. PREDRILLED ANCHORS SHOWN ON THE DRAWINGS ARE HILTI PRODUCTS. ANCHORS SHALL BE INSTALLED IN STRICT ADHERENCE TO MANUFACTURER' SPECIFICATIONS. OBTAIN ON-SITE TRAINING OF INSTALLERS BY HILTI REPRESENTATIVE PRIOR TO ANY INSTALLATION FOR THIS PROJECT. MAINTAIN ON SITE RECORDS OF A CURRENT VALID TRAINING CARD OR LETTER FROM HILTI INDICATING NAMES OF INSTALLERS TRAINED TO INSTALL HILTI PRODUCTS. WHERE IN DOUBT OF SUITABILITY OF ANCHOR FOR INSTALLATION, OBTAIN THE DIRECTION OF HILTI ENGINEERING

CALL FOR INSPECTION OF ALL DRILLED ANCHORS DURING INSTALLATION PROCESS. ANCHORS NOT INSPECTED DURING THE ONGOING INSTALLATION PROCESS WILL REQUIRE PROOF LOAD TESTING AT THE EXPENSE OF THE CONTRACTOR.

- HILTI HIT HY150 MAX OR HIT-RE500 TO BE USED INTO CONCRETE ONLY AS FOLLOWS: HY150 MAX - CLEAN, DRY, WITH HOLE DIAMETER TO MATCH TOLERANCE, HAMMER DRILLED
- RE500 CLEAN, DRY, OVERSIZED, HAMMER DRILLED HOLES ONLY. SPECIAL APPLICATION OF RE500 WITH WET HOLE, OVERSIZED HOLE OR DIAMOND CORED
- HOLES TO HAVE FULL TIME SUPERVISION BY MATERIALS CONSULTANT TO VERIFY PROPER WORKMANSHIP AND CLEANLINESS OF THE HOLE.
- HIT HY20 TO BE USED INTO MASONRY. SITE TESTING IS REQUIRED TO CONFIRM LOAD THREADED RODS ARE B7 ALLTHREAD RODS CLEAN AND FREE OF GREASE OR OTHER

SUBSTANCE THAT COULD REDUCE BOND, OR HILTI HAS E or HAS SUPER(B7).

NO INSTALLATIONS ARE PERMITTED UNDERWATER OR IN WATER FILLED HOLES OR HOLES NOT

HILTI TZ ROD - CLEAN DRY WITH HOLE DIAMETER TO MATCH TOLERANCE, HAMMER DRILL

INSTALLATION:

INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS ACCOMPANYING THE PRODUCT INJECTION OF ADHESIVE SHALL BE PERFORMED TO PRODUCE AN AIR-VOID FREE INJECTION. USE HILTI PROFI KIT FOR PROPER HOLE PREPARATION. DRILLING SHALL BE PERFORMED WITH A ROTARY HAMMER DRILL AND CARBIDE TIPPED DRILL ALTERNATE DRILLING METHODS MUST BE APPROVED BY THE GLOTMAN SIMPSON.

OVERHEAD ANCHORS MUST BE INSTALLED USING THE HILTI PROFI ACCESSORIES TO ENSURE

CORRECT ADHESIVE INJECTION ANCHOR CAPACITY USED IN DESIGN IS BASED ON THE GUIDELINES PUBLISHED BY HILTI. ALTERNATE FASTENING SYSTEMS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. MANUFACTURERS PUBLISHED DATA INCLUDING LOAD RESISTANCE, IN-SERVICE AND INSTALLATION TEMPERATURE, CREEP TESTING. FREEZE/THAW TESTING, COMPREHENSIVE INSTALLATION INSTRUCTIONS AND ON SITE TRAINING

THE CONTRACTOR SHALL RETAIN A HILTI REPRESENTATIVE TO PROVIDE ONSITE ANCHOR INSTALLATION TRAINING FOR ALL INSTALLERS AND SUPERVISORS NOT PREVIOUSLY TRAINED.

ANCHOR TESTING FOR ALL PREDRILLED ANCHORS:

MUST BE INCLUDED IN PROPOSAL

EMBEDMENT WILL BE REJECTED.

PROVIDE LOAD TESTING OF ALL INSTALLATIONS BY THE PROJECT MATERIALS CONSULTANT AS

PROOF LOAD TEST 10% OF ANCHORS BY RANDOM SELECTION. TEST TO FAILURE 2% OF ANCHORS (3 MINIMUM) BY RANDOM SELECTION. IF ANY PROOF LOAD TESTS FAIL INCREASE TESTING TO 33% OF ANCHORS. IF MORE THAN 2% OF ANCHORS FAIL THEN PROOF LOAD TEST 100% OF ANCHORS ANCHORS MUST BE INSTALLED CORRECTLY. IF ANY ANCHORS ARE FOUND TO BE INSTALLED WITHOUT COMPLETE EPOXY INJECTION OR ARE DRILLED SHORTER THAN 75% OF THE REQUIRED DEPTH, THEN PROOF LOAD TEST 100% OF ANCHORS. ANCHORS WITH SHORT

PROVIDE FULL TIME SUPERVISION OF ALL REPAIRS. SUBMIT TEST REPORT AND REPAIR REPORT UNDER SEAL OF THE MATERIALS CONSULTANT TO THE STRUCTURAL ENGINEER ALL COSTS FOR TESTING TO BE PAID BY THE CONTRACTOR INSTALLING THE ANCHORS.





ISSUED FOR

2016-02-05 ISSUED FOR BID - INTERIM 2016-04-22 ISSUED FOR CONSTRUCTION

STRUCTURAL DWG LIST

GENERAL NOTES GENERAL NOTES GENERAL NOTES

LAYOVER + EXCHANGE CANOPY PLANS

CANOPY DETAILS CANOPY DETAILS

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SEAL

UBC EXCHANGE **GAGE SOUTH RESIDENCE**

5960 Student Union Boulevard, Vancouver, BC V6T 1Z1

CHECKED:

GENERAL NOTES

SCALE: N/A

MATERIALS CONSULTANT

THE MATERIALS CONSULTANT IS AN INDEPENDENT REGISTERED PROFESSIONAL AND SHALL PROVIDE AND BE RESPONSIBLE FOR GENERAL CONSULTING, INSPECTION AND TESTING OF MATERIALS FOR THE PROJECT INCLUDING APPROPRIATE LETTERS OF ASSURANCE. QUALIFICATION:

THE MATERIALS CONSULTANT MAY BE CHOSEN AND RETAINED BY THE REGISTERED COORDINATING PROFESSIONAL OR THE OWNER. OR HE MAY BE RETAINED BY THE CONTRACTOR(S) AS INSTRUCTED BY THE REGISTERED COORDINATING PROFESSIONAL. MATERIALS CONSULTANTS SHALL BE QUALIFIED UNDER CSA A283 CATEGORY 0, 1 OR 2 AND SHALL PERFORM TESTING AND REPORTING ONLY FOR THOSE AREAS IN WHICH THEY HAVE QUALIFIED. ALTERNATIVELY, AND ONLY WHERE IT DOES NOT CONFLICT WITH THE CODE, MATERIALS CONSULTANTS MAY BE ISO 9001: 2000 STANDARD, REGISTERED AND IN GOOD STANDING

THE FIRMS LISTED ARE PREQUALIFIED AS MATERIALS CONSULTANTS. OTHERS MUST BE QUALIFIED PRIOR TO PROCEEDING WITH THE WORK:

METRO TESTING SERVICES LEVELTON ASSOCIATES

AMEC EARTH AND ENVIRONMENTAL LTD GOLDER ASSOCIATES LTD.

TESTING FIRMS MUST CARRY AND MAINTAIN ERRORS AND OMISSIONS INSURANCE TO QUALIFY. REPORTING:

REPORTS OF ALL WORK BY THE MATERIALS CONSULTANT SHALL BE SUBMITTED DIRECTLY TO THE REGISTERED COORDINATING PROFESSIONAL WITH COPIES OF STRUCTURAL PORTIONS OF THE WORK TO GLOTMAN-SIMPSON. CONTRACTORS SHALL NOT CONTRACT-OUT OF THIS OBLIGATION.

THE MATERIALS CONSULTANT SHALL MONITOR THE PROJECT AS HE DEEMS NECESSARY TO ASSURE THAT THE MATERIALS IN THE COMPLETED STRUCTURE ARE IN REASONABLE CONFORMANCE WITH APPLICABLE CODES AND THE INTENT OF THE DESIGN. MONITORING THE PROJECT SHALL INCLUDE REVIEW OF THE CONCRETE MIX DESIGNS AND TESTING OF MATERIALS DELIVERED TO THE SITE PER CSA REQUIREMENTS. MONITORING MAY ALSO INCLUDE REVIEW OF CONCRETE PLACING PROCEDURES AND SUCH OTHER SPECIALIZED WORK AS THE MATERIALS CONSULTANT SHOULD DEEM NECESSARY IN ORDER TO ENSURE THE FINAL MATERIALS PRODUCT SATISFIED SPECIFICATIONS.

CONCRETE PLACING. CURING AND HANDLING PROCEDURES SHALL BE REVIEWED BY THE MATERIALS CONSULTANT FOR THE INTENDED APPLICATION. UNLESS OTHERWISE INDICATED BY THE MATERIALS CONSULTANT, PROVIDE WET CURING WITH

SPRINKLERS AND BURLAP FOR 3 DAYS FOLLOWING THE POUR WHEN THE WIND SPEED AT THE PARKING DECK LEVEL EXCEEDS 15 KM/HR AND AIR TEMPERATURE EXCEEDS 15 C. THE MATERIALS CONSULTANT MAY WAIVE TESTING REQUIREMENTS BEYOND THE MINIMUM REQUIREMENTS OF CSA WHERE HE IN HIS PROFESSIONAL DISCRETION CONSIDERS REQUIREMENTS REDUNDANT OR UNNECESSARY.

THE MATERIALS CONSULTANT SHALL HAVE THE AUTHORITY AND RESPONSIBILITY TO REJECT ANY CONCRETE DELIVERED TO THE JOBSITE WHICH DOES NOT CONFORM WITH THE DRAWINGS AND SPECIFICATIONS AND/OR IS NOT EXPECTED TO MEET PERFORMANCE REQUIREMENTS. IF THE MATERIALS CONSULTANT SUSPECTS, AT ANY TIME, THAT HE HAS NOT BEEN CALLED TO INSPECT CONCRETE. OR IF INSUFFICIENT NOTICE HAS BEEN PROVIDED, HE SHALL IMMEDIATELY NOTIFY THE REGISTERED COORDINATING PROFESSIONAL.

CONCRETE TEST CYLINDERS TO BE TAKEN IN ACCORDANCE WITH APPLICABLE CODES. THE MATERIALS CONSULTANT SHALL INSPECT ALL CONCRETE BLOCK GROUT, MORTAR AND BLOCKWORK IN ACCORDANCE WITH APPLICABLE CODES. THE MATERIALS CONSULTANT SHALL REVIEW SPECIAL CONSTRUCTION PROCEDURES FOR

CONCRETE WORK IN ADVERSE WEATHER CONDITIONS. THIS INCLUDES CONCRETE CAST DURING WEATHER BELOW 5 DEGREES CELSIUS OR ABOVE 25 DEGREES CELSIUS, AND ANY OTHER CONDITIONS WHERE THE QUALITY OF THE WORK MAY BE JEOPARDIZED BY ADVERSE WEATHER. WORK UNDERTAKEN WITHOUT SUCH REVIEW SHALL BE THE RISK OF THE CONTRACTOR ALONE. . MATERIALS CONSULTANT SHALL PROVIDE FULL TIME INSPECTION OF CONCRETE PLACED IN

TRANSFER BEAMS, ON SLABS OF 35 MPA OR GREATER, FOR COLUMNS AND WALLS OF 40 MPA OR GREATER, FOR ALL PARKING SLABS AND AS REQUIRED IN ADVERSE WEATHER 11. FOR PARKING SLABS WET CURING METHODS ARE REQUIRED AS INDICATED IN CAN/CSA-S413. THE MATERIALS CONSULTANT SHALL ADVISE THE CONTRACTOR OF APPROPRIATE CURING 12. AFTER COMPLETION OF CONSTRUCTION OF ANY PARKING DECK, THE MATERIALS CONSULTANT SHALL USE A PACOMETER OR OTHER APPROPRIATE METHOD TO VERIFY THE TOP CONCRETE COVER OVER REINFORCING MATERIALS. PROVIDE RANDOM INSPECTIONS AS NECESSARY, THE

13. THE MATERIALS CONSULTANT SHALL REVIEW IN THE PROCEDURES AND QUALITY OF FIELD WELDING OF STEEL DECK TO SUPPORTING STRUCTURAL STEEL TO CONFIRM CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS AND TO ENSURE GOOD WORKMANSHIP. HE SHALL CONFIRM THAT APPROPRIATE CORROSION PREVENTATIVE PAINT IS APPLIED TO WELDS.

FREQUENCY OF WHICH IS DEPENDENT UPON THE RESULTS AND PERFORMANCE OF THE

14. THE MATERIALS CONSULTANT SHALL REVIEW IN THE PROCEDURES AND QUALITY OF SCREWS OR PINS USED FOR THE INSTALLATION OF STEEL DECK ONTO SUPPORTING STRUCTURAL STEEL AND SHALL TO CONFIRM CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS AND O ENSURE GOOD WORKMANSHIP.

15. TESTING IS REQUIRED OF ALL NELSON STUDS, WELDED REBAR ANCHORS, OR BOLT STUDS

WELDED IN THE SHOP OR THE FIELD. PROVIDE RANDOM TESTING NECESSARY, THI FREQUENCY OF WHICH IS DEPENDENT UPON THE RESULTS AND PERFORMANCE OF THE WORK. SEE ALSO NOTE 15 16. WHERE TESTING OF AN ELEMENT IS PROVIDED BY A SUBCONTRACTOR, THE MATERIALS CONSULTANT SHALL VERIFY THAT APPROPRIATE TESTING MEASURES HAVE BEEN TAKEN (E.G.

TESTING OF NELSON STUDS BY DECK SUPPLIER, BUTT WELDING OF STEEL BEAMS, WELDING 17. MATERIALS CONSULTANT SHALL OBTAIN MILL CERTIFICATES FOR REBAR AND VERIFY THE MATERIALS ARE APPROPRIATE FOR USE IN THE LOCATION SPECIFIED INCLUDING SEISMIC ZONE REINFORCING.

18. TEST CONCRETE IN POST-TENSIONED SLABS TO ENSURE THAT CHLORIDE ION CONTENT DOES NOT EXCEED .06% BY WEIGHT OF CEMENT, INCLUDING AGGREGATE. 19. POST TENSIONING: MATERIALS CONSULTANT TO PROVIDE FULL TIME ON SITE REVIEW OF POST TENSIONING DURING THE CONCRETE PLACING OPERATION. THIS SHALL INCLUDE SUFFICIENT REVIEW OF THE MATERIALS PRIOR TO CONCRETE PLACING TO ENSURE PROPER NSTALLATION OF APPROPRIATE MATERIALS INCLUDING AN INTEGRAL ENCAPSULATION SYSTEM. OBSERVE AND INSTRUCT IN PROPER INSTALLATION OF MATERIALS INCLUDING CONCRETE PLACING METHODS AND PROCEDURES TO ENSURE FULL INTEGRATION OF THE CONCRET AROUND EMBEDDED MATERIALS AND NO DISPLACEMENT OF CABLES OR OTHER EMBEDDED ITEMS. IN THIS CONTEXT, FULL TIME INSPECTION SHALL MEAN INSPECTION TO THE EXTENT NECESSARY TO SATISFY THE MATERIALS CONSULTANT THAT THE WORK IS BUILT IN ACCORDANCE WITH THE DESIGN DOCUMENTS AND APPLICABLE CODES. AT HIS DISCRETION, THE MATERIALS CONSULTANT MAY PERFORM OTHER DUTIES AWAY FROM THE SLAB SUCH AS CONCRETE TESTING. THE MATERIALS CONSULTANT SHALL PROVIDE ENGINEERING SUPERVISION

AND LETTERS OF ASSURANCE FOR THESE ACTIVITIES. 20. SEE OTHER SECTIONS FOR ADDITIONAL MATERIALS CONSULTING SERVICES, INCLUDING STRUCTURAL STEEL AND STEEL DECK.

GEOTECHNICAL CONSULTANT

THE GEOTECHNICAL CONSULTANT IS AN INDEPENDENT REGISTERED PROFESSIONAL WHO SHALL PROVIDE AND BE RESPONSIBLE FOR GENERAL CONSULTING AND FIELD REVIEW OF GEOTECHNICAL ASPECTS OF THE PROJECT WHICH COULD IN ANY WAY AFFECT THE PRIMARY STRUCTURE OF THE

THE GEOTECHNICAL CONSULTANT FOR THIS PROJECT IS: GEOPACIFIC CONSULTANTS LTD.

KEITH ROBINSON, P.ENG

THE GEOTECHNICAL CONSULTANT SHALL BE RESPONSIBLE FOR CONFIRMING THAT THE WORK PRACTICES OF THE CONTRACTOR(S) PERTAINING TO SOILS RELATED WORK CONFORMS TO REQUIREMENTS OF THIS SPECIFICATION, THE GEOTECHNICAL REPORT AND GOOD WORK PRACTICE. WORK BY THE GEOTECHNICAL CONSULTANT SHALL CONFORM TO THE REQUIREMENTS OF THEIR PROFESSIONAL JURISDICTION INCLUDING GUIDELINES FOR PRACTICE AND IN PARTICULAR SHALL PROVIDE FOR SUPPORT TO THE PRIMARY STRUCTURAL SYSTEM IF THE BUILDING AND ANY OTHER STRUCTURES INDICATED ON THESE DRAWINGS.

GEOTECHNICAL REPORTS FOR THE PROJECT MAY GIVE ALTERNATE FOUNDATION SYSTEMS AND OTHER GENERAL DESIGN INFORMATION. FOR CONSTRUCTION, THE GEOTECHNICAL CONSULTANT SHALL REVIEW THE STRUCTURAL DRAWINGS AND PROVIDE ANY NECESSARY REQUIREMENTS FOR PREPARATION OF THE BEARING SURFACES, BACKFILL, DEEP STRATA OR OTHER SOILS WHICH MAY BE NECESSARY FOR THE SAFE, SERVICEABLE PERFORMANCE OF THE STRUCTURE AS DESIGNED.

FOUNDATION AND SOILS WORK

1. MINIMUM REQUIRED FOUNDATION DESIGN BEARING CAPACITYS

400 KPa SETTLEMENT/SERVICE LIMIT STATE 600 KPa ULTIMATE LIMIT STATE

2. ALL FOUNDATION GROUND PREPARATION WORK IS OUTSIDE THE SCOPE OF WORK FOR SLOTMAN SIMPSON AND MUST BE PROVIDED BY OTHERS UNDER PROFESSIONAL

RESPONSIBILITY OF A GEOTECHNICAL CONSULTANT PREPARE ALL FOUNDATION BEARING STRATA, BACKFILL, DRAINAGE MATERIAL, STRUCTURAL FILL SLAB OR ASPHALT SUB-BASE AND OTHER GEOTECHNICAL ASPECTS IN ACCORDANCE WITH THE

REPORT AND RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. BEARING CAPACITY OF ALL BEARING SOIL AND SLAB/ASPHALT SUBGRADE TO BE INSPECTED AND CONFIRMED ON SITE IMMEDIATELY PRIOR TO CÁSTING CONCRETE BY THE GEOTECHNICAL PROVIDE DRAINAGE FROM BEHIND ALL STRUCTURAL WALLS WITH DRAIN TILE TIED INTO THE

MECHANICAL DRAINAGE SYSTEM. SEE MECHANICAL DRAWINGS FOR DRAIN TILE AND DRAINAGE SYSTEM, SEE GEOTECHNICAL CONSULTANT FOR DETERMINATION OF GROUND WATER FLOWS AND SUITABLE FREE DRAINING FILLS. DRAINAGE EFFICIENCY, DESIGN AND FIELD REVIEW IS OUTSIDE THE SCOPE OF WORK OF GLOTMAN SIMPSON. THE GEOTECHNICAL CONSULTANT SHALL VERIFY THAT THE DRAINAGE SYSTEM SUPPLIED BY THE CONTRACTOR PROVIDES SUITABLE DRAINAGE FOR THE SOIL PRESSURE LOADS PROVIDED BY HIM FOR DESIGN. THE GEOTECHNICAL CONSULTANT SHALL CONFIRM THE BACKFILL LOAD PRESSURES USED FOR DESIGN PRIOR TO PROCEEDING WITH CONSTRUCTION OF BACKFILLED WALLS. GEOTECHNICAL ENGINEER TO PROVIDE SUPERVISION OF EXCAVATION AND BACKFILL.

WALLS SHALL NOT BE BACKFILLED UNTIL THE FLOORS RESTRAINING THE WALLS ARE ALL BACKFILL SHALL BE CLEAN FREE DRAINING GRANULAR MATERIAL AND SHALL BE PLACED AND COMPACTED IN THIN LAYERS AS INDICATED BY THE GEOTECHNICAL ENGINEER. SOIL COMPACTION WITHIN 1200mm OF THE WALL TO BE ACHIEVED USING LIGHT HAND COMPACTING EQUIPMENT SUCH AS A 300mm TO 450mm PLATE TAMPER. AREAS ON CITY PROPERTY TO BE COMPACTED WITH FILL MEETING CITY SPECS AS INSTRUCTED BY THE

GEOTECHNICAL CONSULTANT. PROVIDE A TWO INCH THICK SKIM COAT OF CONCRETE OVER THE BASE OF ALL FOOTING EXCAVATIONS TO HELP PROTECT AGAINST DEGRADATION OF THE BEARING STRATA. THIS THICKNESS NOT TO BE INCLUDED IN THE FOOTING DEPTH SHOWN ON THE DRAWINGS. SKIM COAT MAY BE DELETED ONLY WITH THE WRITTEN ACCEPTANCE OF THE GEOTECHNICAL

CONSULTANT 10. FOOTINGS TO BE CENTERED UNDER COLUMNS AND WALLS UNLESS SPECIFICALLY NOTED OR SHOWN OTHERWISE 11. COLUMN DOWELS TO BE TIED INTO POSITION. DOWELS FOR SHEARWALLS TO BE TIED INTO

12. FOOTINGS MAY NEED TO BE LOWERED TO ACCOMMODATE MECHANICAL OR ELECTRICAL SERVICES. SEE MECHANICAL. ELECTRICAL AND ARCHITECTURAL DRAWINGS. 13. FOOTING ELEVATIONS, IF SHOWN ARE FOR REFERENCE ONLY AND MAY NEED TO BE MODIFIED TO SUIT SITE CONDITIONS, BEARING LEVEL, FLOOR SLOPES AND ELEVATIONS, DRAINS,

14. FOUNDATION BEARING SURFACES MUST BE PROTECTED FROM FREEZING AT ALL TIMES. PROVIDE FROST COVER FOR PERMANENT OR TEMPORARY CONDITIONS AS REQUIRED BY THE

PLACED UNDER THE FULL TIME SUPERVISION OF THE MATERIALS CONSULTANT.

GEOTECHNICAL CONSULTANT. 15. CONCRETE CAST IN FOOTINGS WITH STANDING WATER SHALL CONFORM TO CSA A23.1 AND BE 16. MAINTAIN MAXIMUM SLOPE OF 1.5 HORIZ. TO 1.0 VERT. BETWEEN UNDERSIDE OF ADJACENT FOOTINGS OR AS OTHERWISE INDICATED BY THE GEOTECHNICAL CONSULTANT. FOR DEEPER EXCAVATIONS BESIDE EXISTING FOOTINGS, SEE SOILS CONSULTANT FOR PROCEDURES. 17. SLAB ON GRADE TO BE SUPPORTED BY STRUCTURAL FILL DESIGNED BY THE GEOTECHNICAL CONSULTANT SUFFICIENT TO SUPPORT THE SLAB ON GRADE FOR THE SERVICE LOADING OF THE SLAB. PROVIDE MINIMUM 150mm LAYER OF FREE DRAINING COMPACTED ENGINEERED FILL UNDER SLAB-ON-GRADE 18. CAST SHEARWALL AND CORE FOOTINGS AGAINST SIDES OF EXCAVATION UNLESS OTHERWISE

UNDERPINNING, SOIL STABILIZATION, **SLOPE STABILITY**

1. PROVIDE UNDERPINNING AS REQUIRED TO TRANSFER LOADS FROM ADJACENT BUILDING FOUNDATIONS DOWN TO BEARING STRATA AT OR BELOW THE LEVEL OF FOUNDATIONS FOR THIS BUILDING. PROVIDE DESIGN, FIELD REVIEW AND LETTERS OF ASSURANCE BY A REGISTERED PROFESSIONAL ENGINEER. PROVIDE TEMPORARY TIEBACKS AS REQUIRED. AND SUFFICIENT STRUCTURE FOR THE UNDERPINNING TO PERFORM WITHOUT TIEBACKS IN THE LONG TERM. PROVIDE LATERAL LOAD UPON COMPLETED STRUCTURE FOR LONGTERM - RELY ONLY UPON CONTIGUOUS FLOOR LEVELS FOR RESTRAINT OF LATERAL LOADS (SPAN BETWEEN FLOOR LEVELS) 2. EXCAVATION SHORING UNDERPINNING SOIL STABILIZATION SLOPE STABILITY AND OTHER SOILS RELATED WORK IS NOT A PART OF THE PRIMARY STRUCTURE OF THE BUILDING AND IS THEREFORE NOT DESIGNED OR MONITORED BY GLOTMAN-SIMPSON. THIS WORK SHALL BE MONITORED BY THE GEOTECHNICAL CONSULTANT

CONCRETE MATERIALS

CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF APPLICABLE CODES ALL CONCRETE IS ALTERNATIVE 1) "PERFORMANCE" IN ACCORDANCE WITH CSA A23.1 TABLE 5 SILIMD MAX FXPOSURE 20 DAY WATED

STRUCTURE COMPONENT TYPICAL OR AS SHOWN ON THE DRAWINGS	MINIMUM		%	SLUMP RANGE MM	MAX AGG MM	EXPOSUI CLASS
SLAB ON GRADE INTERIOR SLAB ON GRADE EXTERIOR EXPOSURE PARKING SLAB ON GRADE SIDEWALKS & DRIVES EXTERIOR	25 MPA	N/A	N/A	80+/-30	20	N
SLAB ON GRADE EXTERIOR EXPOSURE	32 MPA	.45	5–8	70+/-30	20	C2
PARKING SLAB ON GRADE	25 MPA	.55	4-7	70+/-30	20	C4
SIDEWALKS & DRIVES EXTERIOR	32 MPA	.45	5-8	70+/-30	20	C2
						N
FOOTINGS FOR SHEARWALLS	25 MPA	.55	N/A	80+/-30	40	N
FOOTINGS EXTERIOR AT GRADE	35 MPA	.40	4-7	80+/-30	40	F2
PARKING SLABS AND RAMPS	35 MPA	.40	5-8	70+/-30	20	C1
EXTERIOR SLAB W/ MEMBRANE OVER	30 MPA	.50	5-8	80+/-30	20	F2
EXT'R BALCONY SLAB W/ MEMBRANE	30 MPA	.55	5–8	80+/-30	20	F2
FOOTINGS FOOTINGS FOR SHEARWALLS FOOTINGS EXTERIOR AT GRADE PARKING SLABS AND RAMPS EXTERIOR SLAB W/ MEMBRANE OVER EXT'R BALCONY SLAB W/ MEMBRANE REBAR SLABS INTERIOR REBAR SLABS EXTERIOR EXPOSURE	25 MPA	.55	4-7	80+/-30	20	N
REBAR SLABS EXTERIOR EXPOSURE	35 MPA	.40	5–8	80+/-30	20	C1
MASONRY GROUT	20 MPA	.55	N/A	200+/-40	10	N
MASONRY GROUT MASONRY CONCRETE FILL TOPPING NON-STR'L INT'R TOPPING NON-STR'L EXT'R TOPPING FOR STEEL DECK COLUMNS INTERIOR SEE SCHEDULE COLUMNS EXTERIOR NON-PARKING COLUMNS IN PARKING AREAS SHEARWALLS INTERIOR SEE SCHEDULE	25 MPA	.55	N/A	150+/-30	14	N
TOPPING NON-STR'L INT'R	20 MPA	SEE NOT	ES BEL	.OW		
TOPPING NON-STR'L EXT'R	32 MPA	SEE NOT	es bel	.OW		
TOPPING FOR STEEL DECK	25 MPA	.55	N/A	60+/-30	14	N
COLUMNS INTERIOR SEE SCHEDULE		.50	N/A	80+/-30	20	N
COLUMNS EXTERIOR NON-PARKING		.50	4-7	80+/-30	20	F2
COLUMNS IN PARKING AREAS	35 MPA	.40	5–8	80+/-30	20	C1
SHEARWALLS INTERIOR SEE SCHEDULE		.55	N/A	80+/-30	20	N
SHEARWALLS INTERIOR SEE SCHEDULE SHEARWALLS EXTERIOR NON—PARKING SHEARWALLS IN PARKING AREAS EXTERIOR BASEMENT WALLS OTHER WALLS INTERIOR OTHER WALLS EXTERIOR OTHER WALLS EXTERIOR OTHER WALLS PARKING AREAS DE STANDARD PERMANENTIAL		.55	4-7	80+/-30	20	F2
SHEARWALLS IN PARKING AREAS	35 MPA	.40	5-8	80+/-30	20	C1
EXTERIOR BASEMENT WALLS	25 MPA	.55	4-/	80+/-30	20	F2
OTHER WALLS INTERIOR	25 MPA	.55	N/A	80+/-30	20	N
OTHER WALLS EXTERIOR	25 MPA	.55	4-/	80+/-30	20	F2
OTHER WALLS PARKING AREAS	35 MPA	.40	5-8	80+/-30	20	C1
PI SLADS AND BEAMS MIN UNO.	JO MPA	.50	N/A	00+/-30	20	F0
TRANSFER BEAMS	35 MPA	.55	4-/	80+/-30	20	F2
SUBMIT CONCRETE CONSTITUENT	MATERIALS	INCLUDING	AGGRE	GATE QUALIFIC	CATION	REPORTS

CONCRETE CONSTITUENT MATERIALS INCLUDING AGGREGATE QUALIFICATION REPORTS FOR EXPOSURE CLASS SEE CAN/CSA A23.1 TABLE 1, 2. CONFIRM THE ENVIRONMENT OF

THE CONCRETE MATCHES THE CONDITIONS NOTED IN TABLE 1. EXPOSURE CLASS N ASSUMES ENTIRELY INTERIOR CONCRETE AND DOES NOT INCLUDE BALCONIES OR EYEBROWS. FOR SLABS WITH BALCONIES EXPOSED TO FREEZING USE F2. PROVIDE PLASTICIZER TO CONCRETE FOR AREAS OF SHEARWALLS, COLUMNS BEAMS OR SLABS WHERE REBAR IS CONGESTED OR DUCTS OR OTHER EMBEDDED ITEMS CREATE PLACING DIFFICULTIES. PROVIDE SMALLER MAXIMUM AGGREGATE SIZE AS REQUIRED. MAKE APPROPRIATE AIR AND CEMENT CONTENT ADJUSTMENTS. SLUMPS INDICATED ARE PRIOR TO PLASTICIZER ADDITIVES. ALL ADMIXTURES MUST BE APPROVED IN ADVANCE BY THE MATERIALS CONSULTANT. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 kg/m³ TYPE GU OR GUL PORTLAND CEMENT

EXCEPT AS REQUIRED BY THE GEOTECHNICAL CONSULTANT OR MATERIALS CONSULTANT FOR SULFATE RESISTANCE OR OTHER ENVIROMENTAL OR PERFORMANCE REASO CONFIRM IN ADVANCE THE USE OF NORMAL CEMENT TYPE FOR ALL CONCRETE IN CONTACT WITH GROUNDWATER PROVIDE NORMAL DENSITY AGGREGATES FOR ALL CONCRETE. . WATER MAY BE ADDED ON SITE TO OBTAIN SPECIFIED SLUMPS ONLY IF IT IS ADDED WITHIN

ONE HOUR OF BATCHING AND SUPERPLASTICIZER HAS NOT YET BEEN ADDED. WATER ADDED ON SITE SHALL BE SPECIFIED BY BATCH REPORT. CONCRETE SHALL NOT BE PLACED BEYOND 2 HOURS FOLLOWING BATCHING. TEMPERATURES OF CONCRETE SHALL COMPLY WITH PROVIDE SITE STORAGE FOR INITIAL 24 HOURS CURING OF TEST CYLINDERS. PROVIDE TRIAL MIXES FOR ANY UNPROVED MIX DESIGNS. • FOR NON STRUCTURAL CONCRETE INCLUDING TOPPINGS, PROVIDE MIX DESIGNS SUITABLE FOR

INTENDED USE FOR REVIEW BY THE ARCHITECT AND MATERIALS CONSULTANT ALTERNATE MIX DESIGNS MAY BE SUBMITTED FOR REVIEW BY THE MATERIALS CONSULTANT. 1. CONCRETE MIX DESIGNS TO BE SUBMITTED TO THE MATERIALS CONSULTANT FOR REVIEW PRIOR TO COMMENCING THE WORK. 2. CONCRETE PLACING, CURING AND HANDLING PROCEDURES TO BE REVIEWED BY THE MATERIALS CONSULTANT FOR THE INTENDED APPLICATION. NO CALCIUM CHLORIDE ADDITIVES ARE PERMITTED IN CONCRETE MIXES WITHOUT WRITTEN ACCEPTANCE OF THE MATERIALS CONSULTANT

CONCRETE TEST SPECIMENS TO BE TAKEN IN ACCORDANCE WITH APPLICABLE CODES. SELF CONSOLIDATING CONCRETE MIX IS ENCOURAGED FOR ALL WALLS AND COLUMNS WITH CONGESTED REINFORCING. ALL SCC MATERIALS TO COMPLY WITH CSA A23.1-09. SCC PLASTIC PROPERTIES SHALL BE AS FOLLOWS: SUMP FLOW: 700 +/- 50mm; VSI VALUE (TO 1. MOCK UP TESTS TO CONFIRM SCC PERFORMANCE MAY BE REQUIRED PRIOR TO APPROVAL OF MIX DESIGN. 5. FLYASH IS ENCOURAGED IN MIX DESIGNS HOWEVER THE DELAYED STRENGTH GAIN MUST BE COMPENSATED BY ADDITIONAL RESHORING AND SUPPORT FOR SUSPENDED ELEMENTS. COORDINATE WITH THE FORMWORK AND RESHORING CONTRACTOR TO ENSURE SUITABLE

SUPPORT REMAINS FOR ALL SLABS UNTIL THEY HAVE REACHED DESIGN STRENGTH AND

CONCRETE CONSTRUCTION

CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF APPLICABLE CODES. THE GENERAL CONTRACTOR SHALL SUPERVISE AND BE RESPONSIBLE FOR THE METHODS AND PROCEDURES OF CONCRETE PLACEMENT. ENSURE THAT CONCRETE PLACEMENT DOES NOT DISPLACE REINFORCING MATERIALS FROM THEIR INTENDED LINE AND POSITION. ENSURE THAT CONCRETE IS PROPERLY CONSOLIDATED IN ALL AREAS. ENSURE THAT CONCRETE PLACING METHODS DO NOT OVERLOAD FORMWORK.

WEATHER CONDITIONS:

STIFFNESS.

3. SPECIAL CONSTRUCTION PROCEDURES FOR CONCRETE WORK IN ADVERSE WEATHER CONDITIONS SHALL BE REVIEWED BY THE MATERIALS CONSULTANT. THIS INCLUDES CONCRETE CAST DURING WEATHER BELOW 5 DEGREES CELSIUS OR ABOVE 20 DEGREES CELSIUS, AND ANY OTHER CONDITIONS SUCH AS HEAVY RAIN WHERE THE QUALITY OF THE WORK MAY BE JEOPARDIZED BY ADVERSE WEATHER. WORK UNDERTAKEN WITHOUT SUCH REVIEW SHALL BE THE RISK OF THE CONTRACTOR ALONE 4. WORK UNDERTAKEN IN COLD WEATHER CONDITIONS SHALL BE PROTECTED AGAINST FREEZING AND SHALL BE HEATED AND INSULATED AS DIRECTED BY THE MATERIALS CONSULTANT PROVIDE HEATING AND HOARDING AS REQUIRED TO MAINTAIN THAW CONDITIONS ON EARLY

AGE CONCRETE. PROVIDE HEATING AND HOARDING AS REQUIRED TO AVOID FREEZING AND

BURSTING OF PIPES OR CONDUIT CONTAINING WATER CAST WITHIN CONCRETE SLABS. JOINTS AND POUR BREAKS:

5. ALL CONSTRUCTION JOINTS IN STRUCTURAL MEMBERS TO BE REVIEWED BY GLOTMAN-SIMPSON FOR LOCATION AND DETAIL PRIOR TO CONSTRUCTION. REINFORCEMENT TO CONTINUE UNINTERRUPTED THROUGH ALL CONSTRUCTION JOINTS. KEYWAYS TO BE PROVIDED PERPENDICULAR TO THE DIRECTION OF LOAD IN ALL JOINTS. SEE TYPICAL DETAILS. **DIMENSIONAL TOLERANCES:**

SEE NOTES FOR SPECIAL CONSIDERATION OF TOLERANCES TOLERANCES SPECIFIED HEREIN SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE CLOSER TOLERANCES REQUIRED BY OTHER BUILDING

8. CONFIRM HEADROOM CLEARANCES, OPENING WIDTH AND HEIGHT, FLOOR-TO-FLOOR, AND

DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION OF THE BUILDING ELEMENT.

9. PROVIDE SUITABLE CURING FOR ALL CONCRETE IN ACCORDANCE WITH GOOD WORK PRACTICE AND APPLICABLE CODES. SEE MATERIALS CONSULTANT FOR CONFIRMATION OF CURING 10. NON-STRUCTURAL CONCRETE FLOOR TOPPING SHALL BE SPECIFIED BY THE ARCHITECT AND REVIEWED FOR SUITABILITY BY THE MATERIALS CONSULTANT. SPECIFICATION OF NON-STRUCTURAL CONCRETE IS NOT PROVIDED BY GLOTMAN SIMPSON. 11. SPECIAL REQUIREMENTS FOR CONTROL OF SHRINKAGE IN WALLS CAST MONOLITHIC OVER 25

OTHER DIMENSIONS WITH DRAWINGS PROVIDED BY OTHER CONSULTANTS AND REPORT ANY

FEET IN LENGTH ARE SHOWN IN TYPICAL DETAILS FOR REBAR, KEYS, ETC. SUBMIT DETAILS OF VARIATIONS PROPOSED AND LOCATIONS OF CONSTRUCTION AND CONTROL JOINTS. AVOID VERTICAL CONTROL JOINTS IN WALLS AT BEAM INTERSECTIONS. SHEARWALLS SHALL HAVE SLAB INTERFACES ROUGHENED TO 12mm DEEP. SEE NOTES FOR FORMWORK AND RESHORING 14. WORK ON PARKING SURFACES SHALL CONFORM TO CSA S413 "PARKING STRUCTURES

TEMPERATURE, AND SHALL BE WET-CURED AS INDICATED IN S413 - SEE MATERIALS

PARKING STRUCTURES FOR THE FIRST 3 DAYS AFTER CASTING

CONSULTANT FOR CURING GUIDELINES. NOTE THE MOIST CURING REQUIREMENTS FOR

CONSTRUCTION". CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING AND EXTREME

FORMWORK AND RESHORING

AND TO GOOD WORK PRACTICE AS APPROPRIATE. FORMWORK TO PROVIDE FOR MEMBER SIZES AND CONFIGURATION AS SHOWN IN STRUCTURAL DRAWINGS. CONFIRM SIZES WITH ARCHITECTURAL AND OTHER DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER. FORMWORK FOR CURED COLUMNS SHALL NOT BE REMOVED UNTIL COLUMN CONCRETE HAS REACHED 18 MPA MINIMUM AND CANNOT BE DAMAGED BY THE TOOLS USED. CAREFULLY LOOSEN COLUMN FORMS BY HAND BEFORE EQUIPMENT IS EMPLOYED. FORMWORK SUPPORT FOR CURED SLABS SHALL NOT BE REMOVED UNTIL SLAB CONCRETE HAS REACHED A MINIMUM OF THE GREATER OF 75% OF THE CONCRETE 28 DAY DESIGN STRENGTH, 75% OF THE MIX DESIGN STRENGTH. DESIGN FÓRMWORK TO LIMIT DEFLECTION OF THE FORMED SURFACE TO WITHIN TOLERANCE SUITABLE FOR THE PROJECT AND ACI RECOMMENDATIONS. DESIGN RESHORING TO LIMIT THE LOAD IMPARTED TO ANY PRIMARY STRUCTURAL MEMBER TO HE SUPERIMPOSED DESIGN LIVE LOAD OF THE MEMBER. FOR EXAMPLE, RESHORING ON SLABS SHALL ACCOUNT FOR THE LIVE LOAD ONLY, NOT INCLUDING PARTITION LOADS OR OTHER DEAD LOADS UPON THE SLAB. SPECIFY INSTALLATION METHODS OF THE RESHORING

1. DESIGN AND CONSTRUCT FORMWORK TO ACHIEVE TOLERANCES SPECIFIED HEREIN, ELSEWHERE

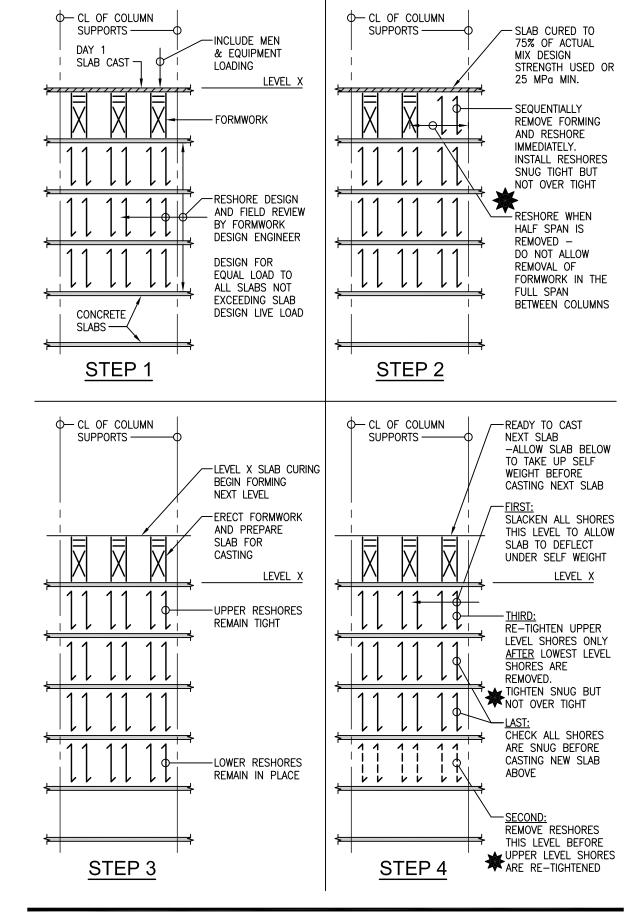
SUCCESSIVE FLOORS OF RESHORES 7. "RESHORE" SHOWN IN THE DRAWINGS MAY BE INTERPRETED AS FOLLOWS: LEVEL 4

TO CONTROL LOADING ON THE SLAB AND AVOID EXCESSIVE LOADING AS CAN BE CAUSED BY

INTERPRETATION OF NOTE:
PROVIDE CONTINUOUS SUPPORT UNDER LEVEL 1 LEVEL 3 TO CARRY THE LOADS FROM 200 WALL ABOVE TRIBUTARY SLAB WEIGHT + MEN AND EQUIPMENT - 200 WALL UNTIL LEVEL 5 IS CURED TO ITS SPECIFIED CONCRETE STRENGTH. RESHORING BELOW THE WALL SHALL TRANSMIT LOAD TO LEVELS BELOW WHILE UTILIZING ONLY LIVE LOAD TRIBUTARY CAPACITY OF EACH LEVEL BELOW. LEVEL ' - RESHORE UNTIL SAMPLE RESHORING NOTE LEVEL 5 IS CAST AND CURED

SUBMIT SHOP DRAWINGS FOR FORMWORK AND RESHORING TO THE ENGINEER FOR INFORMATION ONLY INDICATING ALL ELEMENTS OF THE THE FORMWORK AND RESHORING SYSTEM AND THE NET EFFECTIVE LOADING IMPARTED UPON THE STRUCTURE FROM THE FORMWORK AND RESHORING. SHOP DRAWINGS FOR FORMWORK SHALL BE SEALED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE JURISDICTION OF THIS PROJECT WHO HAS EXPERIENCE WITH THE DESIGN AND CONSTRUCTION OF FORMWORK SYSTEMS. THE FORMWORK DESIGN ENGINEER SHALL PROVIDE "LETTERS OF ASSURANCE" FOR DESIGN AND FIELD SUPERVISION FOR FORMWORK SYSTEMS. SEE NOTE TEMPORARY WORKS. 10. THE FORMWORK AND RESHORING DESIGN ENGINEER SHALL INSPECT THE FORMWORK AND RESHORING IN THE FIELD AND PROVIDE WRITTEN EVIDENCE OF PROPER WORKMANSHIP IN ACCORDANCE WITH THE SHOP DRAWINGS AND GOOD WORK PRACTICE. SUBMIT THE FIELD INSPECTION REPORTS TO THE ARCHITECT FOR HIS INFORMATION ONLY. 11. SLABS: IMMEDIATELY RESHORE ALL SLABS UNTIL CONCRETE HAS REACHED FULL DESIGN STRENGTH AND IS AT LEAST 28 DAYS OF AGE. SLABS WITH CONCRETE NOT MATURED TO SPECIFIED STRENGTH SHALL NOT BE CONSIDERED FOR LOAD CARRYING OF FORMWORK OR RESHORING 13. PROVIDE RESHORING PROCEDURES AS REQUIRED TO MAINTAIN LOADING UPON FLOOR SLABS AND BEAMS NOT EXCEEDING THE INTENDED DESIGN LOAD. PROVIDE A MINIMUM OF 3 LEVELS OF RESHORES, OR MORE AS REQUIRED TO MAINTAIN LOAD INTENSITY LESS THAN THE SPECIFIED LIVE LOAD FOR DESIGN. 14. PROVIDE WORK PROCEDURES TO PROPERLY IMPLEMENT RESHORING. CONSIDER THE FOLLOWING PROPOSED METHOD OF RESHORING TO LIMIT LOAD UPON LOWER SLAB LEVELS. ALL MEANS AND METHODS REMAIN THE RESPONSIBILITY OF THE CONTRACTOR(S). 15. FLYASH IN CONCRETE MIXES CAN DELAY STRENGTH AND STIFFNESS GAIN IN CONCRETE.

COMPENSATE FOR DELAYED CURING BY EXTENDING THE LENGTH OF TIME THAT RESHORING REMAINS SUPPORTING THE SLABS. 16. FORMWORK SUPPORT FOR POST-TENSIONED SLABS SHALL NOT BE REMOVED UNTIL ALL OF THE POST TENSIONING HAS BEEN STRESSED AND CONFIRMED ACCEPTABLE.



NON STRUCTURAL TOPPINGS - GRINDING

ALLOW FOR GRINDING AND/OR TOPPING OF SLABS AS REQUIRED TO ACHIEVE QUALITY WORKMANSHIP AND SLAB LEVELNESS AS DETERMINED BY THE ARCHITECT ALLOW FOR GRINDING HIGH POINTS IN SLABS THICKER THAN SPECIFIED WHERE HEIGHT OF FINISHED CONCRETE SURFACE OR THE QUALITY OF SURFACE IS UNSUITABLE FOR FINAL

FLOOR FINISHING PRODUCTS ALLOW FOR LIGHTWEIGHT NON STRUCTURAL TOPPING IN LOW POINTS OF SLAB AS REQUIRED ACHIEVE FLOOR LEVEL SUITABLE FOR FINAL FLOOR FINISHING PRODUCTS. PROVIDE PROPOSED TOPPING MATERIAL AND PROCEDURE FOR REVIEW BY MATERIALS CONSULTANT BEFORE PERFORMING THE WORK.

4. ASSESS AND RESOLVE REPAIR REQUIREMENTS AND PROCEDURES BEFORE PARTITIONING

EQUIVALENT STRENGTH AND AREA OF REINFORCING.

REINFORCING STEEL REINFORCEMENT SHALL BE DEFORMED BILLET STEEL OF THE FOLLOWING GRADES:

CSA G30.18 GRADE 400 MPA - 10M AND LARGER REBARS CSA G30.5 GRADE 300 MPA - WELDED WIRE MESH CSA G30.15 GRADE 300 MPA - DEFORMED WELDED WIRE MESH CSA G30.16 GRADE 400 MPA - WELDABLE REBAR

PRESTRESSING WIRE SUBSTITUTE REINFORCING OF U.S. DESIGNATION MAY BE PERMITTED UPON REQUEST - PROVIDE

COVER TO PRIMARY REINFORCING:

FIRE RESISTANCE RATING (SEE ARCHITECTURAL) 1HR. FACES CAST AGAINST GROUND 75mm N/A N/A COLUMNS: 50mm 50mm TO VERTICAL REINFORCING 40mm 50mm EXPOSED: GROUND OR WEATHER 50mm 50mm BEAMS OR SLAB BANDS: 40mm TO REINFORCING 40mm 40mm PRESTRESSING TENDON 40mm EXPOSED: GROUND OR WEATHER 50mm 50mm 50mm TO REINFORCING PRESTRESSING TENDON PARKING DECKS SEVERE EXPOSURE PER CSA S413 60mm 60mm 60mm PARKING DECKS NORMAL EXPOSURE PER CSA S413 40mm 40mm BOTTOM OF PARKING SLAB 32mm 30mm TO REINFORCING EXPOSED TO WEATHER 32mm ZONE REINFORCING EXPOSED TO FIRE 2 SIDES

COVER SHOWN TO PRIMARY REINFORCING - IE. COLUMN VERTICAL BARS. BEAM LONGITUDINAL BARS, ZONE VERTICAL BARS, ETC. TIES SHALL NOT HAVE COVER LESS THAN 20mm CLEAR.

DESIGNATION OF BARS:

7-25M5600 DENOTES SEVEN - 25M REBARS X 5600mm LONG STRAIGHT BARS: DENOTES EIGHT - 15M REBARS X 1370mm LONG BENT BARS: HOOKED ONE OR BOTH ENDS AS SHOWN. NOTE: LENGTH SHOWN INCLUDES THE LENGTH OF A STANDARD HOOK, LONGER HOOKS REQUIRED AS SHOWN, FOR HOOK LENGTHS SEE CSA A23.1

— IN TOP OF SLAB AND BEAMS OR NEAR

FACE OF WALL FACE OF WALL

MINIMUM LAP SPLICE LENGTHS (NON-SEISMIC ELEMENTS):

BAR SIZE	TENSION LAPS FOR BEAM OR SLABBAND TOP REINF SEE NOTE (f) BELOW	TENSION LAPS FOR BEAM OR SLABBAND BOTTOM REINF SEE NOTE (f) BELOW	TENSION LAPS FOR WALL VERTS SLAB BOTTOM REINF AND TOP REINF IN SLABS < OR = 300	HOOK DEVELOPMENT	MASONRY LAPS SINGLE CORES OR BOND BEAMS SEE NOTE (g) BELOW	MASONRY L DOUBLE CO OR BOND BE SEE NOTE BELOW
		TENSION LAPS FOR WALL HORIZ AND TOP REINF IN SLABS > 300				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
10M	750	575	425	225	500	500
15M	1050	800	600	325	500	975
20M	1275	975	750	400	775	1725
25M	2050	1575	1200	525	1200	2700
30M	2425	1875	1400	600	N/A	N/A
35M	2900	2225	1675	725	N/A	N/A

(b) STAGGER TENSION LAP IN BOTTOM OF TWO WAY SLABS. SEE SCHEDULES FOR COLUMN/SHEARWALL LAPS. (d) DIVIDE ABOVE TENSION LAP SPLICES BY 1.3 FOR TENSION DEVELOPMENT LENGTHS. (NOT LESS THAN 300mm e) MULTIPLY ABOVE VALUES BY 1.5 FOR EPOXY COATED REINFORCING. MULTIPLY BY 0.75 WHEN LAP ENCLOSED WITHIN TIES OR STIRRUPS. (NOT LESS THAN g) MULTIPLY MASONRY LAP SPLICES BY 0.6 FOR EMBEDMENT.

(ĥ) ABOVE VALUES (EXCEPT MASONRY LAPS) MAY BE ADJUSTED FOR CONCRETE STRENGTH AS FOLLOWS (NOT LESS THAN 300mm) 30MPA MULTIPLY BY 0.92 35MPA MULTIPLY BY 0.85 40MPA MULTIPLY BY 0.79 45MPA MULTIPLY BY 0.75 50MPA MULTIPLY BY 0.71

TEMPERATURE REINFORCEMENT:

PROVIDE THE FOLLOWING MINIMUM REINFORCEMENT AS BOTTOM STEEL IN EACH DIRECTION IN ALL SLABS WITH OR WITHOUT POST-TENSIONING:

TEMPERATURE REINFORCEMENT SLAB THICKNESS BOTTOM 150 mm OR LESS 10M @ 350 mm 10M @ 300 mm [O 180 mm 10M @ 250 mm [O 200 mm TO 230 mm 10M @ 200 mm 15M @ 375 mm TO 250 mm 15M @ 350 mm 15M @ 325 mm 300+ TO 400mm 20M @ 350 mm 400+ TO 500mm 20M @ 300 mm 500+ TO 600mm 20M @ 250 mm 25M @ 300 mm 600+ TO 800mm 800+ TO 1000mm 30M @ 300 mm 1000+ TO 1200mm 30M @ 300 mm PLUS 20M @ 300 mm 30M @ 300 mm PLUS 20M @ 300 mm 1200+ TO 1500mm 1500+ TO 1800mm 30M @ 300 mm PLUS 25M @ 300 mm 1800+ TO 2100mm 30M @ 300 mm PLUS 30M @ 300 mm

MINIMUM WALL REINFORCING:

PROVIDE THE FOLLOWING MINIMUM REINFORCEMENT IN ALL CAST-IN-PLACE CONCRETE WALLS

UNLESS GREATER AMOUNTS OF REINFORCING ARE SHOWN ON THE PLANS

TEMPERATURE REINFORCEMENT WALL THICKNESS 10M @ 325 O/C EA. WAY CENTERLINE OF WALL UP TO 150mm UP TO 200mm ONE LAYER 10M @ 250 O/C EA. WAY CENTERLINE OF WALL UP TO 250mm TWO LAYER 10M @ 300 EA. WAY EA. FACE UP TO 300mm TWO LAYER 10M @ 300 EA. WAY EA. FACE UP TO 350mm TWO LAYER 10M @ 300 EA. WAY EA. FACE TWO LAYER UP TO 400mm 10M @ 250 EA. WAY EA. FACE

MINIMUM SLAB BAND REINFORCING:

G30.18W STEEL - WELDABLE.

PROVIDE 2-15M HORIZ. BOT. OF ALL WALL POURS

PROVIDE MINIMUM REINFORCING IN SLAB BANDS AND WIDE BEAMS AS FOLLOWS:

 4-20M TOP CONTINUOUS IN ALL SLAB BANDS UP TO 2400 WIDE, TENSION LAP MIDSPAN, HOOK 90 DEGREES AT ENDS OR SLAB BANDS OR PROJECT 1200 BEYOND THE TERMINATION OF THE SLAB BAND INTO THE SLAB. SPLICE MIDSPAN. 6-20M TOP CONTINUOUS IN ALL SLAB BANDS OVER 2400 WIDE UP TO 3600 WIDE, TENSION LAP MIDSPAN, HOOK 90 DEGREES AT ENDS OR SLAB BANDS OR PROJECT 1200 INTO THE SLAB BEYOND. SPLICE MIDSPAN. 15M @ 300 IN SIDE FACES OF SLAB BANDS 600 DEEP OR DEEPER.

10M 6 LEG TIES @ 300 O/C MINIMUM IN SLAB BANDS 600 DEEP OR DEEPER IN SLAB BANDS UP TO 2400 WIDE. PROVIDE 8 LEG TIES FOR SLAB BANDS UP TO 3600 WIDE. SEE PLANS FOR HEAVIER TIES AS REQUIRED. FOR SLAB BANDS WITH CONCENTRATED TRANSFER LOADS SUCH AS COLUMNS OR INTERSECTING SLAB BANDS, PROVIDE MINIMUM TIES FULL LENGTH.

ALL REINFORCEMENT TO BE CHAIRED AND TIED IN ITS FINAL POSITION IN ACCORDANCE WITH THE DRAWINGS AT NOT MORE THAN 900mm CENTERS TO PREVENT ANY MOVEMENT DURING THE PLACEMENT OF CONCRETE. STAPLE ALL CHAIRS TO FORMWORK PRIOR TO PLACING PLACEMENT OF REINFORCING AND ALL CUTTING, LAPPING AND BENDING DETAILS TO BE IN ACCORDANCE WITH ACL DETAILING PRACTICE CHAIRS FOR REINFORCEMENT IN EXPOSED SOFFITS OR OTHER AREAS EXPOSED TO WEATHER AND VIEW SHALL BE PLASTIC OR EPOXY COATED. ALL CHAIRS IN PARKING STRUCTURES SHALL BE PLASTIC COATED REINFORCEMENT MUST BE CLEAN AND FREE FROM ANY SUBSTANCE WHICH MAY HASTEN RUSTING OR REDUCE CONCRETE BOND. ANY QUESTIONABLE MATERIALS TO BE CLEANED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE CONSULTANT. MAKE ALL HORIZONTAL REINFORCEMENT IN WALLS OR COLUMNS CONTINUOUS AT CORNERS PROVIDE MINIMUM 2-15M BARS PARALLEL TO ALL EDGES OF SLABS AND AROUND OPENINGS, EXTEND 600 BEYOND CORNERS. PROVIDE ONE 15M X 1200 DIAGONAL AT EACH RETURN CORNER OR OPENING IN SLAB OR WALL. BEND SLAB OR WALL TRIM BARS CONTINUOUS ANCHORS.

AROUND OUTSIDE CORNERS. ADDITIONAL BARS MAY BE REQUIRED FOR POST—TENSIONED PROVIDE DOWELS BETWEEN JOINING CONCRETE SURFACES TO MATCH BARS IN LATER POUR (E.G. STAIR LONGITUDINAL REBAR, WALL REINFORCING, ETC.). DOWELS FOR CONCRETE WALLS (NOT SHEARWALLS) AND COLUMNS SHALL PROJECT A COLUMN LAP LENGTH ABOVE FOÒTING OR SUPPORT LEVELS. DOWELS FOR SHEARWALLS INCLUDING ZONES AND WALL STEEL) SHALL PROJECT A FULL TENSION LAP LENGTH ABOVE FOOTINGS AND SLAB SURFACES. CONTRACTOR TO ENSURE THAT ALL DOWELS ALIGN WITH VERTICAL REINFORCING AND WITH THE CORES OF MASONRY WALLS. SHOP TEST ALL NELSON STUDS OR REBAR ANCHORS APPLIED TO BEAMS OR PLATES IN THE SHOP. FIELD TEST ALL NELSON STUDS OR REBAR ANCHORS APPLIED IN THE FIELD. 10. REINFORCING FOR SIDEWALKS AND EXTERIOR CONCRETE PAVING FOR FOOT TRAFFIC ONLY SHALL BE 10M @ 350 O/C FOR JOINTS UP TO 4500mm CENTERS 11. FOR SLAB JOINTS LESS THAN 2400mm CENTERS, REINFORCING MAY BE REDUCED TO 10M PERIMETER PLUS 152x152 MW13.3/13.3 WELDED WIRE MESH PLACED MIDHEIGHT OF SLAB.

12. ALL REINFORCEMENT IN SHEARWALLS AND SEISMIC ELEMENTS SHALL BE GRADE 400 MPA

13. SEE SHEARWALL SCHEDULE FOR ZONE AND SHEARWALL REINFORCING NOTES.





ISSUED FOR

Description: 2016-02-05 ISSUED FOR BID - INTERIM 2016-04-22 ISSUED FOR CONSTRUCTION

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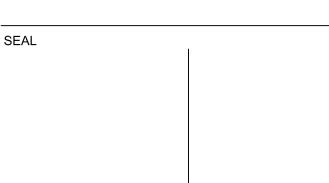
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UBC EXCHANGE GAGE SOUTH RESIDENCE

5960 Student Union Boulevard, Vancouver, BC V6T 1Z1

CHECKED:

GENERAL NOTES

SCALE: N/A

STRUCTURAL STEEL

SEE SPECIFICATION SECTION 05 05 19 - COMMON WORK RESULTS FOR METALWORK FINISHING: REQUIREMENTS FOR DELIVERY AND HANDLING, AND SHOP FINISHING OF STRUCTURAL STEEL, TENSION FRAMING AND OTHER MISCELLANEOUS STEEL COMPONENTS. SEE SPECIFICATION SECTION 06 05 19 - COMMON WORK RESULTS FOR STRUCTURAL WOOD

FINISHING: REQUIREMENTS FOR DELIVERY AND HANDLING, AND SHOP FINISHING OF STRUCTURAL WOOD ELEMENTS.

ALL STRUCTURAL STEEL SHALL CONFORM TO APPLICABLE PROJECT CODES AND THE FOLLOWING STANDARDS: - CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL, (EXCEPT AS OTHERWISE REQUIRED IN THE NOTES FOLLOWING, THE DRAWINGS OR THE SPECIFICATIONS.) CSA W47.1 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL

A148 / A148M SPECIFICATION FOR STEEL CASTINGS

A108 SPECIFICATION FOR STEEL BAR

- A307 SPECIFICATION FOR CARBON STEEL BOLTS AND STUDS, 60,000 PSI TENSILE - A325 SPECIFICATION FOR STRUCTURAL BOLTS, STEEL, HEAT TREATED, 120/105 KSI MINIMUM TENSILE STRENGTH - A490 SPECIFICATION FOR STRUCTURAL BOLTS, ALLOY STEEL, HEAT TREATED, 150 KSI
- MINIMUM TENSILE STRENGTH A1011 / A1011M SPECIFICATION FOR STEEL, STRUCTURAL QUALITY CISC / CPMA STANDARDS FOR PRIMER AND PAINT
- SSPC SPECIFICATIONS FOR CLEANING CAN / CSA-G40.20 GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL
- CAN / CSA-G40.21 STRUCTURAL QUALITY STEELS - CAN / CSA-G164 HOT DIP GALVANIZING OF IRREGULARLY SHAPED ARTICLES CAN / CSA-S136 COLD FORMED STEEL STRUCTURAL MEMBERS W55.3 CERTIFICATION OF COMPANIES FOR RESISTANCE WELDING OF STEEL STRUCTURES W59 WELDED STEEL CONSTRUCTION (METAL ARC WELDING)
- DATES OF APPLICABLE VERSION OF THESE STANDARDS ARE LISTED IN THE STANDARDS SHOWN UNDER APPLICABLE PROJECT CODES. NOTWITHSTANDING THESE CODES AND STANDARDS, THE MINIMUM REQUIREMENTS OF THESE NOTES AND TENDER DOCUMENTS
- 1. STEEL SHALL BE NEW AND G40.21W STRUCTURAL GRADE UNLESS NOTED OR OTHERWISE APPROVED PRIOR TO CONSTRUCTION. CLASSIFICATION OF SECTIONS TO BE AS FOLLOWS: HOLLOW STRUCTURAL STEEL TUBING G40.21 W 350W WIDE FLANGE SECTIONS G40.21 W 350W CHANNEL SECTIONS G40.21 W 300W ANGLE SECTIONS G40.21 W 300W PLATES 3mm PLUS, RODS 6mm PLUS AND MISC. G40.21 W 300W
- TEEL SHALL BE MORE THAN 90% RECYCLED STEEL FROM ELECTRIC ARC FURNACE TECHNOLOGY UNLESS OTHERWISE APPROVED BY THE OWNER. PROVIDE DOCUMENTATION AND BACKUP TO THE SATISFACTION OF THE LEED CERTIFICATION COMMITTEE STATING THE POST CONSUMER CONTENT PERCENTAGE, THE POST INDUSTRIAL CONTENT PERCENTAGE, AND THE TOTAL RECYCLED CONTENT PERCENTAGE OF THE STEEL PROVIDED TO THE PROJECT.
- STRUCTURAL STEEL FABRICATOR TO INCLUDE ALL STEEL ELEMENTS SHOWN ON THE STRUCTURAL DRAWINGS AND AS REQUIRED TO CONSTRUCT THE WORK TO THE INTENT OF THE STRUCTURAL DRAWINGS AND INCLUDING ANGLE SIZES OF 20mm +, PLATE THICKNESS OF 3mm + AND ROD SIZE OF 6mm + UNLESS NOTED OTHERWISE.
- 4. STRUCTURAL STEEL CONTRACTOR AND/OR THE GENERAL CONTRACTOR SHALL EXAMINE THE SITE AND VERIFY THE LOCATION OF ALL EXISTING AND PLANNED CONSTRUCTION. ANCHOR BOLTS, AND OTHER WORK PREPARED BY OTHER TRADES PRIOR TO COMMENCING WITH THE FABRICATION OF STEEL MEMBERS. NOTIFY THE ENGINEER OF CHANGES TO OUTLINE RESULTING FROM SITE CONDITIONS.

5. <u>CONNECTIONS:</u>

- (a) ALL CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED UNLESS OTHERWISE SHOWN OR APPROVED. ALL BOLTS SHALL BE A325 BOLTS, 19mm DIAMETER MINIMUM AND SHALL BE BEARING BOLTS WITH THREADS INCLUDED FOR CONNECTION CAPACITY CONSIDERATIONS. PROVIDE TWO BOLTS MINIMUM. PROVIDE CADMIUM PLATE BOLTS IN EXTERIOR EXPOSURE. CONNECTIONS WHERE SLIP MAY CAUSE DISTRESS IN COLLATERAL MATERIALS SHALL BE DESIGNED AS SLIP RESISTANT CONNECTIONS WITH FRICTION BOLTS FOR SERVICE LOADS.
- (b) EXCEPT WHERE CONNECTIONS ARE DETAILED COMPLETELY IN THE DRAWINGS. ALL ASPECTS OF CONNECTIONS BETWEEN STEEL MEMBERS ARE TO BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR'S CONNECTION ENGINEER. NOTE THAT THESE DRAWINGS MAY NOT INCLUDE DETAILS AND INFORMATION DESCRIBED IN THE CISC CODE OF PRACTICE FOR STRUCTURAL STEEL AND CAN/CSA-S16.1, AND IN PARTICULAR CLAUSE 27. DOUBLER PLATES ETC. REQUIRED FOR PROPER PERFORMANCE OF THE CONNECTION SHALL BE PROVIDED THROUGH THE DESIGN OF CONNECTIONS BY THE CONNECTION ENGINEER UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
- (c) THE CONNECTION DESIGN ENGINEER SHALL DESIGN ANY REQUIRED STEEL CONNECTIONS NOT OTHERWISE SHOWN ON THE DRAWINGS INCLUDING CONNECTIONS BETWEEN STEEL MEMBERS OR BETWEEN STEEL AND WOOD OR CONCRETE.
- (d) SHOP DRAWINGS FOR THE CONNECTIONS SHALL BE SEALED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA WHO HAS COMPLETED THE CISC CONNECTION DESIGN COURSE AND IS RESPONSIBLE FOR THE DESIGN OF THE CONNECTIONS. THE CONNECTION DESIGN ENGINEER SHALL PROVIDE SCHEDULE S "LETTERS OF ASSURANCE" FOR DESIGN AND FIELD SUPERVISION FOR STEEL CONNECTIONS.
- (e) CONNECTION FORCES SHOWN ARE FACTORED FORCES UNLESS OTHERWISE NOTED. (f) PROVIDE SHEAR CONNECTIONS FOR BEAMS FOR 50% OF THE BEAM'S SHEAR CAPACITY. TRANSFER GIRDERS OR BEAMS WITH HEAVY CONCENTRATED LOADS TO HAVE SHEAR CONNECTIONS FOR FORCES CALCULATED FROM THE GIVEN DESIGN LOADS OR FOR
- FORCES SHOWN ON THE DRAWINGS. (g) PERIMETER CHORD ANGLES AND DRAG MEMBERS SHALL HAVE FULL STRENGTH SPLICES AND CONNECTIONS.
- (h) THE CONNECTION DESIGN ENGINEER SHALL VERIFY THAT THE FABRICATOR EMPLOYS AN ENGINEER TO PROVIDE MONTHLY SHOP INSPECTIONS PER CWB REQUIREMENTS. (j) THE ENGINEER RESPONSIBLE FOR THE DESIGN OF CONNECTIONS SHALL INSPECT THE FIELD CONNECTIONS AND SHALL PROVIDE WRITTEN EVIDENCE OF PROPER WORKMANSHIP
- TO THE ARCHITECT PRIOR SUBSTANTIAL COMPLETION OF THE STEEL CONTRACT. (k) FABRICATION AND FIELD WELDING SHALL BE DONE BY A CWB CERTIFIED PLANT CLASSIFIED IN DIVISION 1 OR DIVISION 2.1 IN ACCORDANCE WITH CSA STANDARD W47.1. (m) ALL WELDING SHALL BE IN ACCORDANCE WITH CSA STANDARD W59. (n) CONNECTION DESIGN SHALL TRANSFER THE SHEAR FORCE TO THE FACE OF THE STEEL
- (p) MAKE AVAILABLE THE NAMES OF CWB CERTIFIED WELDERS. 6. SEE ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS STEEL DETAILS AND FOR VERIFICATION
- 7. THE MANUFACTURER SHALL SUBMIT STRUCTURAL STEEL SHOP DRAWINGS AND ANCHOR BOLT LAYOUT FOR REVIEW TO THE ARCHITECT SHOWING ALL REQUIRED STRUCTURAL STEEL DETAILS AT LEAST THREE WEEKS PRIOR TO THE COMMENCEMENT OF FABRICATION. SEE "SHOP DRAWING SUBMITTALS".

<u>SUBSTITUTE MEMBERS:</u> CONTRACTORS ARE ENCOURAGED TO REQUEST SUBSTITUTE MEMBER SIZES WHEREVER SAVINGS IN EITHER TIME OR COST CAN BE ACHIEVED. SUBMIT THE REQUEST IN WRITTEN FORM AND MAKE SPECIAL MENTION ON THE SHOP DRAWINGS OF SUBSTITUTIONS OF MEMBERS, WHICH MAY BE ACCEPTED AT THE DISCRETION OF THE ENGINEER.

<u>SPECIAL SECTION SIZES:</u>
CERTAIN SECTION SIZES MAY BE AVAILABLE ONLY FROM SPECIFIC SUPPLIERS. SECTIONS MAY

BE SUBSTITUTED AT ANY TIME PROVIDED THE SUBSTITUTE SECTION PROVIDES EQUAL OR GREATER SECTION PROPERTIES AND FITS WITHIN OTHER BUILDING CONSTRAINTS.

<u>INSPECTIONS:</u> (a) THE FOLLOWING INSPECTIONS ARE REQUIRED:

-) BY GLOTMAN-SIMPSON FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT. SEE "FIELD REVIEW BY GLOTMAN-SIMPSON". (c) BY THE CONNECTION DESIGN ENGINEER FOR CONNECTIONS AND TO PERMIT HIM TO SIGN HIS LETTER OF ASSURANCE. (d) BY THE MATERIALS CONSULTANT FOR VISUAL INSPECTION OF FIELD WELDING, BOLT TORQUE TESTING, GENERAL FIT-UP, CWB COMPLIANCE, NDT AS REQUIRED BELOW AND REVIEW OF MILL CERTIFICATES.
- (e) BY THE INDEPENDENT TESTING AGENCY PAID BY THE FABRICATOR FOR REPAIR TO ANY MEMBERS OR CONNECTIONS AND FOR FIELD WELDED BUTT SPLICED MEMBERS IF ANY. CONTRACTORS TO CALL FOR INSPECTION AT APPROPRIATE TIMES. THE FABRICATOR AND ERECTOR SHALL COOPERATE WITH INSPECTION SERVICES AND SHALL PROVIDE MEANS OF ACCESS AS REQUIRED TO MAKE SUITABLE SITE REVIEW (h) FURNISH ALL MILL TEST CERTIFICATES AND CHEMICAL ANALYSIS PROPERLY CORRELATED
- TO THE MEMBERS BY SHOP DRAWING DESIGNATION. (j) HIGH TENSILE BOLTS USED IN FRICTION OR PRETENSIONED CONNECTIONS SHALL BE TORQUE TESTED BY THE INDEPENDENT MATERIALS CONSULTANT AND PAID FOR AS DESCRIBED IN THE TENDER DOCUMENTS UNDER TESTING AGENCY OR MATERIALS CONSULTANT (k) ALL FIELD WELDS SHALL BE VISUAL INSPECTED. WHERE, IN THE SOLE OPINION OF THE
- MATERIALS CONSULTANT, VISUAL INSPECTION OF THE WELDS OR THE STEEL MEMBERS IN PLACE IN THE FIELD IS INADEQUATE OR INCONCLUSIVE, SUCH WELDS SHALL EITHER BE REWORKED OR EXAMINED BY A NON-DESTRUCTIVE TESTING METHOD THE COST OF SUCH FURTHER TESTING AND REPORTING SHALL BE PAID BY THE CONTRACTOR. (m) ALL MEMBERS CONTAINING WELDED SPLICES AND BUTT JOINTS, INCLUDING SKYLIGHT AND LIGHT FRAMING MEMBERS, SHALL BE INSPECTED BY NON DESTRUCTIVE METHODS BY THE INDEPENDENT TESTING AGENCY AND PAID FOR BY THE CONTRACTOR.
- SELECTION MAY BE USED FOR LARGER QUANTITIES, THE EXTENT OF WHICH IS TO THE PROFESSIONAL DISCRETION OF THE MATERIALS CONSULTANT. (n) THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THIS RESPONSIBILITY IS NOT RELIEVED BY MISTAKEN ACCEPTANCE OF ANY WORK BY AN INSPECTOR. WORK FOUND AT ANY TIME TO BE DEFECTIVE OR NOT IN ACCORDANCE WITH THE INTENT OF THE STRUCTURAL

QUESTIONABLE WELDS MUST BE TESTED AND REWORKED AS NECESSARY. RANDOM

- DRAWINGS SHALL BE CORRECTED TO THE ENGINEERS SATISFACTION. (p) MOMENT CONNECTED FRAMES ONLY:
 MEMBERS WHICH FORM PART OF A MOMENT CONNECTED STEEL FRAME SHALL HAVE ALL WELDS AT CRITICAL LOCATIONS INSPECTED BY NON DESTRUCTIVE METHODS BY AN INDEPENDENT TESTING AGENCY. OTHER WELDS IN THE FRAME SHALL HAVE A MINIMUM OF 10% INSPECTED BY NDT, EXCEPT THAT ADDITIONAL TESTING IS REQUIRED WHERE ANY MATERIAL PORTION OF THE WELDS ARE FOUND TO BE INADEQUATE. THE COST OF THIS NDT TESTING SHALL BE PAID FOR BY THE CONTRACTOR WHO MUST EMPLOY A QUALIFIED INDEPENDENT TESTING AGENCY WHICH MAY BE DIFFERENT THAN THE TESTING AGENCY EMPLOYED BY THE OWNER. FORWARD COPIES OF ALL REPORTS TO THE
- ENGINEER WITHOUT DELAY. 11. STEEL WORK IN ENCLOSED INTERIOR NORMALLY DRY CONDITIONS OR ENCASED IN CONCRETE SHALL CLEANED TO SP2, WITHOUT PRIMER. STEEL WORK EXPOSED TO POTENTIALLY MOIST CONDITIONS SHALL BE CLEANED TO SP3 AND PRIMED IN ACCORDANCE WITH CISC GUIDELINES. STEEL WORK EXPOSED TO VIEW OR IN WET OR CORROSIVE ENVIRONMENTS SHALL BE CLEANED TO SP6, PRIMED IN ACCORDANCE WITH CISC GUIDELINES AND FINISH COATED AS REQUIRED BY THE ARCHITECT. TOUCH-UP ALL SCUFFS, WELDS AND SCRAPES IN THE FIELD AFTER ERECTION. WELDS TO BE CLEANED OF ALL SLAG PRIOR TO PAINTING.
- 12. HSS MEMBERS SHALL BE SEAL WELDED IN DRY CONDITION IN THE SHOP. PROVIDE WEEP HOLES AT THE LOW END OF ALL HSS MEMBERS IN EXTERIOR CONDITIONS, AND SEAL WELD AROUND ALL MATING SURFACES IN UNHEATED EXTERIOR CONDITIONS WHETHER COVERED OR

CONFIRM ALL FINISHES AND CLEANING WITH THE ARCHITECT

- 13. STEEL EXPOSED PERMANENTLY TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED, INCLUDING ALL BRICK AND STONE VENEER SUPPORT ANGLES (UNLESS STAINLESS STEEL IS REQUIRED PER CSA), EMBEDS IN EXPOSED CONCRETE, ALL EMBEDS IN PARKING SLABS, ETC.
- 14. STEEL IN EXTERIOR CONDITIONS SHALL BE SEAL WELDED ALL AROUND CONTACTING STEEL SURFACES UNLESS OTHER SUITABLE METHOD OF SEALING THE STEEL IS ACCEPTED BY THE MATERIALS CONSULTANT.
- 15. THE STRUCTURAL STEEL CONTRACTOR SHALL OBTAIN SITE CONFIRMATION OF THE INSTALLATION OF ANCHOR BOLTS PRIOR TO FABRICATION. WHERE BASE PLATES ARE CUT TO SUIT ANCHOR BOLT INSTALLATION, SUCH BASE PLATES SHALL BE UPGRADED AS REQUIRED TO PROVIDE FOR THE DESIGN REQUIREMENTS.

- 16. <u>ARCHITECTURALLY EXPOSED STEEL:</u>
 ARCHITECTURALLY EXPOSED STEEL SHALL HAVE REASONABLY SMOOTH AND UNIFORM WELDING FREE OF UNSIGHTLY BULGES AND VARIATIONS IN SIZE. REMOVE ALL MILL SCALE PRIOR TO FABRICATION AND CLEAN AND PRIME IMMEDIATELY AFTER FABRICATION. MAKE SYMMETRICAL UNIFORM CONNECTIONS. USE CADMIUM PLATED BOLTS IN EXPOSED CONNECTIONS. GRIND ONLY AS REQUIRED IN THE DETAILS - CONFIRM WITH ARCHITECTURAL. WELDS REMAINING AFTER GRINDING SHALL COMPLY WITH DESIGN SIZES. REMOVE ALL ERECTION TABS AND FILL, GRIND AND FINISH ANY UNSIGHTLY HOLES OR ABRASIONS. FINISH TO SP6 EXCEPT AS OTHERWISE SPECIFIED BY THE ARCHITECT.
- 17. SEE NOTES RE: TEMPORARY CONDITIONS. PROVIDE GUYING OF THE INCOMPLETE STRUCTURE AS REQUIRED TO PLUMB AND MAINTAIN THE INCOMPLETE STRUCTURE IN A SAFE FORM UNTIL COMPLETION.
- 18. STEEL CONTRACTOR TO PROVIDE ANCHOR STRAPS 3mm THICK X 40mm WIDE X 150mm LONG WITH 25mm LEG TO MASONRY WALLS AT 800mm O/C WHERE MASONRY WALLS COME

INTO CONTACT WITH STEEL COLUMNS.

NOTED OTHERWISE:

- 19. STEEL CONTRACTOR TO PROVIDE FRAMING TO SUPPORT MECHANICAL WEIGHTS AND, IN ADDITION, TO FRAME ANY OPENINGS THROUGH ROOFS OR FLOORS IN EXCESS OF 450mm IN ANY DIMENSION. - FOR OPENINGS OVER 450mm IN ANY DIMENSION PROVIDE AS A MINIMUM UNLESS
- 75 X 75 X 6 ANGLES IN ROOF AREAS WITHOUT SNOW BUILD-UP - 100 X 100 X 6 ANGLES IN ROOF AREAS WITH SNOW BUILD-UP AND IN FLOORS - PROVIDE CLIPS TO BEAMS AND JOIST TO SUIT. CONFIRM WITH JOIST SUPPLIERS THAT THE FRAMING CAN CONNECT TO THE JOIST MIDPANEL, OR EXTEND A CROSS MEMBER TO THE PANEL POINT OF THE JOIST AS REQUIRED FOR THE LOAD. - FOR OPENINGS OVER 600mm IN ANY DIMENSION WHICH ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS, OR FOR OPENINGS WHICH CARRY MECHANICAL EQUIPMENT IN EXCESS OF 225kg, IDENTIFY THE OPENING TO THE ENGINEER FOR HIS INSTRUCTION OF SIZE OF FRAMING MEMBER. - SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- 20. SHOP TEST ALL NELSON STUDS APPLIED TO BEAMS OR PLATES IN THE SHOP. FIELD TEST ALL FIELD APPLIED NELSON STUDS OR BOLT STUDS. SEE MATERIALS CONSULTANT.
- 21. PROVIDE WEB STIFFENERS EACH SIDE OF ALL BEAMS CONTINUOUS OVER COLUMNS. STIFFENERS SHALL BE 10mm THICK MINIMUM, OR AS REQUIRED FOR CONNECTION DESIGN. PROVIDE 2 STIFFENERS EACH SIDE OF BEAMS SUPPORTING COLUMNS ABOVE, WITH THICKNESS AND AREA TO MATCH COLUMN FLANGES ABOVE. PROVIDE 2 STIFFENERS FOR BEAMS SUPPORTED ON WIDE FLANGE COLUMNS, STIFFENERS TO ALIGN WITH FLANGES. BEAMS SUPPORTING HSS COLUMNS MAY USE CUT SECTIONS OF HSS TO PROVIDE FOR LOAD TRANSFER STIFFENERS.
- 22. PROVIDE WEEP HOLES FOR RELIEF OF MOISTURE FROM HOLLOW STEEL MEMBERS WHICH MAY BE SUBJECT TO FREEZING. HOLES TO BE AT LOW POINT OF MEMBERS TO ALLOW DRAINING.
- 23. GROUT UNDER BASE PLATES OF COLUMNS WITH A NON-SHRINK FLOWABLE GROUT, TARGET MACHINE BASE OR SIMILAR, CAST UNDER HYDRAULIC HEAD. ENSURE FULL AREA IS GROUTED. PROVIDE 25mm UNLESS NOTED 24. PROVIDE METRIC EQUIVALENTS TO IMPERIAL SIZES INDICATED ON THE DRAWINGS.
- 25. WHERE ERECTION SHOP DRAWINGS ARE PREPARED WITH THE AID OF SEPIAS OF STRUCTURAL DRAWINGS OR ELECTRONIC FILES, THE CONTRACTOR SHALL REMOVE CONSULTANT NAMES AND REFERENCE TO CONSULTANT DRAWINGS. THE ERECTION SHOP DRAWING SHALL BE AS IF PREPARED INDEPENDENTLY BY THE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR ALL
- 26. REPORT ALL MISFITS AND MISALIGNMENTS AND PROPOSED REMEDIES TO THE ENGINEER. REMEDIAL WORKS SHALL BE DETAILED AS A SHOP DRAWING AND SUBMITTED FOR REVIEW BEARING THE SEAL OF THE CONNECTION DESIGN ENGINEER.
- 27. ANCHORS TO BE MINIMUM 4 20mm DIA. B7 ROD HOT DIP GALVANIZED ANCHOR BOLTS AND GALVANIZED STRUCTURAL GRADE NUTS UNLESS OTHERWISE NOTED. PROVIDE 100X100X6 ANCHOR PLATES WITH DOUBLE NUT BOTTOM. PROVIDE 24 BAR DIAMETERS EMBEDMENT EXCEPT WHERE FOOTING IS SHALLOWER, PROVIDE 75mm CLEAR COVER BOTTOM. PROJECT SUFFICIENT TO ALLOW FOR GROUT, SHIM AND BASE PLATE PLUS 75 PROJECTION ABOVE
- 28. PROVIDE SUPPORT FOR STEEL DECK EDGES ALL AROUND AS REQUIRED. PROVIDE STEEL ANGLES OF SIZE TO SUIT (75 X 75 MINIMUM) BY 5mm THICKNESS MINIMUM OR LARGER AS REQUIRED AROUND PERIMETER OF STEEL DECK WHERE STEEL DECK EDGES ARE NOT OTHERWISE SUPPORTED, INCLUDING PARALLEL TO EDGES OF DECK SPAN. AT SUPPORT LOCATIONS WHERE STEEL DECK CANNOT REST FULLY UPON THE SUPPORT ANGLE, PROVIDE ANGLES OF SUFFICIENT THICKNESS AND STRENGTH TO SUPPORT THE LOAD OF THE FLOOR OR ROOF SYSTEM AS A CANTILEVERED STEEL ANGLE. WELD DECK SUPPORT ANGLE TO ADJACENT STEEL SUPPORTS OR BOLT TO ADJACENT CONCRETE AS REQUIRED SUITABLE FOR THE TRIBUTARY DESIGN FLOOR LOADING. PROVIDE DETAILS OF ANGLES AND CONNECTIONS TO THE ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.

GLUE LAMINATED TIMBERS

- GLULAM MEMBERS SHALL CONFORM TO CAN/CSA 086.1-M94. ALL GLULAM BEAMS TO BE OF GRADE, SHAPES AND SIZES INDICATED ON THE PLAN. ANY PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING TO GLOTMAN-SIMPSON FOR
- APPROVAL PRIOR TO CONSTRUCTION. STEEL MEMBERS USED IN FRAMING SHALL FIT TIGHT TO WOOD MEMBERS BE SHOP PRIMED WITH SUITABLE RUST INHIBITIVE PAINT.
- GLULAM FABRICATION TO CONFORM TO CSA 0122 AND SHALL BE MANUFACTURED IN PLANTS CERTIFIED BY CSA 0177. DESIGN TO CONFORM TO CAN3-086. GLULAM BEAMS TO BE DOUGLAS FIR 24F-EX DOUBLE BENDING GRADE OR AS NOTED ON THE PLANS. ALL GLULAM BEAMS TO BE EXTERIOR SERVICE GRADE AND ARCHITECTURAL FINISH GRADE UNLESS SPECIFICALLY NOTED OR FULLY CONTAINED WITHIN ARCHITECTURAL FINISHES. ALL MEMBERS TO BE STAMPED WITH MANUFACTURER'S IDENTIFICATION MARK ON
- TOP FACE SHOP DRAWINGS AND ERECTION DRAWINGS ARE REQUIRED FOR ALL GLULAMS, GLULAM HARDWARE, HANGERS, CONNECTORS, ETC. SUBMIT SHOP DRAWINGS AND ERECTION DRAWINGS FOR REVIEW IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO FABRICATION.

WEATHERPROOF COVERING UNTIL ROOFING HAS BEEN INSTALLED.

GLULAM TO BE DELIVERED AND ERECTED WITH WATERPROOF WRAPPING IN PLACE. MAINTAIN

2016-02-05 ISSUED FOR BID - INTERIM

2016-04-22 ISSUED FOR CONSTRUCTION

ISSUED FOR

UBC

Glotman · Simpson

Description:

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SEAL

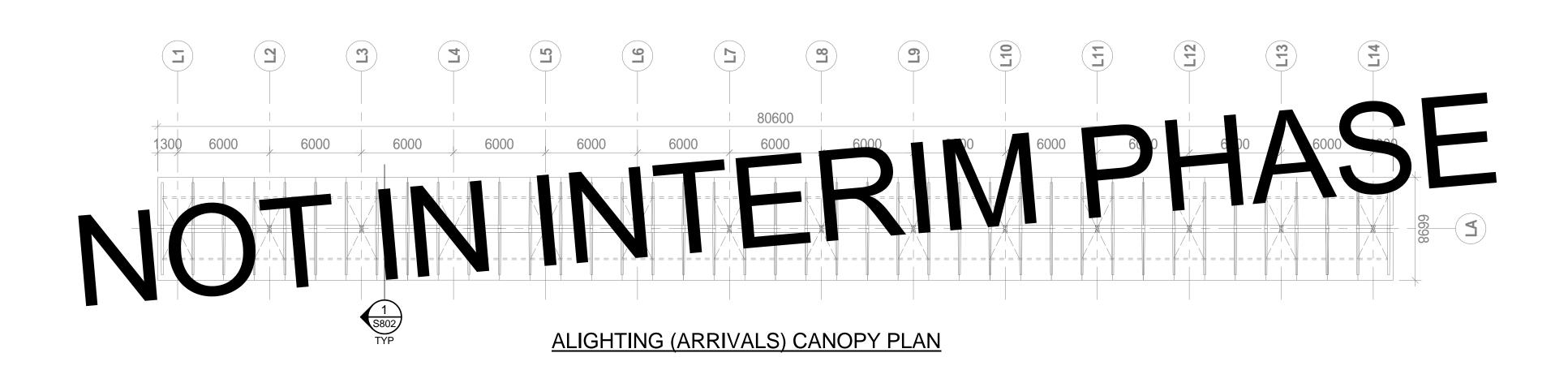
UBC EXCHANGE GAGE SOUTH RESIDENCE

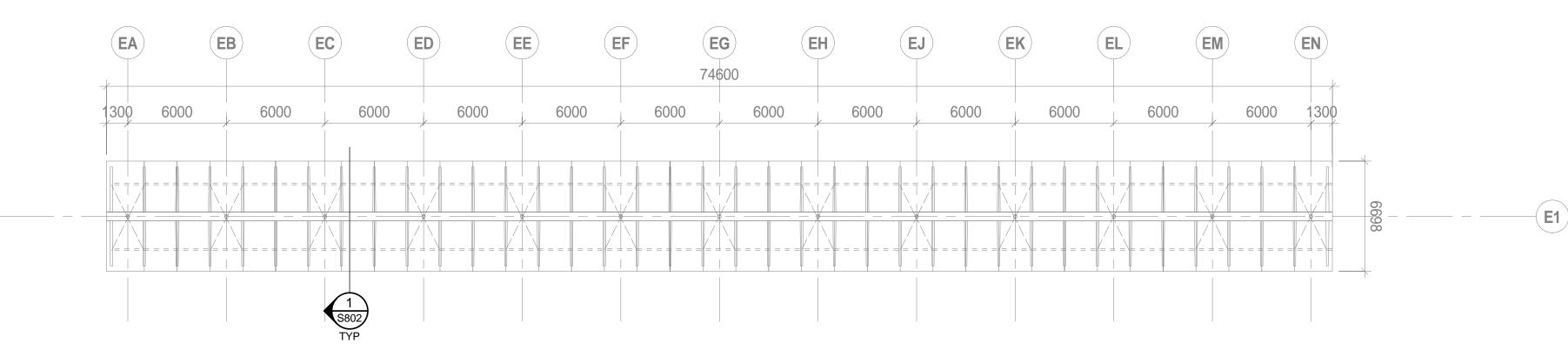
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GENERAL NOTES

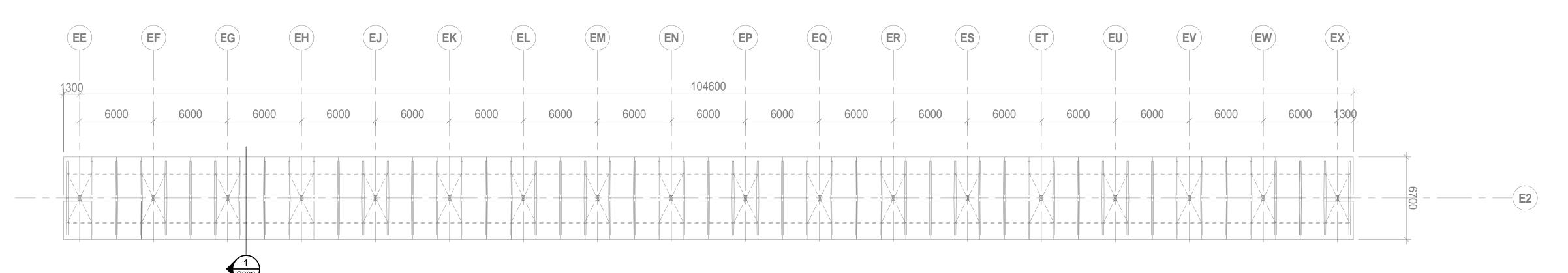
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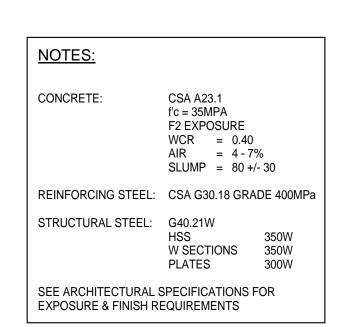


DEPARTURES NORTH CANOPY PLAN



DEPARTURES SOUTH CANOPY PLAN











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No: Date: Description:

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2016-04-18 ISSUED FOR 30% COORDINATION

2016-04-22 ISSUED FOR CONSTRUCTION

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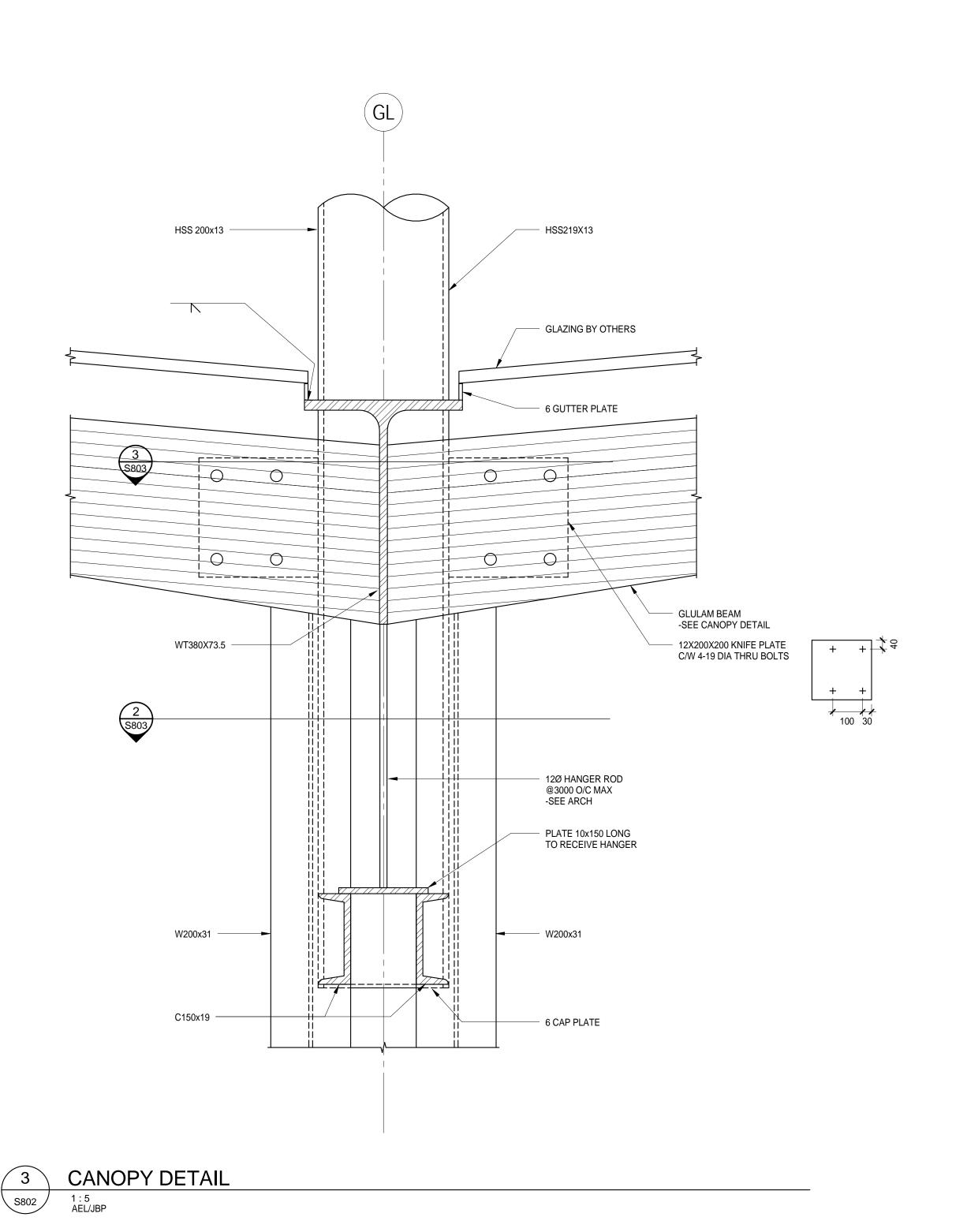
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LAYOVER & EXCHANGE CANOPY PLANS

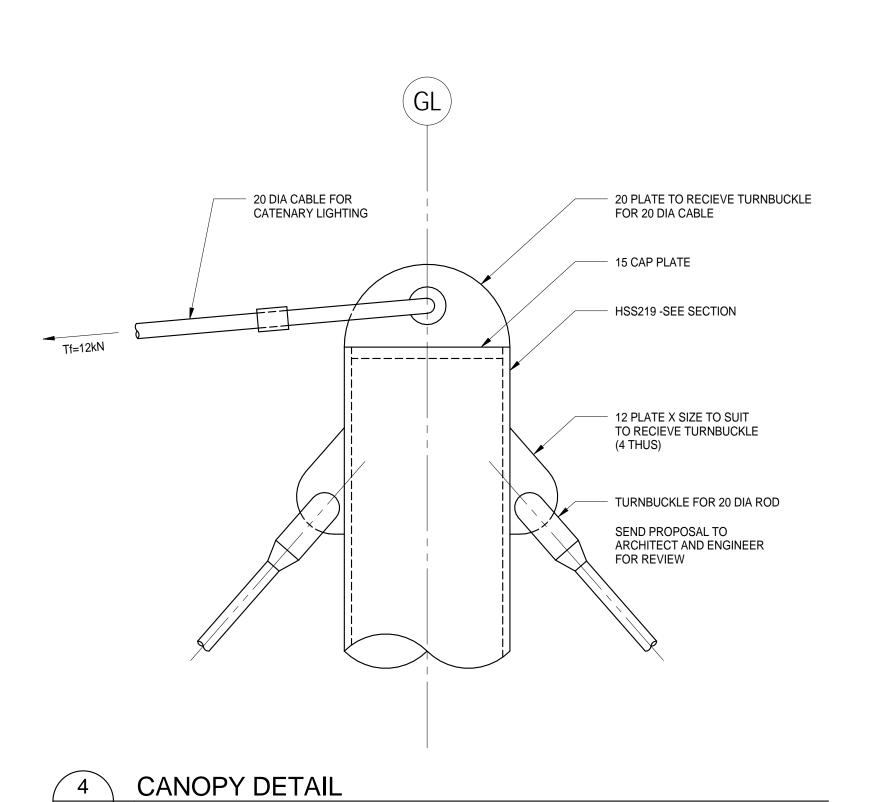
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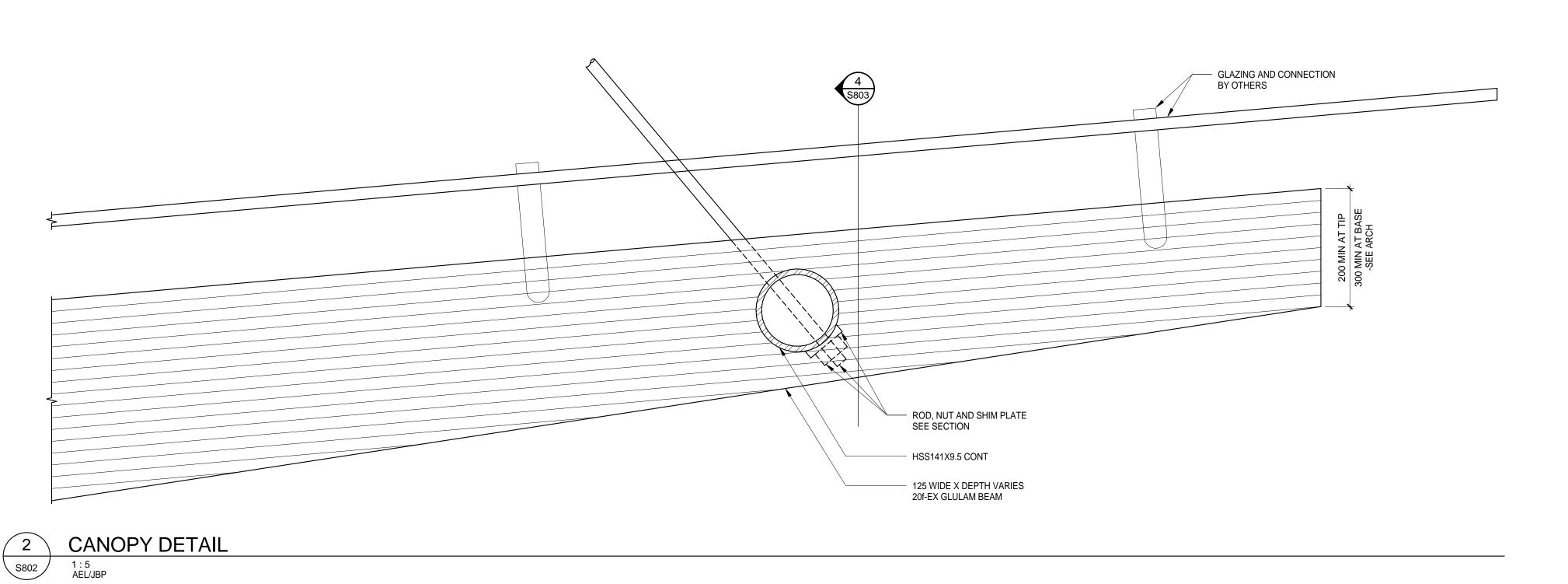
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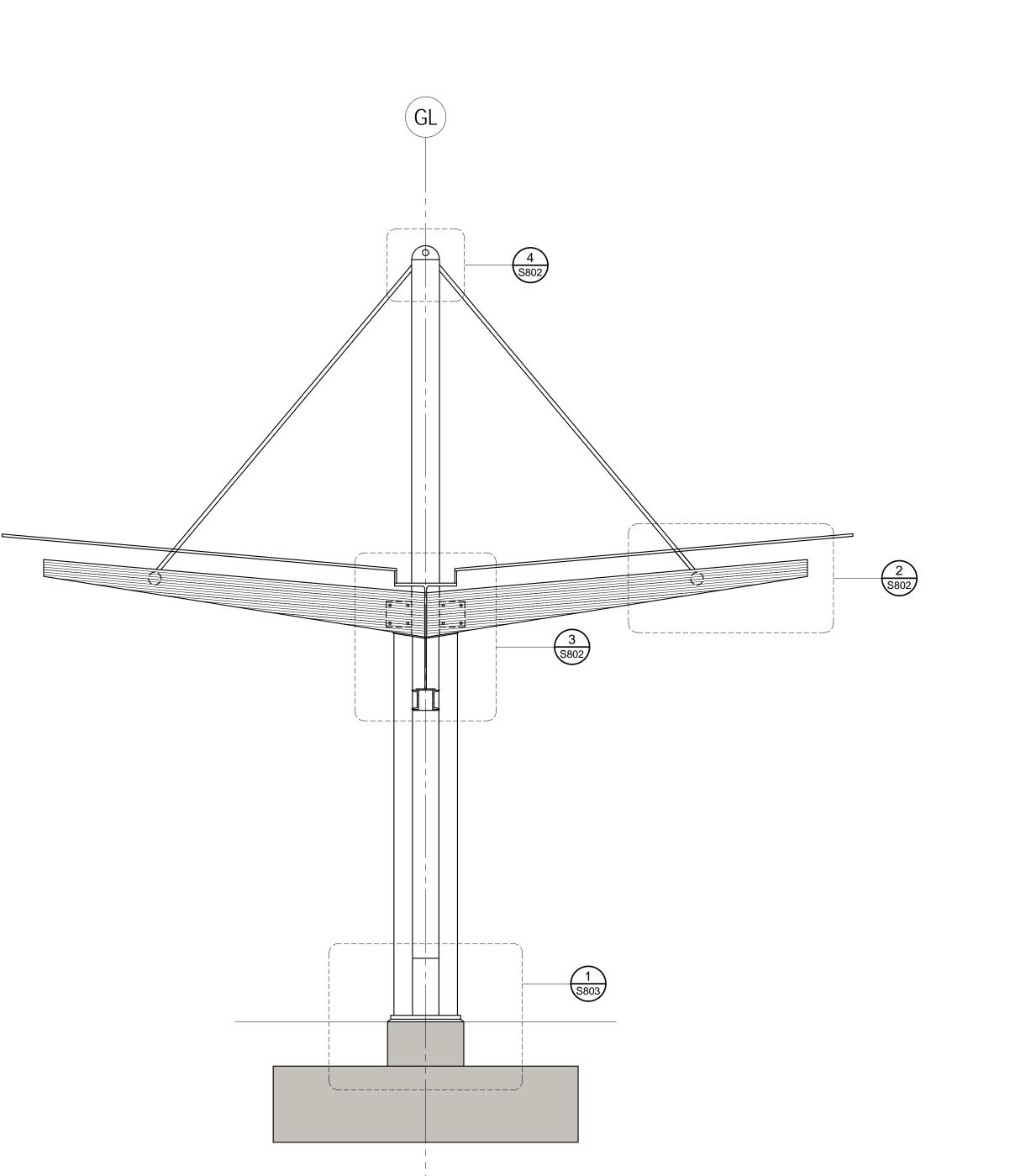


1 TYPICAL SECTION AT CANOPY

1: 25
AEL/JBP







DIALOG®



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CONSULTING ENGINEERS

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 Date:
 Description:

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 2016-03-02
 ADDENDUM #1

 2016-04-18
 ISSUED FOR 30% COORDINATION

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SEAL

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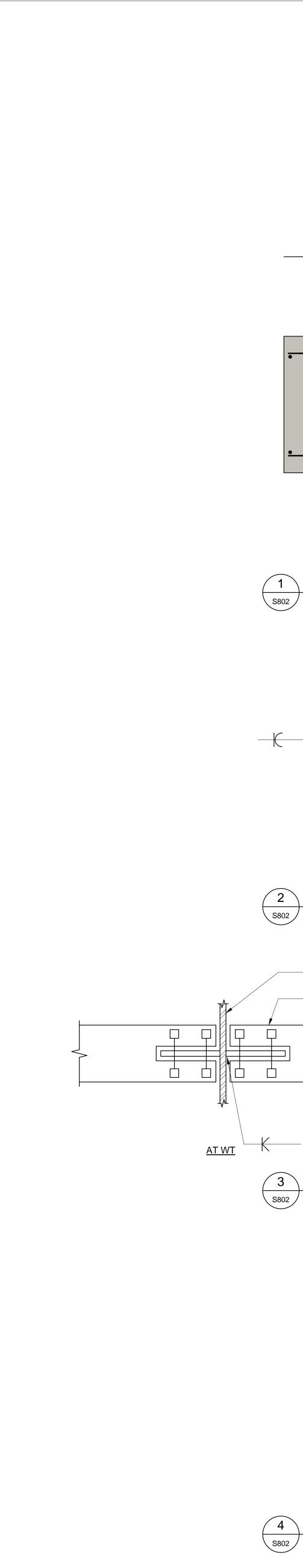
5960 Student Union Boulevard, Vancouver, BC V6T 1Z1

CANOPY DETAILS

DRAWN: SCALE: As indicated

CHECKED:

3802

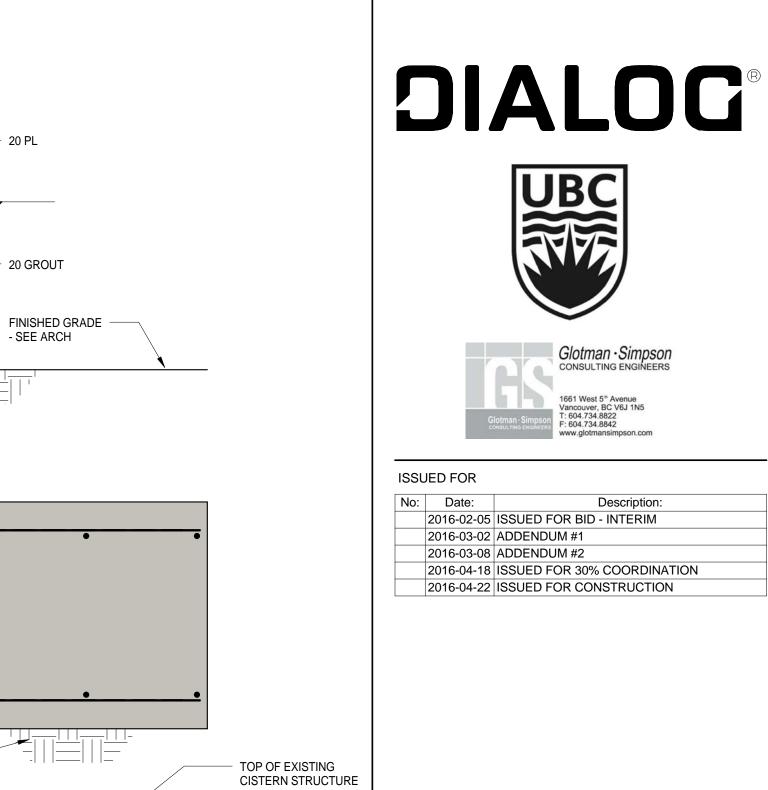


30X550X300 BASE PL

600X350 PEDESTAL C/W 8B15M VERT 10M TIE TOP & BOT

+ 8-20M 2250 E/W TOP

C/W 6-25 Ø THREADED ROD



HSS219X13

- GLULAM BEAM

20 GROUT

- SEE ARCH

W200X31

HSS219X13

PLATE 12 THK

TYPICAL SECTION AT CANOPY BASE

CANOPY SECTION AT CENTER HSS

GLULAM BEAM CONNECTION AT CANOPY

20Ø ROD SLOTTED THROUGH HSS

HSS 141X9.5 SLOTTED THROUGH GLULAM

CANOPY SECTION AT THREADED METAL ROD THROUGH HSS

WEB OF WT380

GLULAM BEAM

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CANOPY DETAILS

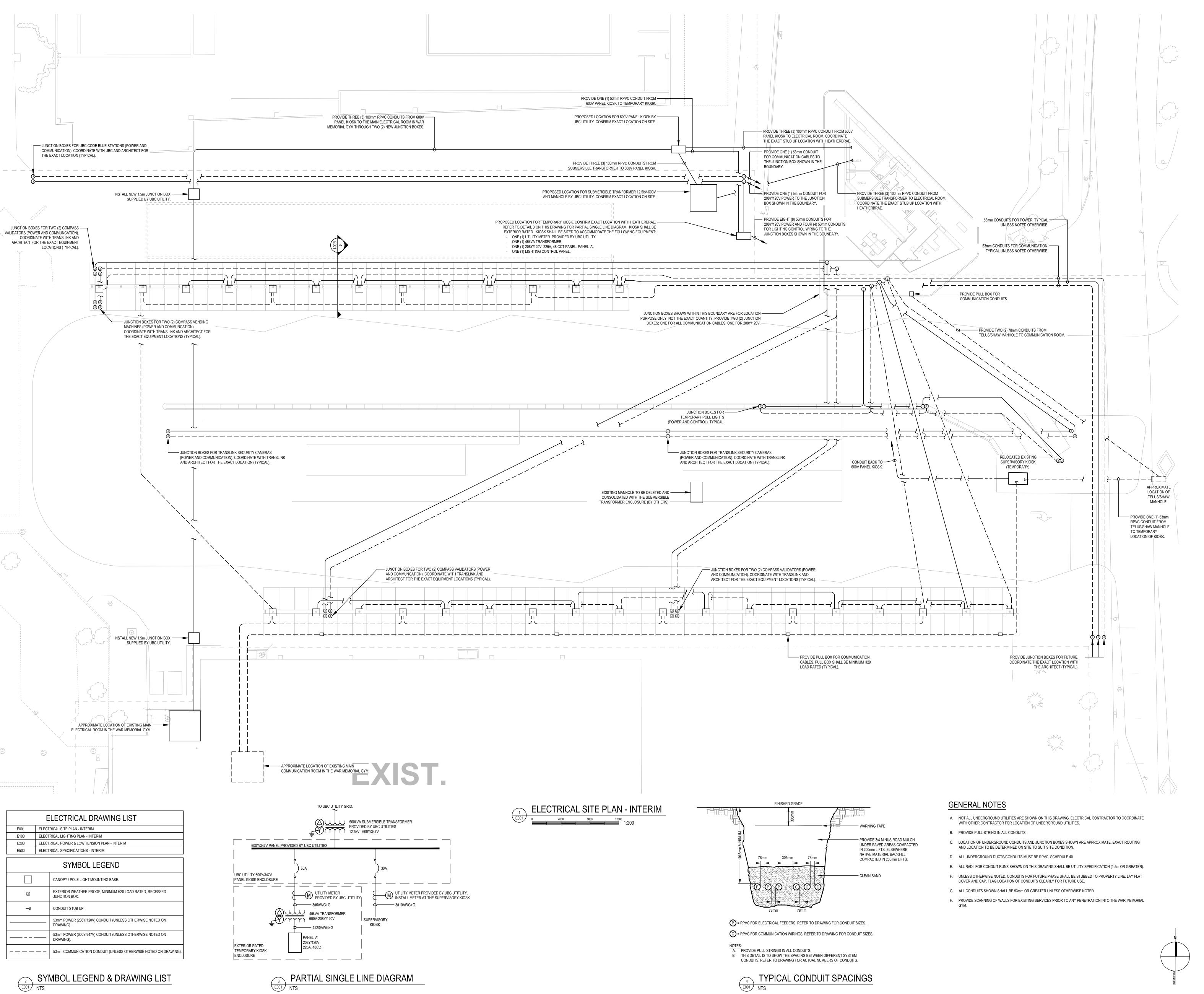
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#215289

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PARTIAL SINGLE LINE DIAGRAM

DIALOG®

ISSUED FOR

1. 2016-02-05 ISSUE FOR BID - INTERIM

2. 2016-03-09 ELECTRICAL ADDENDUM EAD01

3. 2016-04-22 ISSUED FOR PTA-1 4. 2016-04-22 IFC

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WRITTEN APPROVAL FROM THE CONSULTANT ARE SUBJECT TO

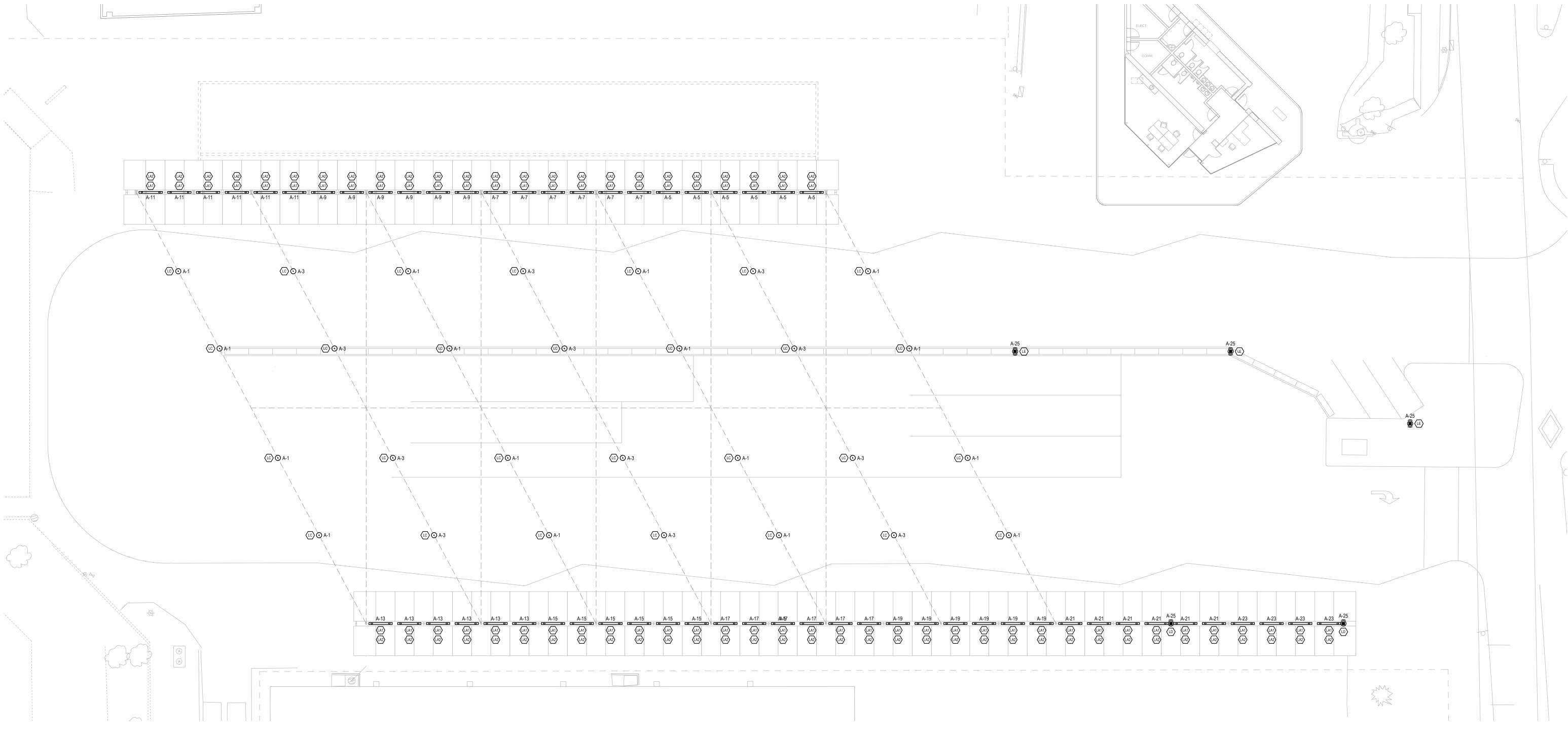
CORRECTION AT THE CONTRACTOR'S EXPENSE.

1330 Granville St. Vancouver, BC, V6Z 1M7 P: 604.569.6500 F: 604.569.6501 W : AESengr.com

UBC GAGE SOUTH TRANSLINK BUS EXCHANGE

ELECTRICAL SITE PLAN - INTERIM

DRAWN: AS PROJECT NUMBER: 2-15-161 CHECKED: ER



ISSUED FOR

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2. 2016-03-09 ELECTRICAL ADDENDUM EAD01

2016-04-22 ISSUED FOR PTA-1
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Designing A Better Tomorrow

			PANEL : PAI SYSTEM : 208 TYPE : NEI LOCATION : EXT	NEL 'A' Y/120V MA TYPI ERIOR RFACE	≣ 3		TH TR	ANSLIN	IK BUS	EXCHANGE
			DESCRIPTION	BRK	POLE	CCT	CCT	POLE	BRK	DESCRIPTION
			CATENARY LIGHTS	20A	1	01	02	1	15	CODE BLUE STATIONS
			CATENARY LIGHTS	20A	1	03	04	1	15	NORTH UBC CAMERAS
			NORTH LINEAR LIGHTS	20A	1	05	06	1	15	NORTH UBC WIRELESS
			NORTH LINEAR LIGHTS	20A	1	07	08	1	15	SOUTH UBC CAMERAS
			NORTH LINEAR LIGHTS	20A	1	09	10	1	15	SOUTH UBC WIRELESS
			NORTH LINEAR LIGHTS	20A	1	11	12	1	15	SPARE
			SOUTH LINEAR LIGHTS	20A	1	13	14	1	15	SPARE
			SOUTH LINEAR LIGHTS	20A	1	15	16	-	-	-
			SOUTH LINEAR LIGHTS	20A	1	17	18	-	-	-
			SOUTH LINEAR LIGHTS	20A	1	19	20	-	-	-
			SOUTH LINEAR LIGHTS	20A	1	21	22	-	-	-
0) (1	4D.01 . E.O.E.V.D	1	SOUTH LINEAR LIGHTS	20A	1	23	24	-	-	-
SYN	IBOL LEGEND		POLE LIGHTS	20A	1	25	26	-	-	-
		†	SPARE	20A	1	27	28	-	-	-
0 0	SUSPENDED LUMINAIRE		SPARE	20A	1	29	30	-	-	-
_		†	-	-	-	31	32	-	-	-
0	CATENARY LUMINAIRE		-	-	-	33	34	-	-	-
_		†	-	-	-	35	36	-	-	-
©	BOLLARD LUMINAIRE		-	-	-	37	38	-	-	-
_		1	-	-	-	39	40	-	-	-
(a)	SINGLE HEAD POLE LUMINAIRE		-	-	-	41	42	-	-	-
(DOUBLE HEADS POLE LUMINAIRE		* GFCI Breaker ** Arc Fault Breaker							

	LUMINAIRE SCHEDULE										
TYPE	DESCRIPTION	PRE-APPROVED PRODUCTS	MOUNTING	WATTS (W)	LAMP TYPE	LUMENS	COLOUR TEMP.	MIN. CRI	BALLAST	VOLTAGE	NOTES
(A1)	8' SUSPENDED LINEAR LED DOWN LIGHT	A-LIGHT ACCOLADE 3 D3-8-LH-30-U-HE-PV1-D-Q	SUSPENDED	160W	LED	9600/9600 LUMENS (UP/DOWN)	3000K	80	ELECTRONIC	120V	-
(A2)	8' SUSPENDED LINEAR LED UP LIGHT	LUMENPULSE LUMENFACADE LOG-120-48-RGB-60X60-SAM-SI-DMX-RDM-CRC C/W ETE-LT02-CBX-DS	SUSPENDED	160W	LED	9600/9600 LUMENS (UP/DOWN)	3000K	80	ELECTRONIC	120V	PROVIDE ANY ASSOCIATED LEADER/JUMPER CABLES OR ACCESSORIES TO HAVE A COMPLETE AND FUNCTIONAL SYSTEM.
LB	NOT USED	-	-	-	-	-	-	-	-	-	-
(C)	SUSPENDED CABLE CATENARY LIGHT	BEGA PENDANT LUMINAIRES FOR CATENARY SYSTEMS 9459LED-120V-3K-SLV	SUSPENDED CABLE	90W	LED	7372 LUMENS	3000K	80	ELECTRONIC	120V	COLOR FINISH SHALL BE METALLIC SILVER. SUSPENSION CABLE SHALL BE PROVIDED BY OTHERS.
ᡌ	SINGLE HEAD POLE LIGHT	LITHONIA LIGHTING D-SERIES SIZE 0 DSX0LED-40C-1000-30K-TFTM-347-RPUMBA-DBLXD	POLE	138W	LED	13,956 LUMENS	3000K	80	ELECTRONIC	120V	-
(LE)	DOUBLE HEADS POLE LIGHT	LITHONIA LIGHTING D-SERIES SIZE 0 DSX0LED-40C-1000-30K-TFTM-347-RPUMBA-DBLXD	POLE	276W	LED	27,912 LUMENS	3000K	80	ELECTRONIC	120V	PROVIDE 7.5m ROUND POLE AND BASE.

GENERAL NOTES

A. ALL FEEDERS SHALL BE SIZED PROPERLY TO ACCOMMODATE VOLTAGE DROPS. ALL 120V FEEDERS FROM THE PANEL TO THE CATENARY POLES SHALL BE #6 AWG COPPER AND FEEDERS FROM CATENARY POLES TO THE CATENARY LUMINAIRES CAN BE REDUCED DOWN TO #12 AWG COPPER. THESE FEEDER SIZES ARE BASED ON THEORETICAL CALCULATIONS FROM THE DRAWING; CONTRACTOR SHALL PERFORM A VOLTAGE DROP CALCULATION BASED ON THE ACTUAL LENGTH OF CONDUITS INSTALLED ON SITE AND SIZE THE FEEDERS

B. AN ASTRONOMICAL CONTROL CLOCK SHALL BE PROVIDED IN THE TEMPORARY KIOSK TO CONTROL ALL

UBC GAGE SOUTH TRANSLINK BUS EXCHANGE

LIGHTING PLAN -INTERIM

PROJECT NUMBER: 2-15-161

DRAWN: AS

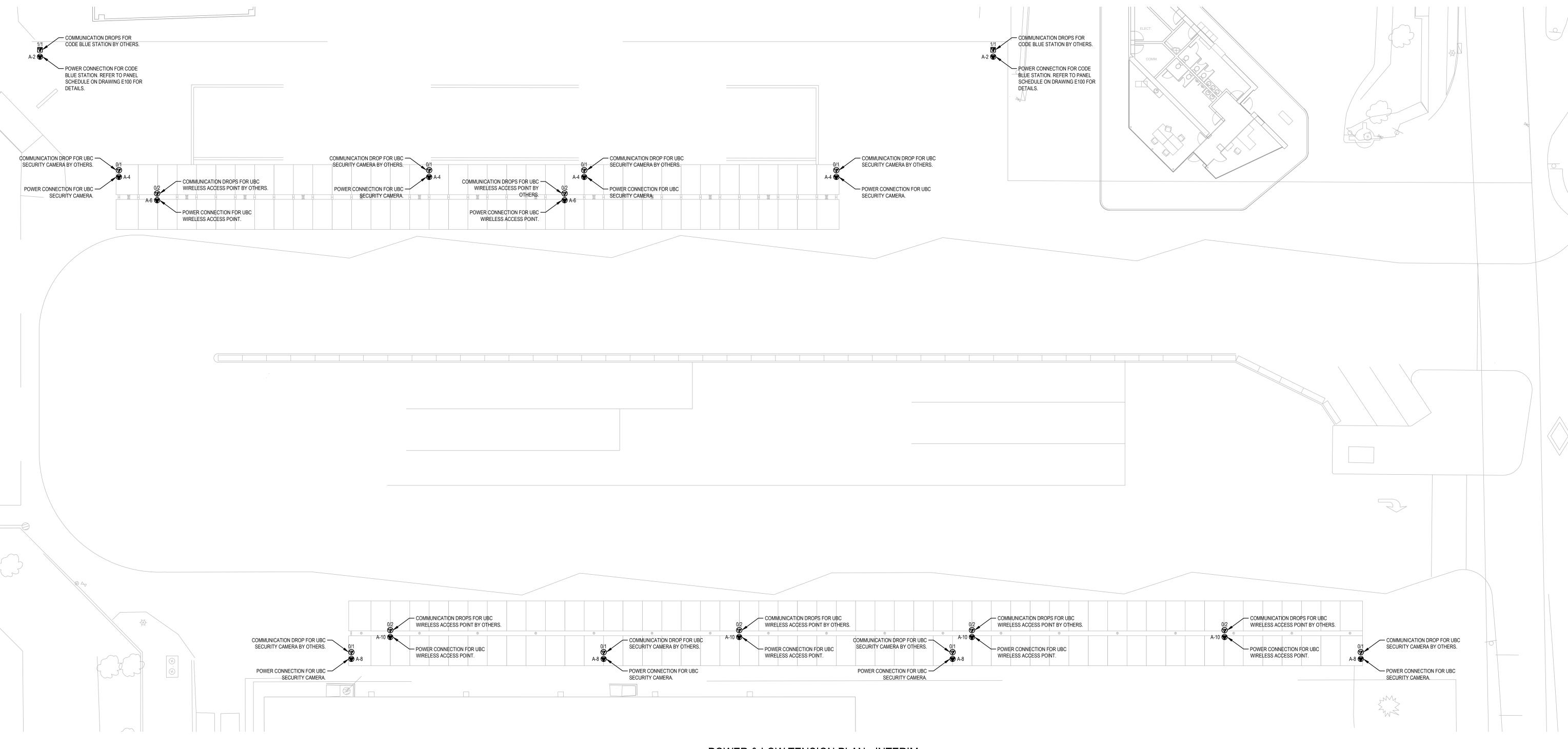
CHECKED: ER

E100

PANEL 'B' SCHEDULE

PANELBOARD SCHEDULE

LUMINAIRE SCHEDULE



1	PO	WER & LO	1T WC	ISION PLAN - INTERIM
00/	Q	4000	8000	12000

SYN	SYMBOL LEGEND					
#TEL / #DATA ▼	IN-GROUND COMMUNICATION STUB OUT					
#TEL / #DATA	CEILING MOUNTED COMMUNICATION OUTLET					
•	DIRECT POWER CONNECTION					



ISSUED FOR

- 1. 2016-02-05 ISSUE FOR BID INTERIM
- 2. 2016-03-09 ELECTRICAL ADDENDUM EAD01
- 2016-04-22 ISSUED FOR PTA-1
 2016-04-22 IFC

FOR INFORMATION ONLION
FOR INFORCONSTRUCTION
FOR FOR CONSTRUCTION

METRIC

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CORRECTION AT THE CONTRACTOR'S EXPENSE.

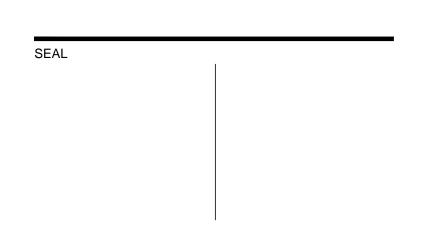
REPORT INCONSISTENCIES AND OMISSIONS TO THE CONSULTANT FOR CLARIFICATION BEFORE COMMENCING WITH THE WORK.

DEVIATIONS FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE CONSULTANT ARE SUBJECT TO



GENERAL NOTES

- A. ALL FEEDERS SHALL BE SIZED PROPERLY TO ACCOMMODATE VOLTAGE DROPS. CONTRACTOR SHALL PERFORM A VOLTAGE DROP CALCULATION BASED ON THE ACTUAL LENGTH OF CONDUITS INSTALLED ON SITE AND SIZE THE FEEDERS ACCORDINGLY.
- B. COMMUNICATION DEMARCATION AND TERMINATION POINTS SHALL BE INSTALLED AS PER UBC TECHNICAL GUIDELINES.
- C. UBC ACCESS SERVICES TO SUPPLY CODE BLUE STATION PRE-CAST BASES AND CONTRACTOR TO INSTALL. CONTRACTOR TO COORDINATE WITH UBC ACCESS SERVICES FOR THE REQUIRED CONDUIT SIZE TO MATCH THE PRE-CAST BASES.



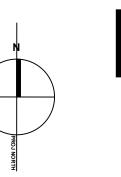
UBC GAGE SOUTH TRANSLINK BUS EXCHANGE

POWER & LOW TENSION PLAN -INTERIM

DRAWN: AS PROJECT NUMBER: 2-15-161

CHECKED: ER

E200



ELECTRICAL SPECIFICATION

- .1 GENERAL REQUIREMENTS, INSTRUCTIONS TO BIDDERS, THIS SPECIFICATION AND ANY ADDENDA HERETO FORM PART OF THE CONTRACT DOCUMENTS AND SHALL BE READ IN CONJUNCTION WITH THEM. WORK TO INCLUDE THE FURNISHING OF ALL LABOR AND MATERIALS, UNLESS SPECIFIED OTHERWISE, TO COMPLETE AND PUT INTO OPERATING CONDITION ALL ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
- .2 IT IS THE INTENT OF THE WORK TO PROVIDE COMPLETE, NEATLY FINISHED, AND OPERATIONAL SYSTEMS AND ANY LABOR, MATERIAL PERMITS, LICENSES, APPROVALS AND INSPECTIONS REQUIRED FOR COMPLETION OF THE WORK, WHETHER SPECIFICALLY MENTIONED IN THE DRAWINGS OR SPECIFICATIONS OR NOT, ARE TO BE INCLUDED IN THE TENDERED PRICE.
- .3 RESPONSIBILITY AS TO WHICH TRADE PROVIDES REQUIRED ARTICLES OR MATERIALS RESTS SOLELY WITH THE GENERAL CONTRACT TRADE. EXTRAS WILL NOT BE CONSIDERED BASED ON GROUNDS OF DIFFERENCE OF INTERPRETATION OF SPECIFICATIONS AS TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.
- .4 THE DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE WORKS, INCLUDING ALL OF THOSE RELATED TO OTHER TRADES ARE TO BE EXAMINED BEFORE SUBMITTING TENDERS. ALL ELECTRICAL AND COMMUNICATIONS REQUIREMENTS INDICATED ARE TO BE INCLUDED IN THE SCOPE OF THE WORK.
- .5 CLEAN UP AND REMOVE ALL UNUSED WIRING AND CONDUITS.
- .6 REMOVE AND REINSTALL EXISTING DEVICES TO FACILITATE CONSTRUCTION AS REQUIRED.
- .7 CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHT WITH PROJECT COORDINATOR ON SITE PRIOR TO INSTALLATION.
- .8 FIRE PROOF ALL FIRE RATED PENETRATIONS AFTER INSTALLATION AS PER SECTION 39.
- .9 COORDINATE WITH AND GET APPROVAL FROM LANDLORD FOR ALL DRILLING, CORING AND CUTTING OF BUILDING STRUCTURE. COORDINATE LOCATIONS ON SITE PRIOR TO CARRYING OUT THE WORK. ALLOW FOR ALL COSTS FOR X-RAYING/SCANNING. CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM THE LANDLORD STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF THE
- .10 PROVIDE ALL NECESSARY TEMPORARY POWER AND LIGHTING.
- .11 WHERE TENANT SPACES ARE OCCUPIED BY THE CLIENT, ALL NOISY WORK SUCH AS (BUT NOT RESTRICTED TO) WIRING AND CABLING PULLING, INSTALLATION OF CONDUIT SHALL BE DONE AFTER HOURS. WIRING CONNECTIONS TO SYSTEMS FURNITURE TO BE DONE ON
- 2. DRAWINGS AND SPECIFICATIONS
- .1 DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER AND WHAT IS CALLED FOR BY ONE IS TO BE BINDING AS IF
- .2 SHOULD ANY DISCREPANCY APPEAR BETWEEN DRAWINGS AND SPECIFICATIONS THAT LEAVES THE ELECTRICAL TRADE IN DOUBT AS TO TRUE INTENT AND MEANING. OBTAIN RULING FROM THE ENGINEER BEFORE SUBMITTING TENDER, OR ALLOW FOR THE MOST EXPENSIVE ALTERNATIVE.
- EXAMINATION OF OTHER DRAWINGS
- .1 THE ELECTRICAL CONTRACTOR IS TO EXAMINE CAREFULLY STRUCTURAL, ARCHITECTURAL AND MECHANICAL DRAWINGS, AND THE WORK OF OTHER TRADES AND SATISFY HIMSELF THAT THE WORK UNDER THIS CONTRACT CAN BE SATISFACTORILY CARRIED OUT WITHOUT CHANGES TO THE BUILDING AS SHOWN ON THE PLANS. SHOULD ANY DIFFICULTY ARISE SHOWING CONFLICT WITH OR REQUIRING ADDITIONAL WORK BEYOND THE WORK OF THESE DRAWINGS, BRING THIS MATTER TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING TENDER.
- 4. UNIFORMITY OF EQUIPMENT
- .1 UNLESS OTHERWISE SPECIFIED, UNIFORMITY OF MANUFACTURE IS TO BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT.
- STANDARDS OF MATERIAL AND WORKMANSHIP .1 ALL MATERIALS ARE TO BE NEW AND OF THE QUALITY SPECIFIED, AND SHALL BE APPROVED BY CSA OR EQUIVALENT AGENCY
- RECOGNIZED IN BRITISH COLUMBIA. .2 ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER BY QUALIFIED TRADESMEN. THE ELECTRICAL CONTRACTOR
- SHALL KEEP A COMPETENT FOREMAN AND NECESSARY ASSISTANTS ON THE SITE DURING THE PROGRESS OF THE WORK.
- .3 ALL MATERIAL AND INSTALLATION SHALL MATCH BUILDING STANDARD UNLESS IT IS NOTED OTHERWISE ON THE DRAWINGS. RECORD PLANS & MAINTENANCE MANUALS
- .1 THE ENGINEER WILL FURNISH TO THE ELECTRICAL TRADE ONE SET OF DRAWINGS TO BE USED FOR RECORD PURPOSES. THE ELECTRICAL TRADE IS TO ACCURATELY RECORD ON THESE PRINTS ALL REVISIONS TO THE ORIGINAL PLANS THAT ARE MADE ON SITE
- .2 THE ELECTRICAL TRADE IS TO PRODUCE AT HIS OWN EXPENSE A SET OF RED LINE MARK-UP DRAWINGS. INCLUDING ALL CHANGES TO THE ORIGINAL TENDER DRAWINGS COVERED BY ADDENDA, CHANGE ORDERS, FIELD CHANGES, AND JOB CONDITIONS, AND TURN THESE OVER TO THE ENGINEER IN HARD COPY FORM. COMPLETED RECORD DRAWINGS ARE TO BE CLEARLY MARKED "RECORD DRAWINGS". REFER TO LINE ITEM 3.
- .3 THIS CONTRACTOR SHALL ALLOW FOR A COST OF \$350 PER DRAWING FOR TRANSFERRING RED LINE MARK-UPS TO ELECTRONIC AUTOCAD RECORD DRAWINGS AND THIS AMOUNT SHALL INCLUDED IN THE TENDER BID. CONTRACTOR MAY HIRE AES TO PRODUCE THE RECORD CAD DRAWINGS IF DESIRED.
- .4 THIS CONTRACTOR SHALL PROVIDE 3 THREE-RING BINDERS FOR MAINTENANCE MANUALS. MANUALS SHALL CONTAIN ALL WARRANTIES, SHOP DRAWINGS, INSPECTION LETTERS, PANEL SCHEDULES, ETC.

SHOP DRAWINGS

- .1 THE ELECTRICAL CONTRACTOR IS TO SUBMIT TO THE ENGINEER, FOR REVIEW, SHOP DRAWINGS OF MAJOR ELECTRICAL EQUIPMENT. SUCH EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO SWITCHGEAR, PANELBOARDS, SERIES-RATED BREAKER COMBINATIONS, FIXTURES AND FITTINGS NOT PROVIDED BY THE OWNER.
- .2 ALL DRAWINGS ARE TO BE SUBMITTED IN TRIPLICATE AND TWO COPIES WILL BE RETURNED TO THE ELECTRICAL TRADE. SUBMIT ADDITIONAL COPIES FOR APPROVAL AS MAY BE REQUIRED.
- .3 THE ENGINEER'S REVIEW OF SHOP DRAWINGS IS TO BE FOR GENERAL DESIGN ONLY AND WILL NOT RELIEVE THE ELECTRICAL TRADE OR SUPPLIERS FROM RESPONSIBILITY FOR ERRORS PROPER FITTING CONSTRUCTION OF WORK AND FURNISHING OF MATERIALS REVIEW WILL NOT BE CONSTRUED AS APPROVING DEPARTURES FROM CONTRACT DOCUMENT REQUIREMENTS IF SUCH DEPARTURES

ARE NOT SPECIFICALLY NOTED. THE ELECTRICAL TRADE IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS.

- .4 DEVIATIONS FROM THE SPECIFIED LUMINAIRE AND CONTROL PACKAGE WILL REQUIRE ASHRAE 90.1-2010 COMPLIANCE FORMS TO BE REVISED AND RESUBMITTED TO THE AUTHORITY HAVING JURISDICTION BY THE ELECTRICAL ENGINEER OF RECORD FOR THE PROJECT. THE COST OF REVISING AND RESUBMITTING THESE FORMS WILL BE AT THE EXPENSE OF THE CONTRACTOR. ALLOW FOR THE FOLLOWING TO BE PAYABLE TO THE ELECTRICAL CONSULTANT, FOR THE WORK TO BE COMPLETED: \$5,000 PER ALTERNATE PACKAGE SUBMISSION TO REVIEW AND ENSURE ENERGY AND CONTROL TARGETS ARE NOT DEVIATED FROM. . \$8,000 TO COMPLETE THE COMPLIANCE FORMS WITH THE ACCEPTED ALTERNATE LUMINAIRES/CONTROL PACKAGE.
- GUARANTEE WARRANTY
- .1 THE ELECTRICAL TRADE SHALL FURNISH A WRITTEN GUARANTEE WARRANTY, SIGNED BY AUTHORIZED PERSONNEL, STATING:
- .1 THAT ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF FINAL ACCEPTANCE
- .2 THE ABOVE PARTIES FURTHER AGREE TO, AT THEIR OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK, AND OTHER WORK DAMAGED THEREBY, WHICH FAILS OR BECOMES DEFECTIVE DURING THE TERM OF THE GUARANTEE WARRANTY
- PROVIDED THAT SUCH FAILURE IS NOT DUE TO IMPROPER USAGE. .3 THE PERIOD OF THE GUARANTEE SPECIFIED WILL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD BUT BE BINDING ON WORK NOT OTHERWISE COVERED

SETTING OUT OF THE WORK

- THE ELECTRICAL TRADE IS RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE INTENT OF DRAWINGS AND SPECIFICATIONS AND SHALL BEAR ALL COSTS INVOLVED IN MAKING THE CORRECTIONS. WHERE INTENT OF DRAWINGS AND SPECIFICATIONS IS NOT CLEAR. OBTAIN CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH WORK.
- .2 THE ELECTRICAL TRADE IS TO GIVE WORK HIS PERSONAL SUPERVISION, LAY OUT HIS OWN WORK, DO ALL NECESSARY LEVELING AND MEASURING OR EMPLOY A COMPETENT ENGINEER TO DO SO. FIGURES, FULL SIZE AND DETAIL DRAWINGS TO TAKE PRECEDENCE OVER SCALE MEASUREMENTS.
- .3 THE ELECTRICAL TRADE SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE OWNER OR ANY OTHER TRADE BY IMPROPER LOCATION OR CARRYING OUT OF HIS WORK.
- .4 THE ELECTRICAL TRADE, IN THE SETTING OUT OF HIS WORK, IS TO MAKE REFERENCE TO ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS. HE SHALL CONSULT WITH ALL RELEVANT TRADES IN SETTING OUT LOCATIONS FOR CONDUIT RUNS, LIGHTING FIXTURES, PANEL ASSEMBLIES, AND ALL OTHER ELECTRICAL EQUIPMENT, SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL SPACING IS MAINTAINED

- .5 THE ELECTRICAL TRADE SHALL CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHTS WITH THE PROJECT COORDINATOR ON SITE
- .6 WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, BENCHES, SPLASHBACKS, OR OTHER FIXTURES, THEIR LOCATIONS AND MOUNTING HEIGHTS ARE TO BE COORDINATED WITH THE BUILT-IN UNITS. REFER TO ARCHITECTURAL DETAILS. WHERE RECEPTACLES OCCUR IN OUTSIDE WALLS WHERE HEATING UNITS ALSO OCCUR, RECEPTACLE HEIGHT TO BE ADJUSTED TO COORDINATE WITH THE
- .7 SWITCH MOUNTING HEIGHTS ARE TO BE COORDINATED WITH ARCHITECTURAL DETAILS AND SHALL BE ADJUSTED, IF REQUIRED, TO COORDINATE WITH PANELING, DADOS, MASONRY COURSE LINES, OR OTHER RELEVANT BUILDING FEATURES. .8 WHERE OUTLET BOXES OCCUR IN EXTERIOR WALLS, THE ELECTRICAL TRADE IS TO ENSURE THAT THERE IS INSULATION BEHIND THE OUTLET BOXES TO PREVENT CONDENSATION THROUGH THE BOXES.
- .9 ALLOW FOR WORK AFTER HOURS AS REQUIRED AND COORDINATE WITH OWNER/TENANTS IF APPLICABLE.
- .10 CONTRACTOR TO COORDINATE ANY INTERRUPTIONS TO ADJOINING TENANTS IN ORDER TO AVOID ANY INCONVENIENCES TO SAID TENANT. IF NECESSARY CONTRACTOR TO DO ANY REQUIRED CONNECTIONS ON OFF HOURS

10. EXAMINATION OF THE SITE

PRIOR TO INSTALLATION.

- .1 PRIOR TO SUBMITTING TENDER, THE ELECTRICAL TRADE SHALL CAREFULLY EXAMINE THE SITE AND ASCERTAIN ALL CONDITIONS WHICH MAY AFFECT HIS TRADE. NO ADDITIONAL MONEY WILL BE ALLOWED FOR WORK RESULTING FROM CONDITIONS THAT SHOULD HAVE BEEN NOTICED AND ACCOUNTED FOR DURING A THOROUGH EXAMINATION OF THE SITE.CUTTING AND PATCHING
- .2 THE GENERAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL INSTALLATION. STRUCTURAL MEMBERS MUST NOT BE CUT WITHOUT CONSENT OF THE ENGINEER.
- .3 WHERE WORK DONE BY THE ELECTRICAL TRADE DAMAGES THE WORK OF OTHER TRADES, THE ELECTRICAL TRADE SHALL REPAIR AND MAKE GOOD SUCH DAMAGE TO THE SATISFACTION OF EACH TRADE CONCERNED AND THE ENGINEER.
- .4 ALL PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOP MATERIAL
- .1 THE ELECTRICAL TRADE AND HIS SUB-TRADES ARE TO KEEP THE SITE FREE DURING CONSTRUCTION OF DEBRIS, BOXES, PACKING, AND OTHER MATERIALS ASSOCIATED WITH THE WORK OF THIS TRADE. ALL WASTE MATERIAL IS TO BE DISPOSED OF IN A SAFE AND ENVIRONMENTALLY RESPONSIBLE MANNER.
- .2 UPON COMPLETION OF WORK, THE ELECTRICAL INSTALLATION SHALL BE LEFT IN A CLEAN AND FINISHED CONDITION TO THE SATISFACTION OF THE ENGINEER.

- THE ELECTRICAL TRADE IS TO SUPPLY AND INSTALL ACCESS DOORS AS REQUIRED FOR PROPER SERVICING OF ALL ELECTRICAL WORK. ACCESS DOORS SHALL BE COMPLETE WITH NECESSARY FRAMES AND HINGED DOORS HELD CLOSED WITH CAPTIVE STUDS. ACCESS PANEL TO BE OF NOT LESS THAN 14 GAUGE STEEL, PRIME COAT FINISHED AND PAINTED ON THE JOB TO MATCH THE WALL OR
- .2 THE NUMBER OF ACCESS DOORS SHALL BE KEPT TO A MINIMUM.
- .3 THE ELECTRICAL TRADE SHALL PROVIDE ACCESS PANELS IN THE DRYWALL CEILINGS FOR ALL ELECTRICAL JUNCTION BOXES AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODES.

13. CODES, PERMITS AND INSPECTION

- .1 THE ENTIRE INSTALLATION, INCLUSIVE OF MATERIAL AND LABOR, IS TO COMPLY WITH ALL THE REQUIREMENTS OF ALL BUILDING CODES AND AUTHORITIES HAVING JURISDICTION, THE CANADIAN ELECTRICAL CODE, AND REGULATIONS OF THE LOCAL INSPECTION
- .2 THE ELECTRICAL TRADE IS TO OBTAIN ALL PERMITS REQUIRED FOR EACH STAGE OF WORK, AND AFTER COMPLETION OF THE ENTIRE INSTALLATION FURNISH TO THE ENGINEER A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTION
- DEPARTMENT OF THE LOCAL AUTHORITY.

- .1 ALL PORTIONS OF ELECTRICAL WORK ARE TO BE TESTED FOR SATISFACTORY OPERATION.
- .2 BEFORE ENERGIZING ANY PORTION OF THE ELECTRICAL SYSTEM. THE ELECTRICAL TRADE SHALL PERFORM MEGGER TESTS ON ALL FEEDERS AND BRANCH CIRCUITS. ANY PROBLEMS DISCOVERED BY SUCH TESTING ARE TO BE CORRECTED BY THE ELECTRICAL TRADE AND THE CIRCUITS IN QUESTION RETESTED. THE RESULTS OF ALL FINAL TESTING SHALL BE PROVIDED TO THE ENGINEER IN REPORT
- UPON PROJECT COMPLETION, AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER, THE ELECTRICAL TRADE SHALL CHECK THE LOAD BALANCE ON ALL FEEDERS AND AT DISTRIBUTION CENTRES, LOAD CENTRES, AND PANELS. THESE CHECKS ARE TO BE CARRIED OUT BY TURNING ON ALL LOADS AND CHECKING LOAD CURRENT BALANCE. IF LOAD UNBALANCE EXCEEDS 15 %, THE CIRCUITS ARE TO BE RECONFIGURED AS NECESSARY TO BALANCE THE LOADS.

- .1 ALL ELECTRICAL FITTINGS, SUPPORTS, HANGER RODS, PULLBOXES, CHANNEL FRAMES, CONDUIT RACKS, OUTLET BOXES, BRACKETS, AND CLAMPS ARE TO HAVE A GALVANIZED FINISH OR A PAINT FINISH OVER CORROSION-RESISTANT PRIMER.
- .2 ALL PANELS ARE TO BE FACTORY-FINISHED WITH SPRAY-ON AIR DRY ENAMEL. ALL ENAMEL TO BE APPLIED OVER CORROSION-RESISTANT PRIMER. MATTE OR FLAT TYPE FINISH PAINT WILL NOT BE ACCEPTED. ALL PANELS OR SIMILAR FACTORY-FINISHED UNITS THAT ARE SCRATCHED OR MARKED DURING INSTALLATION ARE TO BE TOUCHED UP WITH MATCHING
- SPRAY-ON AIR DRY LACQUER AND, IF REQUIRED TO PROVIDE A SATISFACTORY JOB, TO BE COMPLETELY REFINISHED. .3 ALL 120/208 V PANELBOARDS, PULLBOXES, AND OTHER ELECTRICAL CABINETS AND BOXES ARE TO BE FINISHED IN GRAY ENAMEL.

- .1 WHERE REQUIRED BY THE CANADIAN ELECTRICAL CODE, ALL WIRE AND CABLE IS TO BE INSTALLED IN EMT CONDUIT. .2 UNLESS OTHERWISE NOTED, EMT CONDUIT ARE TO BE CONCEALED IN ALL FINISHED AREAS. IN SERVICE AREAS, CONDUIT AND EMT
- SHALL BE RUN ON SURFACE UNLESS INDICATED OTHERWISE. .3 SURFACE MOUNTED EMT CONDUIT ARE TO BE INSTALLED PARALLEL TO STRUCTURAL LINES, AND, WHERE BENDS OCCUR IN PARALLEL
- RUNS, THEY SHALL BE CONCENTRIC .4 RACEWAYS ARE TO BE INSTALLED FREE FROM DENTS AND BRUISES AND SHALL HAVE THEIR ENDS CAPPED, PLUGGED, OR SEALED AS
- NECESSARY TO PREVENT ENTRANCE OF DIRT OR MOISTURE. .5 IN ALL AREAS SUBJECT TO MOISTURE, WATERTIGHT FITTINGS MUST BE USED.
- .6 ALL RACEWAY, EXCEPT WHERE OTHERWISE INDICATED, SHALL BE SIZED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.
- .7 TECK90 OR SEAL TIGHT FLEXIBLE CONDUIT IS BE UTILIZED FOR CONNECTIONS TO MOTORS AND MOTOR CONTROLLERS. .8 ALL UNDERGROUND CONDUIT SYSTEMS ARE TO BE OF APPROVED RPVC SCHEDULE 40 CONDUIT, COMPLETE WITH INSTALLED BONDING CONDUCTOR, AND INSTALLED AT OR BELOW THE DEPTH REQUIRED BY CODE. PROVIDE 150mm CLEAN SAND BEDDING ABOVE

AND 75mm BELOW CONDUITS AND CONTINUOUS MARKING TAPE 300mm BELOW GRADE. PROVIDE SUITABLE BACKFILL AND

17. EXPANSION JOINTS

- WHERE CONDUITS ARE INSTALLED IN CONCRETE SLABS OR CROSS STRUCTURAL EXPANSION JOINTS, AN APPROVED EXPANSION FITTING SHALL BE INSTALLED.
- .1 ALL BUILDING WIRING IS TO BE RW90, 1000V, COPPER, EXCEPT WHERE NOTED OTHERWISE.
- .2 A MINIMUM CONDUCTOR SIZE OF #12 AWG COPPER IS TO BE USED, EXCEPT WHERE NOTED OTHERWISE. .3 ALL CONDUCTORS ARE TO BE COLOR CODED THROUGHOUT THE INSTALLATION AS FOLLOWS:

.4 ALL WIRING AND CABLING IN EXPOSED OR OPEN CEILING AREAS IS TO BE INSTALLED IN EMT CONDUIT.

- EQUIPMENT GROUNDING CONDUCTOR GREEN NEUTRAL CONDUCTOR - WHITE
- 120/208V PHASE WIRES RED, BLACK, AND BLUE 347/600V PHASE WIRES - RED, BLACK, AND BLUE
- .5 ALL WIRING SHALL BE COPPER. NO ALUMINUM ALLOWED WITHOUT WRITTEN APPROVAL FROM UBC PLANT OPERATIONS.

21. WIRING DEVICES & BOXES

- .1 ALIGN ALL DEVICES AND PLATES PLUMB AND LEVEL WITH BUILDING STRUCTURAL LINES.
- .2 ALL OUTLET BOXES ARE TO BE FLUSH MOUNTED EXCEPT WHERE SPECIFIED OTHERWISE

- .3 ALL JUNCTION BOXES ARE TO HAVE VISIBLE P-TOUCH LABELS INDICATING THE CIRCUIT NUMBERS UTILIZED; PEN OR FELT IS NOT
- .4 SUPPLY AND INSTALL BLANK COVER PLATES FOR ALL UNUSED JUNCTION BOXES, INCLUDING EXISTING.

PULL BOXES

.1 THE ELECTRICAL TRADE SHALL SUPPLY AND INSTALL PULLBOXES AS REQUIRED TO SUIT JOB CONDITIONS. PULLBOXES SHALL CONFORM TO CANADIAN ELECTRICAL CODE REQUIREMENTS. PULLBOXES TO BE BE FINISHED IN ENAMEL OVER CORROSION-RESISTANT PRIMER WITH SCREW-ON OR HINGED COVER. IN REMOVABLE CEILING AREAS, PULLBOXES ARE TO BE INSTALLED ABOVE THE CELLING

- .1 ALL CONDUIT, RACEWAYS, AND OTHER ELECTRICAL EQUIPMENT SHALL BE SECURELY AND ADEQUATELY SUPPORTED, IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.
- .2 WHERE INSERTS ARE REQUIRED IN CONCRETE, EXPANSION INSERTS, LEAD INSERTS OR PLASTIC INSERTS ARE TO BE USED IN DRILLED HOLES. SHOT DRIVEN PINS MAY BE USED IN STRUCTURAL CONCRETE ONLY WITH THE PERMISSION OF THE ENGINEER.

- .1 A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE AND THE ELECTRICAL INSPECTION DEPARTMENT.
- 2 ALL METAL PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUITS, EQUIPMENT AND PANELBOARD ENCLOSURES, METAL RACEWAYS, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METAL RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS WHERE NECESSARY TO PROVIDE GROUND CONTINUITY.
- .3 A SEPARATE GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAY FEEDER RUNS, FLEXIBLE CONDUIT, AND IN CONDUIT INSTALLED IN SLAB OR UNDERGROUND.
- .4 THIS CONTRACTOR IS RESPONSIBLE FOR THE GROUNDING OF ALL THE EQUIPMENT RACKS IN THE SERVER ROOM. THE CABLE TRAY. ELECTRICAL EQUIPMENT AND ANY CONDUIT. ALL GROUNDING OF SERVER RACKS MUST BE IN ACCORDANCE TO MANUFACTURERS GUIDELINES AND RECOMMENDATIONS.

- 1 PROVIDE COMPLETE PANELBOARDS, UNLESS OTHERWISE INDICATED PANELBOARDS ARE TO BE 120/208V, 3PH, 4W OR 347/600V, 3Ø, 4W SOLID NEUTRAL DESIGN WITH SEQUENCE STYLE BUSSING AND FULL CAPACITY NEUTRAL WITH BOLT-ON CIRCUIT BREAKERS. WHERE
- DOUBLE NEUTRALS ARE INDICATED ON THE SINGLE LINE DIAGRAM, PROVIDE 200% RATED NEUTRAL PANELBOARDS. .2 PROVIDE ALL CIRCUIT BREAKERS INDICATED PLUS A MINIMUM OF 2x15A 1P SPARES IN EACH PANEL. CIRCUIT BREAKERS TO BE RATED
- .3 PANELS ARE TO BE FLUSH MOUNTED IN PUBLIC AREAS AND SURFACE MOUNTED IN SERVICE ROOMS, ALL COMPLETE WITH ALL TRIM, LOCKABLE DOORS AND INSTALLATION HARDWARE. PROVIDE DRIP SHIELDS IN AREAS WITH SPRINKLERS. .4 UPDATED TYPEWRITTEN PANEL DIRECTORIES SHALL BE PROVIDED FOR ALL PANELS.

MINIMUM 25kA I.C. UNLESS OTHERWISE INDICATED AND BE SERIES RATED.

- .5 UTILIZE EXISTING PANELBOARDS AS INDICATED ON THE DRAWING. REUSE EXISTING BREAKERS WHERE POSSIBLE. PROVIDE NEW
- .6 BALANCE PANEL LOAD FOR EACH PHASE A, B, & C. ALLOW FOR RELOCATING CIRCUITS WITHIN PANEL BOARD TO BALANCE THE LOAD. 26. LIGHTING LUMINAIRES AND LIGHTING CONTROLS
- PROVIDE A NEW LIGHTING SYSTEM, COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND ULC LISTING REQUIREMENTS. UNLESS NOTED OTHERWISE, ALL FIXTURES AND LAMPS ARE TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR
- .2 ELECTRICAL TRADE TO INSTALL ALL LIGHTING LUMINAIRES COMPLETE WITH LAMPS, MOUNTING BRACKETS, BALLASTS AND ALL

NECESSARY ACCESSORIES IN ACCORDANCE WITH THE LUMINAIRE TYPES SHOWN ON THE DRAWINGS, OR OTHERWISE SPECIFIED.

- .3 ALL LUMINAIRES SHALL BE ALIGNED, AS APPROPRIATE, WITH ONE ANOTHER AND WITH STRUCTURAL LINES.
- .4 ALL LUMINAIRES SHALL BE CLEANED AND LAMPED UPON COMPLETION OF WORK AND PRIOR TO FINAL ACCEPTANCE. UTILIZE MANUFACTURER'S APPROVED OR RECOMMENDED CLEANING SOLUTIONS.
- .5 WHERE NO SWITCH IS INDICATED ON THE DRAWINGS FOR LIGHTING IN PUBLIC AREAS OF THE BUILDING, THE LUMINAIRES SHALL BE SWITCHED FROM THE PANEL. BREAKERS USED FOR SUCH SWITCHING SHALL BE SWITCH RATED.
- .6 SWITCHES SHALL HAVE A CURRENT RATING NOT LESS THAN THAT OF THE CIRCUIT TO WHICH THEY ARE CONNECTED.
- 7 ELECTRICAL TRADE TO SUPPLY AND INSTALL ALL LIGHTING CONTROLS WITH LINE VOLTAGE SWITCHES. DIMMER SWITCHES (RATED 1500W), LOW VOLTAGE SWITCHES, LIGHTING RELAYS, BARRIER AND ALL CONTROL WIRING AND COMPONENTS TO SUIT THE LAYOUT. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER AND COMPLY
- .8 LOW VOLTAGE MASTER SWITCHES AND BUILDING LIGHTING CONTROL SHALL HAVE THE CAPABILITY TO TURN ON AND OFF ALL LIGHTING (120 AND 347 VOLT) WITH THE EXCEPTION OF LUMINAIRES ON EMERGENCY LIGHTING CIRCUITS OR UNSWITCHED NIGHT
- .9 COORDINATE LIGHTING CONTROL PROGRAMMING WITH THE BUILDING SUPERVISOR.
- .10 ALL NEW AND RELOCATED FLUORESCENT LUMINAIRES SHALL BE COMPLETE WITH A FLUORESCENT DISCONNECT SWITCH AS PER CEC RULE 30-308(4). FLUORESCENT DISCONNECT SWITCH SHALL BE THOMAS AND BETTS MARRETTE FLUORESCENT LUMINARE DISCONNECT LD2C AND LD3C OR APPROVED EQUAL. FLUORESCENT DISCONNECT SWITCH SHALL BE FACTORY INSTALLED AND CSA

27. SEISMIC PROTECTION

- .1 THE ELECTRICAL TRADE SHALL PROVIDE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL EQUIPMENT AND SERVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE B.C. BUILDING CODE, AND ALL APPLICABLE BUILDING BYLAWS.
- .2 IF REQUESTED PROVIDE CERTIFIED PROFESSIONALLY SEALED SHOP AND PLACEMENT DRAWINGS WHERE APPLICABLE FOR ALL ELECTRICAL EQUIPMENT AND EQUIPMENT ASSEMBLIES SHOWING THE METHODS OF ATTACHMENT TO THE PARTICULAR STRUCTURE FOR EACH PIECE OF EQUIPMENT AND ASSEMBLY AND PROVIDE ANCHORAGE/ATTACHMENT DETAILS APPROVED AND SEALED BY A B.C. REGISTERED PROFESSIONAL ENGINEER.
- .3 INCLUDE IN THE TENDERED PRICE ALL SERVICES OF A PROFESSIONAL ENGINEER INCLUDING BUT NOT LIMITED TO PROVIDING LETTERS OF ASSURANCE FOR THE PROJECT IN RESPECT OF THE SEISMIC RESTRAINT OF ALL ELECTRICAL MATERIALS AND FOLIPMENT, CONDUCTING THE NECESSARY SITE REVIEWS AND PROVIDING A LETTER AT THE CONCLUSION OF THE PROJECT CONFIRMING THAT ALL SEISMIC RESTRAINTS FOR THE ELECTRICAL WORKS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE ENGINEER'S INSTRUCTIONS. PAY ALL ASSOCIATED FEES AS REQUIRED. APPROVED SEISMIC ENGINEERS ARE LEON BELL OF BELL ENGINEERING, CLINT LOW OF BBP, AND AMIR MOHSENI OF PARADIGM ENGINEERING INC. SEISMIC ENGINEER SHALL PROVIDE PROOF OF INSURANCE AND CREDENTIALS IF REQUESTED.

28. COMMUNICATIONS (VOICE, DATA & TV) & SECURITY ROUGH-IN

- .1 NO CONDUIT RUN SHALL EXCEED TWO 90 DEGREE BENDS AND ONE 45 DEGREE SWEEPING BEND.
- .2 THE INSTALLATION OF COMMUNICATIONS EQUIPMENT, AND CONDUIT TO BE USED FOR COMMUNICATION WIRES, SHALL COMPLY IN ALL

RESPECTS WITH THE REQUIREMENTS OF TELUS AND SHAW AND TO EIA/TIA TELECOMMUNICATION STANDARDS.

.3 INSTALL 3/4" EMT CONDUITS FROM EACH WALL OR FLOOR MOUNTED COMMUNICATION OUTLET (UNLESS NOTED OTHERWISE) TO THE ACCESSIBLE CEILING SPACE ABOVE C/W BUSHING AT BOTH ENDS.

29. IDENTIFICATION

- .1 IDENTIFY ALL MAJOR PIECES OF EQUIPMENT. INCLUDING BUT NOT LIMITED TO PANELBOARDS, ELECTRICAL CABINETS, AND BREAKERS
- IN PANELBOARDS WITH ENGRAVED LAMACOID LABELS, BLACK LETTERING ON WHITE BACKGROUND. .2 PROVIDE TYPEWRITTEN DIRECTORIES IN ALL PANELS.

.4 IDENTIFY BRANCH CIRCUIT WIRES TO MEET CODE REQUIREMENTS.

.3 PROVIDE LAMACOID NAMEPLATE ON EACH PANEL COVER TO IDENTIFY PANEL NAME, NUMBER OF PHASES, VOLTAGE, CURRENT RATING AND SOURCE OF FEEDER.

.5 FIRE ALARM BREAKER TO BE PAINTED RED AND CLEARLY IDENTIFIED.

- 30. ALTERNATES .1 ALL REQUESTS FOR ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER NOT LESS THEN 5 DAYS PRIOR TO THE CLOSE OF TENDER.
- .2 THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ENSURING THAT ALTERNATE PRODUCTS MEET ALL SPACE, WEIGHT CONNECTION, POWER, WIRING, AND PERFORMANCE REQUIREMENTS.

POWER DISTRIBUTION

.1 INSTALL A COMPLETE POWER DISTRIBUTION SYSTEM INCLUDING UNDERSLAB CONDUIT, SERVICE CONNECTIONS, GROUNDING, DISTRIBUTION EQUIPMENT, AND PANELBOARDS.

FIRE STOP

1 AFTER INSTALLATION OF THE ELECTRICAL, ALL PENETRATIONS OF FIRE ZONES FOR CONDUITS, SLEEVES, CABLE TRAYS, POKETHRU'S ETC. SHALL BE SEALED USING MATERIAL AND METHODS THAT MEET THE REQUIREMENTS OF ULC STANDARDS CAN/ULC-S115 AND INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. THE FIRE STOP MATERIAL SHALL ALLOW FOR RE-ENTERABLE ACCESS, CSA T530 APPENDIX B SHALL BE USED AS A GUIDE, BEFORE INSTALLATION, CONTRACTOR SHALL IDENTIFY A FIRE STOPPING SYSTEM SUITABLE FOR THE INSTALLATION. CONTRACTOR SHALL OBTAIN SHOP DRAWINGS OF THE FIRE STOP SYSTEM FROM MANUFACTURER AND SHOULD ON SITE, UPON REQUEST, BE ABLE TO PRODUCE FIRE STOP SHOP DRAWINGS FOR CONSULTANT. ALLOW FOR 2% DESTRUCTIVE TESTING OF THE FIRE STOPPING INSTALLATION.

.2 LABEL FIRE STOP PENETRATIONS WITH PRODUCT USED AND CUL SYSTEM NUMBER WITH STICKER

33. UNDERGROUND SERVICES

- .1 A POLEMOUNTED TRANSFORMER & POLE FOR THE SERVICE TO THE BUILDING WILL BE PROVIDED BY BC HYDRO.
- .2 ELECTRICAL TRADE TO PROVIDE SECONDARY DUCT AND CONDUCTORS IN ACCORDANCE WITH BC HYDRO REGULATIONS.

.3 THREE 103mm SERVICE CONDUITS FROM TELEPHONE AND CABLE BACKBOARDS TO PROPERTY LINE FOR TELEPHONE AND CABLE TV

.4 INCLUDE ALL COSTS FOR UTILITY CONNECTIONS CHARGES IN THIS CONTRACT.

ISSUED FOR

1. 2016-02-05 ISSUE FOR BID - INTERIM

2. 2016-03-09 ELECTRICAL ADDENDUM EAD01

3. 2016-04-22 ISSUED FOR PTA-1 4. 2016-04-22 IFC

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TRANSLINK BUS EXCHANGE

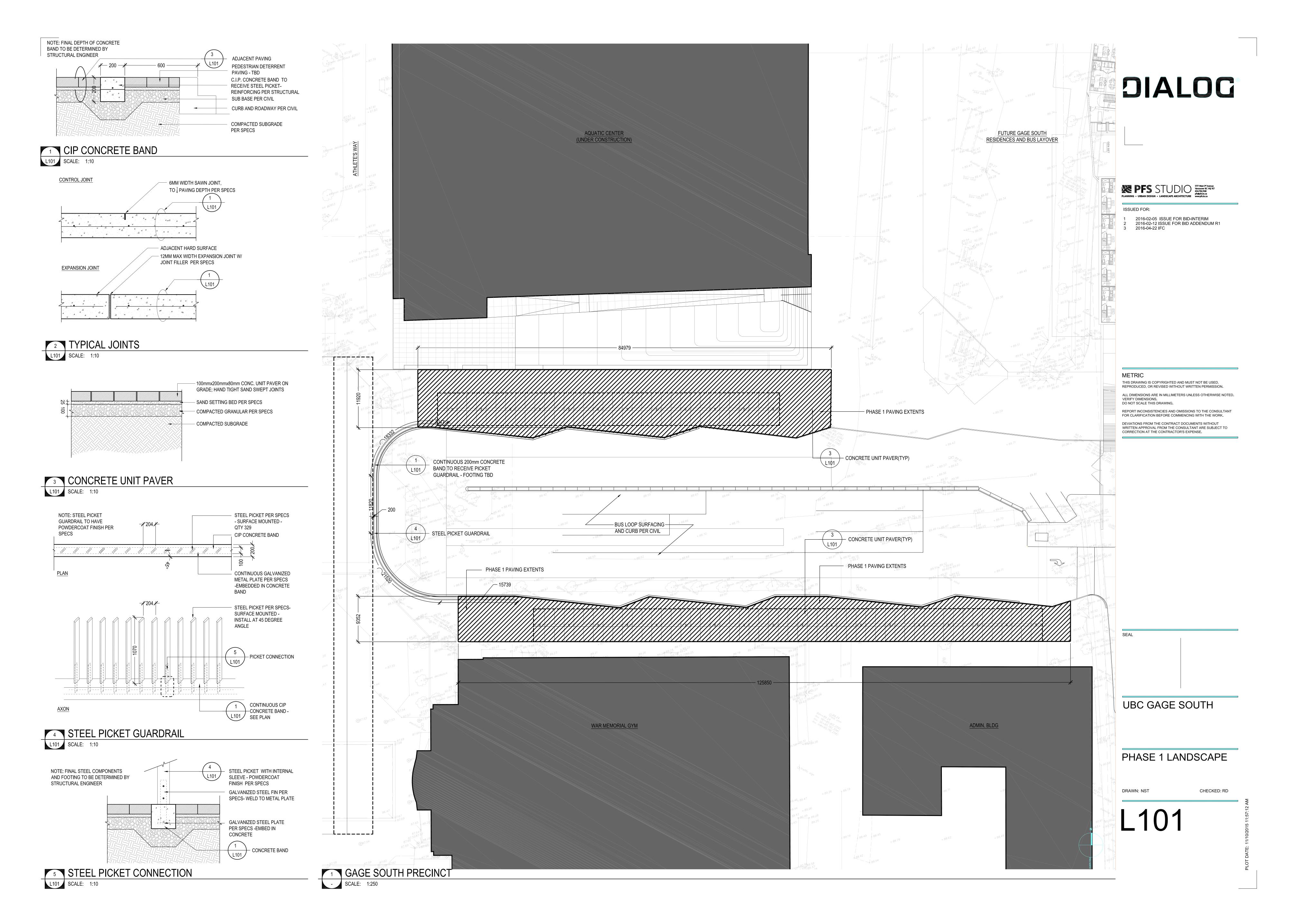
ELECTRICAL **SPECIFICATIONS**

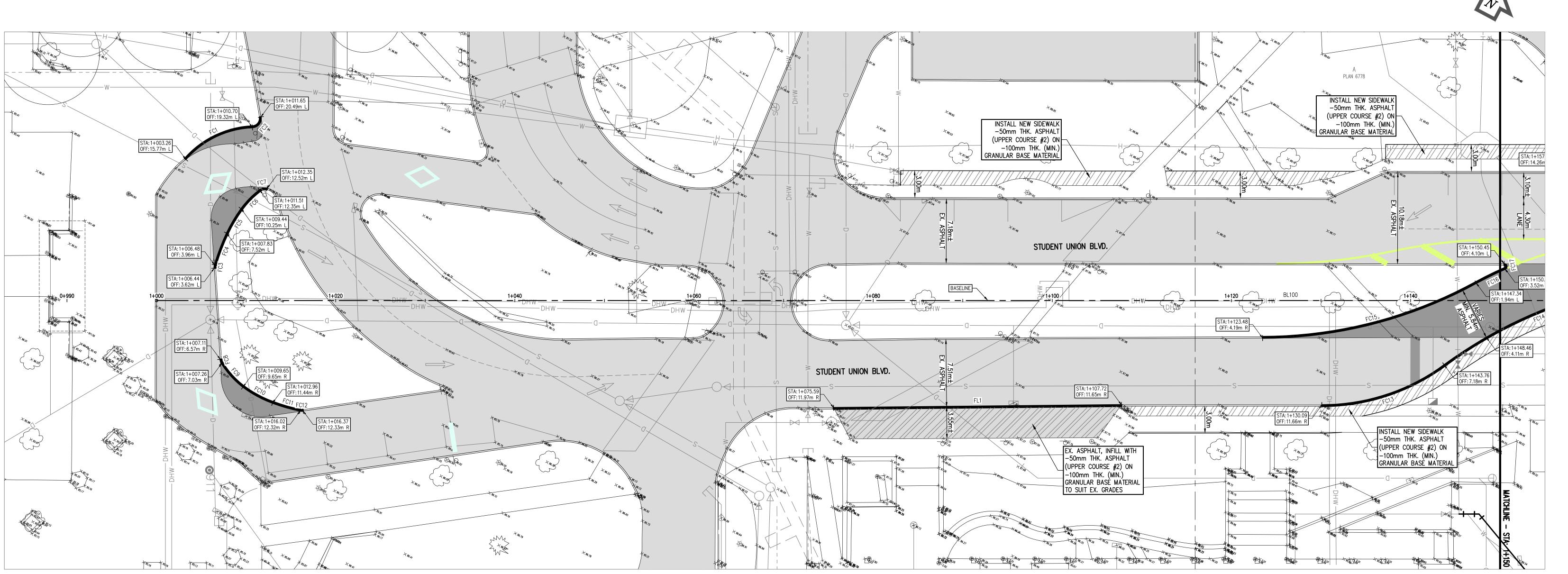
UBC GAGE SOUTH

PROJECT NUMBER: 2-15-161

E500

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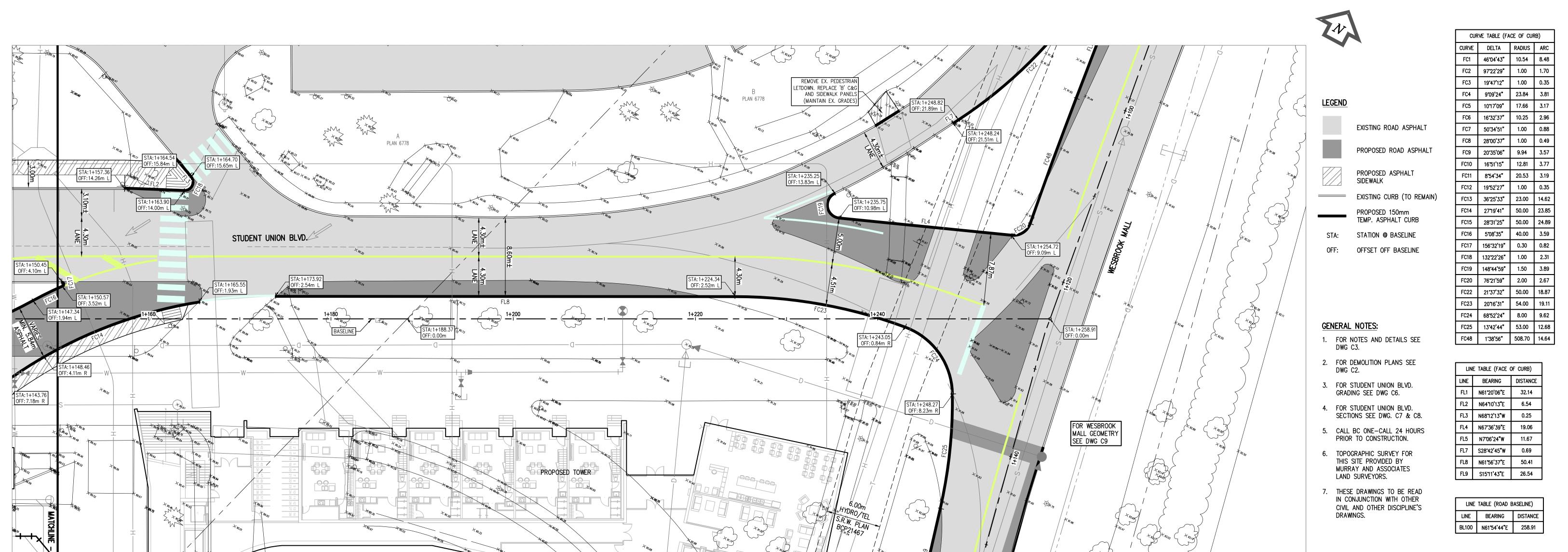
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UBC Gage South

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STUDENT UNION BLVD.

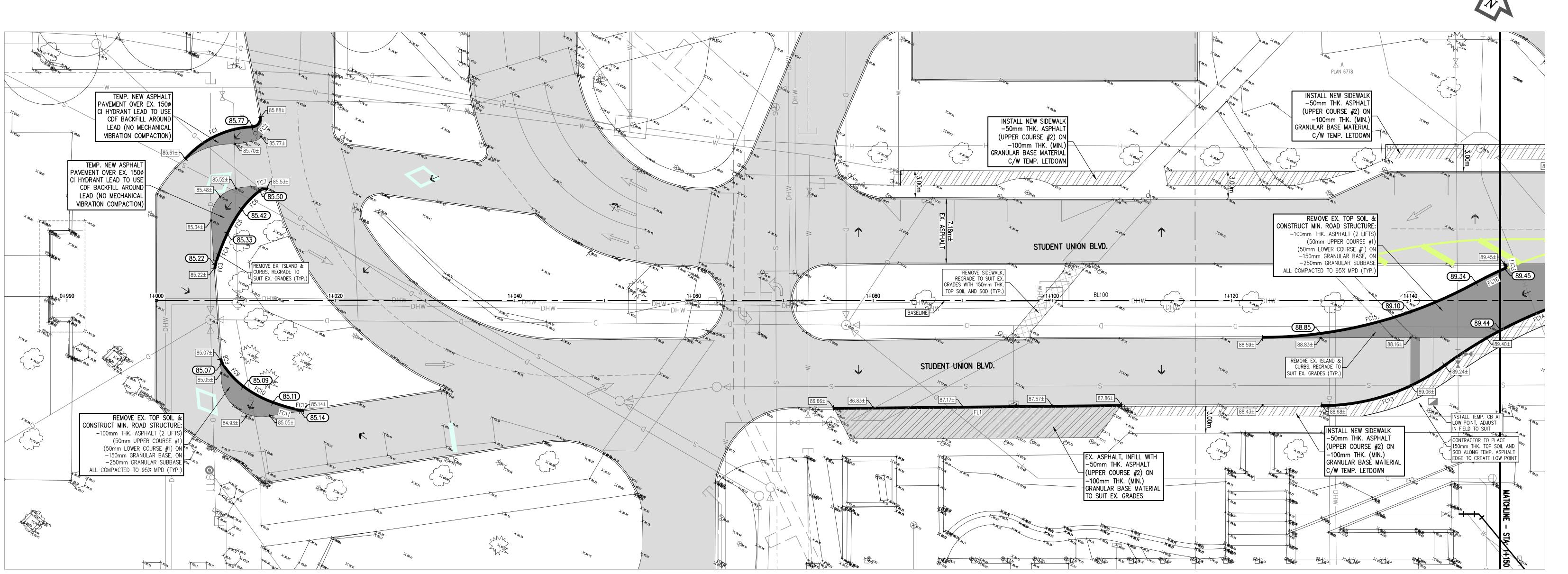
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REMOVE EX. PEDESTRIAN LETDOWN. REPLACE 'B' C&G AND SIDEWALK PANELS (MAINTAIN EX. GRADES) REMOVE EX. ROAD, CURBS, & SIDEWALK. REGRADE TO SUIT EX. GRADES WITH 150mm THK. TOP SOIL AND SOD (TYP.) + so.s. PLAN 6778 STUDENT UNION BLVD. 91.14 INSTALL TEMP. SIDEWALK LETDOWN REMOVE EX. ISLAND & CURBS, REGRADE TO REMOVE EX. TOP SOIL & CONSTRUCT MIN. ROAD STRUCTURE: 89.44 SUIT EX. GRADES (TYP.) -100mm THK. ASPHALT (2 LIFTS) (50mm UPPER COURSE #1) (50mm LOWER COURSE #1) ON –150mm GRANULAR BASE, ON CONTRACTOR TO PLACE MIN. / 1.0m OF 150mm THK. TOP SOIL INSTALL NEW 1.5m SIDEWALK -50mm THK. ASPHALT AND SOD ALONG TEMP. ASPHALT EDGE ADJACENT TO SITE (UPPER COURSE #2) ON -100mm THK. (MIN.) -250mm GRANULAR SUBBASE ALL COMPACTED TO 95% MPD (TYP.) GRANULAR BASÈ MATERIAL FOR WESBROOK MALL GEOMETRY SEE DWG C9 ISTALL TEMP. CB AT OW POINT, ADJUST I FIELD TO SUIT ONTRACTOR TO PLACE 50mm THK. TOP SOIL AND PROPOSED TOWER OD ALONG TEMP. ASPHALT DGE TO CREATE LOW POINT S.R.W. PLAN PROP. UTILITY TRENCH,
MAINTAIN EX. GRADES

LEGEND

EXISTING ROAD ASPHALT

PROPOSED ROAD ASPHALT

EXISTING STRUCTURE TO BE REMOVED AND REPLACED W/ **TOPSOIL**

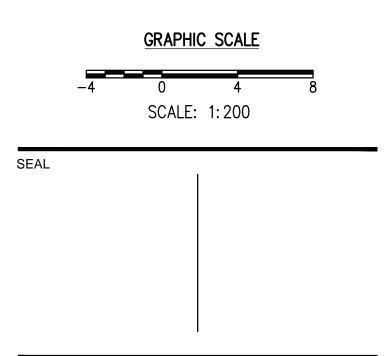
PROPOSED ASPHALT SIDEWALK EXISTING CURB (TO REMAIN)

PROPOSED 150mm TEMP. ASPHALT CURB 91.16± EXISTING ELEVATION

91.46 PROPOSED ELEVATION

- **GENERAL NOTES:** 1. FOR NOTES AND DETAILS SEE DWG C3.
- 2. FOR DEMOLITION PLANS SEE DWG C2.
- 3. FOR STUDENT UNION BLVD. GEOMETRY SEE DWG C5.
- 4. FOR STUDENT UNION BLVD. SECTIONS SEE DWG. C7 & C8.
- CALL BC ONE—CALL 24 HOURS PRIOR TO CONSTRUCTION.
- 6. TOPOGRAPHIC SURVEY FOR THIS SITE PROVIDED BY MURRAY AND ASSOCIATES LAND SURVEYORS.
- 7. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH OTHER CIVIL AND OTHER DISCIPLINE'S

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UBC Gage South

Civil Design PAVING - GRADING STUDENT UNION BLVD. DRAWN: BC CHECKED: CN

1+000 _ EXISTING GROUND PROP. TEMP. — ASPHALT & EXISTING _ GROUND EXISTING _ GROUND 1+080 PROP. TEMP. ASPHALT S/W — & CURB EXISTING GROUND EXISTING _ GROUND -PROP. TEMP. ASPHALT S/W — & CURB _ EXISTIN¢ PROP. TEMP. ASPHALT S/W — & CURB GROUND _ EXISTING GROUND EXISTING GROUND _ EXISTING GROUND



ISSUED FOR

1 / 2016-04-22 / ISSUED FOR CONSTRUCTION

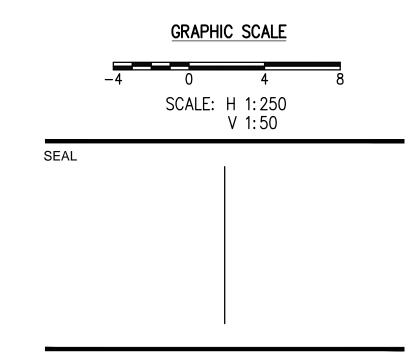
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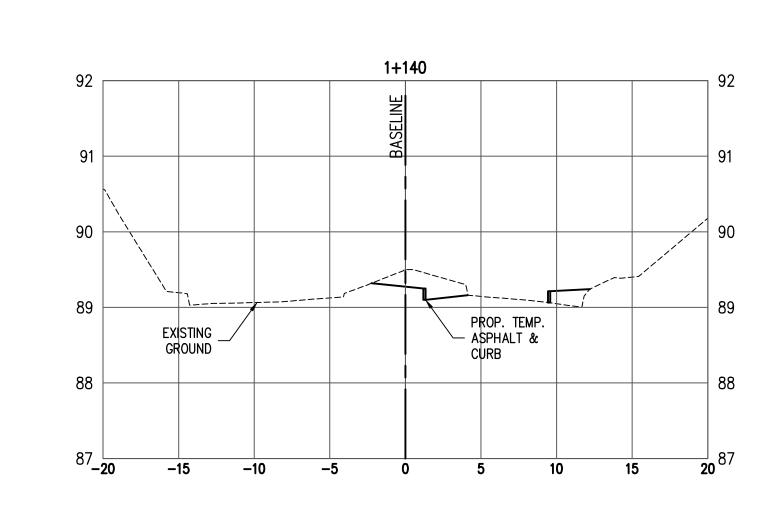


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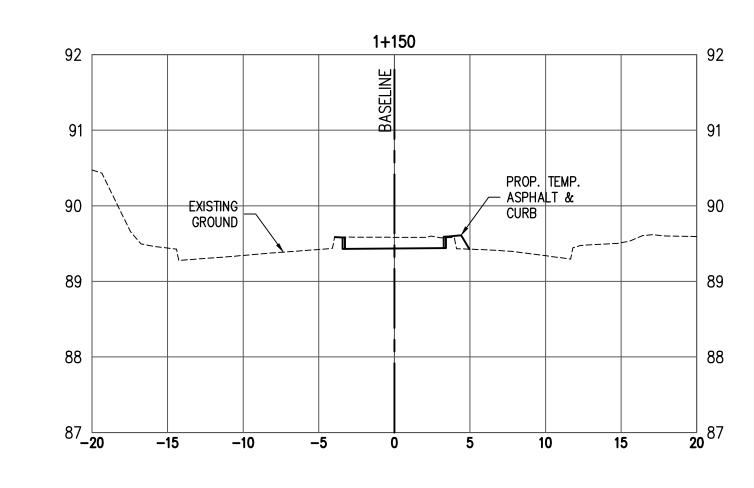
Civil Design
CROSS SECTIONS
STUDENT UNION BLVD.
DRAWN: BC CHECKED: CN

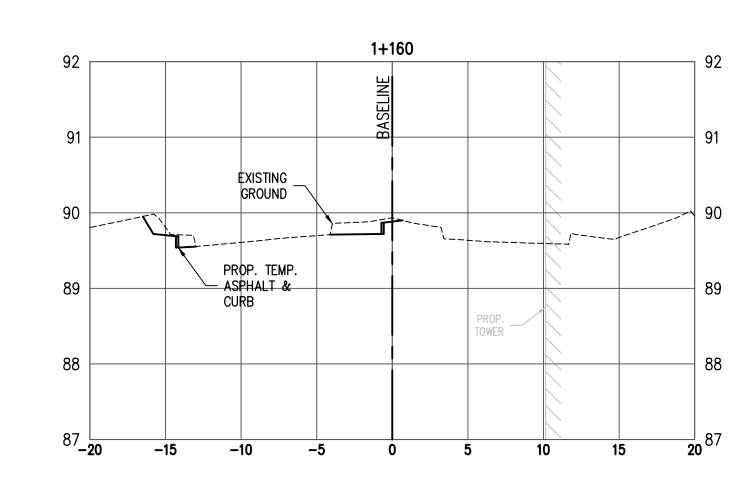
C 7

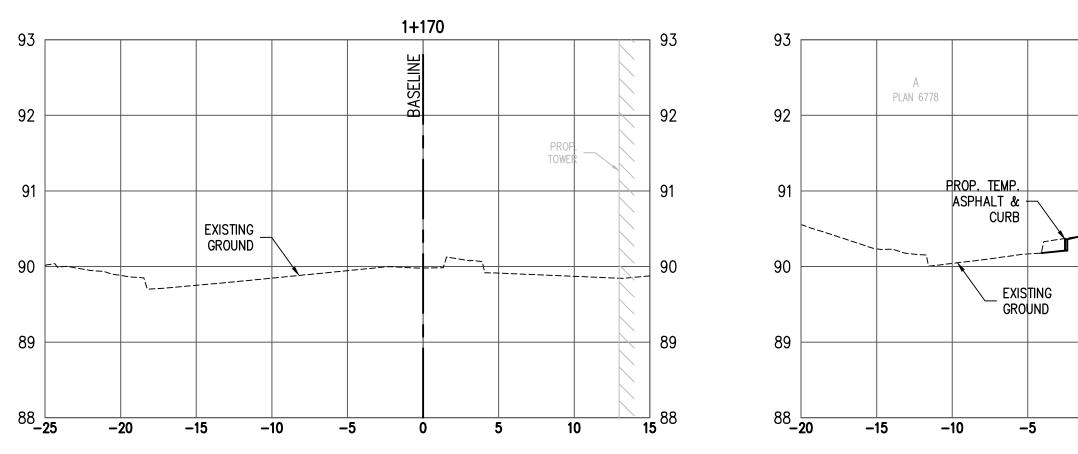
1+130 PROP. TEMP. ASPHALT & CURB EXISTING GROUND GROUND 1+210 PROP. _ TOWER EXISTING GROUND

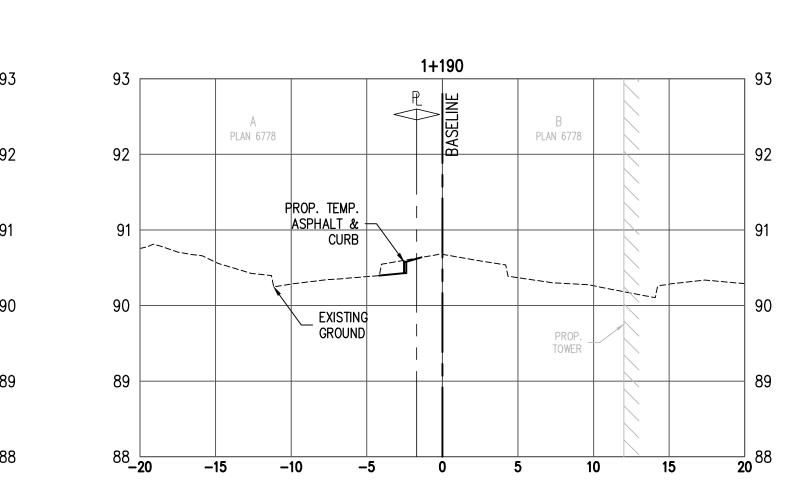


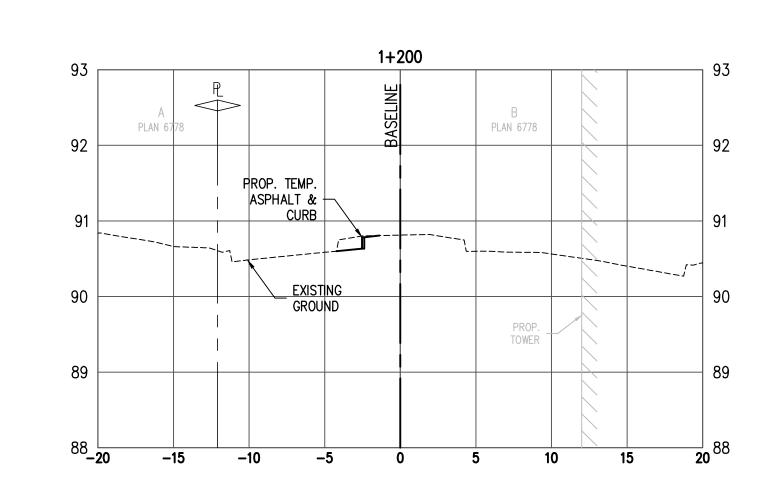
PLAN 6778

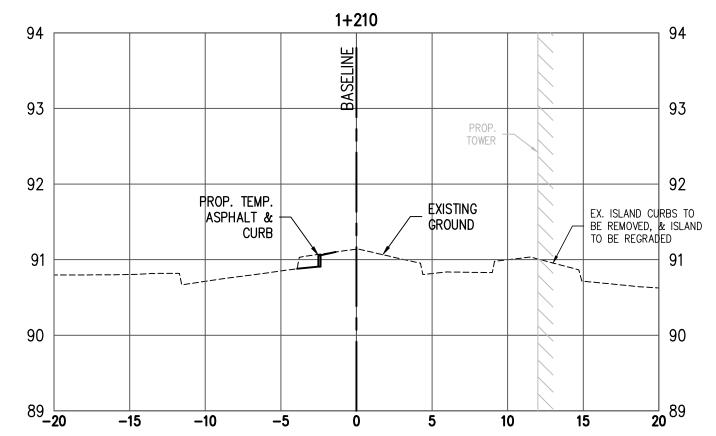


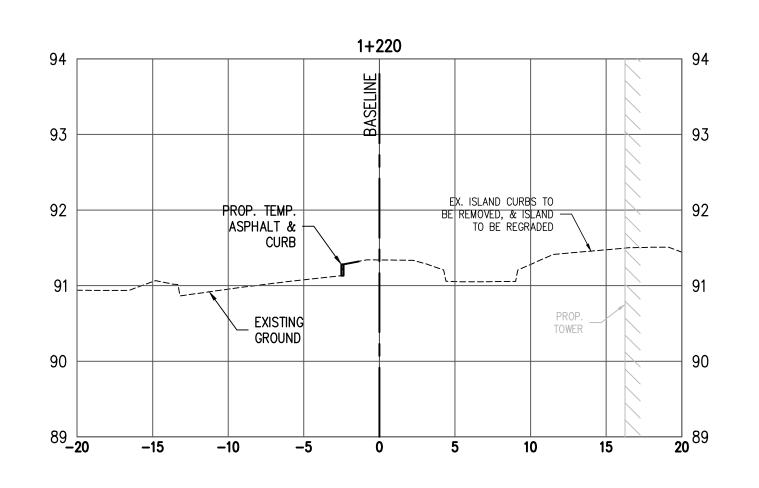


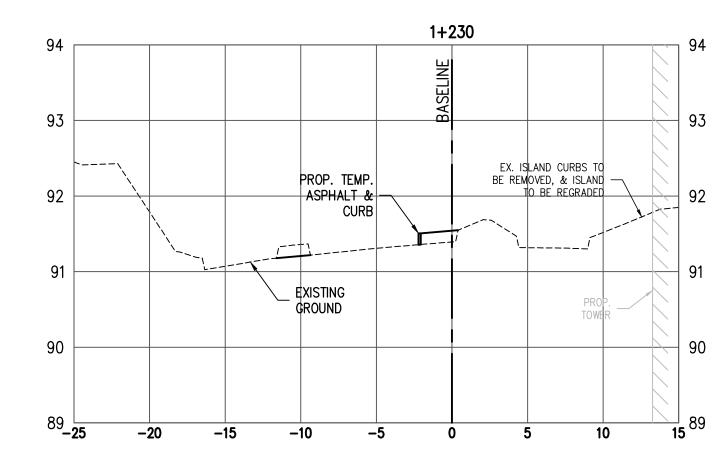


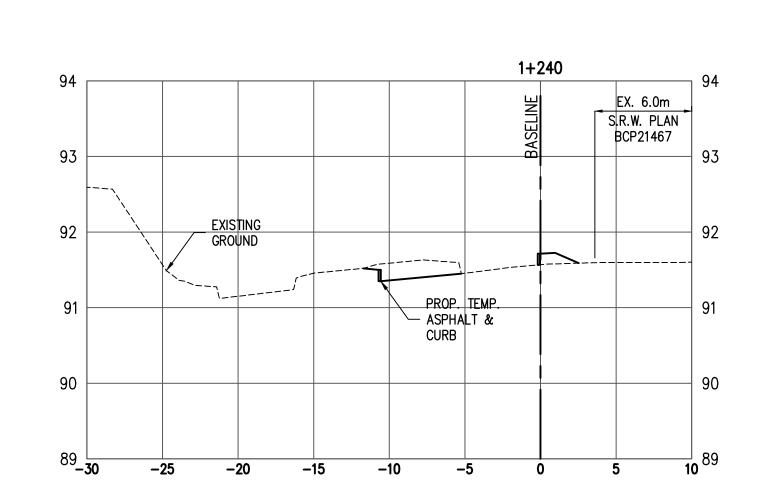


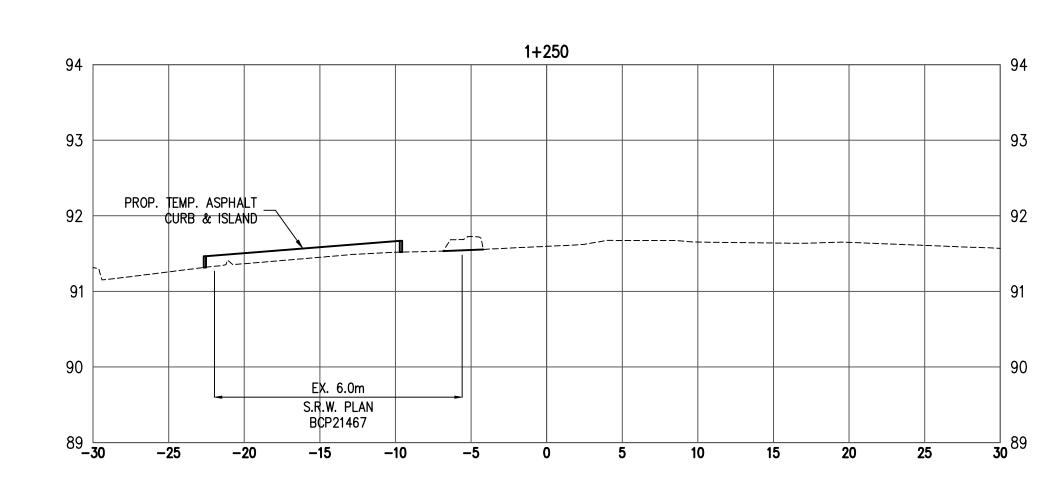








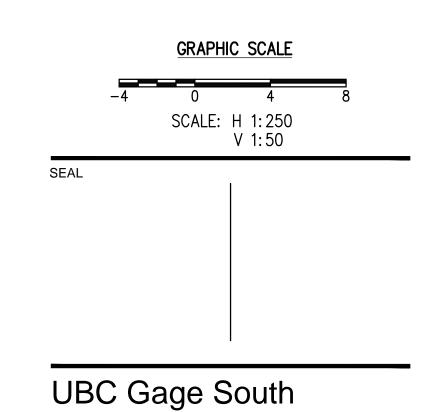




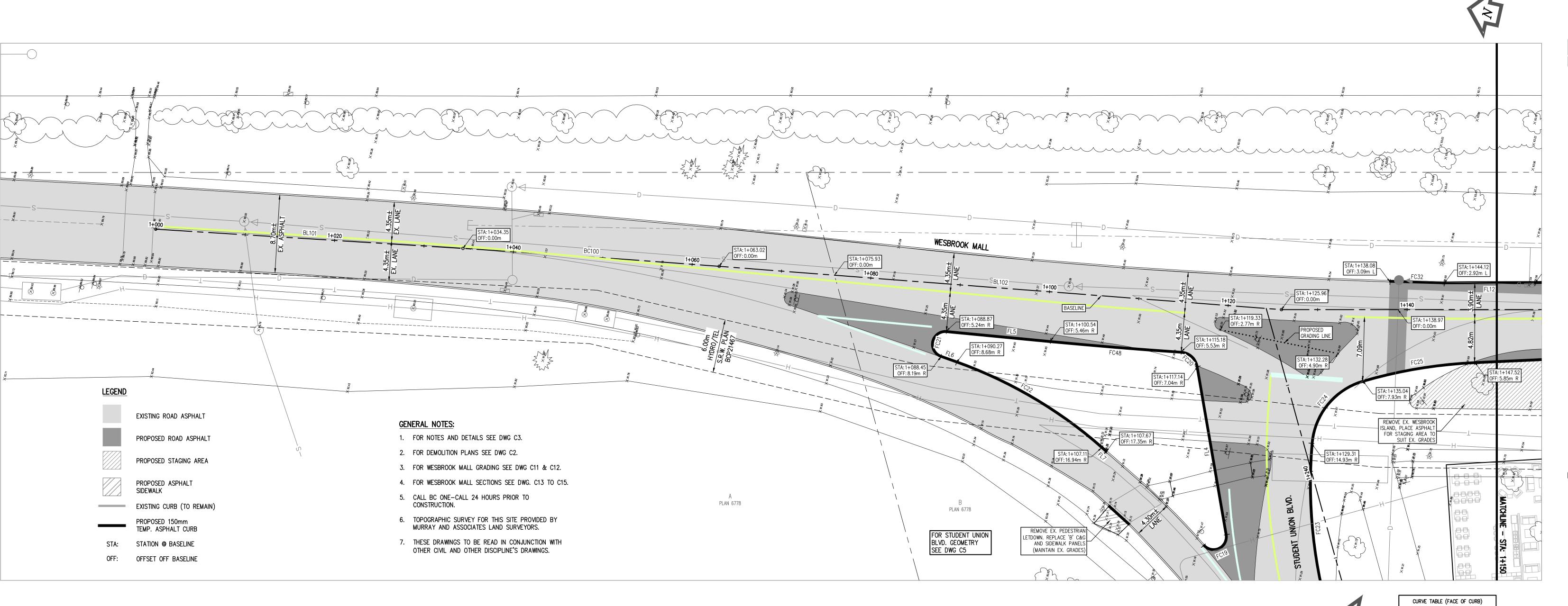


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Civil Design **CROSS SECTIONS** STUDENT UNION BLVD. DRAWN: BC CHECKED: CN





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CONTE TABLE (TABLE OF COND)					
CURVE	DELTA	RADIUS	ARC		
FC19	148'44'51"	1.500	3.894		
FC20	76*21'59"	2.000	2.666		
FC21	165°48'24"	1.500	4.341		
FC22	21°37'32"	50.000	18.872		
FC23	2016'31"	54.000	19.109		
FC24	68*52'24"	8.000	9.617		
FC25	13°42'44"	53.000	12.684		
FC26	2*35'13"	200.000	9.031		
FC27	8°33'13"	356.300	53.191		
FC28	3*31'39"	114.750	7.065		
FC29	0°22'45"	695.850	4.605		
FC30	4°52'03"	274.450	23.315		
FC32	0°32'07"	647.075	6.046		
FC33	5°03'02"	115.970	10.222		
FC48	1°38'56"	508.700	14.640		

LINE TABLE (FACE OF CURB)					
LINE	BEARING	DISTANCE			
FL4	N67*36'39"E	19.061			
FL5	N7°06'24"W	11.671			
FL6	S7°05'13"W	1.882			
FL7	S28°42'45"W	0.693			
FL9	S15"11'43"E	26.538			
FL10	S12°36'30"E	10.678			
FL11	S291018"E	14.597			
FL12	S12°44'13"E	10.132			
FL13	S13°08'45"E	10.660			

CUF	RVE TABLE ((ROAD BASEL	INE)
CURVE	DELTA	RADIUS	ARC
BC100	0°49'09"	2005.000	28.670
BC101	8'33'13"	351.850	52.526
BC102	3°31′39″	110.300	6.791
BC103	0°22'45"	700.300	4.634
BC104	4°52'03"	270.000	22.937

LINE	TABLE (ROAD B	ASELINE)
LINE	BEARING	DISTANCE
BL101	S9*00'36"E	34.353
BL102	S811'27"E	62.938
BL103	S12°36'30"E	67.777
BL104	S29"10'18"E	26.458

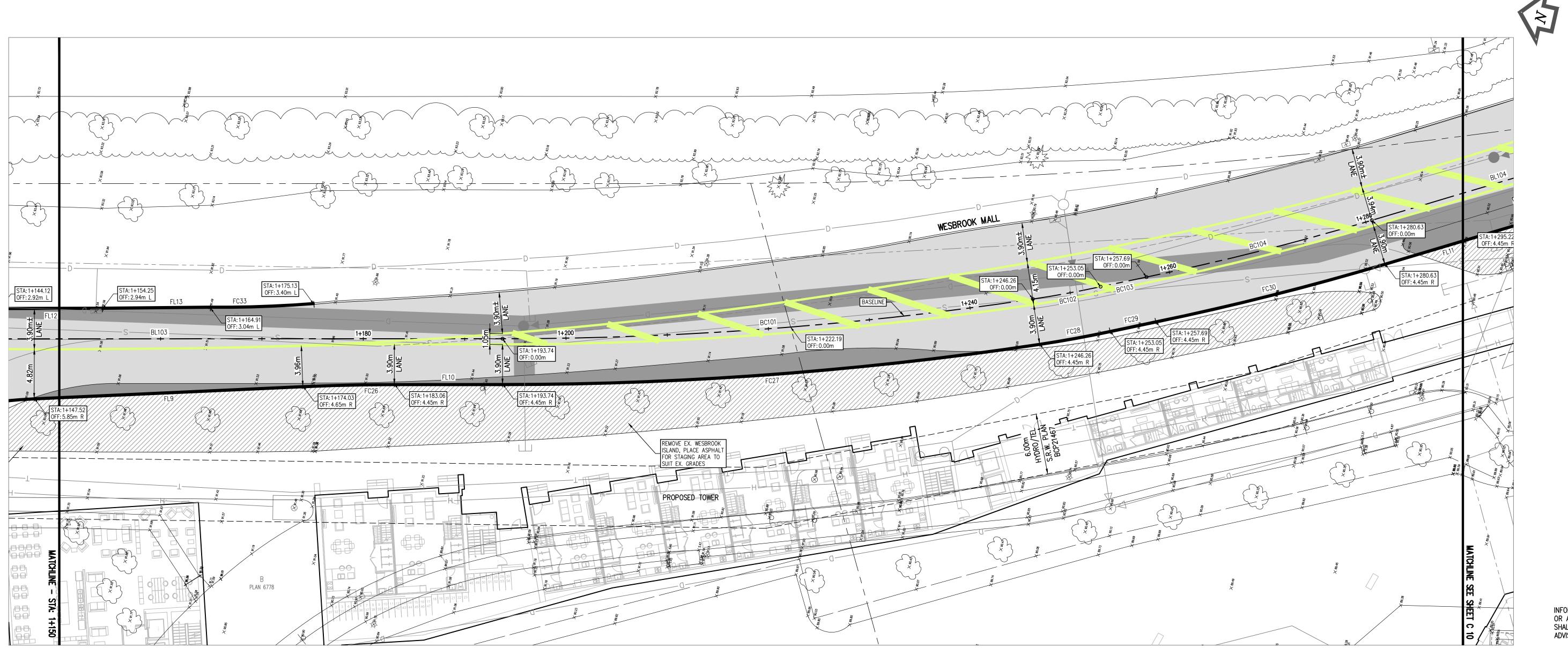
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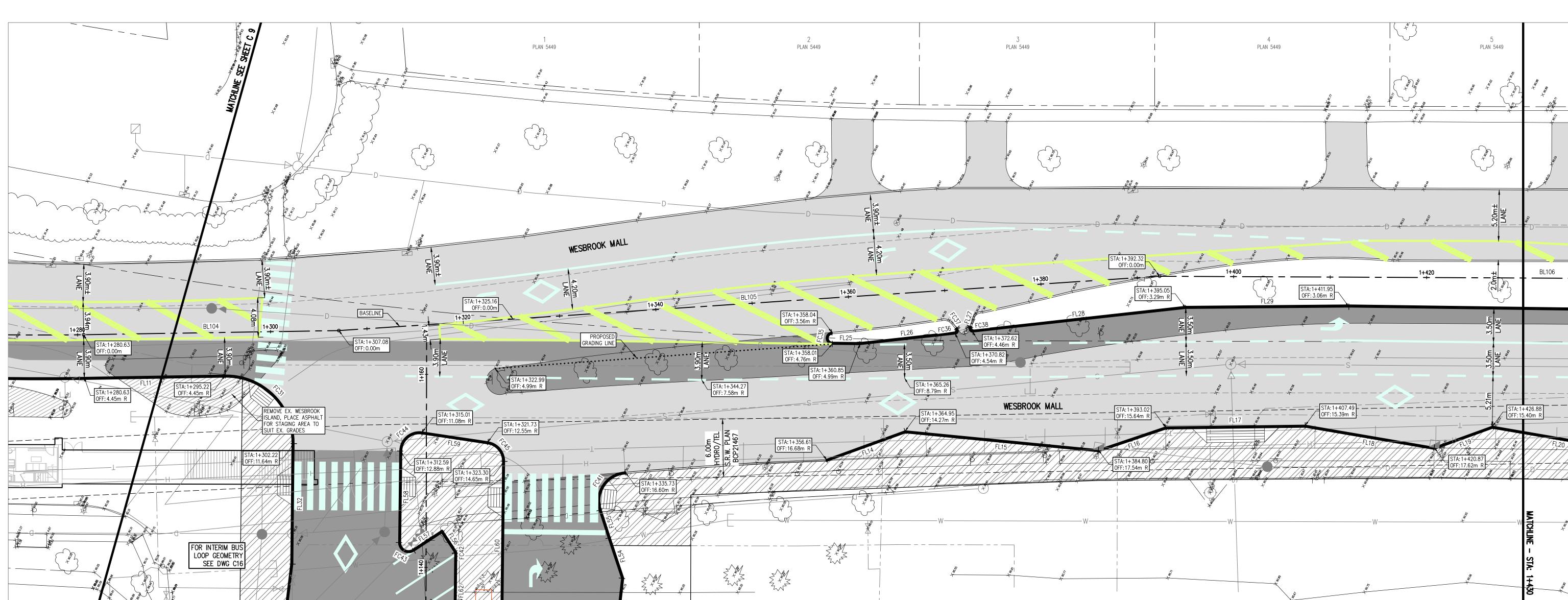
UBC Gage South

Civil Design
PAVING - GEOMETRY
WESBROOK MALL
DRAWN: BC CHECKED: CN

7,9







5 PLAN 5449 WESBROOK MALL WESBROOK MALL

CURVE TABLE (FACE OF CURB)			
CURVE	DELTA	RADIUS	ARC
FC31	91°32'08"	7.000	11.183
FC34	89°28'50"	3.000	4.685
FC35	173°56'41"	0.600	1.822
FC36	117°36'19"	0.300	0.616
FC37	147'52"	5.885	0.133
FC38	114"10'23"	0.300	0.598
FC41	104'18'44"	3.000	5.462
FC44	97°49'27"	2.000	3.415
FC45	82°07'23"	2.000	2.867

LINE TABLE (FACE OF CURB)			LINE TABLE (FACE OF CURB)		
LINE	BEARING	DISTANCE	LINE BEARING DISTA		DISTAN
.11	S291018"E	14.597	FL27	S79*36'03"W	0.151
1	S48°09'20"E	8.682	FL28	S34°34'20"E	22.21
	S22°39'54"E	20.123	FL29	S28'44'22"E	16.90
	S46°54'35"E	7.353	FL30	S27*27'37 " E	54.19
7	S28°58'15"E	14.470	FL31	S27*27'37"E	2.084
3	S18°30'04"E	13.564	FL32	S62°21'50"W	12.47
9	S48"11'14"E	6.408	FL54	N43°20'26"E	4.42
	S18°30'04"E	14.180	FL55	N43*52'53"E	3.026
1	S47°24'13"E	6.099	FL58	N62°27'06"E	9.482
22	S18°30'04"E	14.180	FL59	S19°43'27"E	6.880
23	S47°24'13"E	6.460	FL60	S62°23'56"W	17.45
24	S42°04'37"W	8.220	FL64	S32°09'39"E	2.150
25	S27°29'55"E	2.852	FL65	N72°55'44"E	0.26
.26	S34°34'20"E	9.981	FL66	N28°03'34"W	8.32

LEGEND

EXISTING ROAD ASPHALT

PROPOSED ROAD ASPHALT

PROPOSED STAGING AREA



PROPOSED ASPHALT SIDEWALK

EXISTING CURB (TO REMAIN) PROPOSED 150mm
TEMP. ASPHALT CURB

STA: STATION @ BASELINE OFF: OFFSET OFF BASELINE

GENERAL NOTES:

1. FOR NOTES AND DETAILS SEE DWG C3.

LINE TABLE (ROAD BASELINE)

BL104 S29"10'18"E 26.458

BL106 S27'57'39"E 109.680
BL108 S28'05'04"E 37.996

- 2. FOR DEMOLITION PLANS SEE DWG C2.
- 3. FOR WESBROOK MALL GRADING SEE DWG C11 & C12.
- 4. FOR WESBROOK MALL SECTIONS SEE DWG. C13 TO C15.
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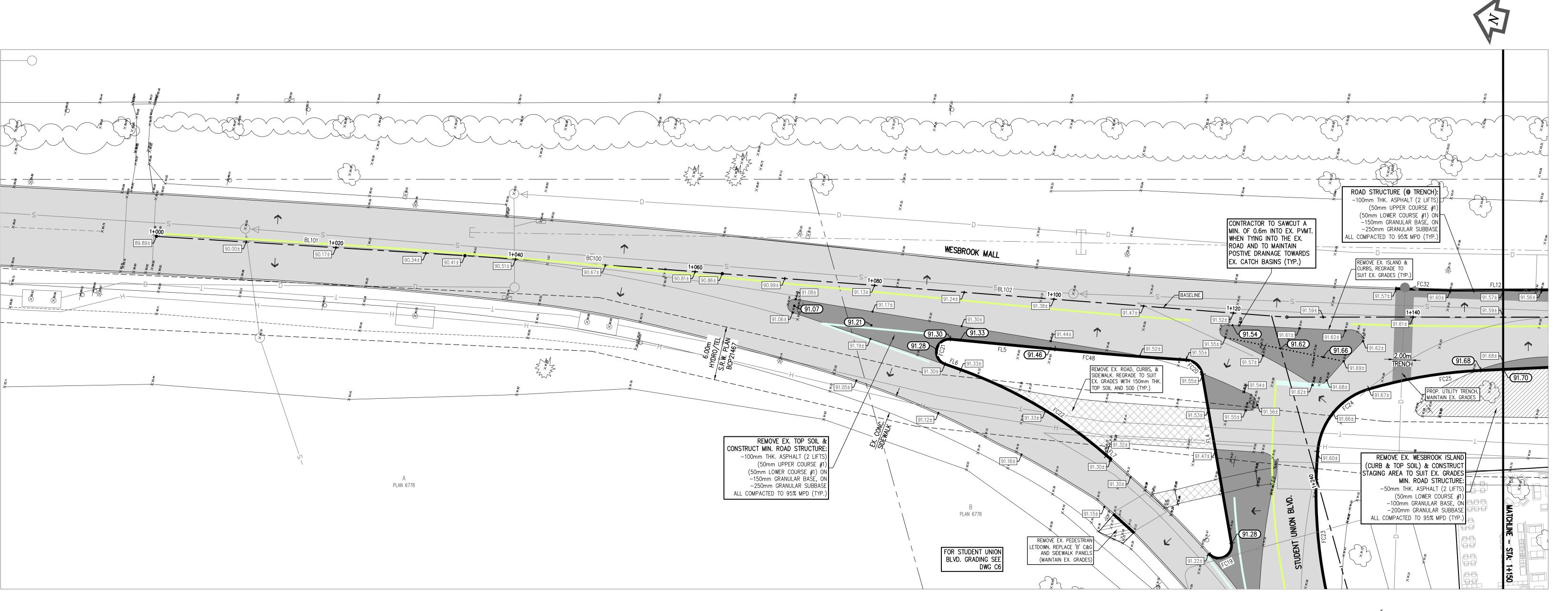
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Civil Design PAVING - GEOMETRY WESBROOK MALL

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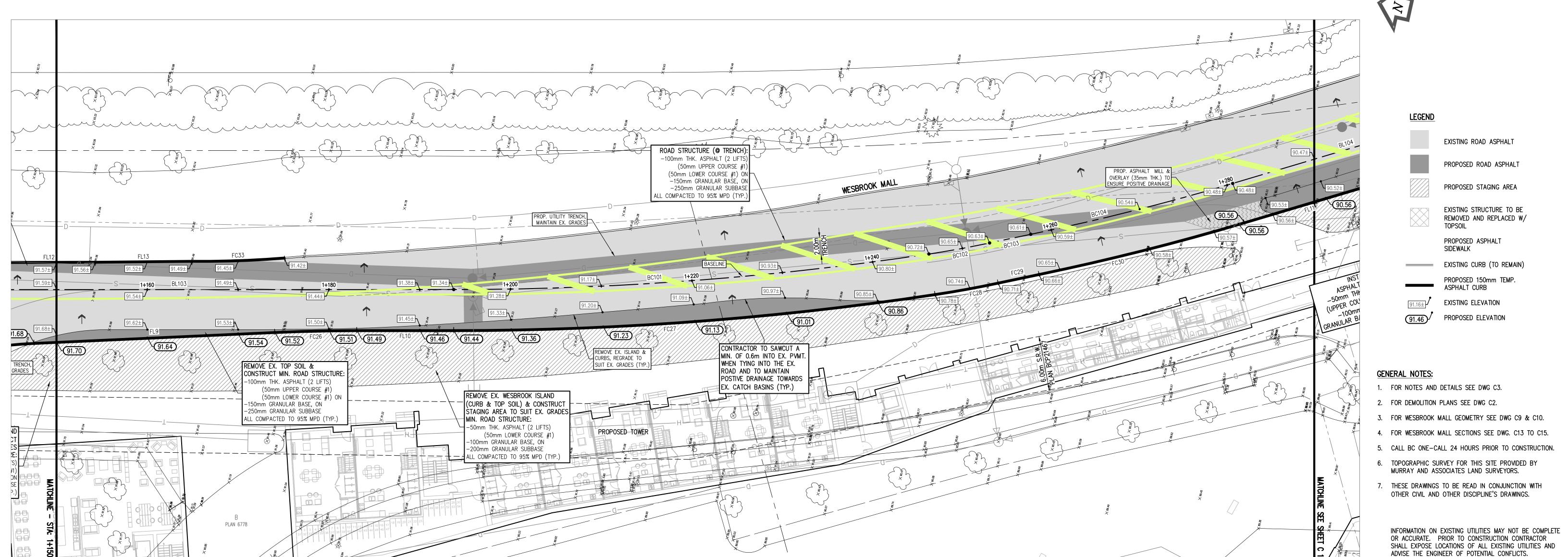
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GRAPHIC SCALE

SCALE: 1:200

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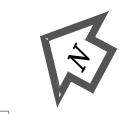
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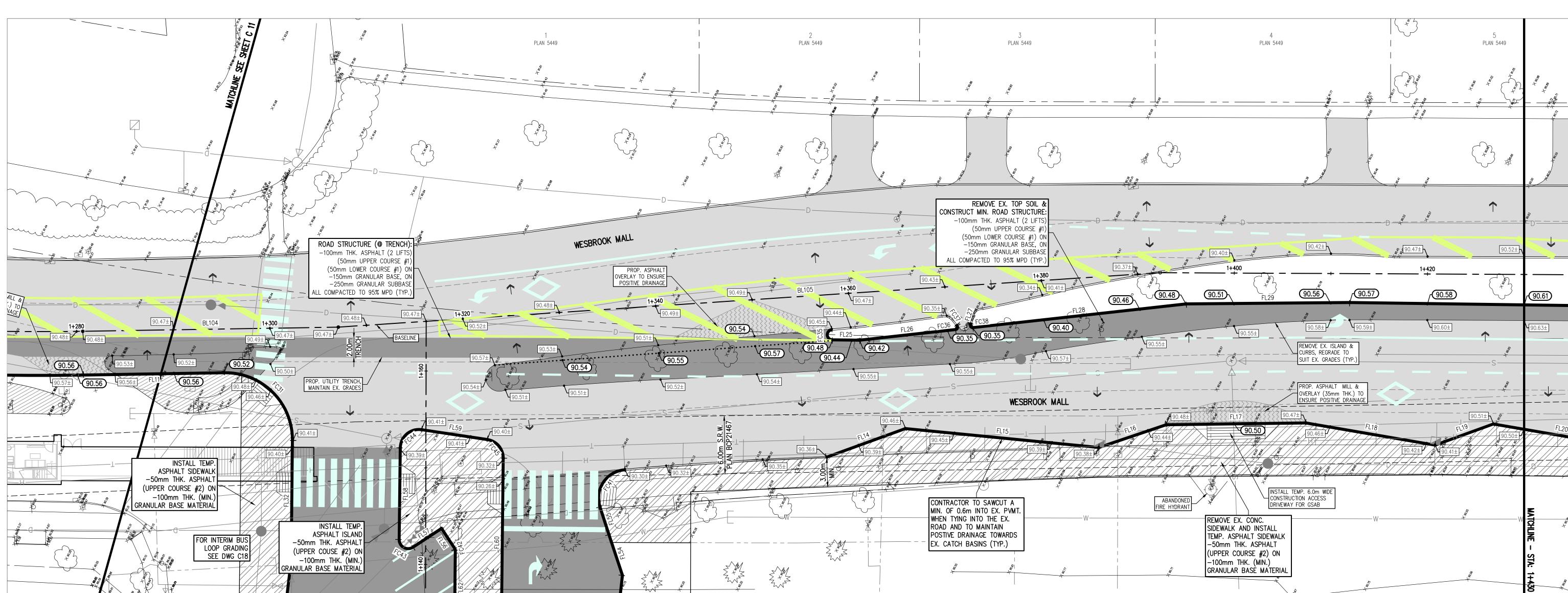
Civil Design
PAVING - GRADING
WESBROOK MALL

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DRAWN: BC

C 11





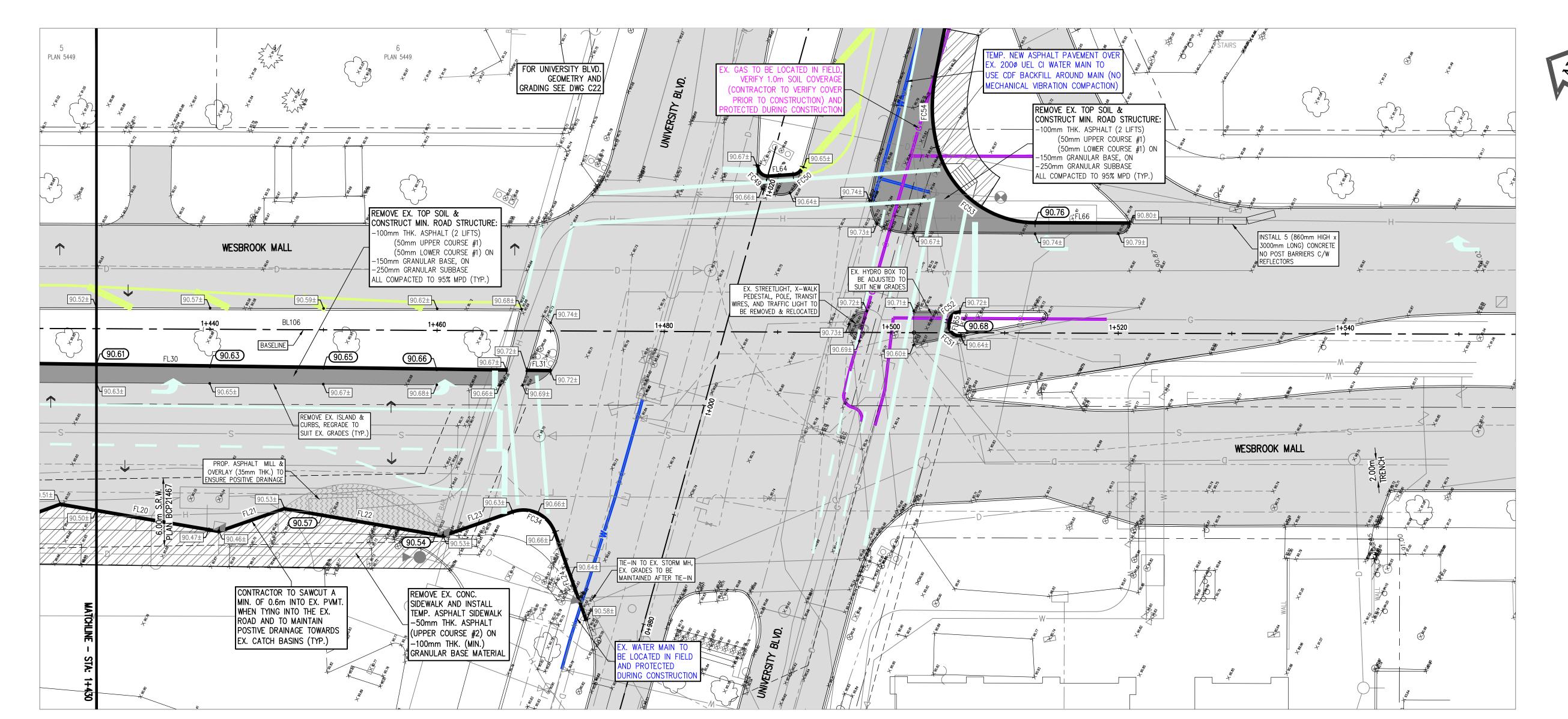


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EXISTING ROAD ASPHALT

LEGEND

PROPOSED ROAD ASPHALT PROPOSED STAGING AREA

EXISTING STRUCTURE TO BE REMOVED AND REPLACED W/ TOPSOIL PROPOSED ASPHALT

SIDEWALK

EXISTING CURB (TO REMAIN) PROPOSED 150mm TEMP. ASPHALT CURB

EXISTING ELEVATION 91.46 PROPOSED ELEVATION

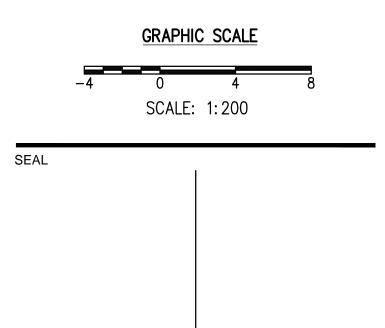
GENERAL NOTES:

- 1. FOR NOTES AND DETAILS SEE DWG C3.
- 2. FOR DEMOLITION PLANS SEE DWG C2.
- 3. FOR WESBROOK MALL GEOMETRY SEE DWG C9 & C10.
- 4. FOR WESBROOK MALL SECTIONS SEE DWG. C13 TO C15.
- 5. CALL BC ONE-CALL 24 HOURS PRIOR TO CONSTRUCTION.
- 6. TOPOGRAPHIC SURVEY FOR THIS SITE PROVIDED BY

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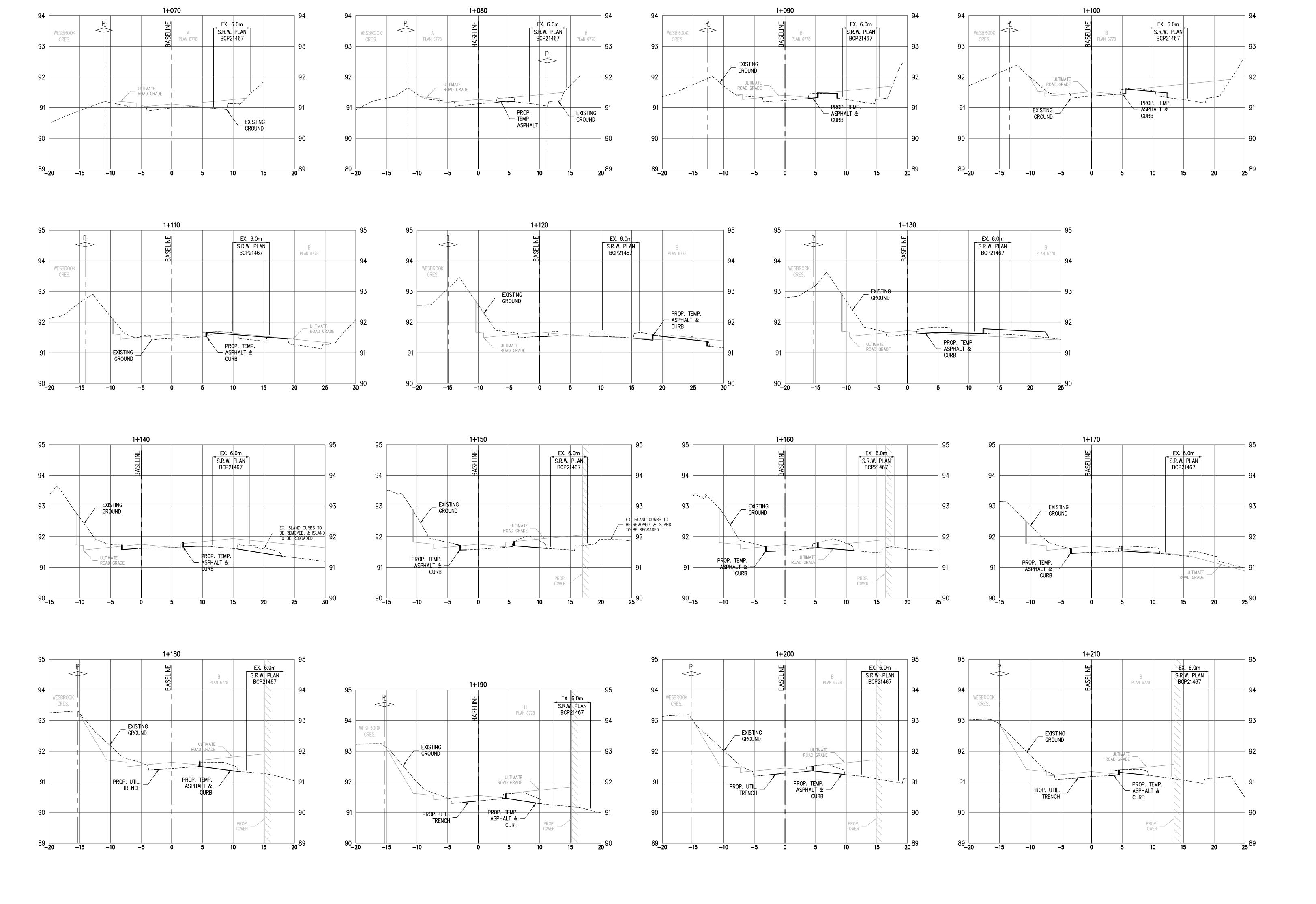
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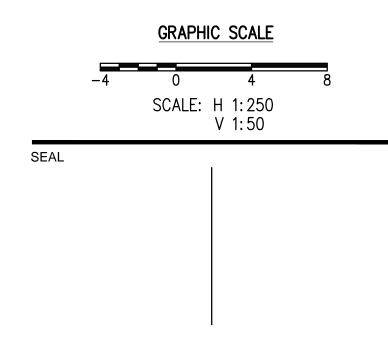
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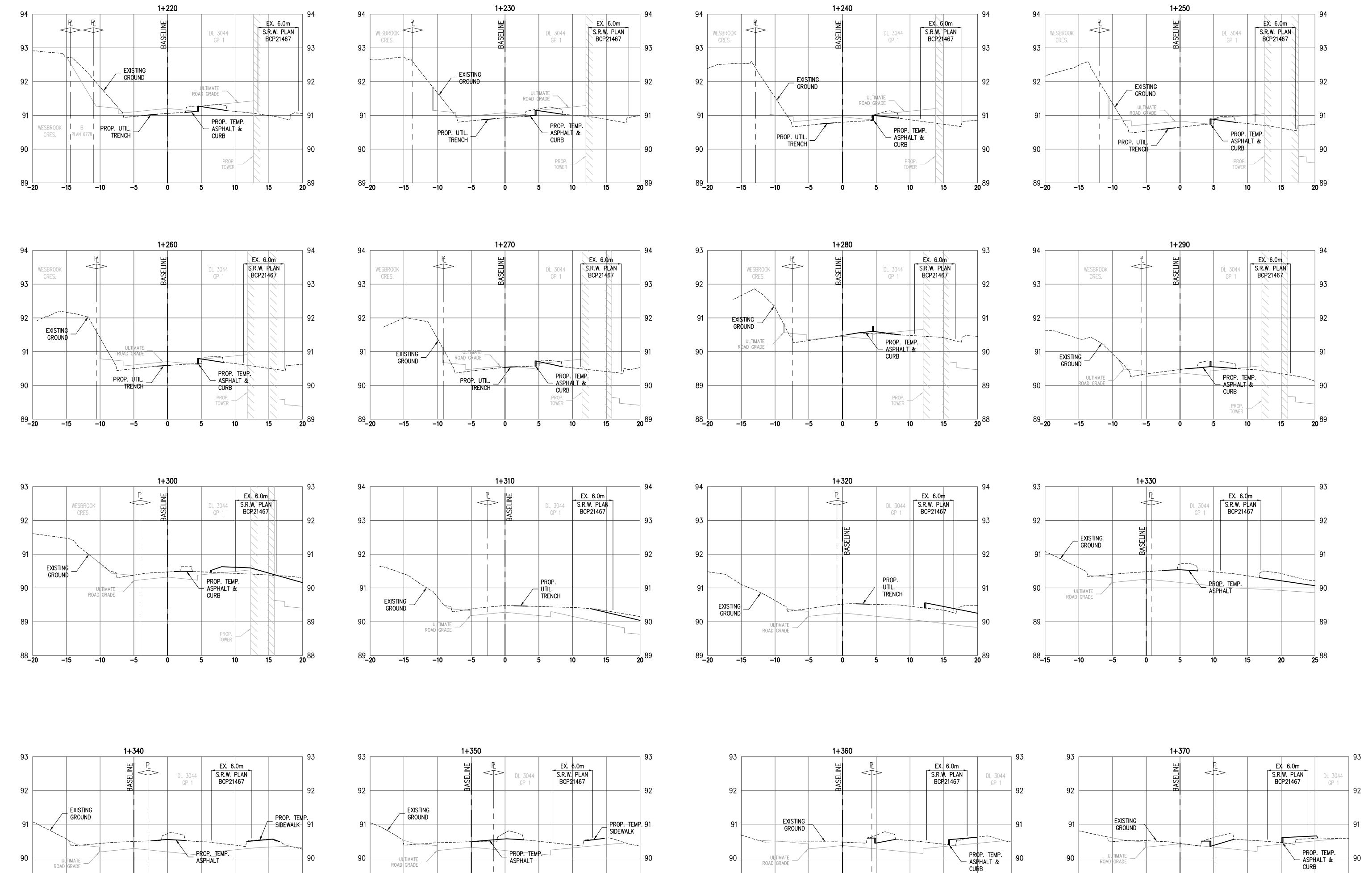


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Civil Design
CROSS SECTIONS
WESBROOK MALL
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DIALOG*





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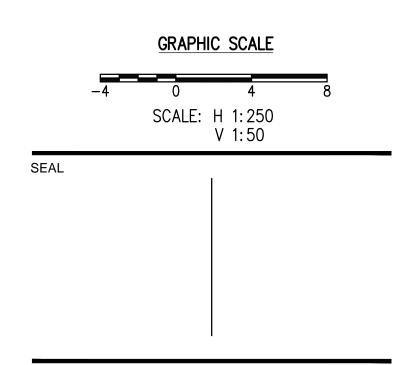
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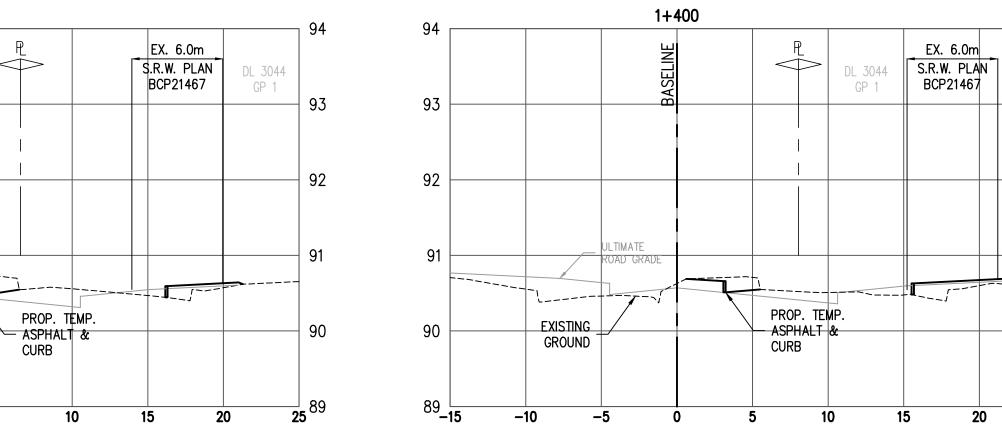
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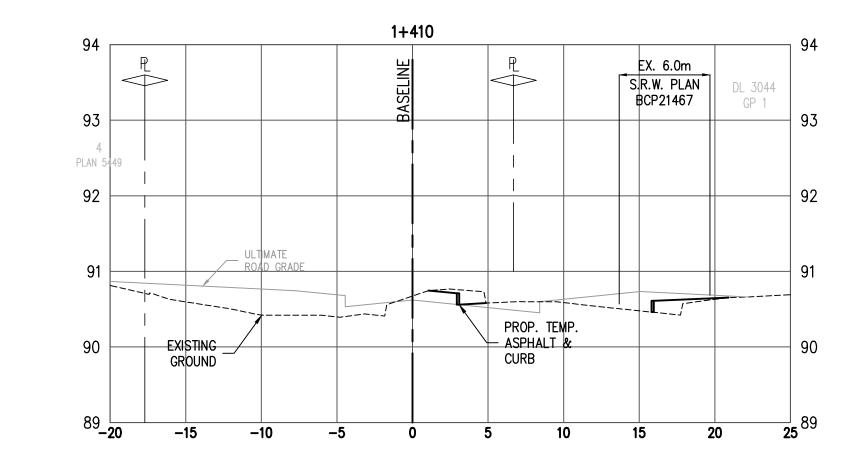


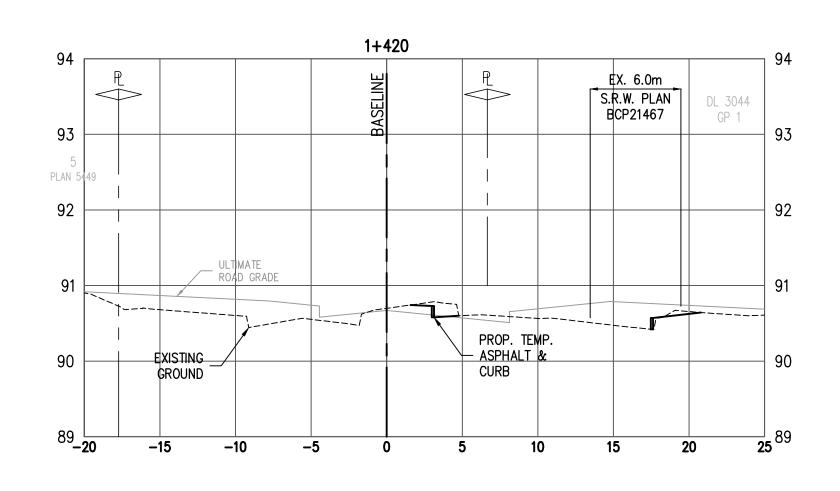
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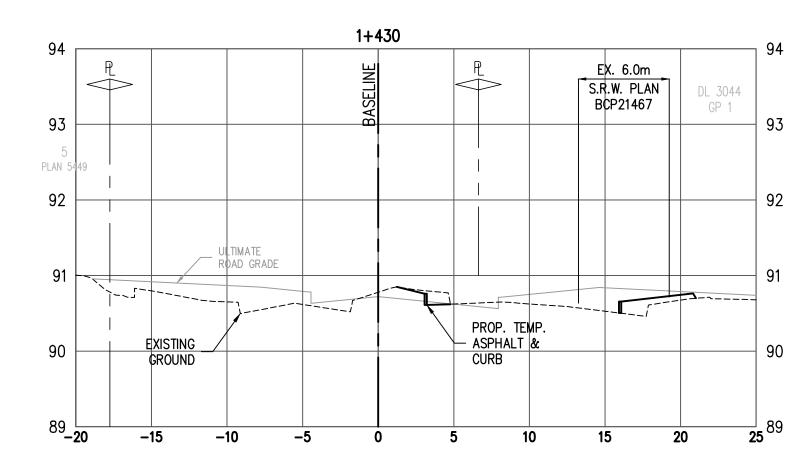


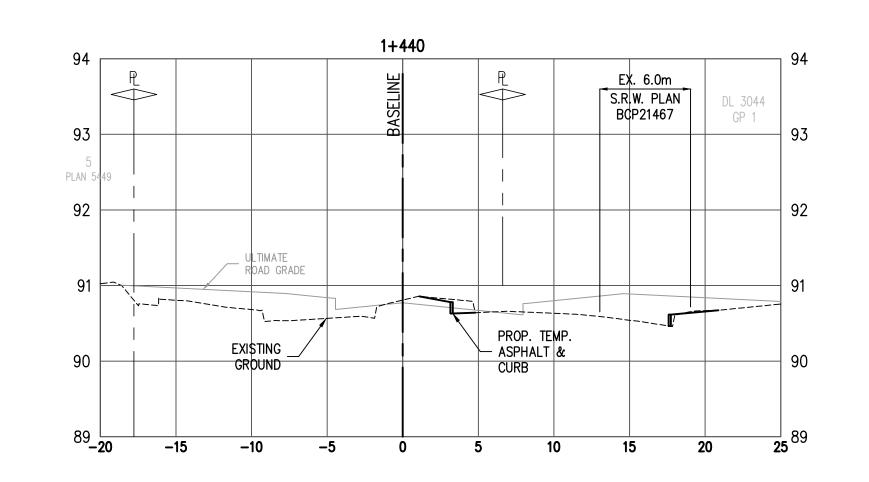


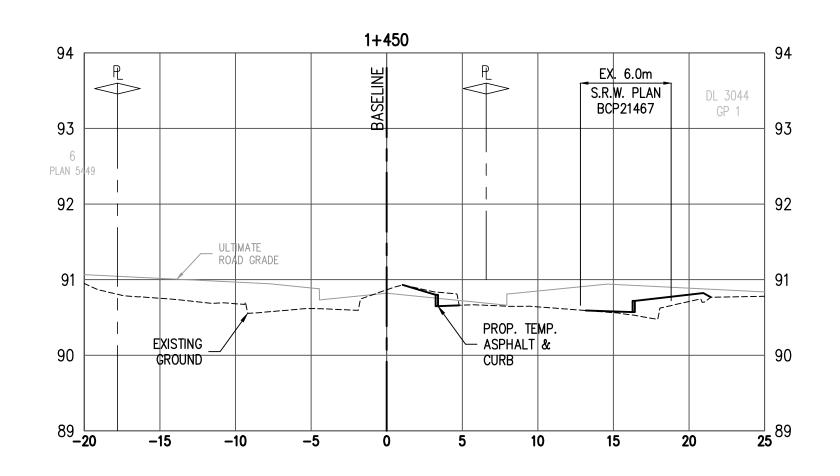


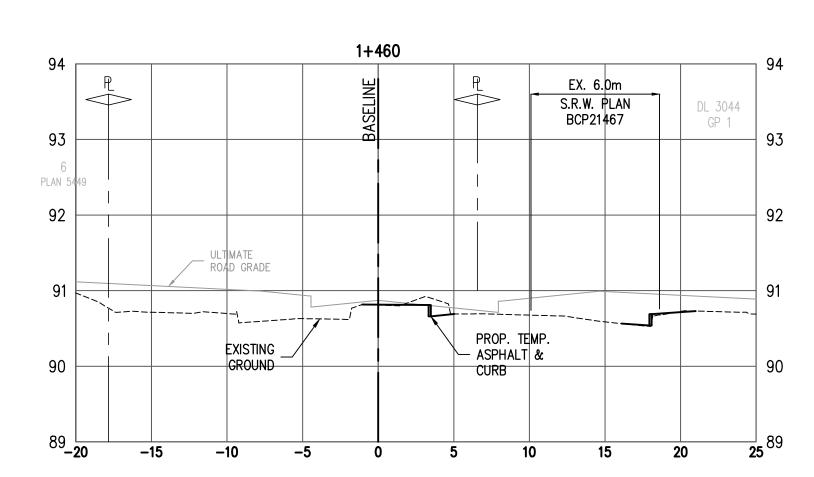
PROP. TEMP. — ASPHALT &

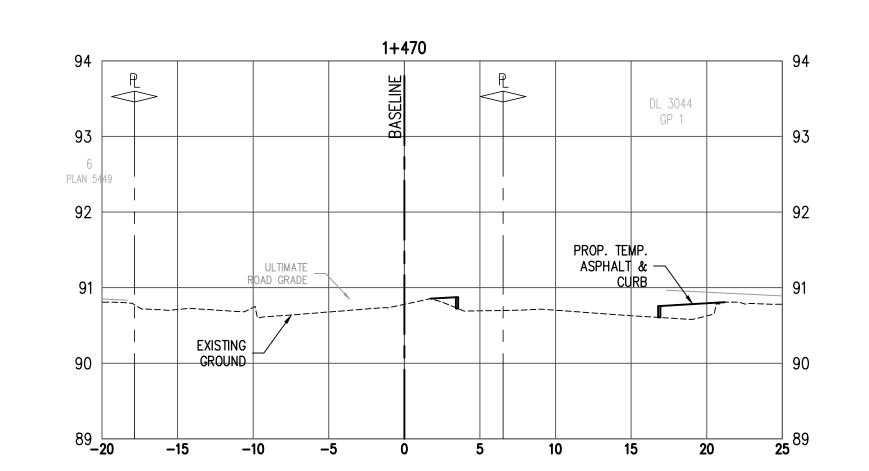
EXISTING GROUND













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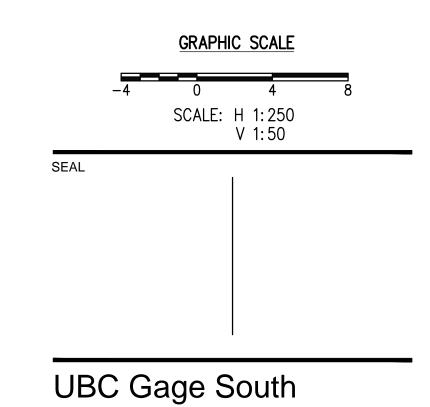
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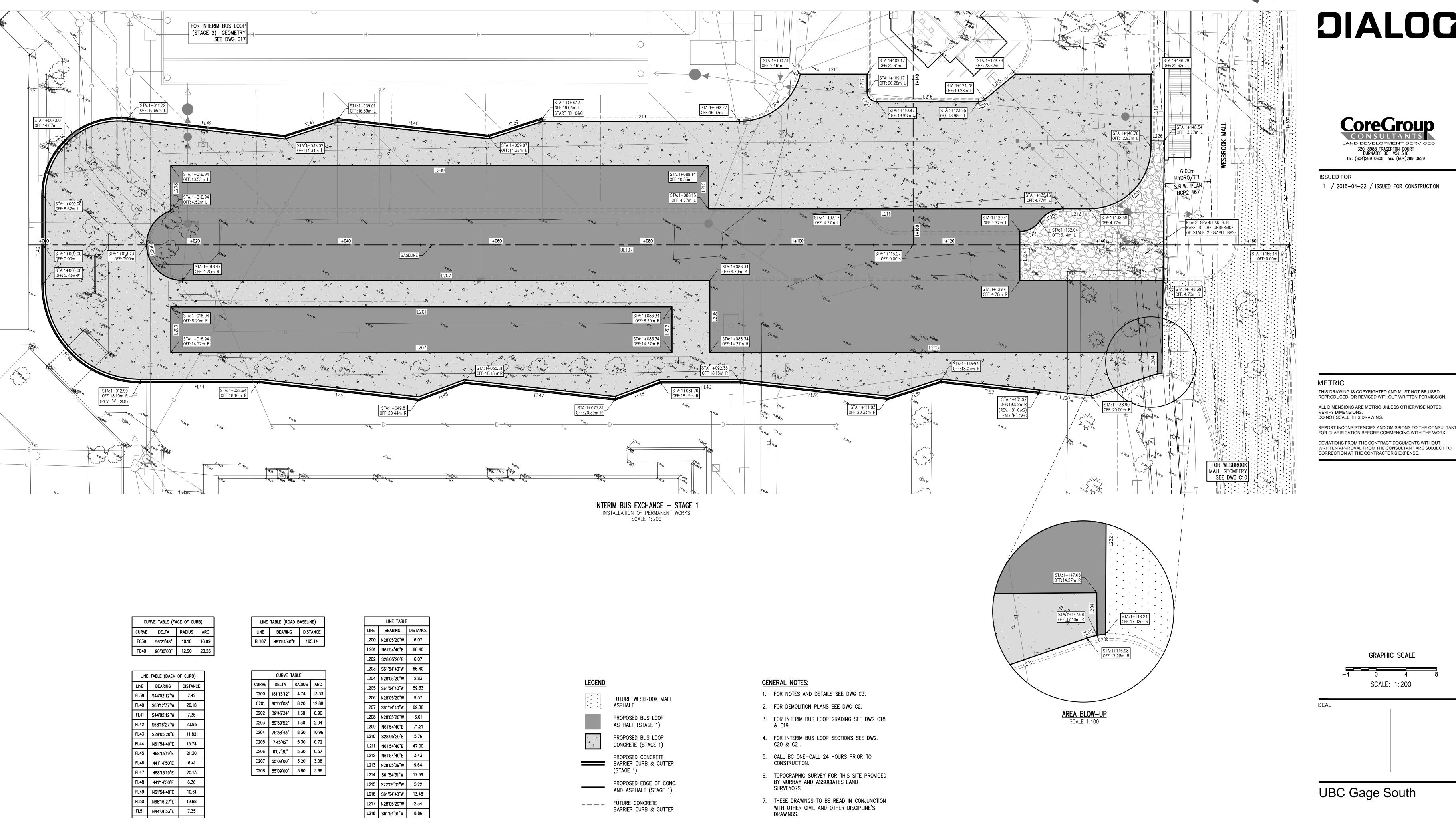
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Civil Design
CROSS SECTIONS
WESBROOK MALL
DRAWN: BC CHECKED: CN

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FUTURE CONCRETE BARRIER CURB & GUTTER

STA: STATION @ BASELINE

OFF: OFFSET OFF BASELINE

L217 N28°05'29"W 2.34

L218 S61°54'31"W 8.86

L219 S61°54'40"W 26.05 L220 N6816'34"E 6.94

L221 N43°20'26"E 8.53 L222 N27°22'47"W 12.32

L223 S61°54'40"W 18.98 L224 N28°05'20"W 6.47

L225 N27'38'10"W 18.47
L226 S62'21'50"W 1.75

FL51 N44°01'53"E

FL52 N6816'34"E 13.12

7.35

DIALOG®

CoreGroup LAND DEVELOPMENT SERVICES
320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629

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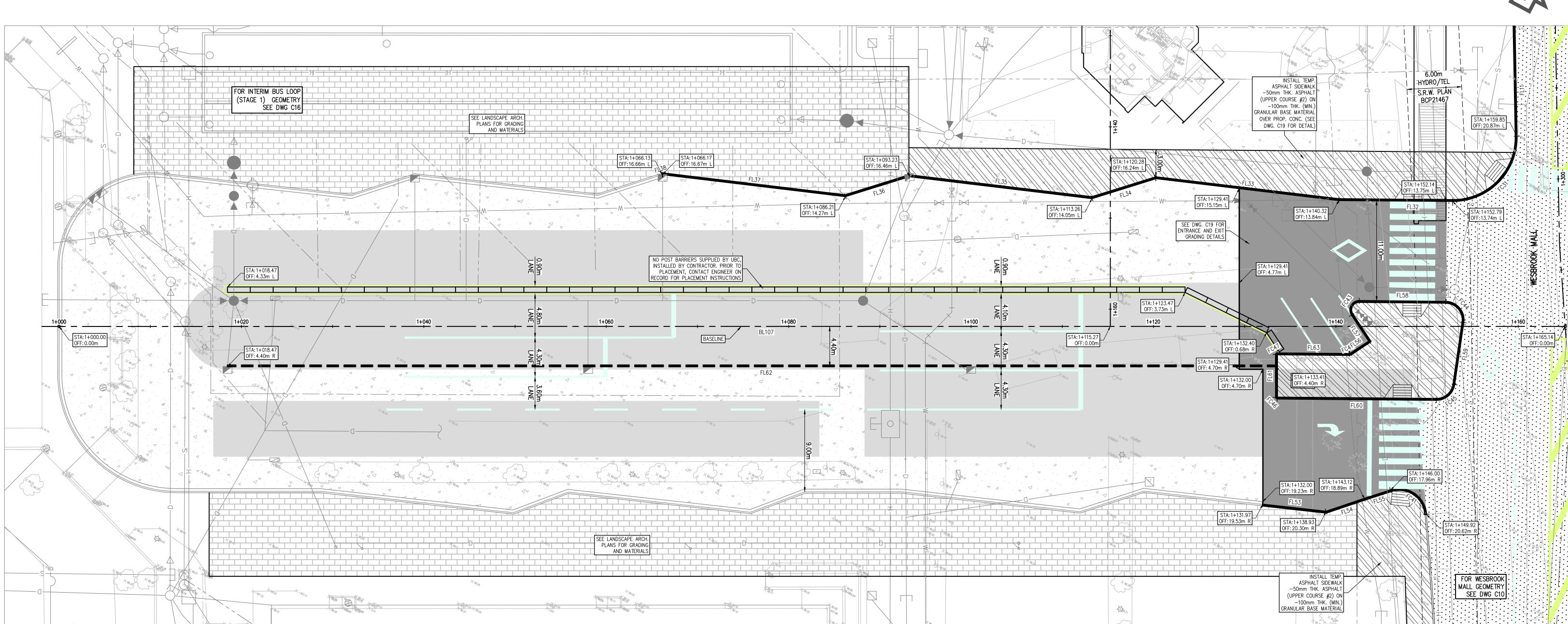
GRAPHIC SCALE SCALE: 1:200

UBC Gage South

Civil Design PAVING - GEOMETRY INTERIM BUS LOOP - STAGE 1 DRAWN: BC CHECKED: CN

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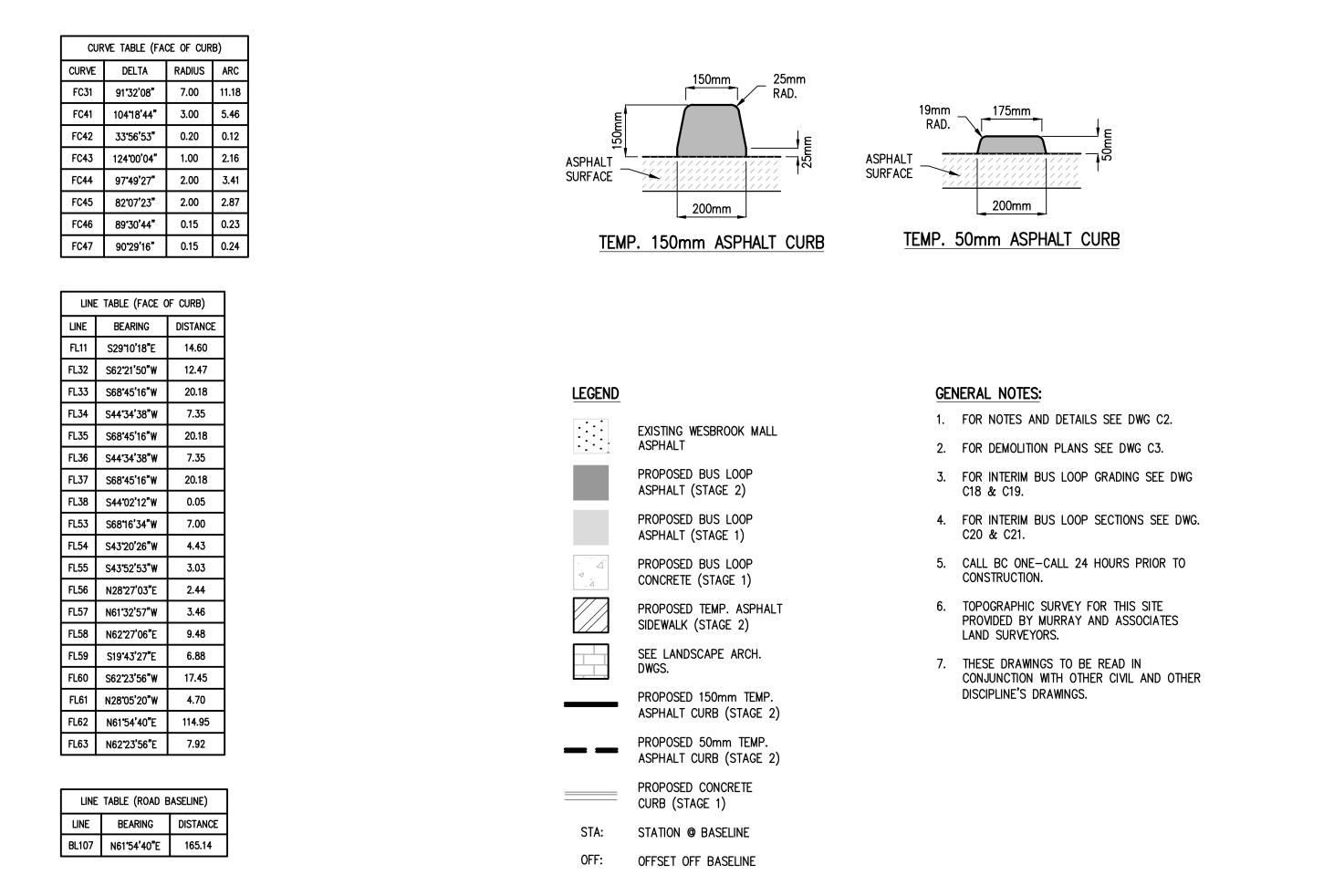
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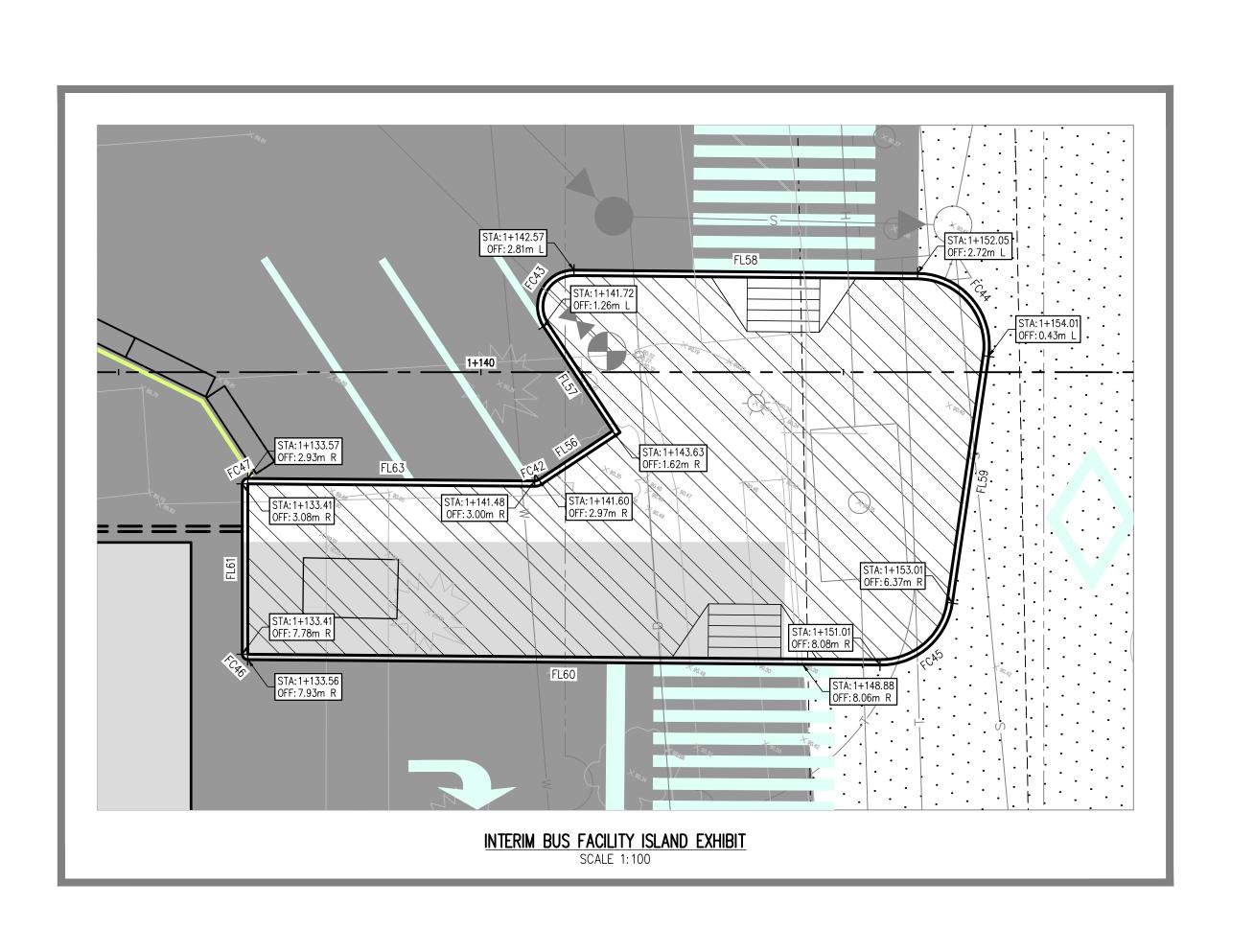
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SCALE: 1:200

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INTERIM BUS EXCHANGE — STAGE 2 INSTALLATION OF TEMPORARY WORKS SCALE 1: 200





Civil Design
PAVING - GEOMETRY
INTERIM BUS LOOP - STAGE 2
DRAWN: BC CHECKED: CN

UBC Gage South

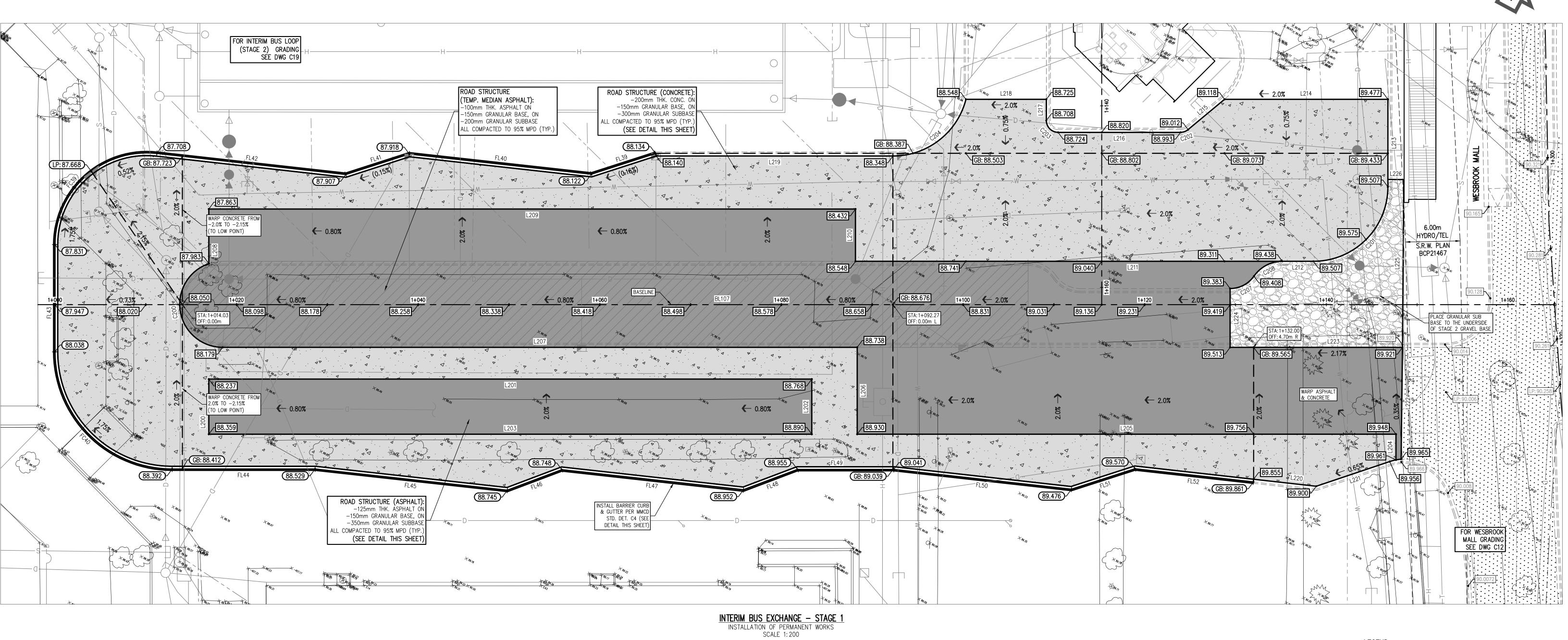
C 17

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SEAL

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LEGEND FUTURE WESBROOK MALL ASPHALT PROPOSED BUS LOOP ASPHALT 125mm ASPHALTIC CONCRETE: (STAGE 1) 50mm UPPER COURSE # 1 75mm LOWER COURSE # 1 PROPOSED BUS LOOP "MEDIAN" ASPHALT (STAGE 1) 150mm OF 19mm MINUS CRUSHED GRAVEL BASE STANDARD DETAIL DRAWINGS PROPOSED BUS LOOP CONCRETE (STAGE 1) 350mm GRANULAR SUB BASE OF 75mm PIT RUN GRAVEL, OR PROPOSED CONCRETE BARRIER 15 CURB & GUTTER (STAGE 1) I ISOLATION! JOINT OUTSIDE DIA. OF M.H. BARREL,
— C.B. BARREL, VALVE CHAMBER 75mm MINUS CRUSHED GRAVEL 5m MAX. (VARIABLE) PROPOSED EDGE OF CONC. AND ASPHALT (STAGE 1) BARREL, ETC. (NOT FOR PEDESTRIAN WALKWAYS) $\equiv \equiv \equiv \equiv$ Future concrete barrier CURB & GUTTER SUBGRADE (PER MMCD SECTION 31 22 16) ─ISOLATION JOINT <u>LEGEND</u> GRADE BREAK \\{\\/\\/\\/\\/\\/\\\/\\\ - — — — — CONTROL JOINT OUTSIDE DIA. OF M.H. BARREL, C.B. LOW POINT ———— ISOLATION JOINT -BARREL, VALVE CHAMBER BARREL, ETC. ASPHALT PAVEMENT SPECS. (NOT FOR PEDESTRIAN WALKWAYS) FUTURE WESBROOK MALL 귀 ISOLATION¦JOINT BARRIER CURB WITH GUTTER **ELEVATIONS** *ALL COMPACTED TO 95% ISOLATION JOINTS AROUND MANHOLE SECTION AT
WHEELCHAIR RAMP—
10mm LIP AT GUTTER MODIFIED PROCTOR DENSITY LID, VALVE CHAMBER, ETC. PROPOSED SPOT ELEVATIONS CONTROL JOINTS PROPOSED GUTTER ELEVATIONS

(@ FACE OF CURP) FULL DEPTH JOINT WITH 25mm WIDE
—COMPRESSIBLE BOARD CAPPED WITH 10mm WIDE x 35mm DEEP JOINT FILLED WITH JOINT SEALING COMPOUND SEALING MATERIAL 200mm CONCRETE SLAB C/W 100x100 - 10mm STEEL GRID _ MESH LOCATED 50mm FROM -CONCRETE

CONTROL JOINT DETAIL

CONCRETE PAVEMENT

JOINT DETAILS

N.T.S.

SURFACE AND OUTSIDE EDGES

300mm GRANULAR SUB BASE OF

75mm MINUS CRUSHED GRAVEL

75mm PIT RUN GRAVEL, OR

SUBGRADE (PER MMCD SECTION 31 22 16)

CONC. PAVEMENT SPECIFICATIONS

*ALL COMPACTED TO 95% MODIFIED PROCTOR DENSITY

150mm OF 19mm MINUS CRUSHED GRAVEL BASE

ISOLATION JOINT DETAIL

GENERAL NOTES:

ROLLOVER CURB WITH GUTTER

DRAWING NUMBER:

C4

2. REFER TO CONTRACT DRAWINGS AND SECTION 02523 FOR DETAILED SPECIFICATIONS.

4. REFER TO DRAWING C5 FOR DIMENSIONS OF WIDE BASE CURB AND GUTTER.

NOTE: 1. SECTIONS SHOWN ARE FOR MACHINE EXTRUDED CURBS.

CONCRETE CURBS - NARROW BASE

3. REFER TO DRAWING C1, C2 AND C3 FOR INSTALLATION DETAILS.

1. FOR NOTES AND DETAILS SEE DWG C3.

2. FOR DEMOLITION PLANS SEE DWG C2.

3. FOR INTERIM BUS LOOP GEOMETRY SEE DWG C16 & C17.

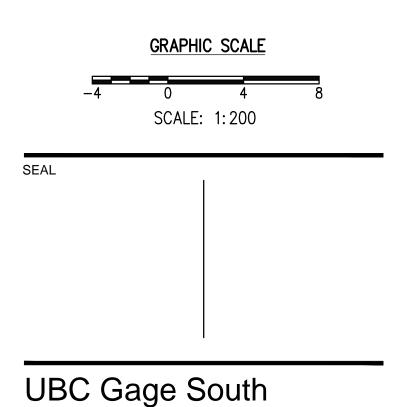
4. FOR INTERIM BUS LOOP SECTIONS SEE DWG. C20 & C21.

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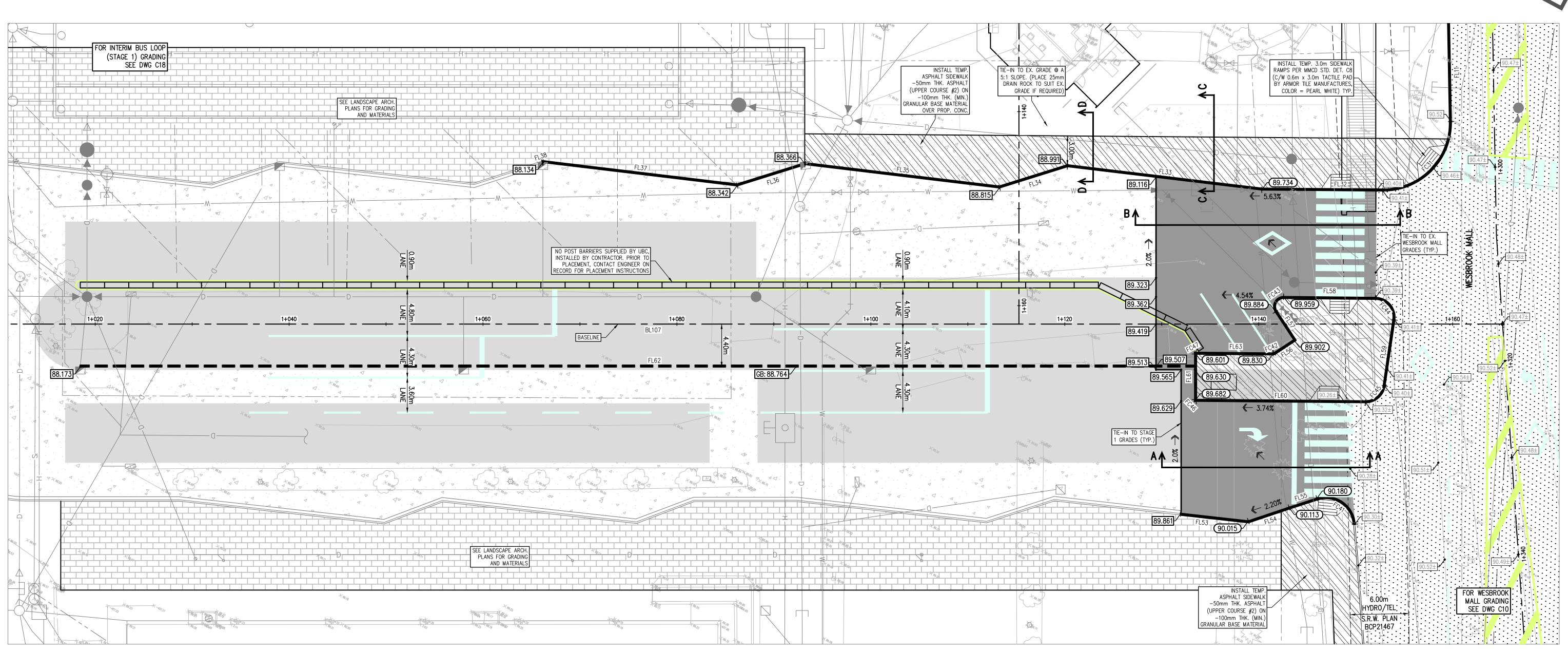
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Civil Design PAVING - GRADING INTERIM BUS LOOP - STAGE 1 DRAWN: BC CHECKED: CN





INTERIM BUS EXCHANGE - STAGE 2

INSTALLATION OF TEMPORARY WORKS

SCALE 1:200

200mm CONCRETE SLAB C/W 100x100 - 10mm STEEL GRID_

SURFACE AND OUTSIDE EDGES

300mm GRANULAR SUB BASE OF 75mm PIT RUN GRAVEL, OR 75mm—

*ALL COMPACTED TO 95% MODIFIED

SUBGRADE (PER MMCD SECTION 31 22 16)

MESH LOCATED 50mm FROM

150mm OF 19mm MINUS_

MINUS CRUSHED GRAVEL

PROCTOR DENSITY

100mm (MIN.) OF 19mm MINUS

INSTALL TEMP. ASPHALT SIDEWALK:

-50mm THK. ASPHALT (UPPER COURSE #2)

CRUSHEÓ GRANULAR BASE

150mm x 150mm TEMP.

200mm CONCRETE SLAB C/W

100x100 - 10mm STEEL GRID_

SURFACE AND OUTSIDE EDGES

300mm GRANULAR SUB BASE OF

*ALL COMPACTED TO 95% MODIFIED

75mm PIT RUN GRAVEL, OR 75mm—

MESH LOCATED 50mm FROM

150mm OF 19mm MINUS

CRUSHED GRAVEL BASE

MINUS CRUSHED GRAVEL

PROCTOR DENSITY

ASPHALT CURB-

PER DETAIL

MATERIAL OVER PROP. CONC.

CRUSHED GRAVEL BASE

ASPHALTIC CONCRETE:

—USE UPPER COURSE #2

MIN. 75mm

THICK

FINE MIX

TIE-IN TO EX.

GROUND WITH-

2.0%

SUBGRADE (PER MMCD

__SECTION 31 22 16)

-STAGE 2

\$\frac{1}{4} \frac{1}{4} \frac

SECTION D-D
SCALE N.T.S

STAGE 1—

5:1 SLOPE

100mm ASPHALTIC CONCRETE: —50mm UPPER COURSE #1

EX. ROAD

STRUCTURE

TIE INTO EXISTING ROAD

19mm MINUS CRUSHED

—GRAVEL BASE. 75mm

THICK (MIN.)

*NOTE: NO TACK COAT

BETWEEN STAGE 1 AND STAGE

2 WORKS. SPRAY ALL STAGE 1

CONCRETE AND ASPHALT WITH

∕—EX. GROUND

EX. TRANSIT

& SUBBASE

*NOTE: NO TACK COAT

BETWEEN STAGE 1 AND STAGE

2 WORKS, SPRAY ALL STAGE 1

CONCRETE AND ASPHALT WITH

WATER PRIOR TO PLACING

OVER STAGE 1 CONCRETE

AFTER 28 DAYS CURING.

STAGE 2 ASPHALT, STAGE 2

ASPHALT ONLY TO BE PLACED

ASPHALT, BASE

WATER PRIOR TO PLACING STAGE 2 ASPHALT.

PLACE 25mm DRAIN

-ROCK TO SUIT EX.

GRADES

STAGE 1

STRUCTURE

50mm LOWER COURSE #1

MIN. 75mm

STAGE 2-

THICK

ASPHALTIC CONCRETE:

USE UPPER COURSE #2-

125mm ASPHALTIC CONCRETE:

350mm GRANULAR SUB BASE OF

75mm PIT RUN GRAVEL, OR 75mm-

SUBGRADE (PER MMCD SECTION 31 22 16)

*ALL COMPACTED TO 95% MODIFIED

50mm UPPER COURSE # 1-

75mm LOWER COURSE # 1

150mm OF 19mm MINUS_

CRUSHED GRAVEL BASE

MINUS CRUSHED GRAVEL

PROCTOR DENSITY

INSTALL TEMP. ASPHALT SIDEWALK:

150mm x 150mm TEMP.

ROAD STRUCTURE PER DETAIL

200mm CONCRETE SLAB C/W 100x100 - 10mm STEEL GRID_

MESH LOCATED 50mm FROM

150mm OF 19mm MINUS

CRUSHED GRAVEL BASE

MINUS CRUSHED GRAVEL

PROCTOR DENSITY

SURFACE AND OUTSIDE EDGES

300mm GRANULAR SUB BASE OF

75mm PIT RUN GRAVEL, OR 75mm-

SUBGRADE (PER MMCD SECTION 31 22 16)

*ALL COMPACTED TO 95% MODIFIED

ASPHALT CURB-

PER DETAIL

-50mm THK. ASPHALT (UPPER COURSE #2)

FINE MIX

STAGE 2-

2.0%

SECTION A-A

SCALE N.T.S.

100mm (MIN.) OF 19mm

BASE MATERIAL OVER

PROP. CONC.

SECTION C-C

MINUS CRUSHED GRANULAR

GENERAL NOTES:

TIE INTO EXISTING ROAD

_19mm MINUS CRUSHED

GRAVEL BASE. 75mm

THICK (MIN.)

STRUCTURE

EX. ROAD

*NOTE: NO TACK COAT

BETWEEN STAGE 1 AND STAGE

2 WORKS. SPRAY ALL STAGE 1

CONCRETE AND ASPHALT WITH WATER PRIOR TO PLACING

STAGE 2 ASPHALT. STAGE 2

OVER STAGE 1 CONCRETE

AFTER 28 DAYS CURING.

ASPHALT ONLY TO BE PLACED

ASPHALT

SURFACE

100mm MIN. (150mm MAX.)

AND EXCESS ASPHALT

100mm (MIN.)

150mm (MAX.)

TEMP. ASPHALT CURB

CONTRACTOR TO ENSURE ASPHALT DOES

NOT ENCROACH MORE THAN 150mm INTO

LANDSCAPE AREA, SAWCUT AND REMOVE

LANDSCAPING / SIDEWALK

TEMP. 50mm ASPHALT CURB

STRUCTURE

100mm ASPHALTIC CONCRETE: 50mm UPPER COURSE #1 —

ASPHALT

SURFACE

200mm

TEMP. 150mm ASPHALT CURB

ASPHALT CURB -

PER DETAIL ABOVE

150mm x 150mm TEMP.

ROAD STRUCTURE

PER DETAIL

STAGE 2-

SECTION B-B

SCALE N.T.S

—EX. GROUND

EX. TRANSIT

& SUBBASE

ASPHALT, BASE

*NOTE: NO TACK COAT

BETWEEN STAGE 1 AND STAGE

2 WORKS. SPRAY ALL STAGE 1

CONCRETE AND ASPHALT WITH

WATER PRIOR TO PLACING

STAGE 2 ASPHALT. STAGE 2

OVER STAGE 1 CONCRETE

AFTER 28 DAYS CURING.

ASPHALT ONLY TO BE PLACED

50mm LOWER COURSE #1

- 1. FOR NOTES AND DETAILS SEE DWG C2.
- 2. FOR DEMOLITION PLANS SEE DWG C3.
- 3. FOR INTERIM BUS LOOP GEOMETRY SEE DWG C16 & C17.
- 4. FOR INTERIM BUS LOOP SECTIONS SEE DWG. C20 & C21.
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LEGEND

- EXISTING WESBROOK MALL ASPHALT
- PROPOSED BUS LOOP ASPHALT (STAGE 2)
 - PROPOSED BUS LOOP ASPHALT (STAGE 1)
- PROPOSED BUS LOOP
- CONCRETE (STAGE 1) PROPOSED TEMP. ASPHALT SIDEWALK (STAGE 2)
- SEE LANDSCAPE ARCH. DWGS. PROPOSED 150mm TEMP. ASPHALT CURB (STAGE 2)
- PROPOSED 50mm TEMP. ASPHALT CURB (STAGE 2)
- PROPOSED CONCRETE CURB (STAGE 1)
- GRADE BREAK
- EXISTING WESBROOK MALL ELEVATIONS
- PROPOSED ELEVATIONS 91.163 (STAGE 1)
- PROPOSED GUTTER ELEVATIONS
 (@ FACE OF CURB) (STAGE 2)

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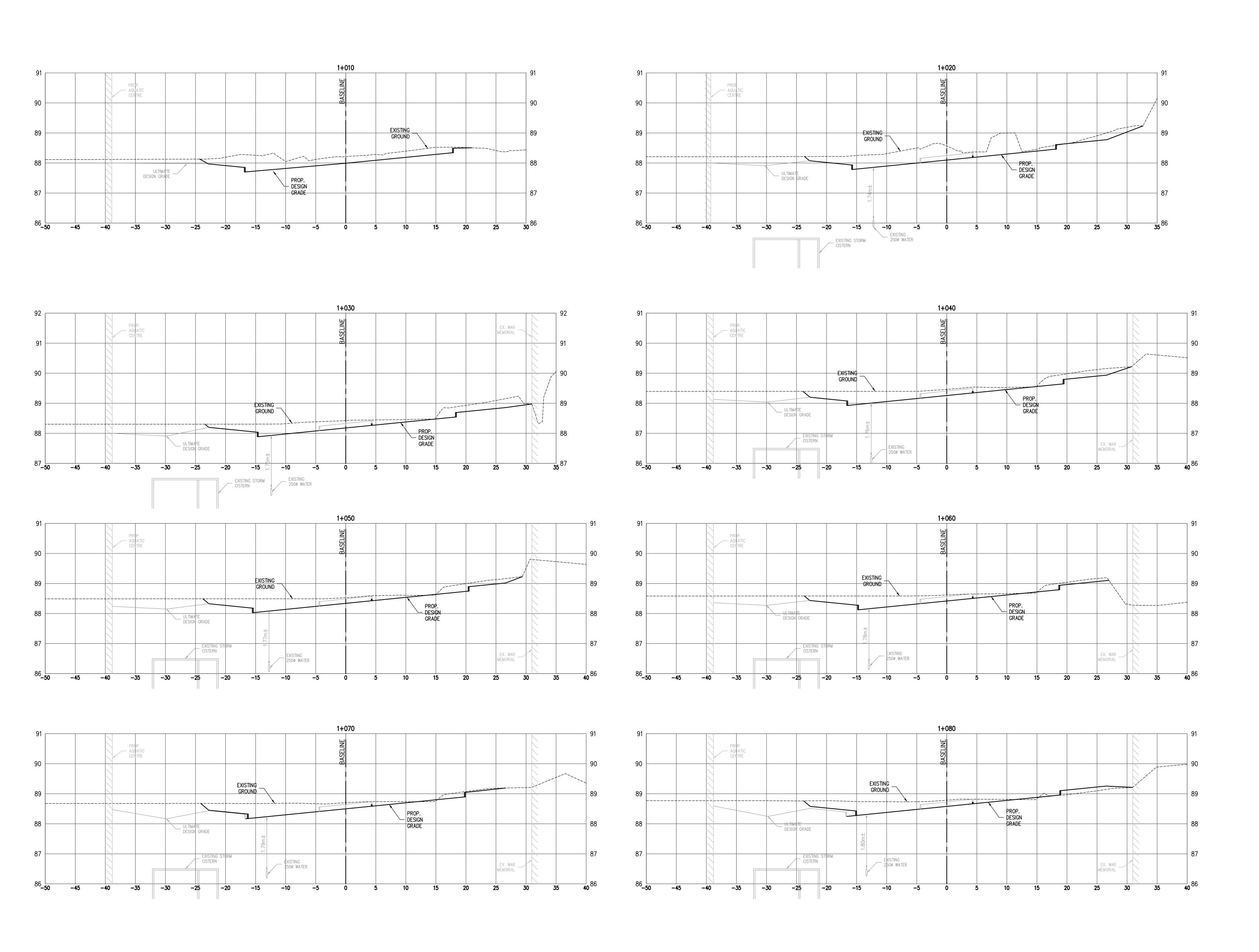
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GRAPHIC SCALE SCALE: 1:200 SEAL

UBC Gage South

Civil Design PAVING - GRADING INTERIM BUS LOOP - STAGE 2 CHECKED: CN DRAWN: BC





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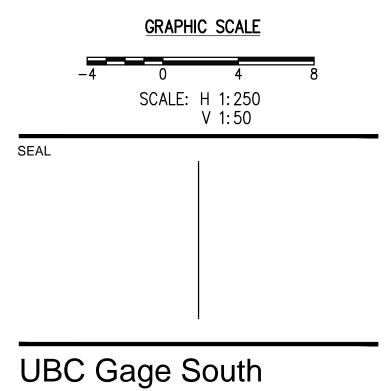
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Civil Design CROSS SECTIONS INTERIM BUS LOOP

CHECKED: CN

DRAWN: BC

C 20

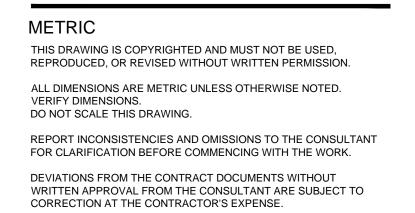


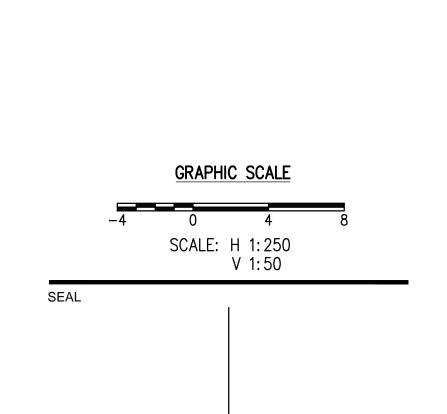






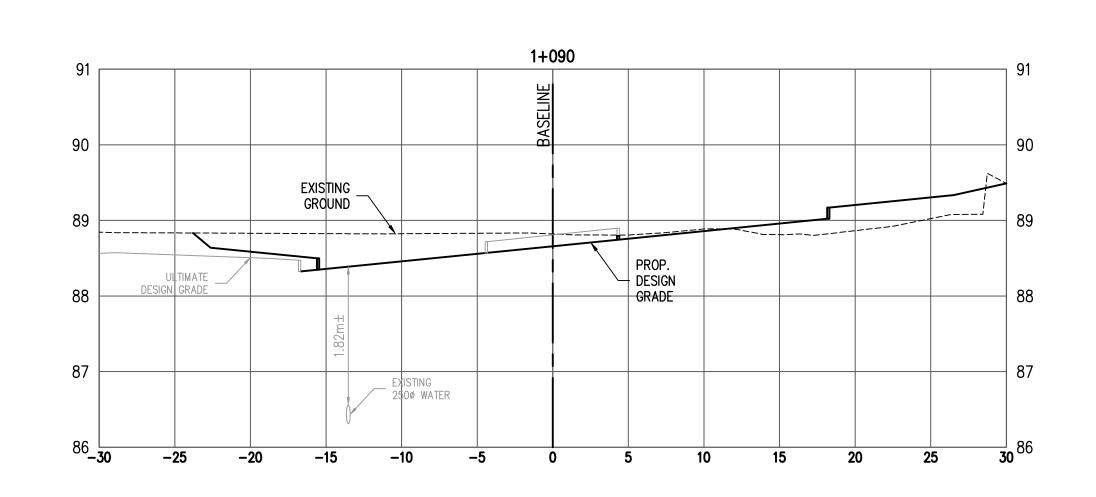


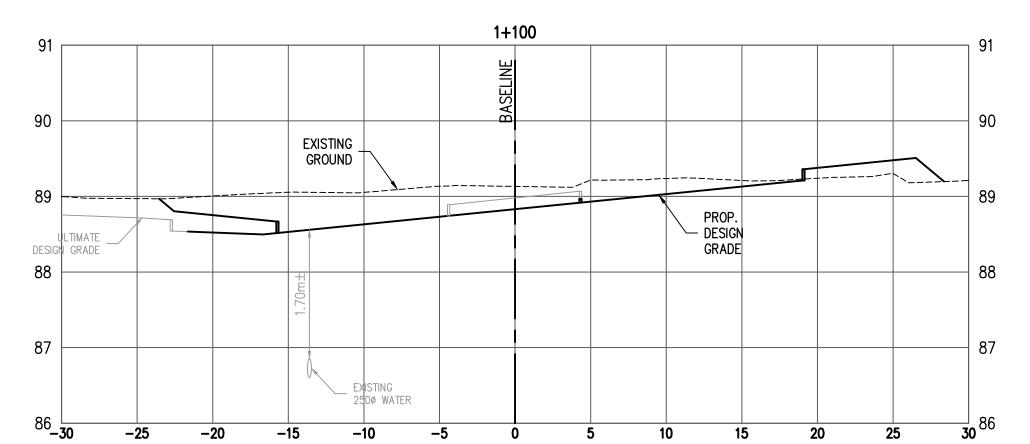


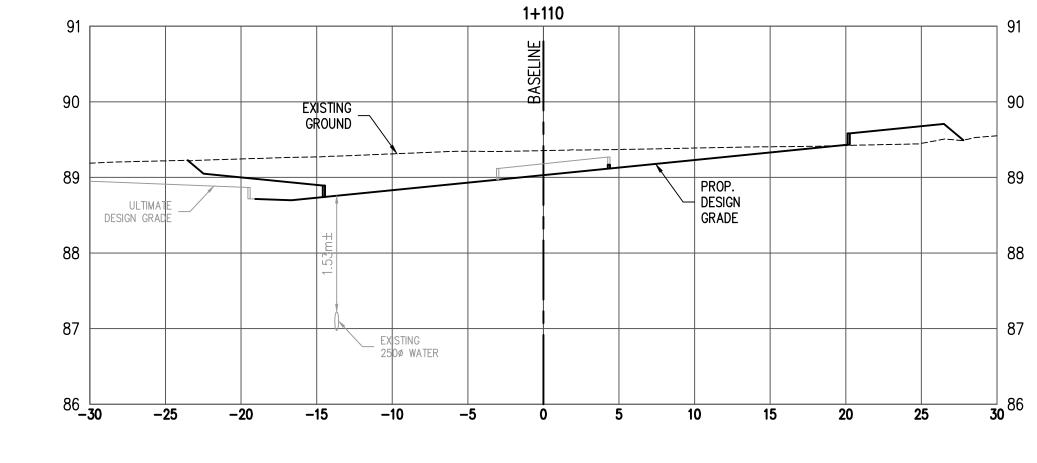


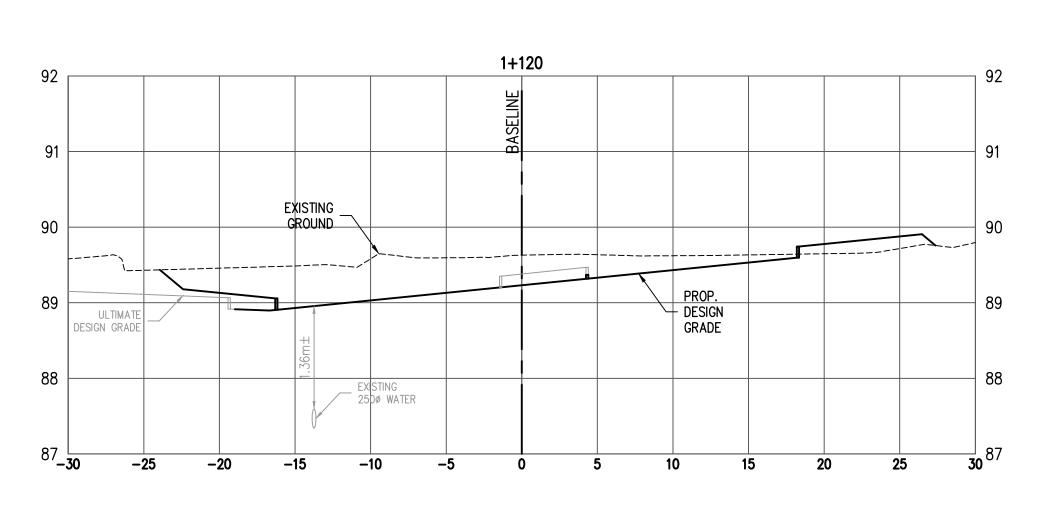
UBC Gage South

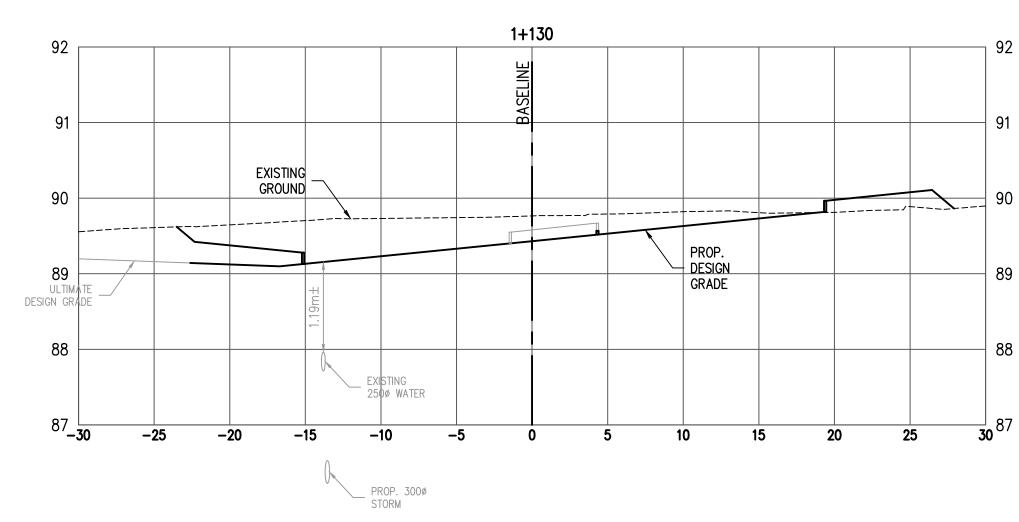
Civil Design CROSS SECTIONS INTERIM BUS LOOP DRAWN: BC CHECKED: CN

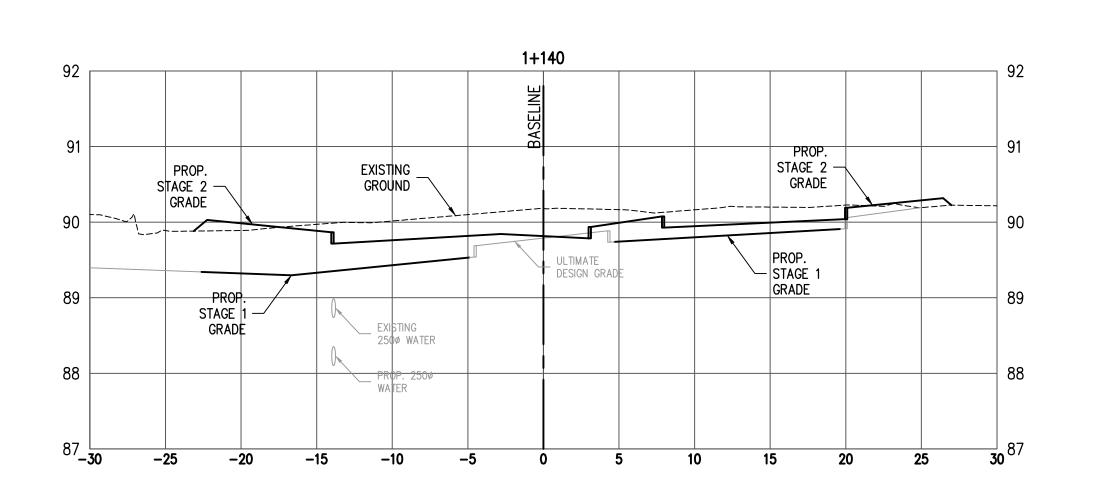


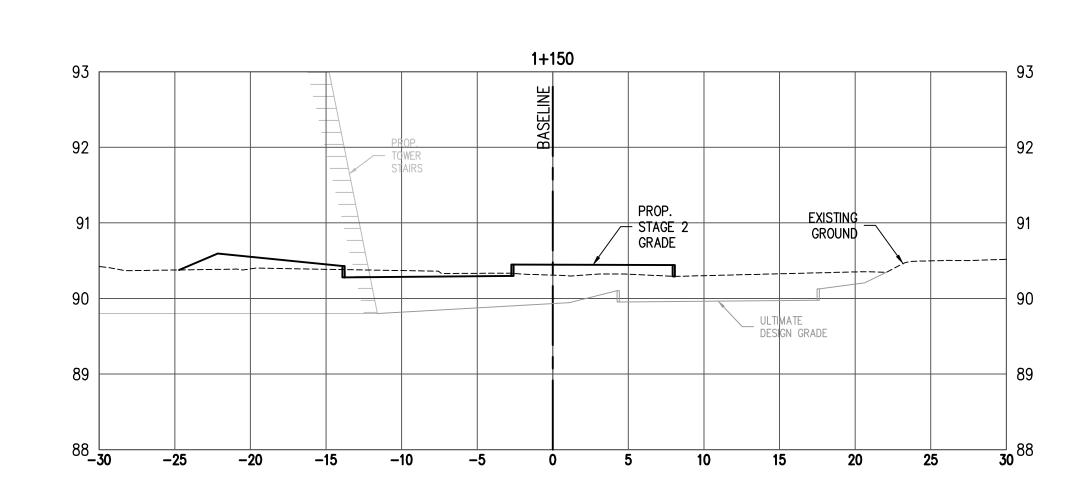




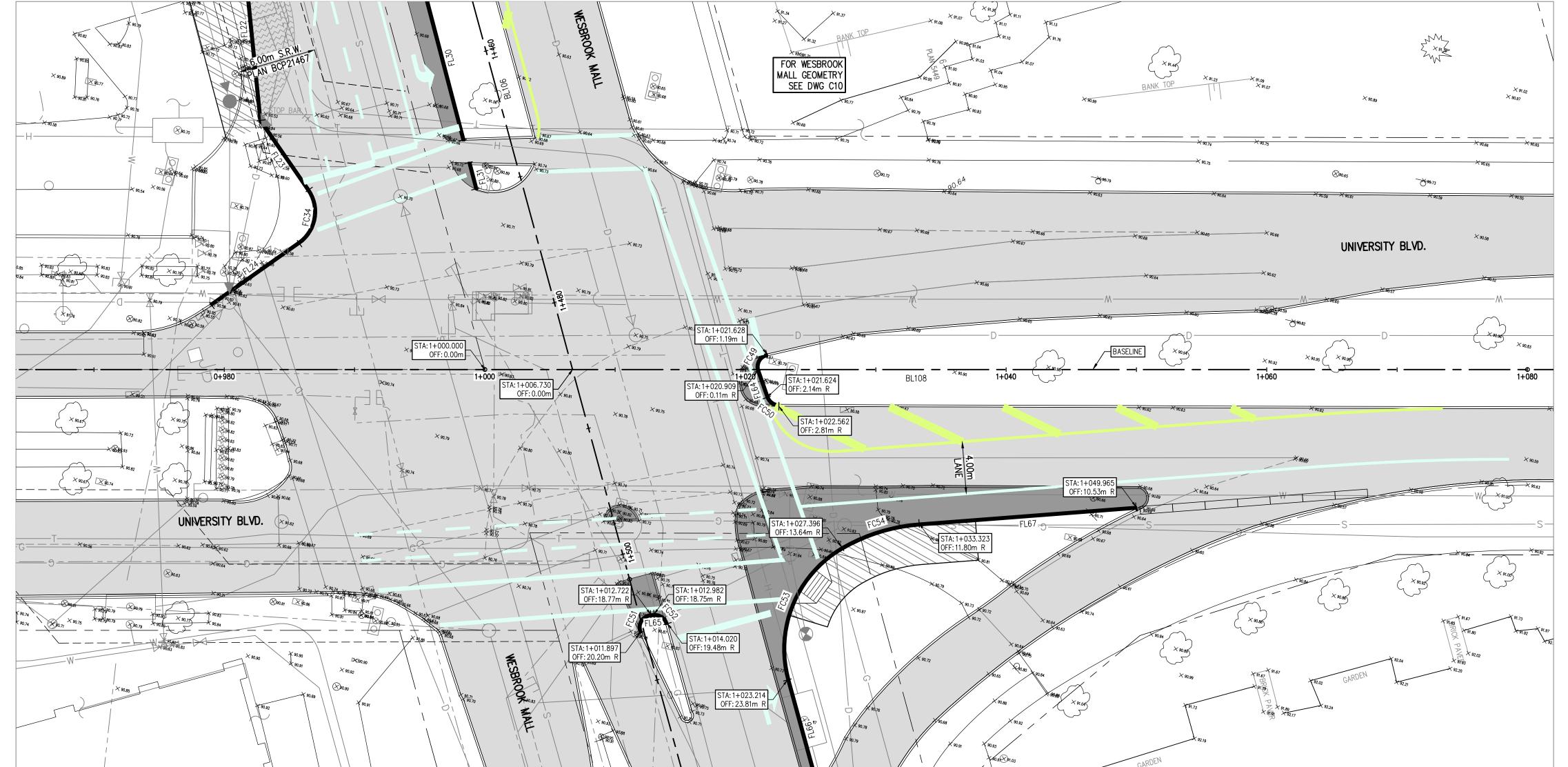


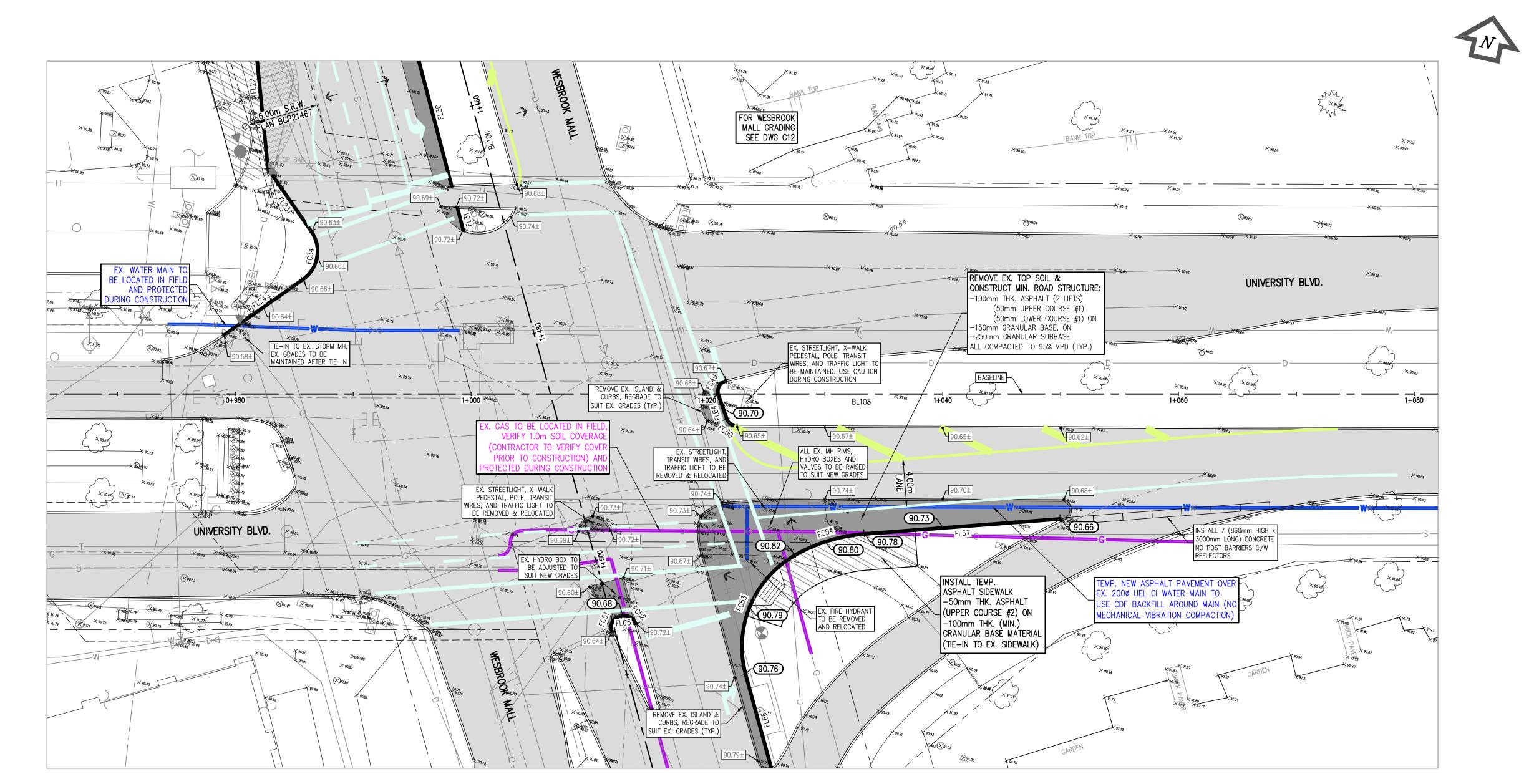












CoreGroup

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BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629

1 / 2016-04-22 / ISSUED FOR CONSTRUCTION

CUF	CURVE TABLE (FACE OF CURB)			
CURVE	CURVE DELTA		ARC	
FC34	89°28'50"	3.000	4.685	
FC49	96°24'06"	1.000	1.683	
FC50	70୩9'02"	1.000	1.227	
FC51	111°23'36"	1.000	1.944	
FC52	78'42'29"	1.000	1.374	
FC53	75¶8'32"	9.000	11.830	
FC54	25°36'13"	14.000	6.256	

LINE TABLE (FACE OF CURB)			
LINE	BEARING	DISTANCE	
FL22	S18'30'04"E	14.180	
FL23	S47°24'13"E	6.460	
FL24	S42°04'37"W	8.220	
FL30	S27°27'37"E	54.199	
FL31	S27°27'37"E	2.084	
FL64	S32°09'39"E	2.150	
FL65	N72°55'44"E	0.260	
FL66	N28°03'34"W	8.325	
FL67	N72°51'10"E	16.691	

LINE	LINE TABLE (ROAD BASELINE)			
LINE	BEARING	DISTANCE		
BL106	S27°57'39"E	109.680		
BL108	S77"14'30"W	80.000		

METRIC

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<u>LEGEND</u>

EXISTING ROAD ASPHALT

PROPOSED ROAD ASPHALT

PROPOSED ASPHALT SIDEWALK

EXISTING CURB (TO REMAIN)

PROPOSED 150mm TEMP.

STA: STATION @ BASELINE

PROPOSED ELEVATION

ASPHALT CURB

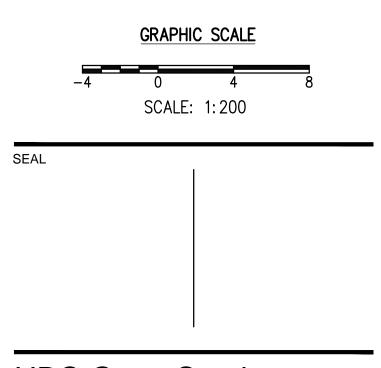
OFF: OFFSET OFF BASELINE

1.16±

EXISTING ELEVATION

- GENERAL NOTES:

 1. FOR NOTES AND DETAILS SEE DWG C3.
- 2. FOR DEMOLITION PLANS SEE DWG C2.
- 3. CALL BC ONE-CALL 24 HOURS PRIOR TO CONSTRUCTION.
- 4. TOPOGRAPHIC SURVEY FOR THIS SITE PROVIDED BY MURRAY AND ASSOCIATES LAND SURVEYORS.
- 5. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH OTHER CIVIL AND OTHER DISCIPLINE'S DRAWINGS.



UBC Gage South

Civil Design
PAVING - GEOMETRY
AND GRADING
UNIVERSITY BOULEVARD
CHECKED: CN

C 22

INFORMATION ON EXISTING UTILITIES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL EXPOSE LOCATIONS OF ALL EXISTING UTILITIES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.