



<u>COUNCIL AGENDA</u>	
Date: <u>November 20, 2023</u>	Item: <u>5.1 (On-Table)</u>



DISTRICT OF WEST VANCOUVER
750 17TH STREET, WEST VANCOUVER BC V7V 3T3

COUNCIL REPORT

Date:	November 10, 2023
From:	Erika Syvokas, Community Planner
Subject:	Proposed Development Variance Permit for 1750 Mathers Avenue & 1735 Inglewood Avenue (Place for Sport Proposal)
File:	1010-20-23-108

RECOMMENDATION

THAT Proposed Development Variance Permit No. 23-108 regarding 1750 Mathers Avenue & 1735 Inglewood Avenue to allow for a retaining wall, as described in the report dated November 10, 2023, be considered at the December 11, 2023, Council meeting in the Municipal Hall Council Chamber and via electronic communication facilities (WebEx video conferencing software); and that notice be given of consideration of the proposed development variance permit (**Appendix A**).

RECOMMENDATION

THAT the proposed Licence to Encroach – Boulevard Encroachment Agreement between the District of West Vancouver and Board of Education School District No. 45 for a portion of the proposed retaining wall on Sinclair Court, as described in the report dated November 10, 2023 and shown in **Schedule A** to proposed Development Variance Permit No. 23-108, be considered at the December 11, 2023, Council meeting in the Municipal Hall Council Chamber and via electronic communication facilities (WebEx video conferencing software).

1.0 Purpose

The purpose of this report is to provide information on proposed Development Variance Permit No. 23-108 for the new athletic track and field known as the "Place for Sport" at 1750 Mathers Avenue & 1735 Inglewood Avenue and to request scheduling of Council consideration of the application. The proposed Development Variance Permit (DVP) would allow for variances to enable the retaining wall to be sited in the proposed location and to allow the retaining wall to exceed the maximum permitted grade line and the maximum permitted exposed height of a retaining wall.

2.0 Legislation/Bylaw/Policy

Local Government Act

A DVP may be issued by resolution of Council in accordance with Section 498 of the Local Government Act. The DVP is a permit that changes regulation(s) for a particular development site allowing development to proceed or exist in a manner otherwise not allowed by the Zoning Bylaw.

Zoning Bylaw

The site is currently zoned Public Assembly Zone 1 (PA1).

3.0 Council Strategic Objective(s)/Official Community Plan

Council's Strategic Objectives do not apply.

The Official Community Plan is not applicable.

4.0 Financial Implications

There are no specific financial implications for the District related to the proposed DVP No. 23-108.

5.0 Background

The West Vancouver "Place for Sport" project is a new track and artificial turf field located at the West Vancouver Secondary School. It will replace the existing deteriorating track and poorly draining grass field.

The applicant submitted a building permit application for the proposed works, and it was identified that variances to the Zoning Bylaw are required for the proposed retaining wall.

5.1 Previous Decisions

Not applicable.

6.0 Analysis

6.1 Discussion

Site Context

The subject site consists of four properties (**Appendix B**):

- two properties addressed 1750 Mathers Avenue (West Vancouver Secondary School); and
- two properties addressed 1735 Inglewood Avenue (Inglewood Learning Centre).

The site is zoned PA1 and is owned by the Board of Education School District No. 45. All four properties are considered as one site for the purposes of Zoning Bylaw compliance. Several buildings and a grass field and asphalt athletic track are currently located on the site (Figure 1).

The site includes existing mature trees located along the southern portion of the existing athletic field and established boulevard trees located near the southwest side of the site along Sinclair Court. Lawson Creek travels north-south to the west of the subject site and Vinson Creek travels north-south to the east of the site.

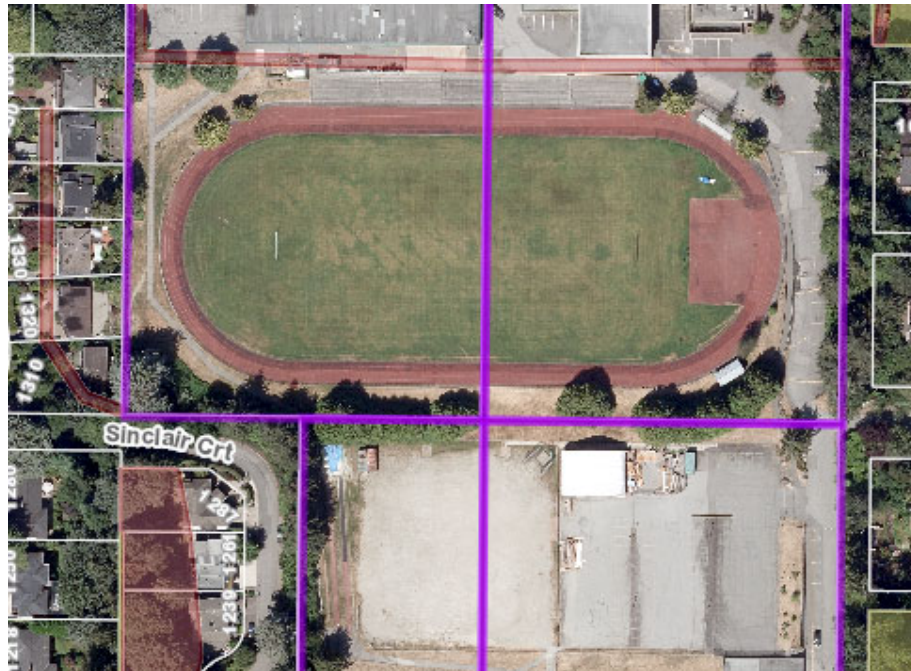


Figure 1 –Existing Site with Trees Surrounding the Athletic Field

Proposal overview

The proposal is to replace the existing running track and grass field with a new track and artificial turf field.

The new track and field area extends further south than the existing and will span over the property line between 1750 Mathers Avenue and 1735 Inglewood Avenue (Figure 2).

Due to the north edge of the site being a permanent concrete grandstand and having other infrastructure that cannot be relocated without significant expenditure (a sewer trunk line), the site can only expand southward to accommodate the correct track geometry to meet BC Athletics standards and the other track and field event amenities.

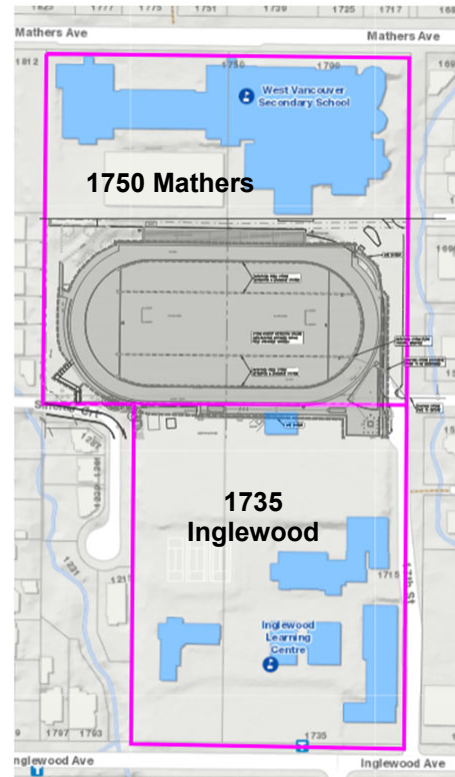


Figure 2: Site with Proposed Track Facility shown Superimposed

To accommodate the level track required for the proposed facilities, a retaining wall is required along a portion of the west and east sides and the entire south side of the new track and field. The wall will begin at zero elevation at its east and west starting points and increase to approximately 7 m in height as it moves toward and along its southern edge. A stepped wall was not feasible, as it would require that the woodworking shop and storage yard located to the south to be relocated at significant cost.

The retaining wall is proposed to be primarily constructed with lock-blocks, however, the southwest corner of the wall is proposed to be cast-in-place concrete. A safety railing is proposed at the top of the retaining wall. The location of the proposed retaining wall can be seen in Figure 3.

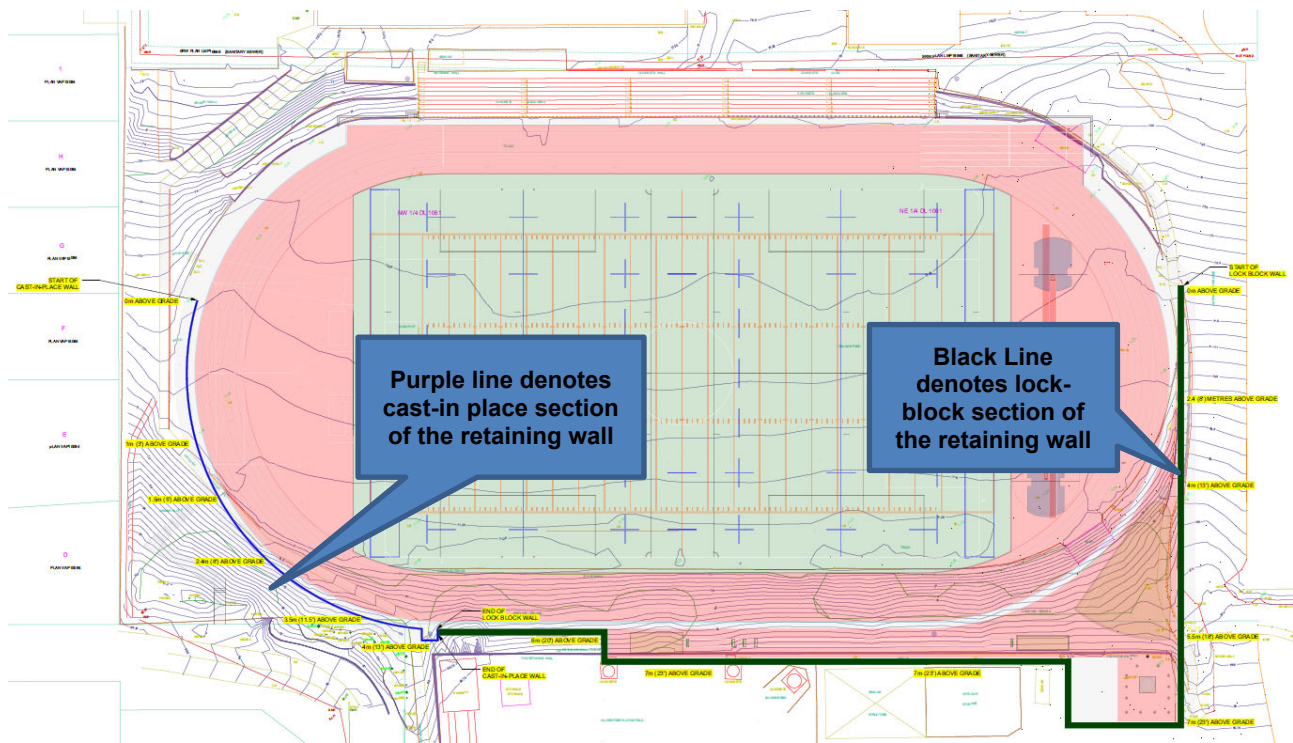


Figure 3 – Location of Proposed Retaining Wall

Analysis

Proposed Zoning Variances

The proposal requires the following Zoning Bylaw variances to accommodate the proposal:

Zoning Bylaw section 120.05(2)(c)			
Remove the requirement for a legal covenant to prevent transfer unless the building, structures and use are brought into conformance for the new site.			
Zoning Bylaw section 120.22	Proposed	Bylaw	Variance
Maximum exposed retaining wall height 2.4 m 120.22.(4)	7.15 m (23.5 ft.)	2.4 m	4.75 m
Retaining wall grade line up 1.2 m and then in towards the property at 75% slope 120.22.(2)(c)	4.23m (13.9 ft.)	1.2 m	3.03 m
Zoning Bylaw section 560.07	Proposed	Bylaw	Variance
560.07 (1) Side Yard	0.0 m	minimum 10% of site width, to a max of 3 m	3 m
560.07 (2) Combined side yard	13.56 m	the greater of 6 m or 25% of the site width minimum, up to 30.4 m	16.84 m

Landscaping and Trees

The majority of the existing trees in the southwest corner of the site are proposed to be retained in order to block any views of the retaining wall from the residents along Sinclair Court. The properties to the east of the site have dense vegetation and would not have any views to the retaining wall.

A planting plan will be required prior to issuance of a Building Permit as a condition of the DVP to screen the retaining wall and mitigate any visual impacts to the south.

Municipal Boulevard Encroachment

The proposed retaining wall includes a minor encroachment in the southwest section as shown in **Schedule A** of the proposed DVP No. 23-108 (**Appendix A**). The criteria for Director consideration within the Boulevard Bylaw is not met and this encroachment requires Council approval.

6.2 Climate Change & Sustainability

The proposal contributes to the District's long term sustainability by supporting the social-well being of school students, community track and field clubs, community field sports groups and the greater community recreation needs.

6.3 Public Engagement and Outreach

Notification

Should the proposal advance, owners and occupants of properties located within 50 m of the subject site will be notified of the proposed Development Variance Permit in accordance with the Development Procedures Bylaw No. 4940, 2017.

Website

In alignment with current practice, a description of the proposal will be posted online. Applicable dates will be updated should the proposal advance.

6.4 Other Communication, Consultation, and Research

A concurrent building permit application for the proposed athletic field is under review by the Permits department.

7.0 Options

7.1 Recommended Option

At the time of consideration of this report, Council may:

a) Set the date for consideration of the application (recommended); or

7.2 Considered Options

a) set a date for consideration of the application and request that public notification occur and/or additional information (to be specified) be provided and available to assist in consideration of the application; or

b) defer further consideration pending receipt of additional information (to be specified); or

c) reject the application.

Date: November 10, 2023
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1735 Inglewood Avenue (Place for Sport Proposal)

Page 7

8.0 Conclusion

The proposed retaining wall for the Place for Sport project requires variances. Subject to public input, staff recommend that proposed Development Variance Permit No. 23-108 be advanced to consideration and approved by Council.

Author:



Erika Syvokas, Community Planner

Concurrence:



Michelle McGuire, Senior Manager of Current Planning and Urban Design

Appendices:

- A – Proposed Development Variance Permit 23-108
- B – Context Map

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District of West Vancouver *Proposed* Development Variance Permit No. 23-108

Current Owner(s):

This Development Variance Permit applies to:

Civic Address: 1750 Mathers Avenue and 1735 Inglewood Avenue

Legal Description: 015-956-032
DISTRICT LOT 1061 NORTHWEST ¼

AND

015-956-199
DISTRICT LOT 1061 PART NE1/4, RPLMP16846

AND

015-956-202
DISTRICT LOT 1061 SOUTH WEST ¼ EAST 165 FEET
INGLEWOOD SCHOOL

AND

015-956-211
DISTRICT LOT 1061 SOUTH EAST ¼ INGLEWOOD SCHOOL

(the "Lands")

-
- 1.0 For the purposes of this Development Variance Permit, the Lands shall be developed in substantial compliance with the drawings approved by Council, attached as Schedule "A".
 - 2.0 This Development Variance Permit is issued and varies and supplements the District's Zoning Bylaw No. 4662, 2010, as amended, in accordance with plans attached as Schedule "A".
 - 3.0 Removal of trees on the District boulevard identified on Schedule "A" are not authorized for removal until a building permit has been issued.
 - 4.0 Prior to issuance of a Building Permit, a planting plan must be submitted to the Director of Planning and Development Services (or designate) which

shows types and numbers of plant species to be planted to screen the retaining walls and mitigate any visual impacts on neighbouring properties or the streetscape.

- 5.0 Prior to final occupancy the applicant must submit documentation demonstrating that the “as-built” development complies with all requirements of this development variance permit to Director of Planning and Development Services (or designate). Any variations must be clearly identified with a rationale and explanation noting that planning staff review and approval may be needed for variations prior to final occupancy.
- 6.0 This Development Variance Permit lapses if construction of the additions and renovations has not commenced, under an issued Building Permit, within 24 months of the date this permit is issued.

THE COUNCIL OF WEST VANCOUVER APPROVED THIS PERMIT BY
RESOLUTION PASSED ON

MAYOR

CORPORATE OFFICER

THE REQUIREMENTS AND CONDITIONS UPON WHICH THIS PERMIT IS
ISSUED ARE ACKNOWLEDGED AND AGREED TO BY THE CURRENT
OWNER. IT IS UNDERSTOOD:

- THAT OTHER PERMITS / APPROVALS MAY BE REQUIRED INCLUDING PERMITS / APPROVALS FOR BUILDING CONSTRUCTION, SOIL AND ROCK REMOVAL OR DEPOSIT, BOULEVARD WORKS, AND SUBDIVISION; AND
- THE DEVELOPMENT MUST ATTAIN REQUIREMENTS OF THE BC BUILDING CODE AND ANY VARIANCES TO THE ZONING BYLAW ARE THE RESPONSIBILITY OF THE OWNER AND MUST BE RECTIFIED AT THE BUILDING PERMIT STAGE.

FOR THE PURPOSES OF SECTION 6.0, THIS PERMIT IS ISSUED ON

Schedules:

A – Development Plans for the Athletic Field at 1750 Mathers Avenue and 1735 Inglewood Avenue (Designed by Core Group Consultants)

WEST VANCOUVER SECONDARY SCHOOL ATHLETIC FIELD

1750 MATHERS AVENUE
WEST VANCOUVER, BC

LEGAL DESCRIPTION:

DISTRICT LOT 1061 GROUP 1 NWD
NORTH WEST QUARTER DL 1061 PID: 015-956-032
NORTH EAST QUARTER DL 1061 PID: 015-956-199
SOUTH EAST QUARTER DL 1061 PID: 015-956-211
THE EAST 165 FEET OF THE SOUTH WEST QUARTER DL 1061 PID: 015-956-202

BENCHMARK DATA:

ELEVATIONS ARE TO GVRD GEODETIC DATUM 2005 BENCH MARK
- MONUMENT 6783
WEST OF 20TH AVENUE ON MATHERS AVENUE
ELEVATION = 86.387 METRES

CONSULTANT:

CoreGroup

CONSULTANTS

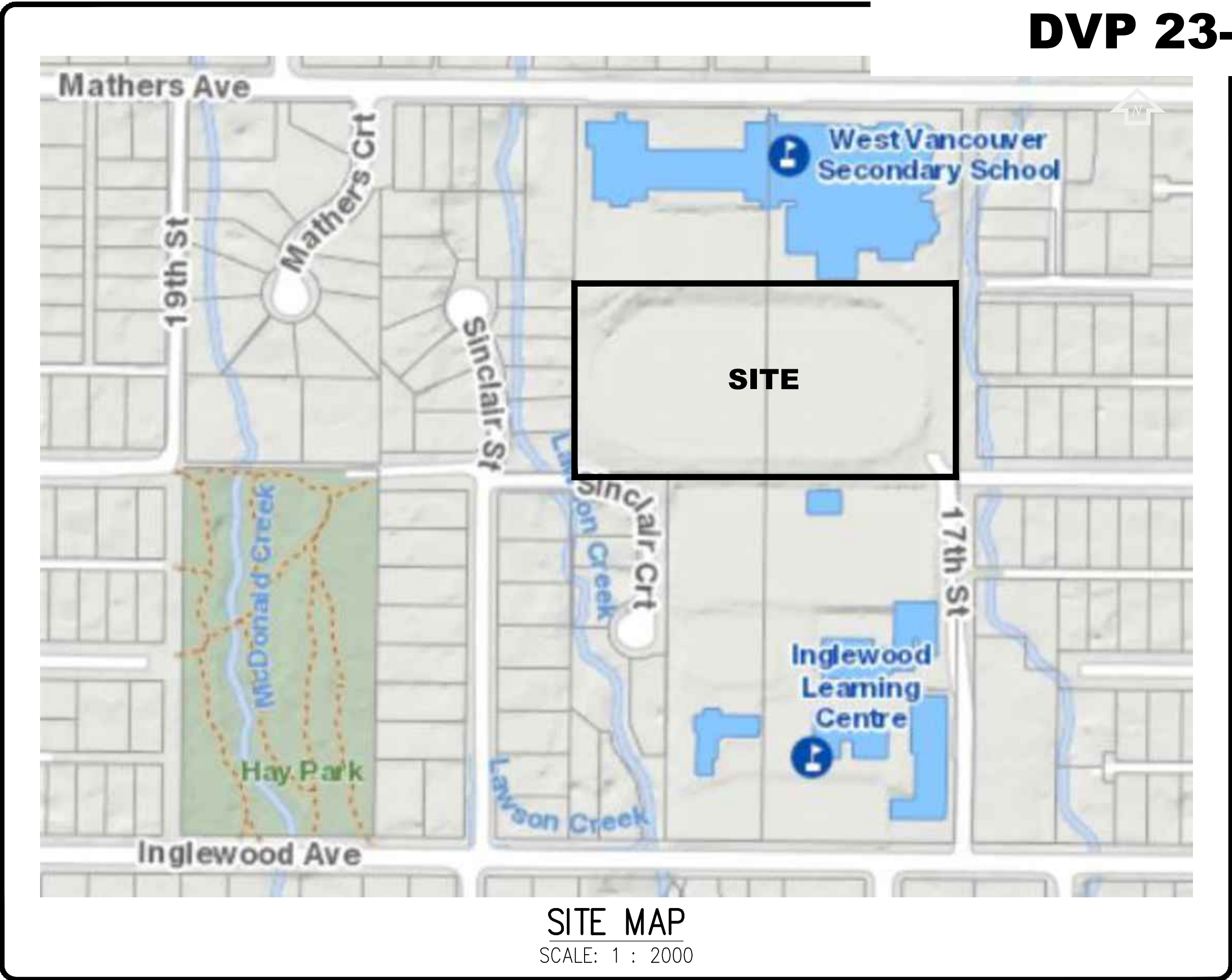
LAND DEVELOPMENT SERVICES

320-8988 FRASERTON COURT

BURNABY, BC V5J 5H8

tel. (604)299 0605 fax. (604)299 0629

Permit To Practice No. 1001017 (BC)



SCHEDULE A to
DVP 23-108

DRAWING LIST

CIVIL PLANS

- C0. COVER SHEET
- C1. EXISTING CONDITIONS PLAN
- C2. SITE KEYPLAN & SERVICING PLAN
- C3. SITE SECTIONS
- C4. WALL SECTIONS
- C5. DETAILS
- C6. NOTES
- C7. EROSION & SEDIMENTATION CONTROL PLAN
- C8. STORMWATER MANAGEMENT PLAN

ELECTRICAL PLANS

- (JARVIS ENGINEERING CONSULTANTS)
- E1.0 OVERALL SITE PLAN
 - E2.0 SITE PLAN - LIGHTING, POWER & LOW TENSION
 - E3.0 DETAILS
 - E3.1 DETAILS
 - E4.0 SPECIFICATIONS
 - E4.1 SPECIFICATIONS

BLOCK RETAINING WALL PLANS

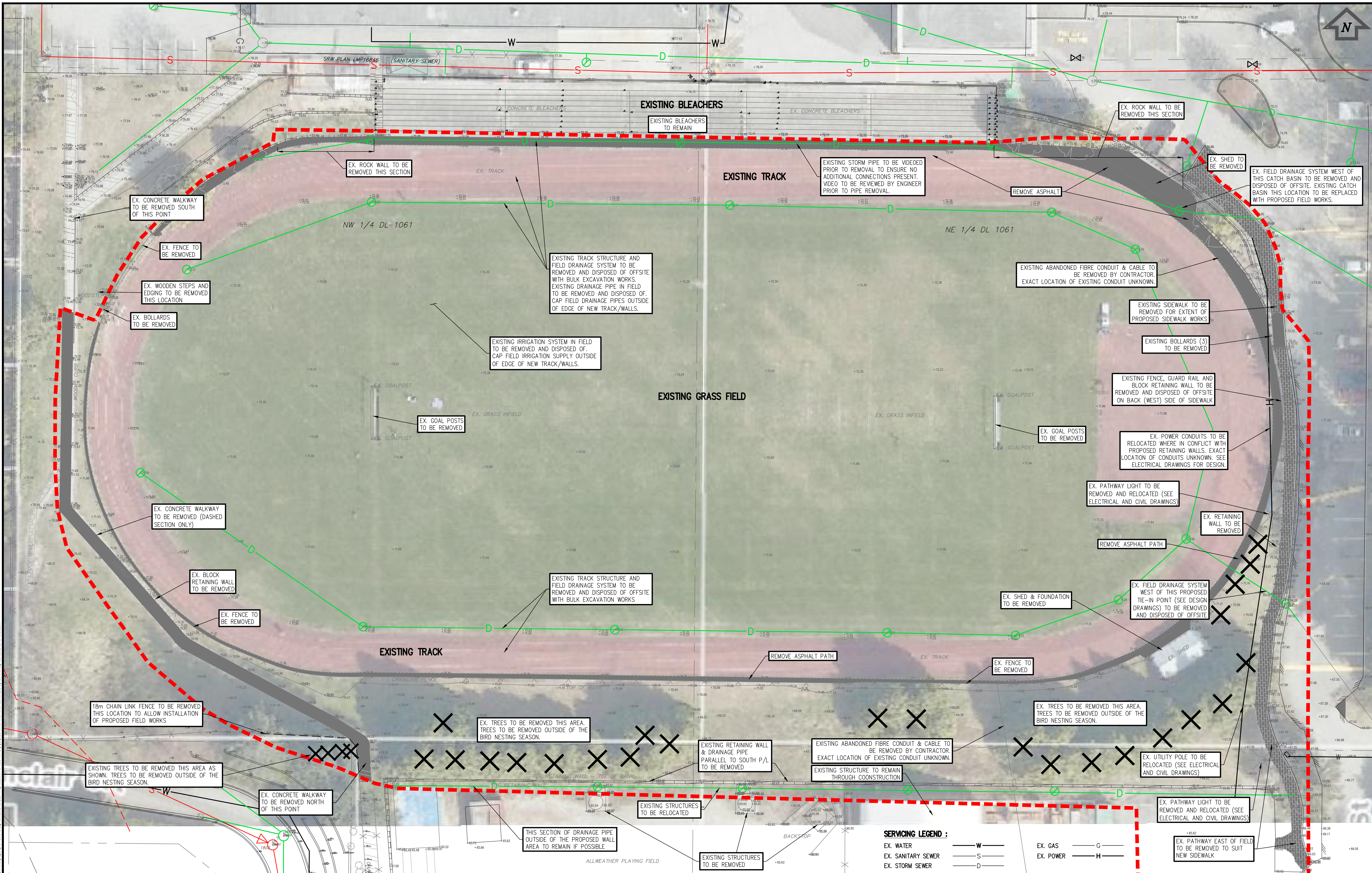
- (CSR GEOTECHNICAL CONSULTANTS)
- GRW 1.0 GENERAL NOTES
 - GRW 1.1 RETAINING WALL DETAILS
 - GRW 2.0 SITE PLAN
 - GRW 3.0 PROFILES AND SECTIONS

CAST-IN-PLACE RETAINING WALL PLANS

- (READ JONES CHRISTOFFERSEN ENGINEERING)
- S1.1 GENERAL NOTES AND TYPICAL DETAILS
 - S1.2 GENERAL NOTES AND TYPICAL DETAILS
 - S2.1 SITE PLAN
 - S3.1 SECTIONS AND DETAILS

BUILDING PERMIT ISSUE

OCTOBER 3, 2023
CORE GROUP JOB #2108



BENCHMARK DATA:

ELEVATIONS ARE TO CVRD GEODETIC DATUM
2005 BENCH MARK - MONUMENT 5783
WEST OF 20TH AVENUE ON MATHERS AVENUE
ELEVATION = 86.387 METRES

REV'D	DATE(Y/M/D)	DR/N	CH'D
2	2023/10/03	SR	CN
1	2023/08/28	SR	CN

CHECK BEFORE YOU DIG

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. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE.

GRAPHIC SCALE:

GRAPHIC SCALE

SCALE: 1:250

CoreGroup CONSULTANTS

LAND DEVELOPMENT SERVICES

320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629
Permit To Practice No. 1001017 (BC)

SEAL:

PROFESSIONAL
C. G. NOLAN
CIVIL ENGINEER
2023-10-06

DISTRICT OF WEST VANCOUVER

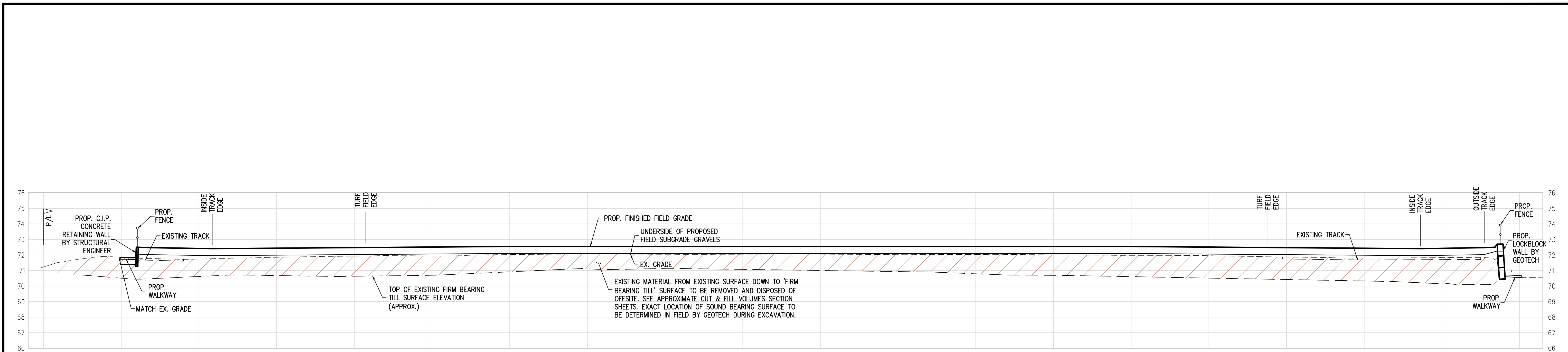
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APPROVED - CN
DATE - OCTOBER 3, 2023

WEST VANCOUVER SECONDARY SCHOOL

EXISTING CONDITIONS & DEMOLITION PLAN

1750 MATHERS AVENUE, WEST VANCOUVER, BC

FILE -
CONSULTANTS DWG No- 2108
CITY DOC. No-
SHEET C1



SECTION A-A - MID-FIELD WEST TO EAST

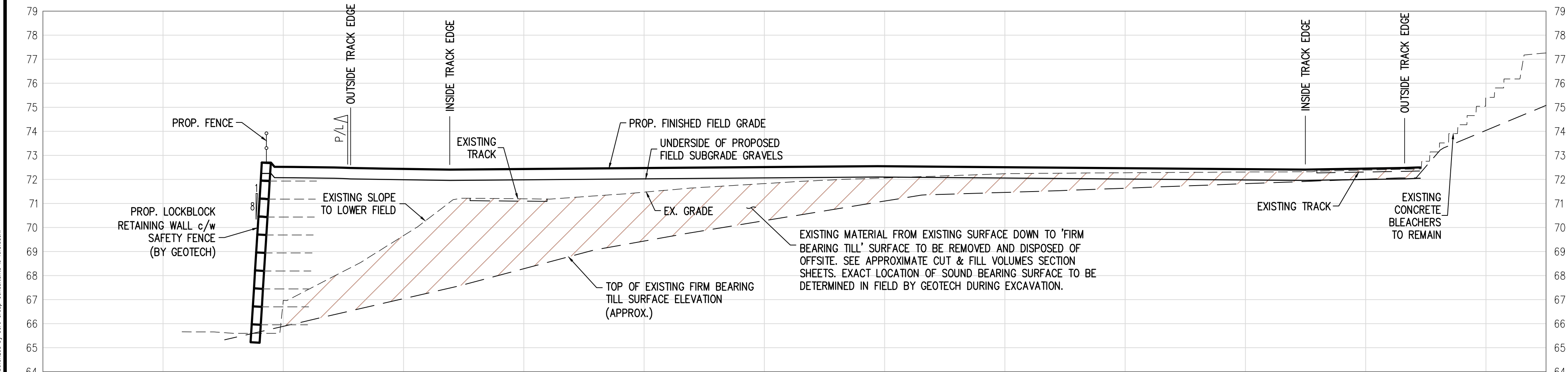
APPROXIMATE CUT & FILL VOLUMES:

STRIP UNSUITABLE MATERIAL DOWN TO SOUND BEARING TILL & DISPOSE OFFSITE = 21,370m³
EXCAVATE EXISTING TILL MATERIAL TO FIELD SUBGRADE ELEVATION & DISPOSE = 102m³
IMPORT FILL TO FIELD SUBGRADE ELEVATION (TO 0.45m BELOW PROPOSED FIELD SURFACE) = 29,900m³

STORM DETENTION VOLUME PROVIDED:

PIPE VOLUME = 574m TRENCH LENGTH x 200# PIPE = 18.0m³
TRENCH ROCK VOLUME LESS PIPE VOLUME = ((574m TRENCH LENGTH x 0.6m AVERAGE EFFECTIVE TRENCH DEPTH x 0.4m TRENCH WIDTH) - 18.0m³) x 0.35 ROCK POROSITY = 41.8m³
TOTAL DETENTION VOLUME PROVIDED = TRENCH ROCK VOLUME LESS PIPE VOLUME + PIPE VOLUME = 41.8m³ + 18.0m³ = 59.8m³

NOTE: THE FULL EXTENT OF EXCAVATION DEPTHS MUST BE APPROVED BY THE OWNER'S GEOTECHNICAL ENGINEER AT TIME OF EXCAVATION. THE CONTRACTOR IS TO ACCOMMODATE THE OWNER'S GEOTECHNICAL ENGINEER TO ALLOW FOR TESTING.



SECTION B-B - MID-FIELD SOUTH TO NORTH

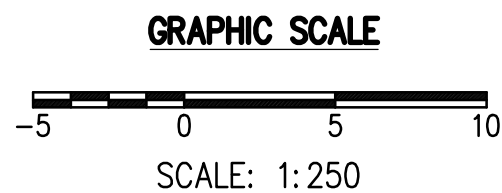
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GRAPHIC SCALE:



CoreGroup
CONSULTANTS
LAND DEVELOPMENT SERVICES
320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629
Permit To Practice No. 1001017 (BC)

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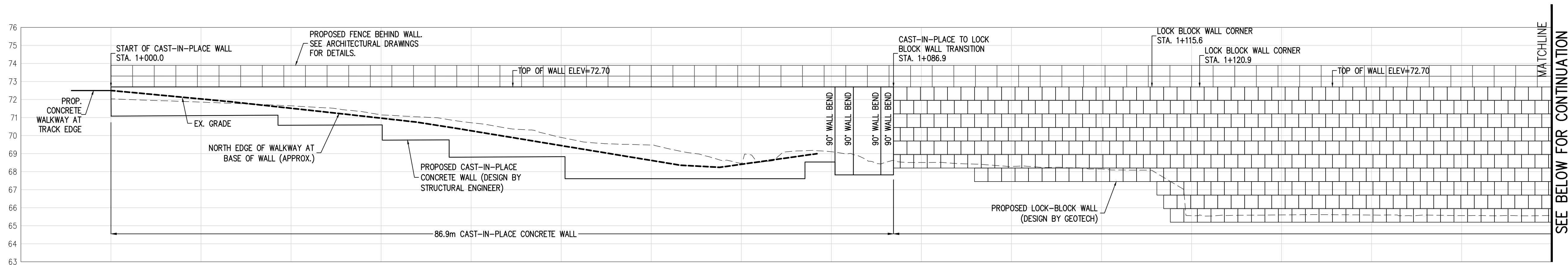


DISTRICT OF WEST VANCOUVER

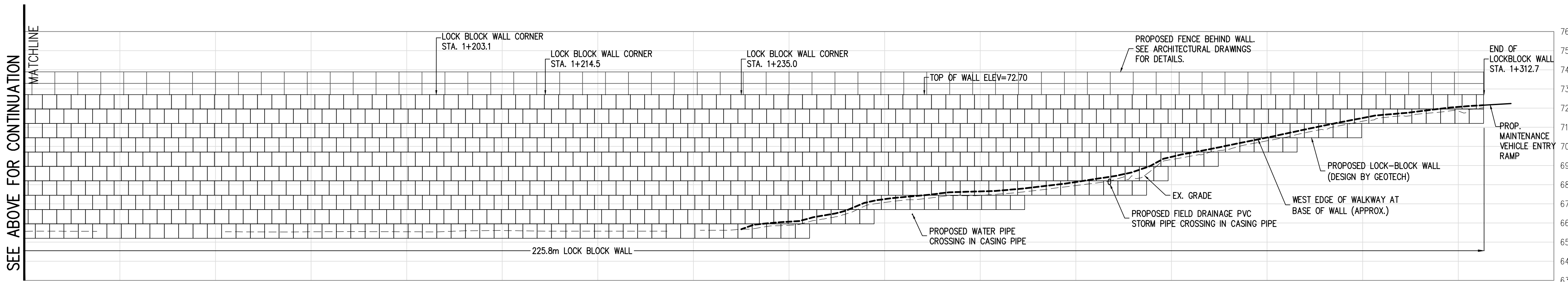
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APPROVED-	CN
DATE-	OCTOBER 3, 2023

**WEST VANCOUVER
SECONDARY SCHOOL**
**SITE SECTIONS
& DETAILS**
1750 MATHERS AVENUE, WEST VANCOUVER, BC

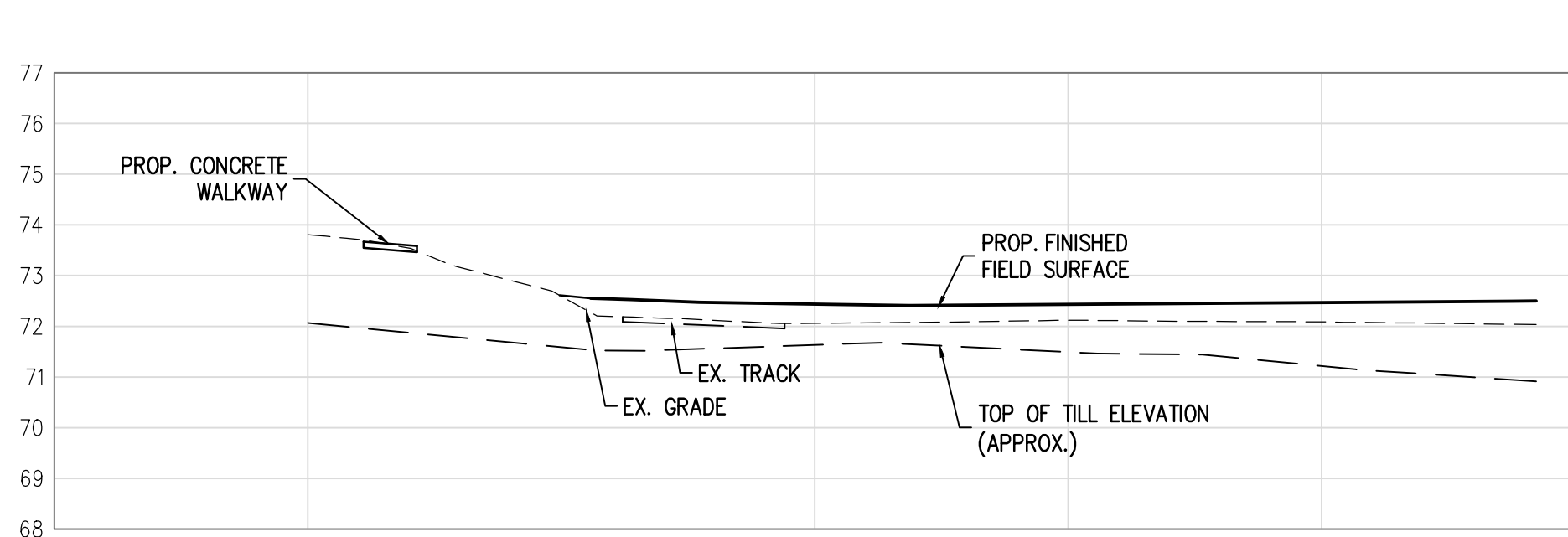
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CITY DOC. No-	-
SHEET	C3



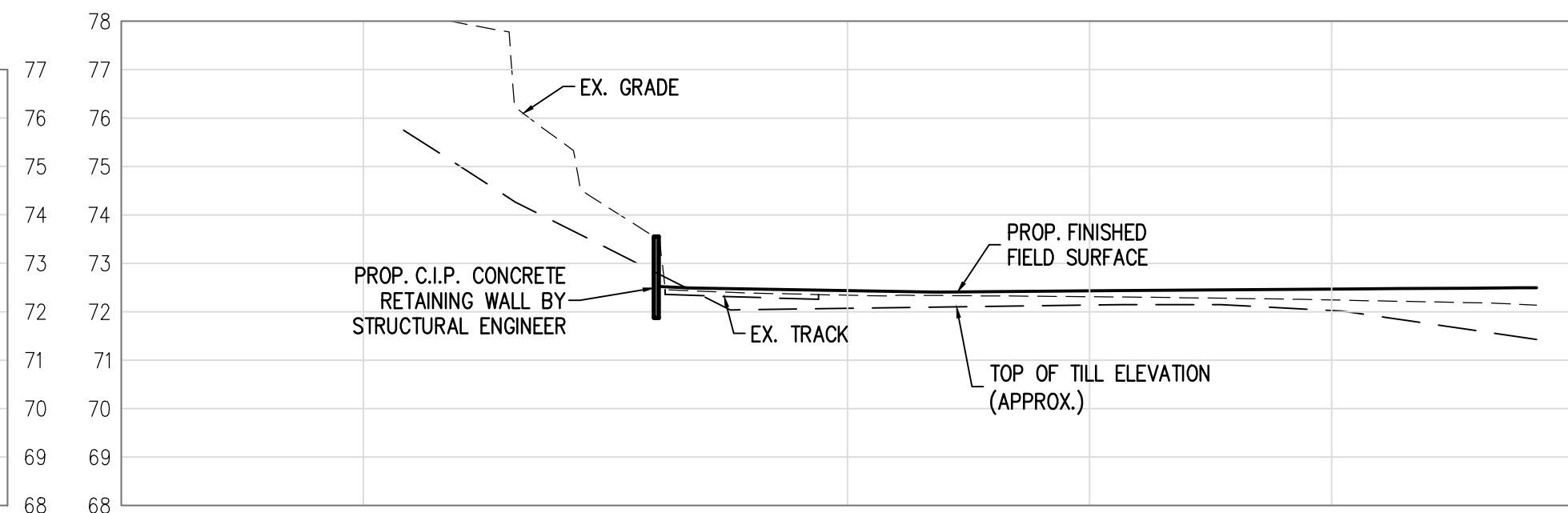
SOUTH WALL GENERAL ARRANGEMENT - LOOKING NORTH AT WALL FACE



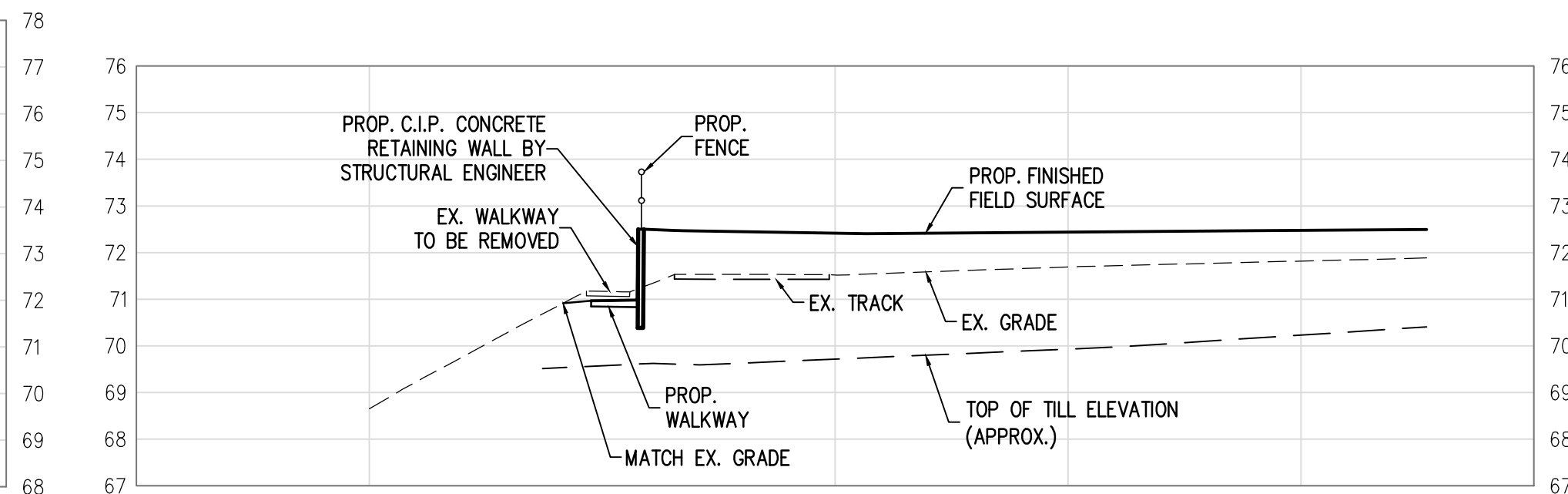
SOUTH WALL GENERAL ARRANGEMENT - LOOKING NORTH & WEST AT WALL FACE



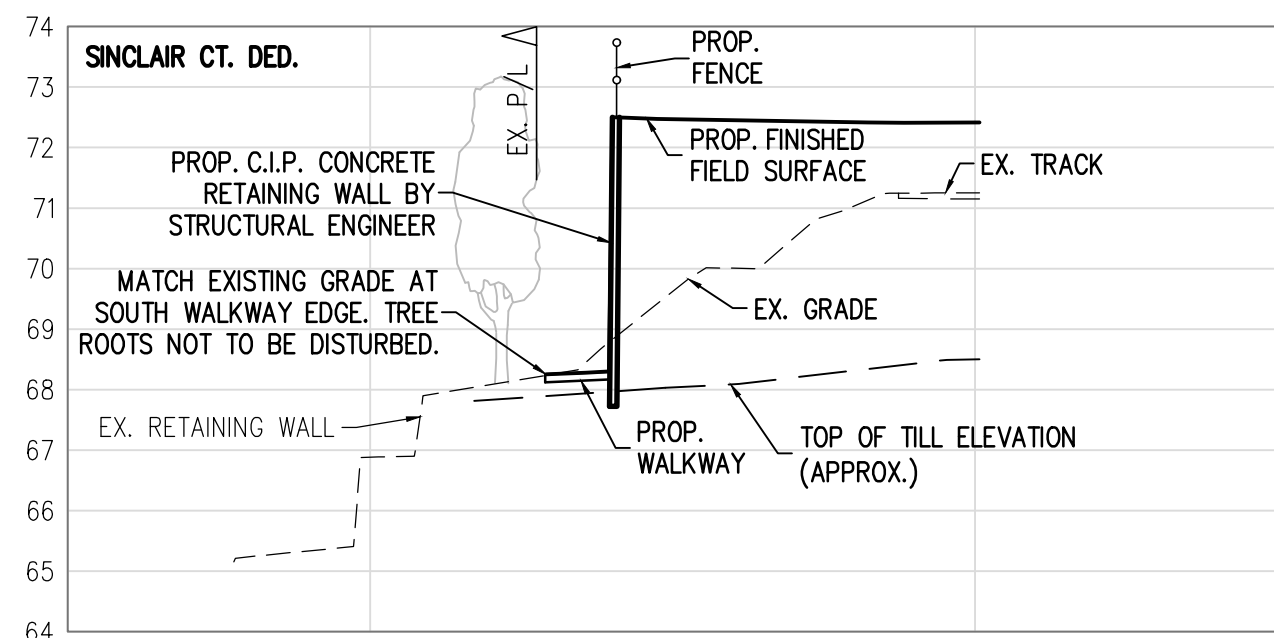
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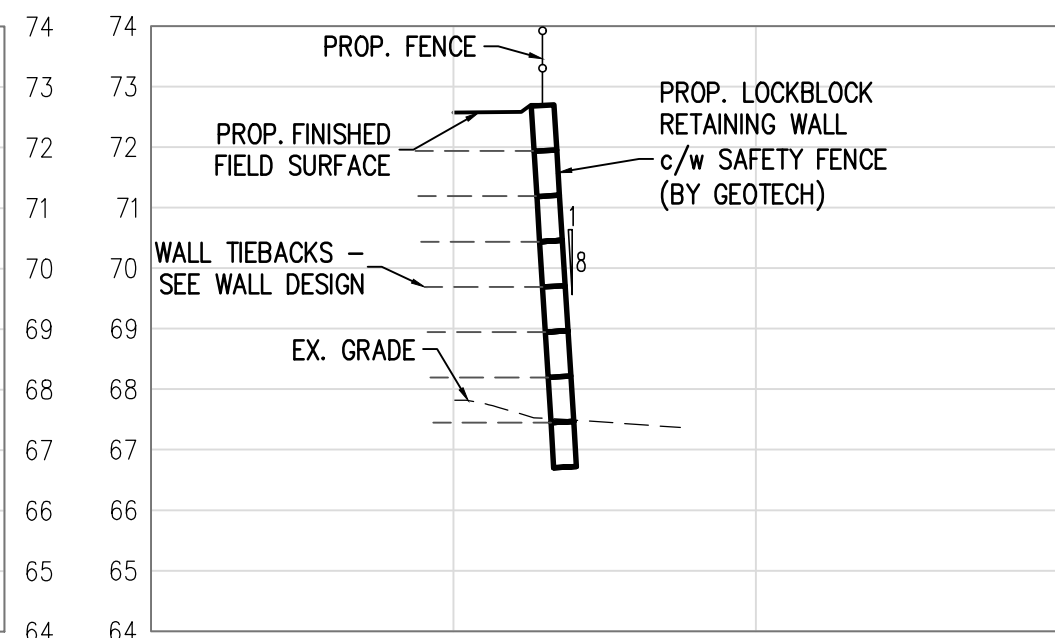
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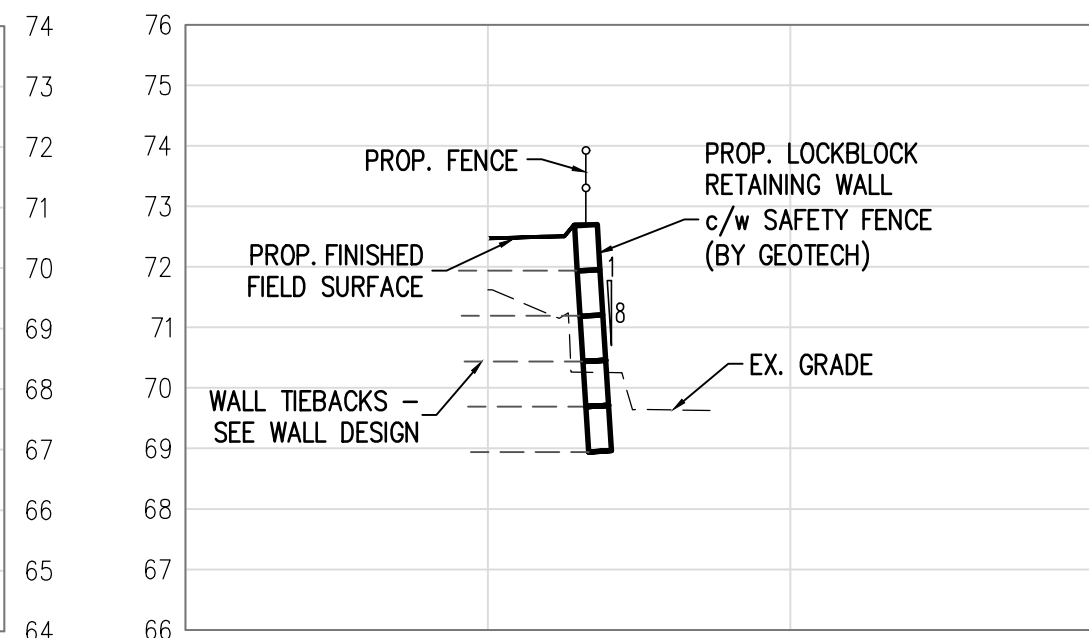
SECTION D-D - SOUTHWEST AT FIELD EDGE



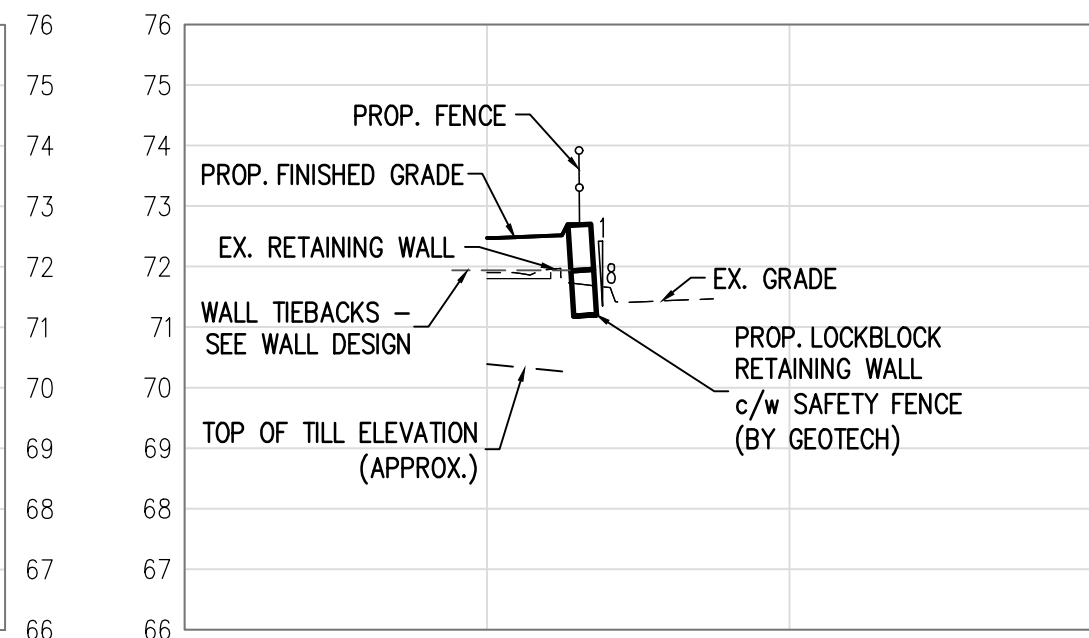
SECTION E-E - SOUTH AT FIELD EDGE



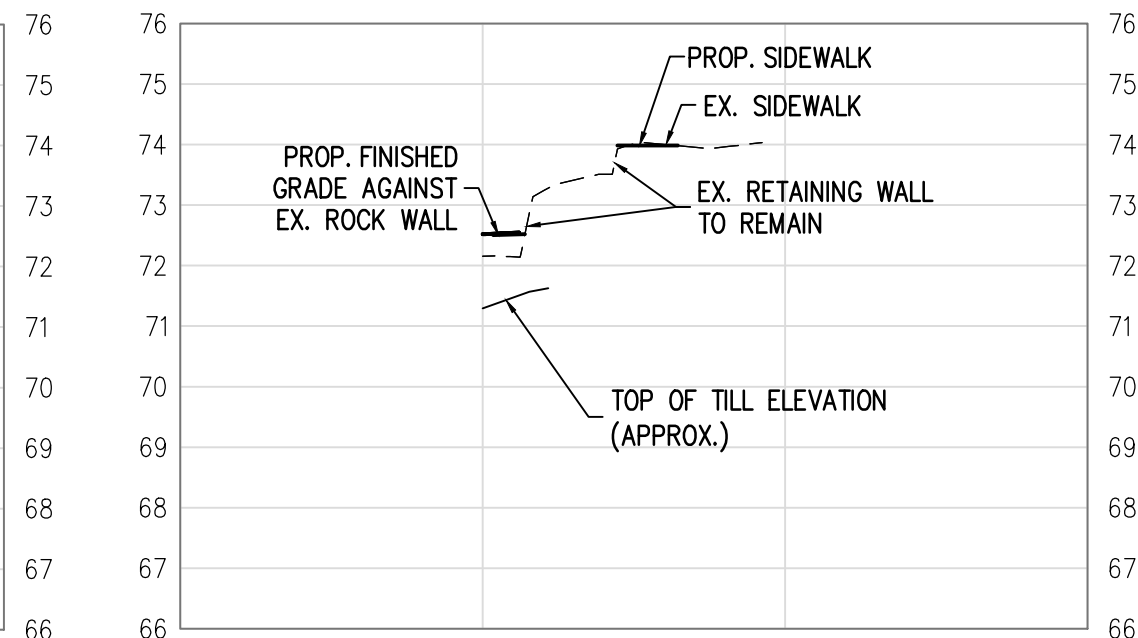
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SECTION G-G - SOUTHEAST AT FIELD EDGE



SECTION H-H - SOUTHEAST AT FIELD EDGE



SECTION I-I - FIELD EDGE ASPHALT TIE-IN

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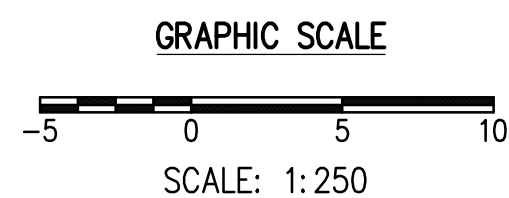
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CONSULTANTS
LAND DEVELOPMENT SERVICES
320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629
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DISTRICT OF WEST VANCOUVER

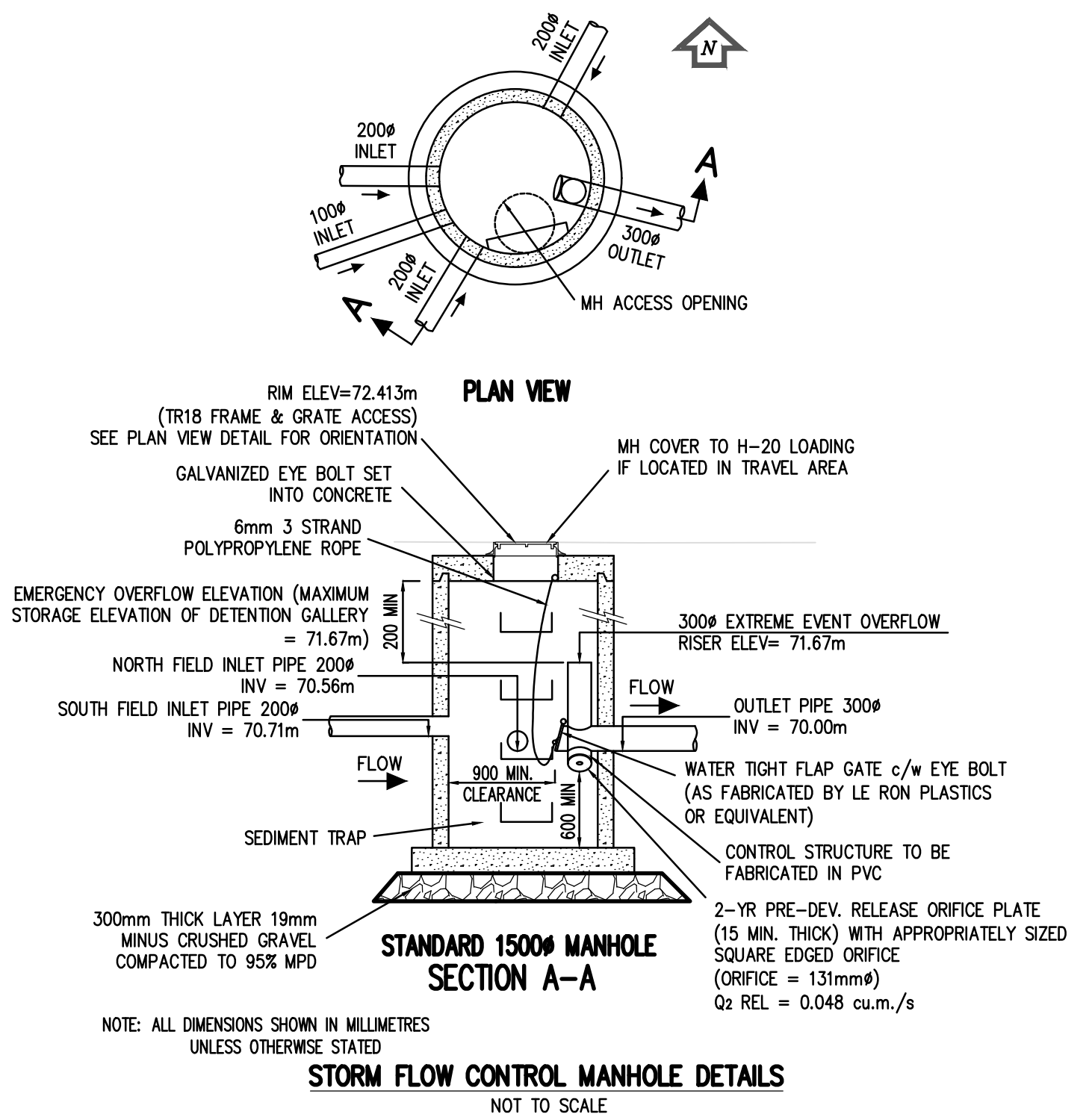
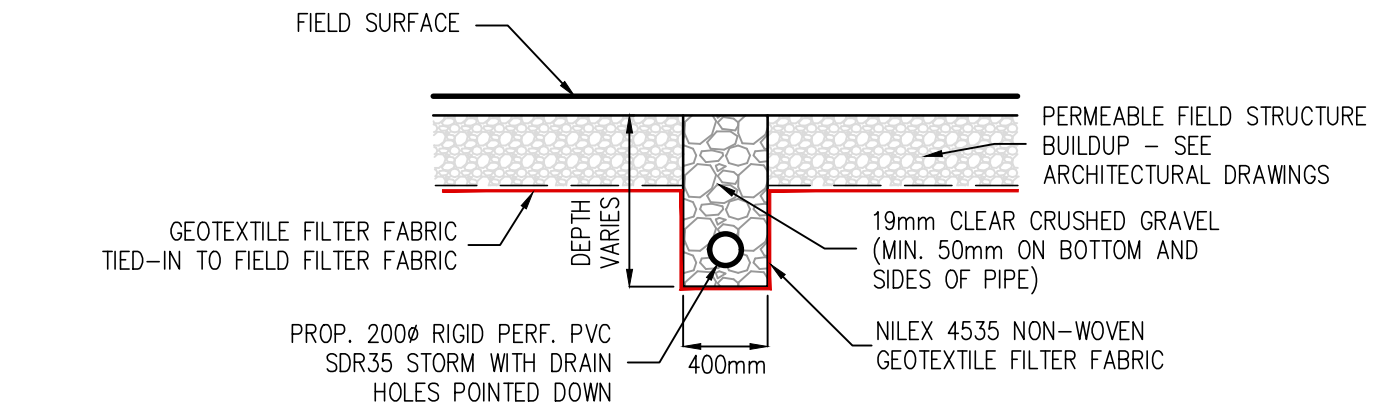
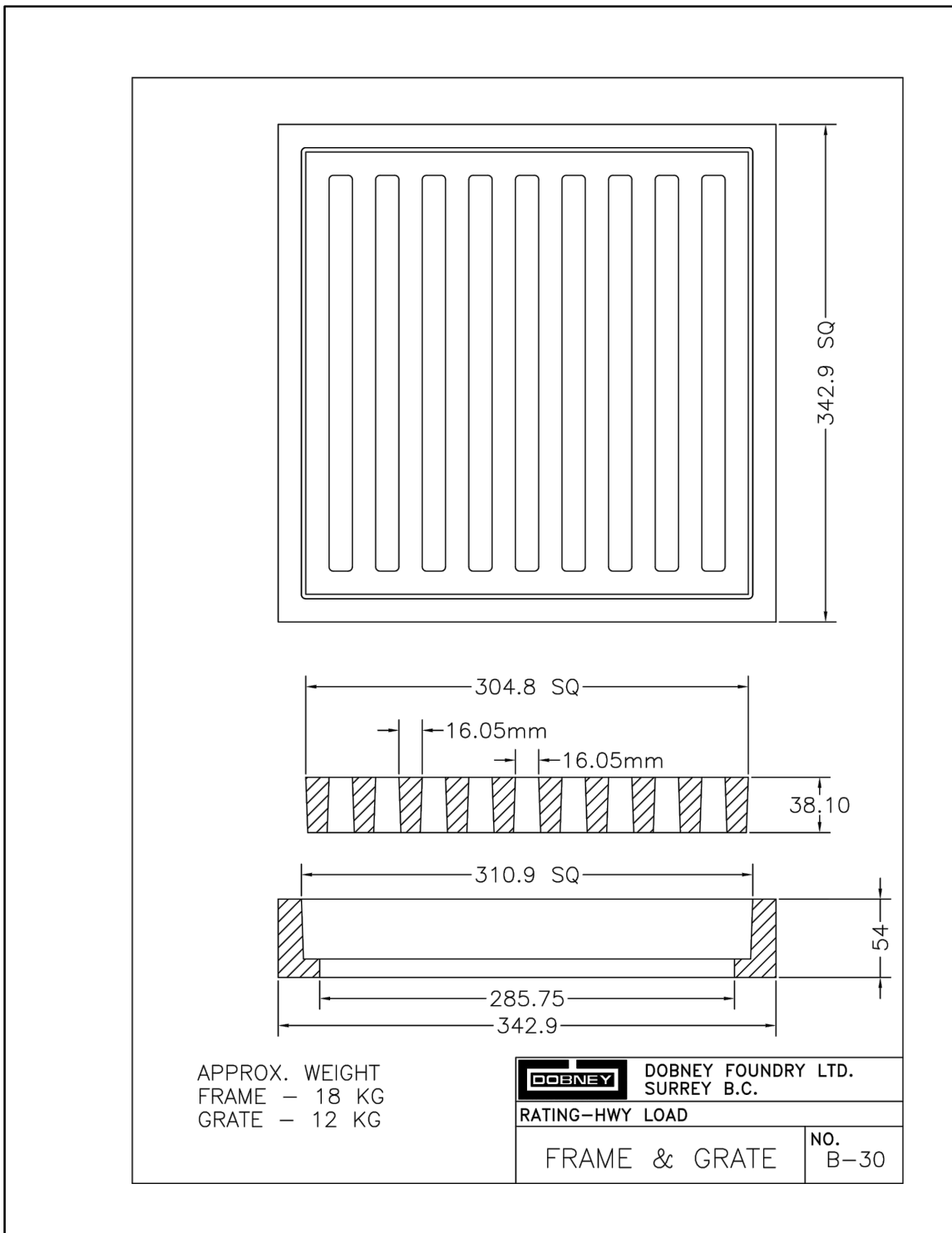
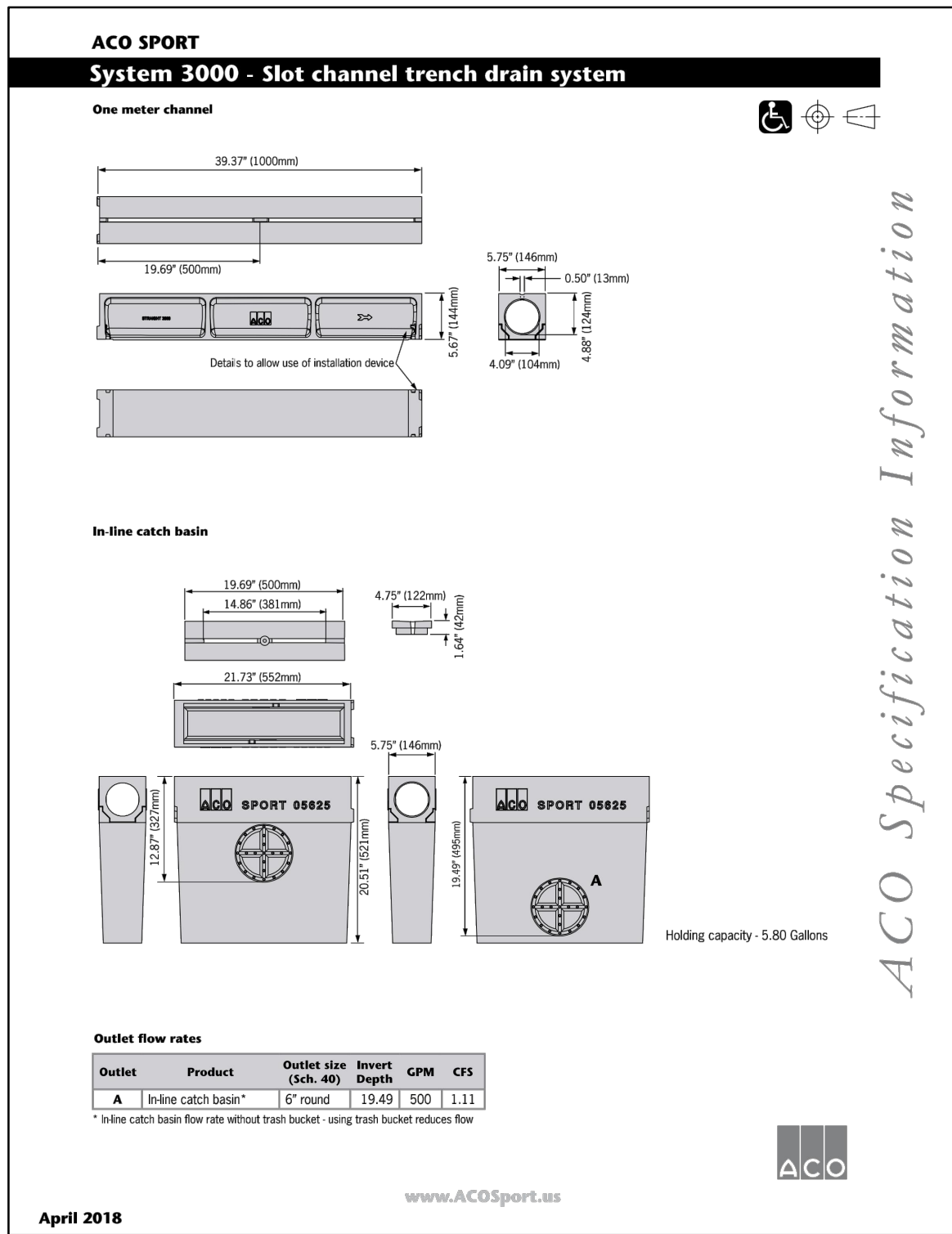
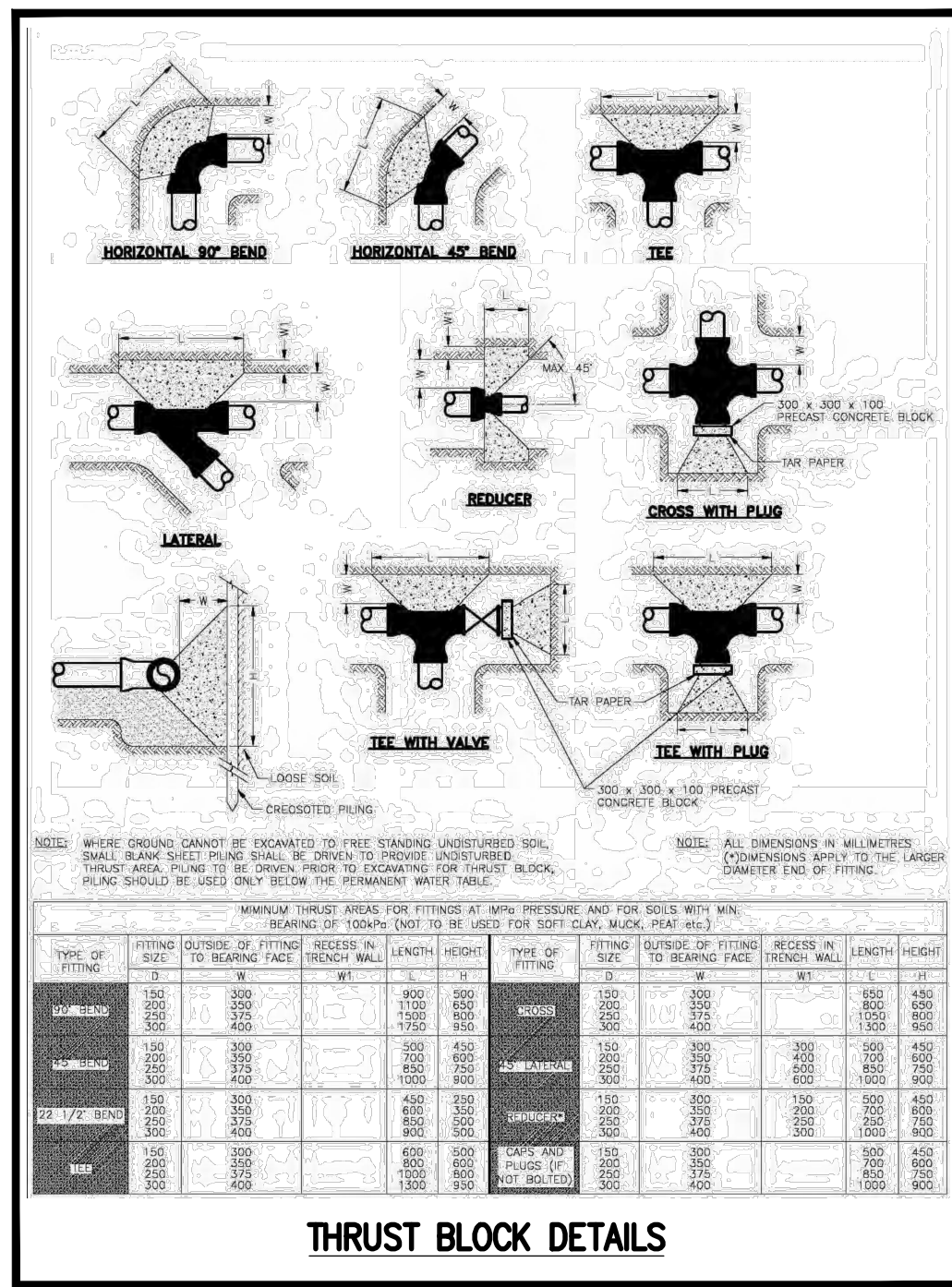
WEST VANCOUVER
SECONDARY SCHOOL

WALL SECTIONS

1750 MATHERS AVENUE, WEST VANCOUVER, BC

DESIGNED -	SR
DRAWN -	SR
METRIC SCALE -	1:250H 1:125V
APPROVED -	CN
DATE -	OCTOBER 3, 2023

FILE -	
CONSULTANTS DWG No -	2108
CITY DOC. No -	-
SHEET	C4



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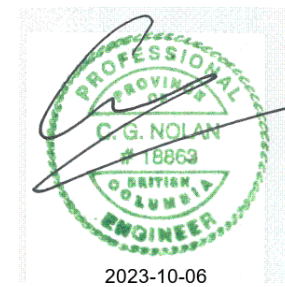
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Permit To Practice No. 1001017 (BC)

SEAL:



DISTRICT OF WEST VANCOUVER

DESIGNED -	SR
DRAWN -	SR
METRIC SCALE -	-
APPROVED -	CN
DATE -	OCTOBER 3, 2023

WEST VANCOUVER SECONDARY SCHOOL
DETAILS & SECTIONS

1750 MATHERS AVENUE, WEST VANCOUVER, BC

FILE -	
CONSULTANTS DWG No -	2108
CITY DOC. No -	-
SHEET	C5

1. ELEVATIONS ARE METRIC AND REFER TO GEODETIC DATUM
2. ALL ON SITE SERVICES TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION OF WEST VANCOUVER SUBDIVISION BYLAWS, REVIEWED DRAWINGS, THE LATEST MMCO SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. THE INTO EXISTING SERVICES MUST BE COMPLETED THROUGHOUT THE DISTRICT OF WEST VANCOUVER AND MUST PROVIDE 48 HOURS NOTICE OF START OF WORK
3. THE CONTRACTOR SHALL ENSURE ALL APPROVALS REQUIRED FOR THE PROPOSED WORK HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. THE CONTRACTOR IS TO CHECK WITH B.C. HYDRO, TELUS, SHAW, FORTIS AND ALL OTHER UTILITY COMPANIES PRIOR TO COMMENCING WORK FOR VERIFICATION OF LOCATIONS AND INVERTS OF ALL GAS MAINS AND UNDERGROUND SERVICES TO ENSURE NO CONFLICTS
4. ALL LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND SERVICES DETERMINED FROM THE DISTRICT OF WEST VANCOUVER AS CONSTRUCTED DRAWINGS AND THE ENGINEER CANNOT BE RESPONSIBLE FOR THEIR ACCURACY. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING SERVICES AND THE TIE IN POINTS PRIOR TO CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS. CONTRACTOR TO COMPLY WITH OFFSHORE TIE-IN ELEVATIONS FROM COMMENCING CONSTRUCTION
5. OPEN TRENCH OPERATIONS IN EXISTING PAVEMENT SHALL BE VERTICAL AND REPLACED WITH HOT MIX ASPHALT AFTER BACKFILL AND COMPACTION. ALL PAVEMENTS, BOULEVARDS, ETC. ARE TO BE RESTORED TO ORIGINAL CONDITIONS OR BETTER WHERE NO IMPROVEMENT IS PROPOSED UNDER THIS CONTRACT. VERTICAL TRENCH OPERATIONS TO BE CONDUCTED IN ACCORDANCE WITH WCB REGULATIONS
6. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING NEAR EXISTING SERVICES AND ALL SERVICES DISTURBED ARE TO BE REPAIRED BY THE DISTRICT OF WEST VANCOUVER AT COST TO THE CONTRACTOR
7. ANY MATERIAL SUBSTITUTION MUST BE APPROVED BY THE ENGINEER, AND THE DISTRICT OF WEST VANCOUVER
8. ALL SURVEY MONUMENTS MUST BE PROTECTED, ANY DAMAGE TO BE REPAIRED BY THE DISTRICT OF WEST VANCOUVER AT THE CONTRACTOR'S EXPENSE
9. ALL EXISTING APPROVED TIE-INS TO THE DISTRICT OF WEST VANCOUVER TO THE DISTRICT OF WEST VANCOUVER. THE DISTRICT OF WEST VANCOUVER MAY REQUIRE WRITTEN ACCEPTANCE BY THE AFFECTED PROPERTY OWNERS FOR RESTORATION WORKS PERFORMED BY THE CONTRACTOR
10. SEWER AND WATER SERVICE CONNECTIONS TO BE TERMINATED AS SHOWN ON PLANS BY "ON-SITE" SERVING CONNECTIONS C/W SEWER CLEANOUTS.
11. CONTRACTOR TO BE RESPONSIBLE TO THE DISTRICT OF WEST VANCOUVER REQUIRED PRIOR TO CONSTRUCTION WITHIN ROAD ALLOWANCES
12. CONTRACTOR TO CONFIRM SIZES AND LOCATIONS OF THE CONNECTIONS TO THE BUILDINGS WITH THE MECH. ENGINEER PRIOR TO CONSTRUCTION
13. ALL BUILDING CORNERS MUST BE SURVEYED PRIOR TO SITE SERVING
14. CONTRACTOR TO DEVELOP A CONSTRUCTION MANAGEMENT PLAN TO BE REVIEWED AND APPROVED BY THE DISTRICT OF WEST VANCOUVER PRIOR TO COMMENCEMENT OF WORKS
15. CORE GROUP CONSULTANTS TO PROVIDE WEEKLY INSPECTION REPORTS TO THE DISTRICT OF WEST VANCOUVER
16. NO CONSTRUCTION TO COMMENCE UNTIL ALL TREE PROTECTION FENCING & SEDIMENT CONTROL WORKS HAS BEEN INSTALLED
17. THE CONTRACTOR TO CONTACT THE ENGINEER PRIOR TO CONSTRUCTION TO ARRANGE FOR A CONSTRUCTION MEETING AND REVIEW OF CONSTRUCTION METHODS AND TIMING
18. CONTRACTOR TO OBTAIN HIGHWAY USE PERMIT FROM THE DISTRICT OF WEST VANCOUVER PRIOR TO CONSTRUCTION
19. IT IS THE DEVELOPERS RESPONSIBILITY TO CO-ORDINATE LANDSCAPE PLANS WITH SERVING WORKS TO ENSURE NO CONFLICTS ARE CREATED. RESOLUTION OF CONFLICTS AT SOLE COST TO DEVELOPER
20. TREE REMOVAL PERMIT REQUIRED PRIOR TO REMOVAL OF ANY TREES
21. SRM MODIFICATION AGREEMENT REQUIRED FOR ALL RETAINING WALLS OR CUT-OFF WALLS WHICH ENDOCRASH INTO EXISTING OR PROPOSED R.O.W.S TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING

1. ALL WATERMAIN BACKFILL & BEDDING MATERIALS TO BE IN ACCORDANCE WITH THE DISTRICT OF WEST VANCOUVER SUBDIVISION AND DEVELOPMENT STANDARDS BYLAWS REQUIREMENTS
2. ALL WATERMAINS TO HAVE 0.9m MIN. COVER
3. CONTRACTOR TO CONFIRM LOCATIONS & SIZES OF ALL EXISTING SERVICES PRIOR TO CONSTRUCTION AND ENSURE CUL DRAWINGS MATCH MECHANICAL DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE DISTRICT ENGINEER
4. WATERMAIN TO BE PVC 120 PRESSURE CLASS 150, SDR-18 AND SHALL CONFORM TO AWWA C900 AND CSA 137.3
5. WATER SERVICES PIPE (>100mm) MATERIAL TO BE MUNICIPEL PIPE. EACH CONNECTION TO BE IN ACCORDANCE WITH WMCSD STD. DETAILS
6. SCHEDULE 40 & 80 PIPE IS NOT PERMITTED
7. ALL WATERMAIN PIPE DIMENSIONS ARE REFERENCED FROM FITTING TO FITTING, i.e. BEND TO BEND, TEAD TO TEAD, TEE TO TEE, BEND TO CAP, ETC. (HYDRANTS INCLUDED)
8. GATE VALVE SHALL BE RESILIENT SEAT AND CONFORM TO AWWA C509 AND HAVE UL AND FM APPROVAL. VALVES SHALL BE IRON BODY AND BOTH INTERIOR AND EXTERIOR COATED WITH FUSION BONDED EPOXY. REFER TO DISTRICT OF WEST VANCOUVER SUBDIVISION BYLAWS FOR ACCEPTABLE MANUFACTURES
9. ALL VALVES ON WATERMAIN WITH EXCEPTION OF ALL HYDRANT LEAD VALVES MUST HAVE DOBNEY "NITLOCK" H-20 RATED LOCKABLE VALVE LIDS OR APPROVED EQUIVALENT C/W STAINLESS STEEL BALL BEARING TO THE DISTRICT OF WEST VANCOUVER SUBDIVISION AND DEVELOPMENT STANDARDS BYLAWS FOR APPROVED MATERIALS
10. WHERE FITTINGS ARE LOCATED WITHIN 10m SEPARATION, THE WATER SYSTEM SHALL BE RESTRAINED BETWEEN FITTINGS
11. CONCRETE THROTTLE BLOCKING SHALL BE PROVIDED AT BENDS, TEES, WYES, REDUCERS, PLUGS, CAPS, AND BLOW-OFFS: SIZED IN ACCORDANCE WITH THE DISTRICT OF WEST VANCOUVER STANDARDS
12. CAST IRON FITTINGS SHALL CONFORM TO AWWA C110 AND SHALL BE DESIGNED FOR A WORKING PRESSURE OF 1.440 kPa.
13. WATERMAIN BENDS & TEES TO BE PVC 120 PRESSURE CLASS 150, SDR-18 AND SHALL CONFORM TO AWWA C907 AND CSA B137-2
14. SEE THE DISTRICT OF WEST VANCOUVER SUBDIVISION AND DEVELOPMENT STANDARDS BYLAWS FOR ACCEPTABLE MATERIALS RE: VALVES, HYDRANTS, ANODES, FIELD COATING FOR ALL FITTINGS, ETC.
15. LEAKAGE TEST, FLUSHING, DISINFECTION, CHLORINATION, AND QUALITY TESTING TO BE PERFORMED AS PER THE DISTRICT OF WEST VANCOUVER STANDARDS
16. HYDRANT BARRELS OF ANY PRIVATE HYDRANT TO BE PAINTED RED & NUMBERED WITH THE APPROPRIATE NAPA FLOW RATE COLOR PAINTED ON THE BONNET
17. WATERMAIN FITTING CLUSTERS NOT TO BE BACKFILLED UNTIL INSPECTION BY DISTRICT OF WEST VANCOUVER AND CORE GROUP
18. PER DISTRICT OF WEST VANCOUVER REQUIREMENTS, CATHODIC PROTECTION IS REQUIRED ON ALL METAL WATER FITTINGS, GATE VALVES, HYDRANTS, AND TIE-IN'S TO EX. METAL PIPES. SEE THE DISTRICT OF WEST VANCOUVER SUBDIVISION AND DEVELOPMENT STANDARD DETAILS L4.8 & L4.9 FOR TYPICAL CATHODIC PROTECTION ANODE PLACEMENT
19. ON-SITE FIRE HYDRANTS MUST BE OPERATIONAL AS CONFIRMED BY THE C.O.D.'S FIRE CHIEF OR DEPUTY FIRE CHIEF PRIOR TO THE INSTALLATION OF ROOF TRUSSES ON ANY BUILDING
20. SHOP DRAWINGS OF ALL VALVES TO BE SUBMITTED TO THE ENGINEER BY THE CONTRACTOR FOR APPROVAL PRIOR TO ORDERING MATERIALS
21. WATERMAIN JOINTS TO BE WRAPPED IF LOCATED WITHIN 3.0m FROM SANITARY AND STORM SEWERS

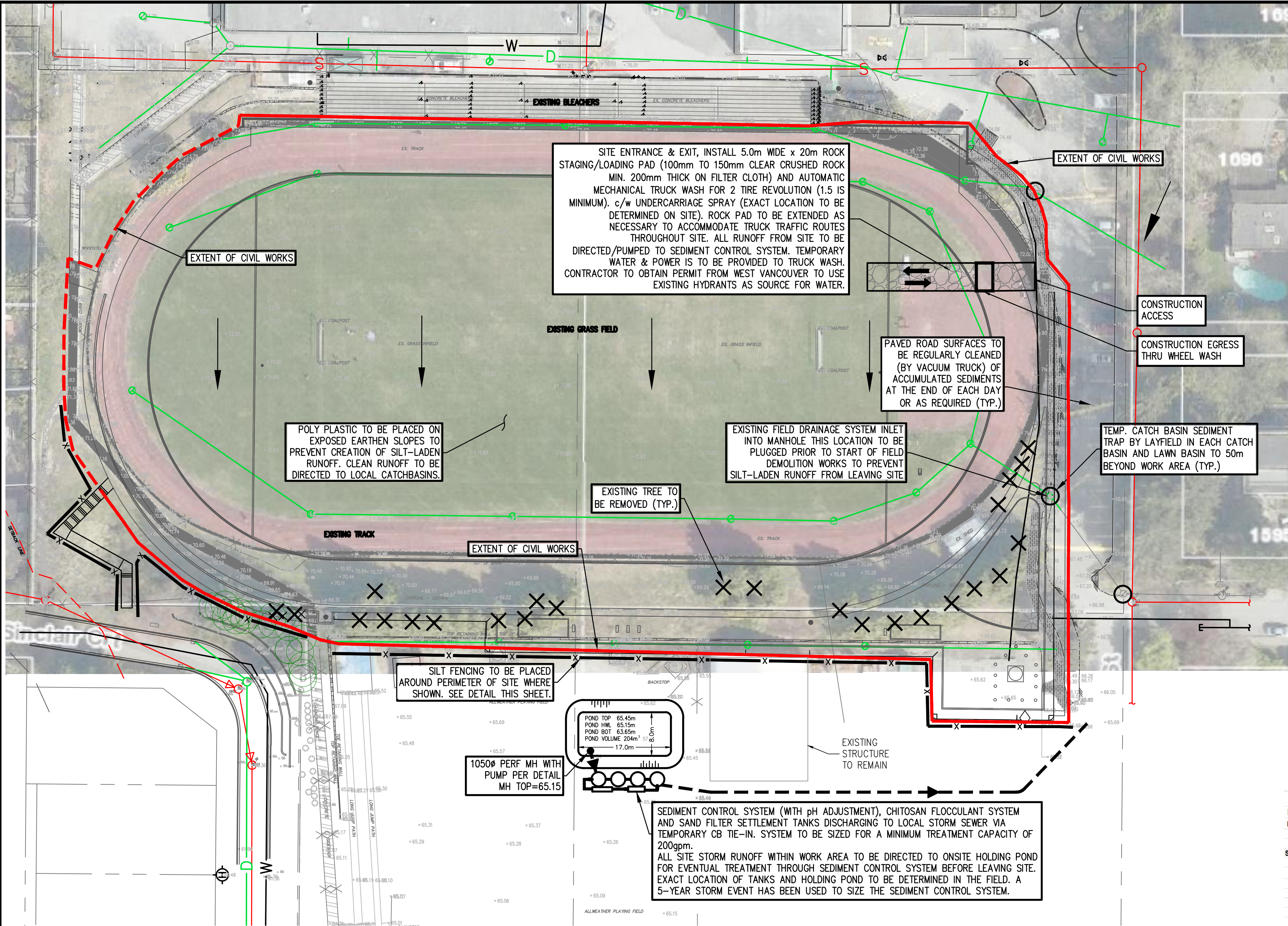
1. ALL MANHOLE LIDS, VALVE COVERS, CATCHBASINS AND LIDS OF ANY OTHER STRUCTURE TO BE ADJUSTED TO SUI FINAL OR PROPOSED ROAD, DRIVEWAY, SIDEWALK, AND BOULEVARD / LANDSCAPE AREAS
2. GEOTECHNICAL ENGINEER TO APPROVE ALL SUBGRADES PRIOR TO PLACING SUBBASE AND BASE MATERIALS
3. ALL SUBGRADES AND BASE MATERIALS COMPACTED TO A MIN. 95% MPD. ALL MATERIALS IN ACCORDANCE WITH THE DISTRICT OF WEST VANCOUVER SUBDIVISION BYLAWS
4. COMPACTION TESTING, ASPHALT TESTING AND CONCRETE TESTING BY PROVIDED BY CONTRACTOR
5. FOR FENCE LOCATIONS SEE LANDSCAPE ARCHITECT'S PLANS
6. ALL PAVEMENT MARKINGS AND SIGNAGE TO BE INCLUDED IN CONTRACT
7. CATCHBASIN SHALL BE IN ACCORDANCE WITH MMCD STD. DET. S11
8. LAWN BASINS SHALL BE IN ACCORDANCE WITH MMCD STD. DET. S12
9. DOUBLE CATCHBASIN LEADS SHALL BE 200mm#
10. NO PARKING SIGNAGE TO BE PLACED TO THE SATISFACTION OF THE FIRE DEPARTMENT
11. SEE DISTRICT OF WEST VANCOUVER SUBDIVISION BYLAW FOR GRANULAR PIPE BEDDING
12. EXISTING VALVE BOXES, MANHOLES, ETC. MUST BE ADJUSTED TO SUI THE PROPOSED FINISHED GRADE.
13. ALL LOOSE, ORGANIC, OTHERWISE DELETERIOUS MATERIALS OR SOFT SPOT(S) ARE TO BE EXCAVATED AND REMOVED FROM THE ROADWAY AND UTILITY TRENCHES AS PER THE GEOTECHNICAL CONSULTANT'S REPORT OR AS DIRECTED BY THE DISTRICT.

1. STORM AND SANITARY SEWER TO BE IN ACCORDANCE WITH THE DISTRICT OF WEST VANCOUVER SUBDIVISION BYLAWS
2. ALL MANHOLES TO BE IN ACCORDANCE WITH THE DISTRICT OF WEST VANCOUVER AND MMCO STD. DET. S1, ALL ONSITE MANHOLE LIDS SHALL NOT INCLUDE "WEST VANCOUVER" REFERENCE
3. ALL WYES TO BE MANUFACTURED
4. EXISTING INVERTS TO BE VERIFIED IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION
5. ALL C.B.'S IN ASPHALT AND PARKING AREAS TO BE 600mm² AND SHALL BE CONSTRUCTED WITH DONUT FRAME AND GRATE TO SUPPORT H2O LOADING
6. STORM AND SANITARY CONNECTIONS ARE TO TERMINATE 1.0m FROM BUILDINGS. SEE MECHANICAL ENGINEER'S DRAWINGS FOR CONFIRMATION OF LOCATIONS. DESIGN AND REVISIONS OF INSPECTION CHAMBERS OR STORM SUMPS ARE THE RESPONSIBILITY OF THE MECHANICAL ENGINEER
7. ALL BUILDING CORNERS TO BE SURVEYED PRIOR TO SITE SERVICING

1. ALL ELECTRICAL DUCT INSTALLATION WORKS MUST BE COMPLETED BY AN APPROVED ELECTRICAL CONTRACTOR

1. ALL TESTING TO BE PERFORMED BY A CSA OR CCL (CANADIAN CERTIFIED TESTING LABORATORIES) CERTIFIED LABORATORY.
2. FREQUENCY OF DENSITY TESTS FOR EXCAVATING, TRENCHING AND BACKFILLING SHALL BE ONE TEST PER 50 LINEAL METRES OR TRENCH PER METRE OF DEPTH. MATERIAL TO BE COMPACTED IN 300mm LIFTS.
3. FREQUENCY OF DENSITY TESTS FOR ROADWAY EXCAVATION, EMBANKMENT (SUB-GRADE FILL) AND COMPACTION SHALL BE ONE TEST PER 250m² PER 300mm LIFT.
4. FREQUENCY OF DENSITY TESTS FOR GRANULAR BASE AND SUB-BASE SHALL BE ONE TEST PER 30 LINEAL METRES OF EACH WIDTH STAGGERED EACH SIDE OF CENTRELINE PER 150mm LIFT OR OF SPECIFIED THICKNESS.
5. FREQUENCY OF DENSITY TESTS FOR SIDEWALK BASE SHALL BE ONE TEST PER 30 LINEAL METRES WITHIN SIDEWALK AND DRIVEWAY AREA.
6. FREQUENCY OF DENSITY TESTS FOR CURB BASE SHALL BE ONE TEST PER 50 LINEAL METRES.
7. FREQUENCY OF DENSITY TESTS FOR HOT-MIX ASPHALT CONCRETE PAVING SHALL BE ONE TEST PER 500 TONNES OF MIX PLACED OR ONE TEST FOR EACH TYPE OF ASPHALT MIX, MINIMUM ONE PER DAY.
8. FOR STREET PAVING, CORE LOCATIONS WILL BE SELECTED FOR EACH PASS OF THE PAVING MACHINE AS FOLLOWS:
 - a. ACROSS THE WIDTH, CORE LOCATIONS WILL BE SELECTED RANDOMLY FROM ONE-SIXTH INCREMENTS.
 - b. ALONG THE LENGTH OF THE PAVING MACHINE, HAVE A RANDOMLY SELECTED START WITH CORES AT A SPACING OF APPROXIMATELY, BUT NOT TO EXCEED 30 METRES.
9. FOR OTHER PAVING OPERATIONS, A MINIMUM OF ONE CORE FOR EVERY 2500 SQUARE METRES OF ASPHALT MIX PLACED.
10. FREQUENCY OF PLASTIC CONCRETE TESTS FOR SIDEWALK SHALL BE A MINIMUM OF ONE PER DAY.
11. FREQUENCY OF PLASTIC CONCRETE TESTS FOR CURB AND GUTTER SHALL BE A MINIMUM OF ONE PER DAY.
12. WATERMAIN LEAKAGE TEST, FLUSHING, DISINFECTION, CHLORINATION, AND QUALITY TESTING TO BE PERFORMED AS PER THE DISTRICT OF WEST VANCOUVER STANDARDS.
13. ALL STORM AND SANITARY SEWER SYSTEMS TO BE TESTED PER SECTION 2.3.6 OF THE B.C. PLUMBING CODE. THE ENGINEER IS TO BE NOTIFIED 48 HOURS PRIOR TO TESTING.
14. STORM SEWERS SHALL BE VIDEO INSPECTED PER MMCO SPECIFICATIONS.
15. SANITARY SEWERS SHALL BE PRESSURE TESTED AND VIDEO INSPECTED PER MMCO SPECIFICATIONS.

BENCHMARK DATA:					CHECK BEFORE YOU DIG					GRAPHIC SCALE:					CoreGroup CONSULTANTS LAND DEVELOPMENT SERVICES 320-8988 FRASERTON COURT BURNABY, BC V5J 5H8 tel. (604)299 0605 fax. (604)299 0629 Permit To Practice No. 1001017 (BC)					SEAL: 					DISTRICT OF WEST VANCOUVER				
ELEVATIONS ARE TO GVRD GEODETIC DATUM 2005 BENCH MARK – MONUMENT 6783 WEST OF 20TH AVENUE ON MATHERS AVENUE ELEVATION = 86.387 METRES					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. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE.										WEST VANCOUVER SECONDARY SCHOOL					FILE - CONSULTANTS DWG No- 2108									
2 2023/10/03 SR CN BUILDING PERMIT ISSUE															NOTES					CITY DOC. No- -									
1 2023/08/28 SR CN TENDER ISSUE																				1750 MATHERS AVENUE, WEST VANCOUVER, BC									
REV'D DATE(Y/M/D) DR'N CH'D																				SHEET C6									



- SILTATION CONTROL NOTES**
- ALL WORKS ONSITE TO BE IN ACCORDANCE WITH DISTRICT OF WEST VANCOUVER WATERCOURSE PROTECTION BYLAW 4364, 2005.
 - CONTRACTOR TO MAINTAIN ALL SILT CONTROL FACILITIES FROM CONTRACT START TO FINAL APPROVAL. CONTRACTOR TO ENSURE AT NO TIME DOES THE TOTAL SUSPENDED SOLIDS IN DISCHARGE WATER FROM SITE REACH IN EXCESS OF 25mg/L ABOVE BACKGROUND LEVELS DURING THE MONTHS OF MAY TO SEPTEMBER AND 75mg/L ABOVE BACKGROUND LEVELS DURING THE MONTHS OF OCTOBER TO APRIL. RUNOFF SUSPENDED SOLIDS IN EXCESS OF THESE VALUES WOULD BE CONSIDERED SILT-LADEN.
 - CONTRACTOR MAY NEED TO HALT CONSTRUCTION DURING PERIODS OF HEAVY RAINFALL IF THE SILTATION CONTROL MEASURES ARE BEING COMPROMISED BY THE VOLUME OF RUNOFF.
 - CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SILT CONTROL FACILITIES AND TO ENSURE MAINTENANCE OF ALL FACILITIES TO COMPLETION OF PROJECT.
 - CONTRACTOR TO ENSURE ALL ROADS ADJOINING THE SITE ARE TO BE KEPT CLEAN AND FREE OF DEBRIS AND ARE TO BE VACUUM SWEEPED (NOT FLUSHED) AS NECESSARY.
 - CONTRACTOR TO ENSURE ALL GRAVEL TO BE MAINTAINED CLEAN TO ENSURE SILT CONTROL.
 - THE DESIGN ENGINEER WILL PERFORM A WEEKLY INSPECTION OF THE SYSTEM WITH THE SITE CONTRACTOR AND TAKE SAMPLES DURING OR AFTER STORM EVENTS WITH RAINFALL OF 12.5mm OR GREATER.
 - LOCATION OF ALL UNDERGROUND UTILITIES TO BE CONFIRMED BY PIPE LOCATOR AND HAND DIGGING BEFORE MECHANIZED EXCAVATION.
 - ALL OFFSITE WORKS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND DISTRICT OF WEST VANCOUVER SPECIFICATIONS.
 - ALL ONSITE WORKS SHALL BE IN ACCORDANCE WITH THE CURRENT BC BUILDING CODE AND BC PLUMBING CODE.
 - IT IS THE DEVELOPER AND SITE CONTRACTOR'S RESPONSIBILITY TO ENSURE EFFECTIVE AND EFFICIENT MAINTENANCE AND OPERATION OF THE SILTATION STRUCTURES AND TO ENSURE THAT THE WATER BEING DISCHARGED FROM THE SITE MEETS pH LEVELS BETWEEN 7.0 AND 8.0, AND DOES NOT CONTAIN TOTAL SUSPENDED SOLIDS (TSS) GREATER THAN 75 mg/L ABOVE THE BACKGROUND LEVELS AND/OR OTHER LEVELS SPECIFIED BY THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS.
 - ALL WORK MUST BE UNDERTAKEN AND COMPLETED IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SILT, RAW CONCRETE LEACHATE OR OTHER DELETERIOUS SUBSTANCES INTO ANY DITCH, WATERCOURSE, RAVINE AND STORM SEWER SYSTEM.
 - THE DEVELOPER IS RESPONSIBLE FOR MAINTENANCE OF ALL SEDIMENT CONTROL FACILITIES SHOWN ON THIS DRAWING UNTIL 90% OF THE LANDSCAPING IS COMPLETED OR UNTIL PERMISSION IS GRANTED IN WRITING BY THE DISTRICT OF WEST VANCOUVER.
 - RIP-RAP (IF USED) TO BE TIGHTLY PLACED 15kg - 250mm ANGULAR ROCKS ON NON-WOVEN AMOCO 4535 [C-10] FILTER FABRIC.
 - SILT FENCE/FILTER FABRIC (IF USED) TO BE AMOCO 2130 AND AMOCO 4535 (C-10) RESPECTIVELY OR APPROVED EQUIVALENT.
 - ALL CONCRETE SUPPLY TRUCKS SHALL BE EQUIPPED WITH WASH BUCKET SYSTEM FOR FLUSHING OF FLUME. ALL WASTE WATER FROM FLUSHING OF FLUME TO BE RE-CIRCULATED INTO MIXING DRUM. UNDER NO CIRCUMSTANCES, SHALL EXCESS CONCRETE FROM FLUME AND/OR TRUCK BE FLUSHED ONTO ROADS OR INTO STORM SEWER SYSTEMS.
 - THE CONTRACTOR SHALL DIRECT ALL WATER WITHIN THE EXCAVATION TO THE EXCAVATION SUMP WHERE IT WILL BE PUMPED TO THE SEDIMENT CONTROL SYSTEM FOR TREATMENT (IF APPLICABLE) AT A RATE NOT EXCEEDING THE RECEIVING SYSTEM CAPACITY.
 - THE PUMP SELECTED FOR ANY TEMPORARY SUMP PUMP CHAMBER SHALL BE CAPABLE OF PUMPING EITHER INDIVIDUALLY OR COLLECTIVELY THE CALCULATED PEAK FLOW WITH A MAXIMUM OF TEN STARTS/HR/PUMP.
 - EXPOSED SLOPES AND SPOIL STOCK PILES TO BE COVERED WITH A LAYER OF 6 MIL POLY AND WEIGHTED OR STAPLED INTO PLACE TO PREVENT CREATION OF SILT-LADEN RUNOFF.
 - ALL EXISTING LIVE SERVICES SHALL BE MAINTAINED OPERATIONAL UNLESS OTHERWISE NOTED BY THE ENGINEER.
 - ALL EXISTING DISTRICT OF WEST VANCOUVER UTILITIES ARE TO BE PROTECTED DURING CONSTRUCTION. APPROPRIATE DISTRICT OF WEST VANCOUVER UTILITY PERSONNEL SHALL BE CONTACTED IMMEDIATELY WHERE AND WHEN UNFORESEEN CONFLICTS OCCUR. ADJUSTMENT OR REPAIR OF UTILITIES IS TO BE CARRIED OUT ONLY BY THE AUTHORITY OF JURISDICTION.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC ON THE MUNICIPAL RIGHTS OF WAY BY THE USE OF SIGNS, BARRICADES, FLAG PERSONS, ETC., ACCEPTABLE TO THE DISTRICT OF WEST VANCOUVER.
 - ALL PVC DRAIN PIPE LESS THAN OR EQUAL TO 6" SHALL BE SDR 35. ALL PVC DRAIN PIPE TO INCLUDE GASKETS, UNLESS OTHERWISE NOTED. PROVIDE MINIMUM 24" COVER OVER DRAIN PIPE AND WATER SERVICE TO WHEEL WASH AT TRUCK ENTRY POINTS.
 - ROW/EASMENTS AND COVENANTED AREAS TO BE KEPT FREE OF SEDIMENT CONTROL MEASURES, CONSTRUCTION PLANT AND MATERIALS/STOCK PILE.
 - THIS DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS NOTED "ISSUED FOR CONSTRUCTION."

2108 - West Vancouver Secondary School Athletic Field
ESC Holding Pond Storage Volume
Date: August 15, 2022

Storage Volume Calculation (1 in 5 year):

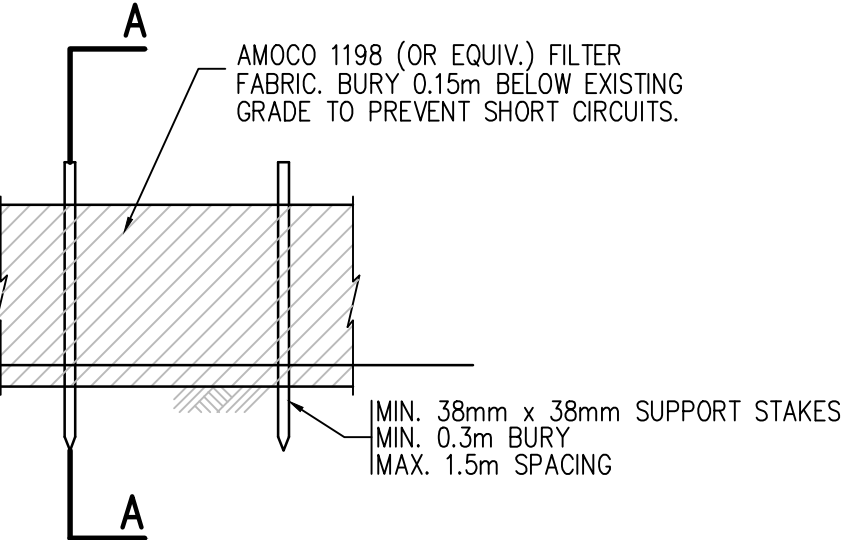
Q _{rel} =	0.0128 m ³ /s (200 GPM)
R =	0.05
A =	1.03 ha
T _c =	5.00 min
15 yr =	53.40 mm/hr
Q _{p1} =	0.157 m ³ /s (Metro Vancouver IDF Curve Zone 6)

Hyd No.	Rainfall Duration Tr (min)	Rainfall Intensity I 6yr (mm/hr)	Peak Flow Qp2 (cu.m./s)	Inflow Runoff Volume (cu.m.)	Max Release Qrel (cu.m./s)	Required Storage Volume (cu.m.)
1	5	53.4	0.157	47.185	0.0128	43.4
2	15	32.2	0.095	85.356	0.0128	74.1
3	30	23.4	0.069	124.061	0.0128	101.6
4	60	17	0.050	180.259	0.0128	135.2
5	120	12.3	0.036	260.840	0.0128	170.6
6	240	7.4	0.022	470.794	0.0128	198.6
7	720	5.4	0.016	687.105	0.0128	144.1
8	1440	3.9	0.011	992.485	0.0128	(94.2)
9	2880	2.8	0.008	1425.107	0.0128	(749.4)
10	4320	2.4	0.007	1832.281	0.0128	(1,430.4)

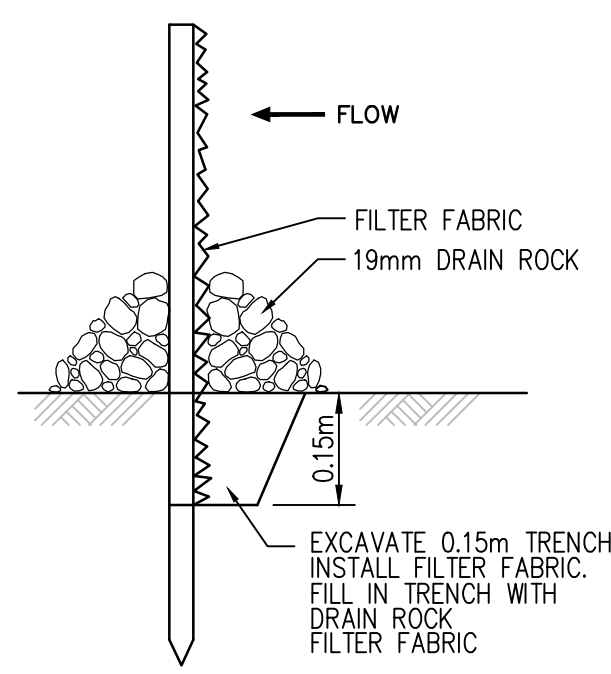
200m³ of ESC storage volume is required for the athletic field area.

NOTE:
SEDIMENT CONTROL IS THE CONTRACTOR'S RESPONSIBILITY. TESTING AND REPORTING OF STORM DISCHARGE WILL BE REQUIRED DURING ENTIRE CONSTRUCTION PERIOD WITH ALL COSTS BY DEVELOPER. SILT-LADEN RUNOFF IS TO BE CONTAINED WITHIN WORK SITE AND NOT BE ALLOWED TO DISCHARGE ONTO ROADWAYS, INTO CATCHBASINS OR OTHERWISE OFFSITE.

SOURCE CONTROLS (IN THE FORM OF PLACING GRAVEL COVER OVER EXPOSED SOILS AS SOON AS POSSIBLE, PLACING STRAW AT AN APPLICATION RATE OF 5,000 kg/ha OVER FLATTER AREAS OF EXPOSED SOIL, COVERING EXPOSED SLOPES & STOCKPILES WITH POLY PLASTIC, ETC.) TO BE USED EXTENSIVELY ONSITE TO PREVENT CREATION OF SILT-LADEN STORM RUNOFF.



SILT FENCE PROFILE @ STORM CONNECTION
N.T.S.



SECTION A-A
N.T.S.

SILT FENCE DETAIL
N.T.S.

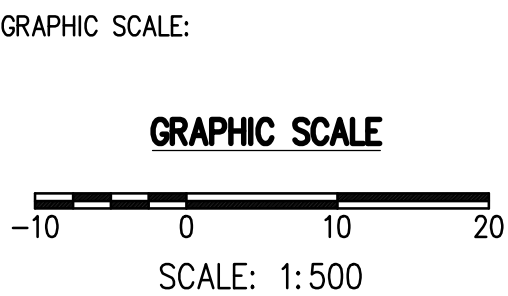
- ESC WORKS LEGEND**
- CATCH BASIN
 - SILT FENCE (PER DETAIL THIS SHEET)
 - EXTENT OF CIVIL WORKS
 - DIRECTION OF OVERLAND FLOW

- SERVICING LEGEND :**
- EX. WATER — W —
 - EX. SANITARY SEWER — S —
 - EX. STORM SEWER — D —
 - EX. GAS — G —
 - EX. POWER — H —

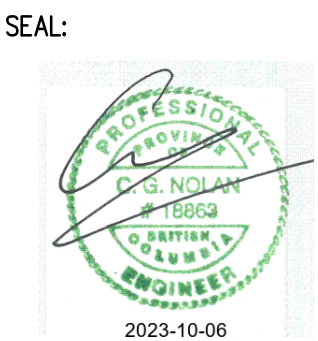
BENCHMARK DATA:
ELEVATIONS ARE TO CVRD GEODETIC DATUM
2005 BENCH MARK — MONUMENT 5783
WEST OF 20TH AVENUE ON MATHERS AVENUE
ELEVATION = 86.387 METRES

REV'D	DATE(Y/M/D)	DR'N	CH'D
2	2023/10/03	SR	CN
1	2023/08/28	SR	CN

CHECK BEFORE YOU DIG
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. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE.

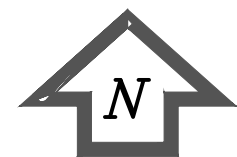
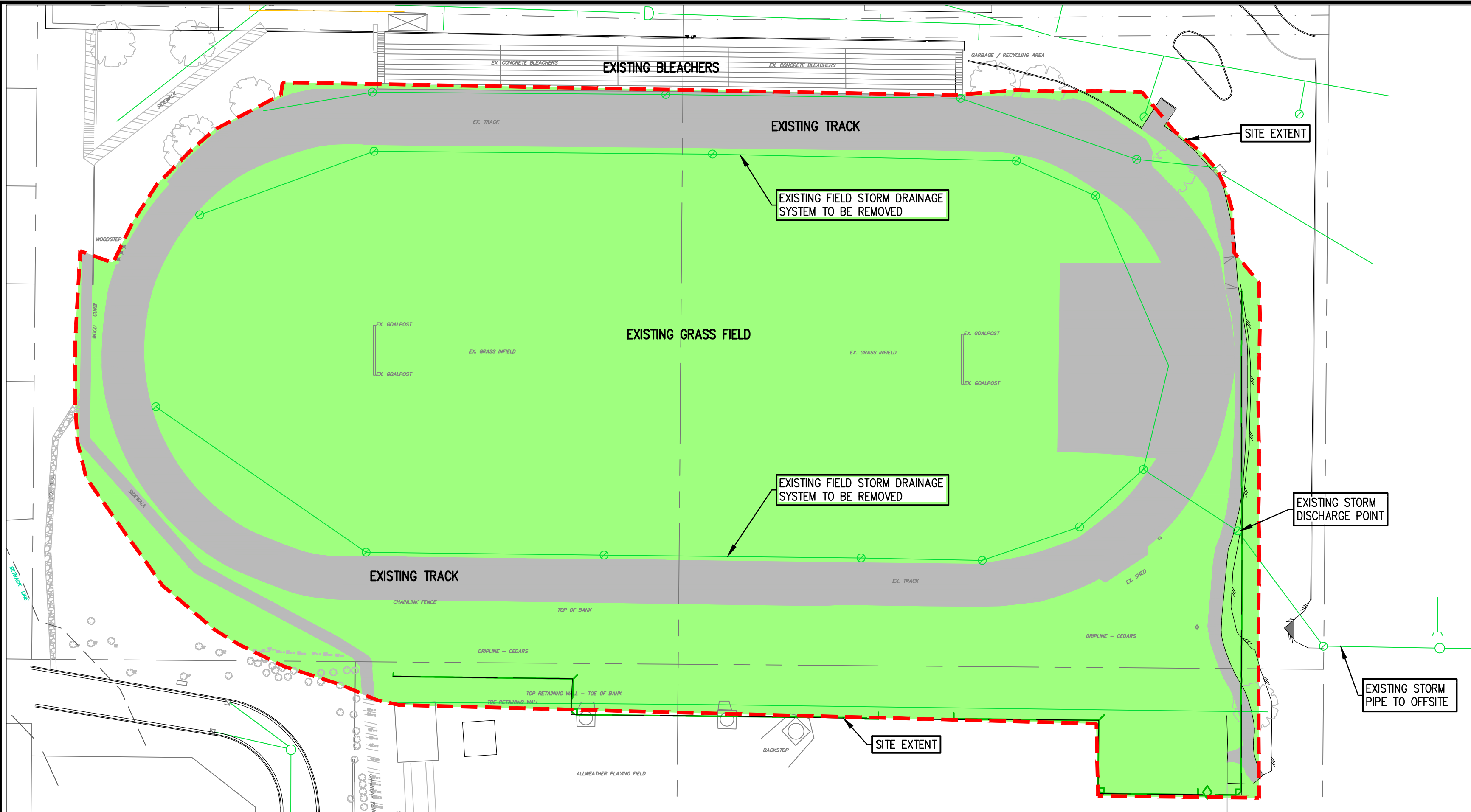


CoreGroup
CONSULTANTS
LAND DEVELOPMENT SERVICES
320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629
Permit To Practice No. 1001017 (BC)



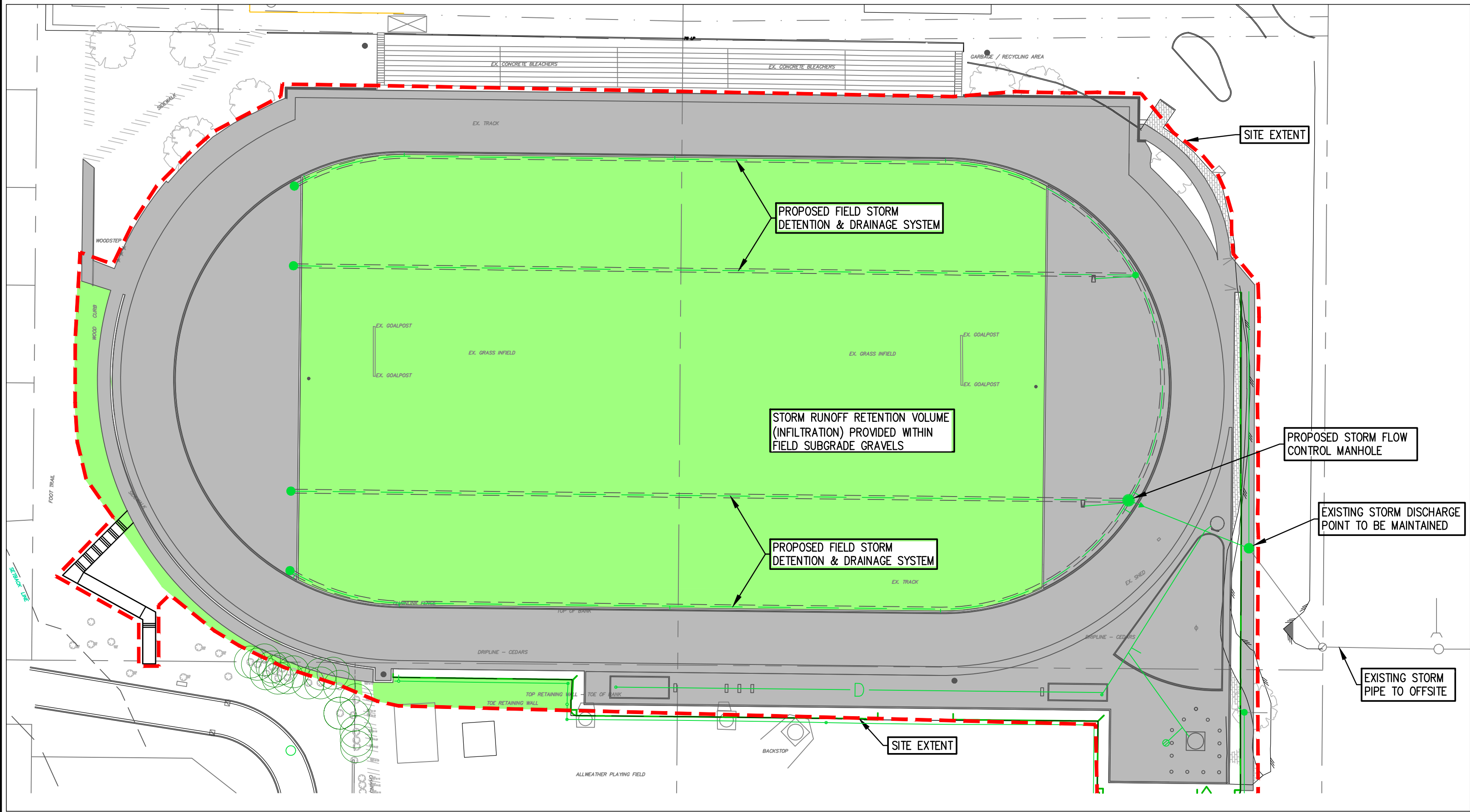
DISTRICT OF WEST VANCOUVER

DESIGNED — SR	WEST VANCOUVER SECONDARY SCHOOL EROSION & SEDIMENTATION CONTROL PLAN 1750 MATHERS AVENUE, WEST VANCOUVER, BC	FILE —
DRAWN — SR		CONSULTANTS DWG No— 2108
METRIC SCALE — 1:250		CITY DOC. No—
APPROVED— CN		SHEET C7
DATE— OCTOBER 3, 2023		



PRE-DEVELOPMENT CALCS:

PRE-DEVELOPED TOTAL SITE AREA: 15,980m²
TOTAL PERVIOUS AREA: 11,858m²
TOTAL IMPERVIOUS AREA: 4,122m²
% OF IMPERMEABLE AREA: 26%



POST-DEVELOPMENT CALCS:

POST-DEVELOPED TOTAL SITE AREA: 15,980m²
TOTAL PERVIOUS AREA: 8,423m²
TOTAL IMPERVIOUS AREA: 7,557m²
% OF IMPERMEABLE AREA: 47%

2108 - West Vancouver Secondary School Athletic Field
Runoff Coefficient Calculation

Date: August 15, 2022

Runoff Coefficients Used:

Landscaped Area (incl. Field)	0.30
Impervious Surface	0.90

Weighted Runoff Coefficient (Rw):

Land Use	Area (sq. m)	Area * R
A. Pre-dev		
Landscaped Area (incl. Field)	11858	3,557.4
Impervious Surface	4122	3,709.8
TOTAL	15980	7,267.2
Rw =	0.455	
Use Rw =	0.45	
B. Post-dev		
Landscaped Area (incl. Field)	8423	2,526.9
Impervious Surface	7557	6,801.3
TOTAL	15980	9,328.2
Rw =	0.58	
Use Rw =	0.58	

2108 - West Vancouver Secondary School Athletic Field
Storm Detention Volume - UBC Storm Requirements

Date: August 15, 2022

I. Pre-development Flows (1 in 2 year):

R	0.45	(Existing Conditions)
A	1.60	ha (Field Contributing Area Extents)
N	0.00278	
Tc	15	min
I-2yr	24.2	mm/hr (Metro Vancouver IDF Curve Zone 6)
Q 2yr Pre-Dev. Flow	0.048	m ³ /s

RUNOFF RATE REDUCTION

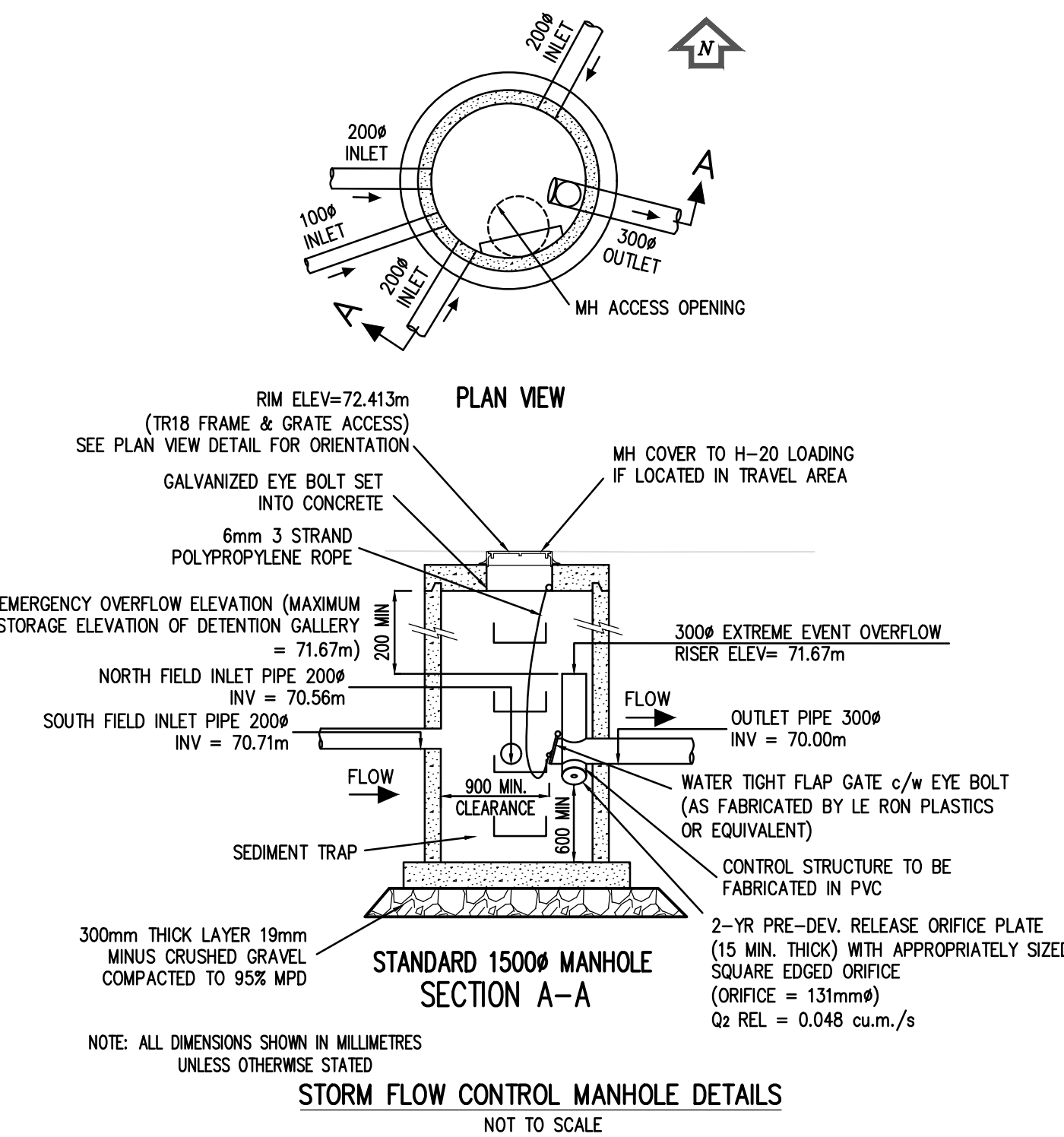
II. Detention Volume Calculation (1 in 10 year):

Q rel =	0.048	m ³ /s
R =	0.58	(Proposed Conditions)
A =	1.60	ha
Tc =	15.00	min
I 10 yr =	37.40	mm/hr (Metro Vancouver IDF Curve Zone 6)
Qp1 =	0.096	m ³ /s

Hyd No.	Rainfall Duration Tr (min)	Rainfall Intensity I 10yr (mm/hr)	Peak Flow Qp2 (cu.m/s)	Inflow Runoff Volume (cu.m.)	Max Release Qrel (cu.m/s)	Required Storage Volume (cu.m.)
1	5	62.3	0.161	48.157	0.048	29.3
2	15	37.4	0.096	48.726	0.048	43.2
3	30	27.1	0.070	125.687	0.048	42.8
4	60	19.7	0.051	182.734	0.048	18.4
5	120	14.2	0.037	263.433	0.048	(67.0)
6	360	8.6	0.022	478.632	0.048	(529.7)
7	720	6.2	0.016	690.121	0.048	(1,344.8)
8	1440	4.5	0.012	1001.788	0.048	(3,099.2)
9	2880	3.3	0.009	1469.289	0.048	(6,777.5)
10	4320	2.7	0.007	1803.218	0.048	(10,595.5)

Therefore 43.2m³ of detention volume is required for the athletic field area.
Volume provided within field infiltration pipe trenches is 59.8m³.

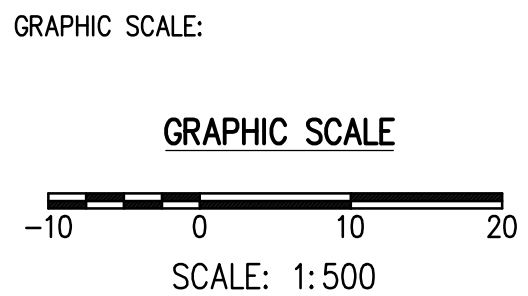
RUNOFF VOLUME RETENTION FROM SITE
DIVV Bylaw: "Retain on site the first 31mm of rainfall that falls on the incremental increase in impervious surface area from the existing condition to the proposed condition"
Redevelopment Increase in Impervious site area = 3435 m²
Storm flow volume to be retained onsite = 3.435m² * 31mm = 106.5m³
Runoff infiltration depth required to meet required retention volume = 106.5m³ / 8,076m² = 0.013m (13mm) (To be stored within turf field gravel)



BENCHMARK DATA:
ELEVATIONS ARE TO GVD90 GEODETIC DATUM
2005 BENCH MARK - MONUMENT 5783
WEST OF 20TH AVENUE ON MATHERS AVENUE
ELEVATION = 86.387 METRES

REV'D	DATE(Y/M/D)	DR/N	CH'D
2	2023/10/03	SR	CN
1	2023/08/28	SR	CN

CHECK BEFORE YOU DIG
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. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE.



CoreGroup
CONSULTANTS
LAND DEVELOPMENT SERVICES
320-8988 FRASERTON COURT
BURNABY, BC V5J 5H8
tel. (604)299 0605 fax. (604)299 0629
Permit To Practice No. 1001917 (BC)

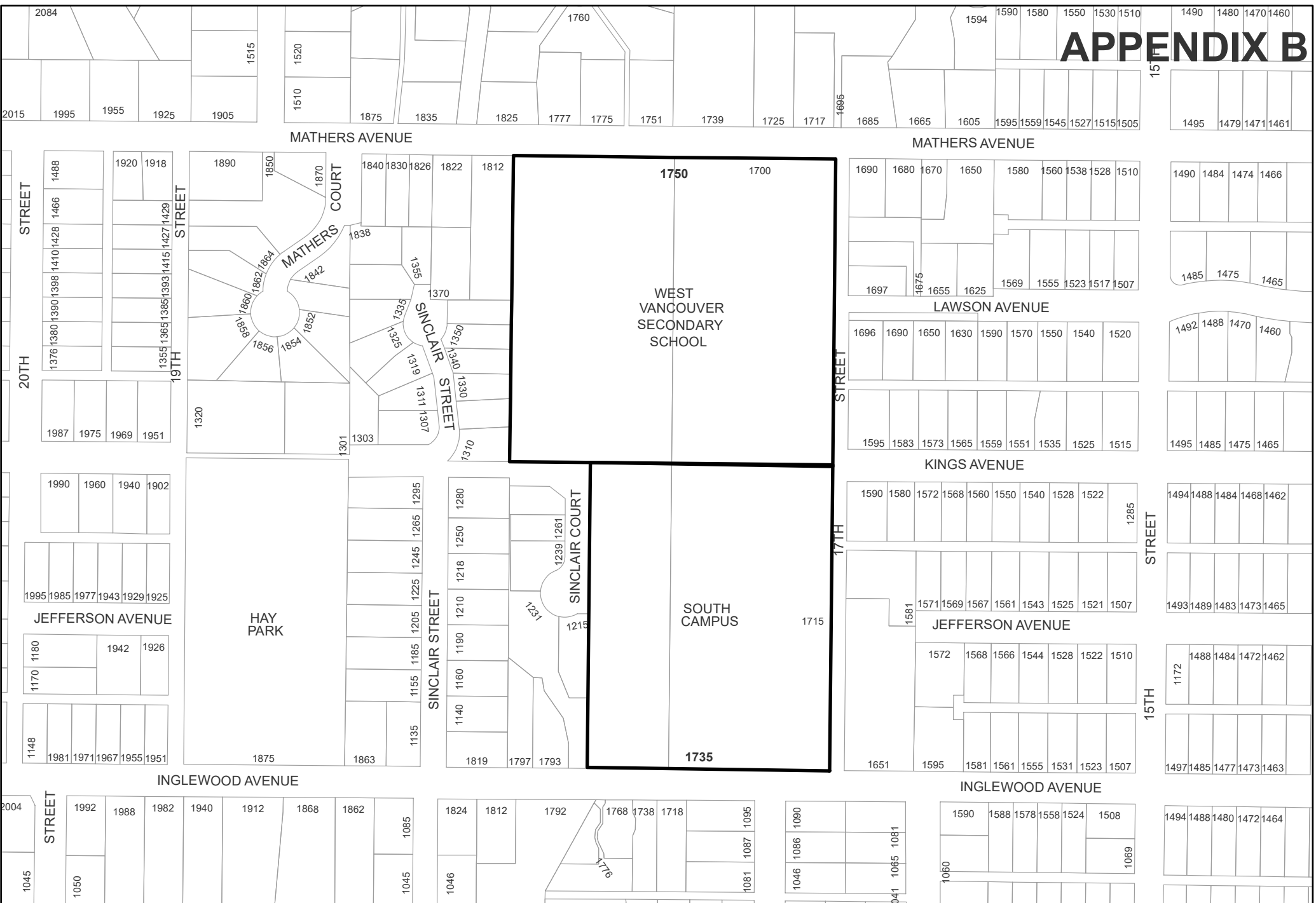


DISTRICT OF WEST VANCOUVER		
DESIGNED - SR	WEST VANCOUVER SECONDARY SCHOOL STORMWATER MANAGEMENT PLAN 1750 MATHERS AVENUE, WEST VANCOUVER, BC	FILE -
DRAWN - SR		CONSULTANTS DWG No- 2108
METRIC SCALE - 1:250		CITY DOC. No- -
APPROVED- CN		SHEET C8
DATE- OCTOBER 3, 2023		

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APPENDIX B



CONTEXT PLAN

TITLE: 1750 Mathers Ave. / 1735 Inglewood Ave.

DATE: Nov.02/23 REV: 0

FILE: 23-108

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