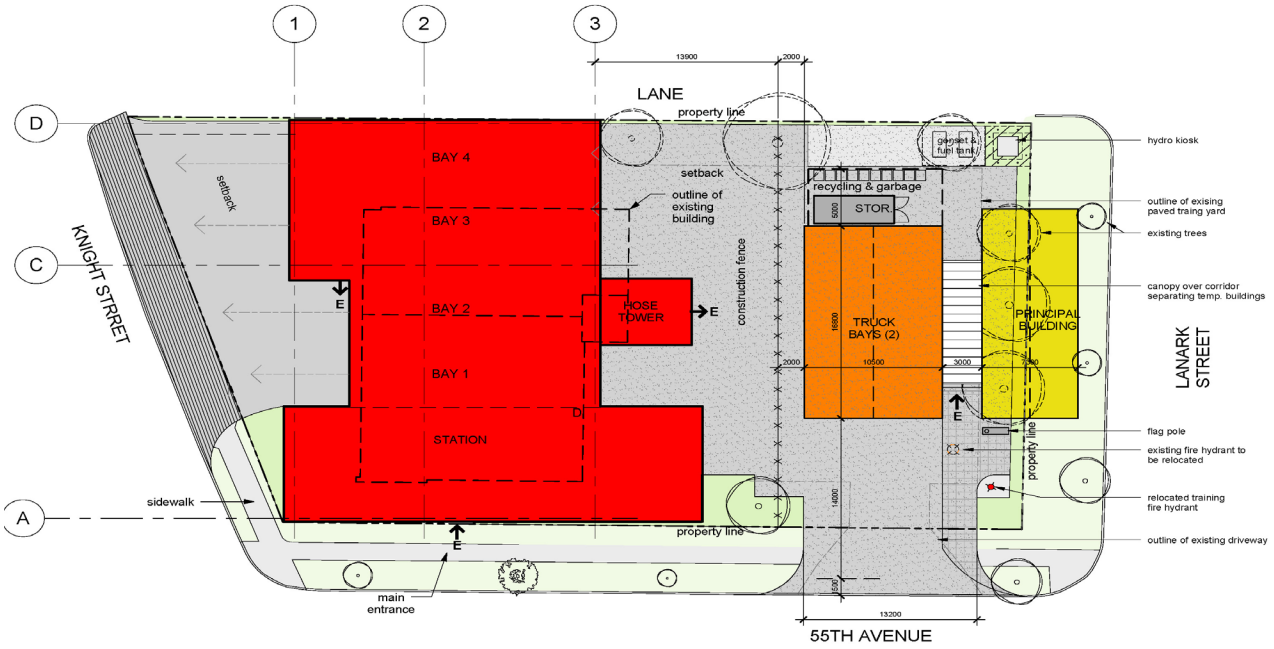
Firehall No. 17

Vancouver Fire & Rescue Services
City of Vancouver
Vancouver, BC



Feasibility Report R4

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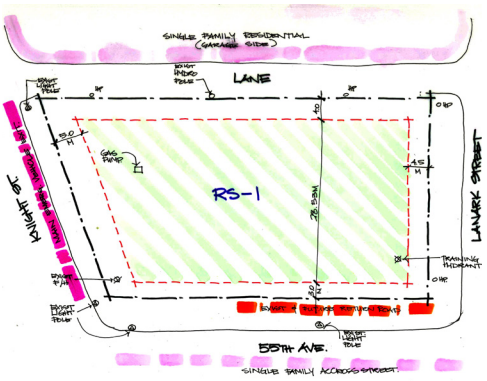
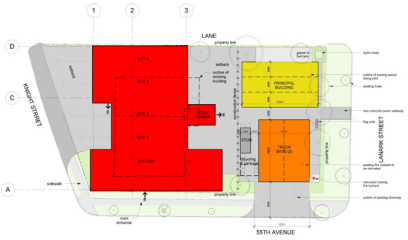


project summary

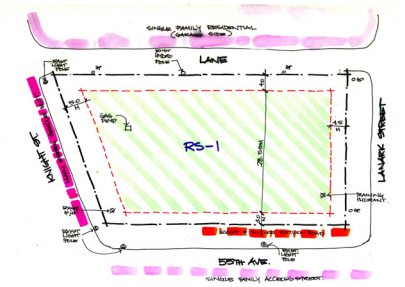
PROJECT SUMMARY

Summary

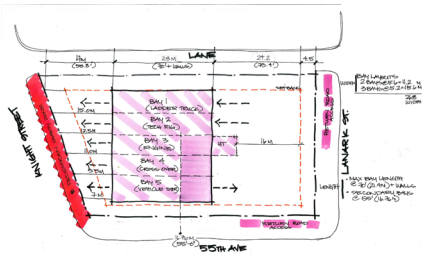
This feasibility report is a summary of an evaluation regarding the potential for re-siting, space programming, massing, location of temporary facilities and construction challenges for providing a satellite training hall to replace the aging Firehall 17 located at the north east corner of 55th Avenue and Knight Street.



General site programming requirements included provisions for a rear training yard with space for a 20m training zone from the face of the tower, on grade parking for 8 vehicles and locations for a genset, garbage/recycling area and fueling station. Returning fire truck access is to be maintained from 55th Avenue and fire trucks leaving the site will exit the apparatus bays directly on to Knight Street. Apron requirements include 13m minimum depth for the Ladder Truck and a 11m minimum depth for the Engine. The site will also have an active fire hydrant within the training yard. It is possible that this fire hydrant could also serve as the main hydrant to meet the VBBL requirements, but this needs to be reviewed further in Schematic Design .

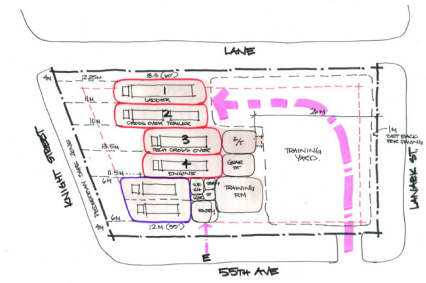


The construction of the replacement firehall will need to be phased as provisions for a temporary firehall, which is to be located at the rear of the site, must be in place prior to deconstruction of the existing hall and construction of the new hall is undertaken. This temporary hall which will be comprised of modular trailers for the crew and a two bay tent structure to house to fire fighting vehicles will function as the Firehall 17 until completion of the new hall. It should be noted that the requirements for this Temporary FH are larger than the two previous reiterations for temporary quarters for FH 15 and FH 5. In order to be economic with the site development and timing of phased moves, it would be ideal for some the site work identified within the Temporary Firehall Zone to be completed and in place before the Temporary Firehall is constructed. This work will include the removal of site trees, paving and most importantly the installation of the final building generator which will serve the Temporary Firehall during construction. The foot print of the Temporary FH is extends beyond the boundaries of the current site and will require discussions with the City Planning Department. No discussions with COV Planning have taken place under this feasibility study.



General building requirements for the Firehall itself include provisions for four apparatus bays, three of which will be drive-through with the remaining bay having a single entry/exit facing Knight Street only. The fit-test layouts provided in the following report are based on the assumption that Firehall 17 is a two crew hall with a crew comprised of 4 firefighters and 1 officer. Provisions for establishing this site as a “satellite training” hall have been accommodated by the inclusion of additional storage, Training Officer’s quarters and a full size hose / training tower.

The program of the firehall includes not only a dual purpose training/hose drying tower, administrative offices, gear storage and a public/training room on the main floor; but, the second floor will be comprised of a fitness room, kitchen, dining room and a day room with the third floor being comprised of living quarters, washrooms and showering facilities for Fire Rescue personnel. The exterior of the building will have opportunities for fire rescue staff to further train at roof areas facing the training yard at the rear of the site.



The Typical Space Program serves as the base for the Firehall 17 Space Program and looks at applying a square footage to each required type of functional space within the hall. These net numbers are then multiplied by a mark-up percentage which accounts for circulation, thickness of walls, service shafts, etc. to establish a total gross area for the building. These numbers are then totalled and given as a final estimate of the ideal space

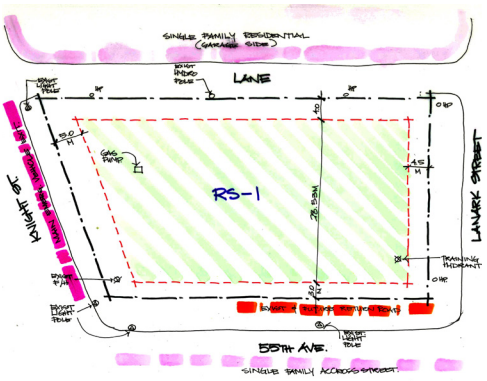
required for a Firehall of this number of people.

The Functional Program Chart establishes the general details of each of the spaces listed on the typical space program – from spatial relationships to required equipment to what special services – these items are all outlined in general on this chart.

The building construction assemblies, floors, wall and roofs, are not determined at this point although the firehall will be required to meet the post disaster requirements as outlined in the VBBL and BCBC from a structural or seismic perspective. This means that the building will be designed to withstand 1.5 times the same seismic force of a standard building.

At this early stage of a project there are some unknowns such as the state of the soil conditions or if there will be any requirements for remediation to the site. A Geotechnical Report and Environmental investigation were not a part of this study and are recommended to be the next steps in moving the project forward. The project also poses some design challenges as the firehall program is roughly 1800sm and requires both a concrete apron at the front of the site and a training yard and parking at the rear. This has necessitated the move to a three storey design given that there is no room for expansion on the site especially to the north and south. For the purposes of this exercise a zero lot line approach was taken in order to allow for the full program to be accommodated. To date no discussion with COV Planning Department about this approach have been taken on by JDa. In addition, input from additional Consultants has not been a part of this report and would be necessary for the first stages in Schematic Design to test the initial principles shown here.

Other project challenges include addressing the grade changes across the site as there is a 1.5m rise in elevation from the south west corner of the site to the north east corner of the site and more than a 0.5m elevation change across the front of the site facing Knight Street. Desired slope at the front aprons to be no greater than 3% which will be a governing factor in setting the finished floor elevations at this location.



space + functional programs

City of Vancouver + VFRS							FIREHALL 17
Firehall 17 Space Program							**V18**
		FH 17 Functional Program		**Measured Drawings 21/09/2015**	**Measured Drawings 21/09/2015**		
		SM		**SF**	**SM**		
	PUBLIC AREAS						
1	Vestibule	10.50		65	6.00		Required to meet LEED
1A	Public Entry	17.00		204	19.00		
2A	Training Room	72.00		710	66.00		
3A	Training Room Storage	11.50		129	12.00		
4	H/C Washroom	4.10		43	4.00		
4A	Public Washroom	3.00		43	4.00		
	CLEAN AREAS						
5	Captain's Office	14.00		151	14.00		
5A	Training Officer	10.00		161	15.00		2 work stations
6	Study Area	7.90		97	9.00		
6A	First Aid	1.00		0	0.00		Space located in Study area.
7	Fitness Room	50.00		538	50.00		
8	Fitness Room Washroom	2.50		0	0.00		Only required if the Fitness Room is located remotely from other washrooms.
9A	Kitchen / Dining	60.00		689	64.00		
10	Day Room	44.00		473	44.00		
11	Staff Washroom 1	3.00		54	5.00		
12	Dispatch - Rip and Run printer	3.00		22	2.00		
13	Janitor's Closet - Main Floor	5.40		65	6.00		One Janitor's Closet provided on each of the 3 floors due to site configuration
13A	Janitor's Closet - Second Floor	4.00		43	4.00		
13B	Janitor's Closet - Third Floor	5.50		86	8.00		Includes laundry area
13D	Recycling Area - Main Floor	2.50		22	2.00		1 recycling center per floor with exception of basement
13D	Recycling Area - Second Floor	2.50		40	3.70		
13E	Recycling Area - Third Floor	2.50		32	3.00		
	BAY AREAS						
14	Utility / Janitor - Apparatus Bays	9.25		75	7.00		area has been reduced from standard program due to the W/D being on the third floor level.
15	Gear Storage (48 units)	55.00		484	45.00		Accommodates 48 units
16	Decontamination Washroom	7.20		75	7.00		
17	Stores Area	9.00		65	6.00		
18	Hose Tower	170.00		1775	165.00		Hose Tower here is full height and has 5 levels including the main floor but not the roof - each floor is counted in this area.
19	Workshop	9.70		108	10.00		
20	4 App. Bays (inside clear dimensions)	461.00		4960	461.00		
	2 bays @ 22.86 (75') x 5.6m (18.4')= 256						
	2 bays @ 18.3 (60') x 5.6m (18.4')= 256						
21A	Pole Rooms - Main Floor (2 @ 3sm)	6.00		65	6.00		Landing pad and space around Pole only - direct access into the bays.
21B	Pole Room - 2nd Floor (2@ 6.8sm)	13.40		146	13.60		Middle floor pole room needs to have double area for pole transfer.
22	Mezzanine	0.00		0	0.00		Size varies per hall. Programmed space is allocated under other headings - Haz Mat and compressor room.

City of Vancouver + VFRS							FIREHALL 17
Firehall 17 Space Program							**V18**
		FH 17 Functional Program		**Measured Drawings 21/09/2015**	**Measured Drawings 21/09/2015**		
		SM		**SF**	**SM**		
	DORM SPACES						
23	Dorm Washrooms (4 w/r @ 6sm)	29.60		258	24.00		
24	Dormitory - 4 doubles	63.20		680	63.20		This calculation uses 4 doubles at 15.8
24A	Lockers (44 crew lockers shown)	40.00		473	44.00		44 lockers shown area is based on a 610 x 610 locker and a user zone of 1000mm x 610mm = an area of 1sm per locker. User zone can double as corridor.
25	Officer's Dorms (2 Dorms @ each 14 sm)	24.00		301	28.00		This space includes 6 lockers in each Dorm
26	Firefighter's Phone Closet	2.00		11	1.00		Can be a phone on the wall rather than allocated space if this works in layout.
28A	Pole Rooms - 3rd Floor (2 @3.7)	7.40		80	7.40		
29	Storage	0.00		86	8.00		Due to the addition of the third floor level additional storage has been provided
	SPECIALITY			0			
30	Training Storage	15.00		151	14.00		
31	Haz Mat Storage	15.00		172	16.00		Total Area required = 15sm. 1/3 to be located on Bay Floor (this is what is shown here) , 2/3 up on Mezzanine included in mezzanine area.
32	VFRS Band Storage	20.00		194	18.00		
	SUB TOTAL PROGRAM AREAS	**1292.65**		**13825.52**	**1284.90**		
	SERVICE SPACES						
33	Maintenance Storage	10.00		118	11.00		
34	Janitor's Closet Basement	3.00		0	0.00		Only required if there occupied spaces in basement area.
35	Compressor room (Shop Compressor)	4.00		54	5.00		Shop compressor can be located on mezzanine if necessary - acoustics to be considered.
36	I.T. Rm.	8.00		75	7.00		Houses COV equipment - site specific.
37	Communications Room	5.00		54	5.00		
38	Bike Storage	5.00		0	0.00		located on wall of North Bay.
39	Valve Rm - in mech	5.00		0	0.00		
40	Outdoor Storage	8.00		75	7.00		
41	Genset Room	24.00		0	0.00		Genset is currently shown as exterior.
42	Mechanical Rm.	16.00		247	23.00		2 Mechanical rooms at FH 5, for FH only , measure at 21.8sm combined
43	Electrical Rm.	10.00		161	15.00		
	SUB TOTAL SERVICE AREAS	**98.00**		**785**	**73.00**		
	NET FIREHALL W/O PARKING	**1390.65**		**14611**	**1357.90**		
	Mark-up	30.0%		30.3%	30.3%		mark-up is based on Floor Plans.
	GROSS TOTAL FIREHALL W/O PARKING	**1807.85**		**19030.83**	**1768.66**		

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			Comments
B1 Site Requirements:			**Area Sq. Ft.**	**Area Sq. M**		
1		Environmental site concerns			*	Investigate and remediate if any contamination is found.
2		Parking			*	Provide 9 staff parking stalls, 1 for training officer, and 6 public parking stalls to be provided on the street.
					*	If parking cannot be accommodated above grade then provide underground parking for staff only.
					*	Provide one electric car charger-Level 2
3		Genset			*	Genset to have fuel tank of a minimum 925 ga fuel capacity which must provide 72 hours of use. Plus an allowance for refuelling trucks. Consultant to advise fuel consumption for genset at time of design so VFRS can evaluate what size tank will be adequate for refueling trucks.
4		Fuelling Station			*	Fuelling station for emergency vehicles - fuel tank will be shared by Genset. Determination of whether tank is above ground or below grade to be based on site design. COV prefers above grade where possible.
					*	Fuel Tank controls shall be set so that fueling of trucks does not deplete the fuel level below the quantity for running the Firehall for 72 hours.
5		Site security & safety			*	Apply CPTED principles to all exterior areas.
					*	Building layout, landscaping and site improvements should discourage pedestrians from walking across the ramp to the Apparatus Bays.
6		Traffic Control				
					*	Coordinate apparatus exiting with adjacent traffic signals.
7		Apron / Ramp			*	13.7 m minimum apron for the Ladder Truck (truck length + .6m) - the 11 m minimum of the Engine. Apron is measured from apparatus bay door to the pedestrian zone on the side walk. Pedestrian zone can be considered to be a 1.5m width at street edge. Apron can extend beyond the Property Line.
8		Drill Square			*	Drill square to match existing size at minimum. Space required for below:
					*	Size to accommodate engine (34`) + 50` hose single run + 18 Fire Fighters in the yard. Access to training yard should be minimum 9m in width from the street.
					*	2 levels of site lighting required: low level lighting for security and parking. Higher level lighting for training manually controlled by switch inside hall.

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			**Comments**
					*	Fencing or landscaping is required to prevent pedestrain traffic across drill square.
9		Site grading			*	Site grading should allow for no more than a 3% slope from the apparatus bay floor to the sidewalk.
10		Information Sign			*	Exterior electronic information sign programmed from the Captain's office
11		Comments:			*	Fire truck access directly on to Knight Street
					*	1 Fire Hydrant to be provided within the training yard.
					*	Large training yard required at this location.
					*	In ground under carriage truck wash – service could be provided by from collected rain water
B2 Building Requirements:						
General:						
	a	Description of Assumptions			*	Two crew hall (crew = 3 Firefighters & 1 officer) + 1 training officer. Satellite Office but no dorm required for the training officer.
					*	Specialty Team in FH 17 : Haz Mat
					*	4 apparatus bays
	b	General spatial requirements:			*	1 minute response time from within anywhere in hall to apparatus bays
	c	Finishes:			*	All finishes shall be robust, durable and easy to keep clean. Carpet is not acceptable except in Community Room. Provide wall protection in damage-prone areas. Ceilings shall provide noise reduction to spaces to compensate for hard-surface floors.
					*	The building will have exterior areas used for training. Roofs shal have repelling anchors and heavy duty flashing. Ideally both flat and sloped roofs to incorporated somewhere for training. All surfaces shall be robust and the shape of the building should provide additional training opportunities where possible.
	d	Security:			*	All exterior doors shall be monitored.
					*	All exterior entrance doors, and the door separating the public area from Firehall shall have access control (card swipe - Keyscan system).Door hardware to commercial grade.
					*	Video TBD through a threat risk assessment study. As a minimum pre-wire for furture installation of cameras at all entrances, exits, fron apron and drill square.
					*	Enterphone: an IP based video intercom shall be provided at the main entrance for the public seeking access, interior stations shall be in the Captain's Office, Kitchen and the corridor to the Dorms; as well there should be a sounder throughout the hall to alert staff of an Enterphone call.

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			Comments
					*	Service Rooms which are managed by CoV Facilities shall have card reader access.
	e	Mechanical			*	All spaces in Firehall to be heated except parking.
					*	All spaces in Firehall shall be cooled, except the tower and the apparatus bays, parking and service rooms that don`t require cooling.
					*	Generally provide floor drains in all washrooms, janitor's closets, laundry areas, Apparatus Bays and similar service spaces.
					*	Toilets shall be dual flush, flush valve fixture type.
	f	Communications			*	COV Fibre - for ECOMM supported Locution, staff computers and phones
					*	Phones will be VOIP and share data with computers where there are computers.
					*	Antennas: for ECOMM-supported Locution, truck radios and Ham radio and COV Engineering.
					*	TELUS phones: for fire alarm panel monitoring and private Fire Fighter's phones.
					*	Cable required for Day Room TV
					*	No COV Wi-Fi in building.
					*	Commercial Antenna info - if required
	h	Gas Line			*	Seismic shut-off valve required.
	i	Compressed Air			*	compressed air to workshop and vehicles in bays for general use.
	j	Gear Washer			*	no gear washer in this hall
	k	Recycling area			*	Provide a 5 bin recycling stations and compost recycling conveniently located to layout.
	l	Post Disaster Strategies			*	Firehalls are required to meet the post disaster requirements as outlined in the VBBL and BCBC from a structural or seismic perspective requiring that the building be designed to withstand 1.5 times the same seismic force that a standard building is designed to. There are currently no additional requirements by Code to extend the "Post Disaster" definition to services beyond structural. However as a best practice, the standard established within Firehall design is to provide a genset large enough to power the entire building and a fuel tank large enough to keep the building running for a minimum of 72 hours so that it may be fully operational in times of need. A seismic shut off valve will be provided for the gas service.
PUBLIC AREAS						
1	**Vestibule**		**112.88**	**10.50**		
1A	**Public Entry**		**182.75**	**17.00**		
	a	Location			*	Public Entry should be located in relation to the site with Main Entrance to the building located for strong recognition and access from the street and public parking.
					*	Vestibule must be located in front of public entry.

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			Comments
	b	Spatial Requirements			*	Provide vestibule for energy conservation; exterior door shall be secured and interior door shall open freely.
					*	Public entry shall provide access to the Training Room and washrooms and to the non-public part of the Firehall. Door to the non-public part of the Firehall shall be secure with card-access from the Lobby side. Exiting should not rely on public entering the non-public portion of the Firehall.
	c	Millwork:			*	Millwork to display awards and archival information about VFRS - approximately 2400 x2400 x 450mm deep (8'x 8'x 1.5')
					*	Location for public information – display cabinet and/or public educational info. Capacity for 30 trifold pamphlets (size 8.5" x 11").
	d	Equipment			*	Fire Alarm annunciator panel to be located in vestibule.
					*	Handicapped door operator required for both entry and vestibule doors.
2A	**Training Room**		**774.00**	**72.00**		
	a	Location			*	Access from Lobby
					*	Adjacencies with Kitchen could be examined but this is not a driving force behind the location.
	b	Spatial Requirements			*	Kitchenette - small sink, under counter fridge and millwork (cupboards and drawers) for storage below counter.
					*	Room must be able to operate in various layouts: boardroom (20), classroom (20) with tables and CPR dolls in center, audience, open room.
					*	Separate storage room for chairs, 10 CPR dolls, 15 yoga mats and tables directly accessible from room so space can be multifunctional - 50 stackable chairs on dollies - Tables will be flip-top tables on casters, 11 tables 1500 x 760 (5' x 2.5')
					*	A possible second use for this room is as the practice room for the VFRS band. A ceiling height of 3.9 - 4.6m (13'-15') and acoustical treatment would be desireable.
					*	Wall mounted or movable white boards
	c	Millwork			*	Kitchenette - small sink, under counter fridge and millwork (cupboards and drawers) for storage below counter.
					*	Small built-in desk for use as either ham radio or e-learning centre for VFRS and two locked cupboards adjacent: • VFRS computer or laptop - plugged in to data and power within the cupboard • separate Ham Radio equipment storage. When in use Ham Radio equipment will be placed on the desk and plugged into power and conductor to antenna.
	d	Equipment			*	Drop down projector to be connected to both a computer at a table below and VFRS e-learning computer.
					*	under counter fridge, computer.
					*	Internet hub and room sensor for remote.

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			Net Areas			Comments
	e	AV requirements			*	Provisions for the introduction of smart board for future - backing in wall, data and power at the correct height.
					*	Motorized projection screen and outlet for projector in ceiling. Projector to be controlled from computer outlet at the front row and computer and back row.
	f	Communications			*	Provide three groups of in-floor outlets, each with 6 data and 6 power outlets (18 total). This room will be used as an Emergency Training Centre. Outlets shall be positioned for use in either the boardroom or the classroom configuration.
					*	connection to Ham radio antenna at built-in desk.
					*	data for VFRS computer @ rear of room and front desk
					*	1 data for wall-mounted telephone operated by the COV
3A	**Training Rm - Storage**		**123.63**	**11.50**		
	a	Spatial Requirements			*	This storage is Training room storage and as noted above should be large in size to accommodate 10- CPR dolls as well as the tables and chairs.
	b	Security			*	Storage room lock set
	c	Millwork			*	shelf for equipment storage (dummies for CPR training etc.)
					*	storage for 12 rolled-up yoga mats
	d	Comment			*	no electrical panels are permitted unless additional space is provided.
4	**Public Accessible Washroom**		**44.08**	**4.10**		
	a	Location			*	Access from Lobby
					*	**1 H/C and 1 public washrooms should be included when there is a training room.**
	b	Spatial requirements			*	Standard by VBBL.
	c	Equipment			*	Hand drying can be done through the use of a "Dyson hand dryer - paper towel dispenser should also be added for wiping up
					*	Baby change table.
					*	Paper towel dispenser, toilet paper holder and soap dispenser to be Owner supplied Contractor install. All other accessories supplied / installed by the Contractor. All accessories to be surface mounted.
					*	Sanitary napkin disposal (typical all washrooms)
	d	Comments:			*	No storage required beneath countertop
					*	Automatic shut of for exhaust fan when room not in use so noise is not an issue
					*	Acoustical separation from remainder of surrounding spaces
					*	Tile walls throughout for ease of cleaning.
	e	Plumbing			*	Hands free / infra red sensor can be used here with temperature control.- Hydro powered/ solar powered no battery powered allowed.
					*	Dual flush, flush-valve toilets.
4A	**Public Washroom**		**32.25**	**3.00**		
	a	Location			*	Access from Lobby
					*	1 public washrooms should be included when there is a training room.

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			Comments
	b	Spatial requirements			*	This second Public Washroom does not have to be Handicapped accessible unless required by the VBBL.
	c	Equipment			*	Hand drying can be done through the use of a "Dyson hand dryer - paper towel dispenser should also be added for wiping up
					*	Paper towel dispenser, toilet paper holder and soap dispenser to be Owner supplied Contractor install. All other accessories supplied / installed by the Contractor.
	d	Comments:			*	No storage required beneath countertop
					*	Automatic shut of for exhaust fan when room not in use so noise is not an issue
					*	Acoustical separation from remainder of surrounding spaces
					*	Tile walls throughout for ease of cleaning.
	e	Plumbing			*	Hands free / infra red sensor can be used here with temperature control.- Hydro powered/ solar powered no battery powered allowed.
					*	Dual flush, flush-valve toilets.
CLEAN AREAS						
5	**Captain's Office**		**150.50**	**14.00**		
	a	Location			*	Locate for good oversight on the operations
	b	Spatial Requirements			*	Three furniture workstations: 1. Incident computer 2. Log book 3. Inspection computer 1 - 3 drawer lateral file 1 multifunctional printer / fax unit furniture desk. 1 whiteboard / tack board w/ clipboards below.
					*	Windows looking into the apparatus bays and front vestibule if possible.
					*	Wall space for postings, bulletin boards, white boards, and district wall map situated nearby
	c	Equipment			*	Printer / copier / fax unit, 2 computers + regular office equipment - multifunctional unit to be desk mounted.
					*	Window blinds at both the interior and exterior windows.
					*	TV mounted outside room for Fire Fighter staffing.
	d	Communications			*	3 data (2 computers, 1 fax/printer)
					*	Telephone and fax are VOIP
					*	Enterphone response station @ desk 2
	e	Comments			*	Access to natural light and operable exterior windows.
					*	Acoustical privacy from remainder of hall.
5A	**Training Officer**		**107.50**	**10.00**		
	a	Location			*	To be located near training room
	b	Spatial Requirements			*	Office to accommodate 2 workstations, filing cabinet and 1 guest chair. Should be acoustically separated from the remainder of the general area.
					*	Storage required for training reference materials

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			Firehall No. 17			
			Net Areas			Comments
	c	Equipment			*	Printer / copier / fax unit (desktop), computers + regular office equipment.
					*	Window blinds at both the interior and exterior windows.
	d	Communications			*	4 data (2 computers , 1 fax/printer)
	e	Comments			*	Training Office to accommodate Training Officer and provide an office "hotelling work station" for a senior officer to use occaisionally.
6	**Study Area**		**84.93**	**7.90**		
	a	Location			*	This space to be near to the Captain's office in an alcove.
	b	Spatial Requirements			*	Two small computer work stations for report writing and e-learning, first aid treatment area, battery charging.
	c	Equipment			*	Two small work stations with bookshelf above.
					*	2 computers
					*	First Aid Cabinet and treatment chair
					*	Sharps container
	d	Communications			*	2 data and power for computers
	e	Comments:			*	Access to natural light and operable exterior windows as this are area is considered "regularly occupied" by LEED.
6A	**First Aid**		**10.75**	**1.00**		
	a	Location			*	Located in the Study area.
	b	Equipment			*	Must have seating, First Aid Kit and sharps container.
7	**Fitness Room**		**537.50**	**50.00**		
	a	Location			*	Not location specific within building but have washroom nearby where possible
	b	Spatial Requirements			*	Large enough floor space to incorporate circuit training, equipment and crew shift at one time including a coach.
					*	If there is no washroom on the same floor, then provide a single unit washroom nearby.
					*	Access to outside ideal if possible
	c	Finishes			*	Athletic flooring with a sealed surface that can be kept hygienic (e.g. Ramflex by Mondo)
					*	Provide wall mirrors for mat and free weight areas; mirrors to be raised 12" from floor.
	d	Millwork			*	Small counter for bar sink with cold water tap; storage underneath. Approx. 750 (30") long.

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			Net Areas			**Comments**
	e	Equipment			*	Exercise equipment: • 2 treadmills • 2 exercise bikes • free weight set • universal gym • mat area for 2 people
					*	Bench - furnishing not millwork.
					*	Coat hooks to hang clothes and towels.
					*	Ceiling or wall mount for TV with shelf below for DVD and radio.
					*	Confirm electrical requirements of all equipment; treadmills require 20AMP / 120V
	f	Communications			*	1 data (wall phone)
					*	1 TELUS phone (wall-mounted) for Union
					*	1 cable (TV)
	i	Electrical			*	Floor boxes for treadmills
					*	Perimeter Raceway for flexible power locations
	h	Comments			*	Access to natural light and operable exterior windows as this are area is considered "regularly occupied" by LEED.
					*	Acoustical privacy from remainder of hall.
8	**Fitness Room Washroom**		**32.25**	**3.00**		
	a	Location			*	located near to Fitness Room. This room is only required if there are no other washrooms located on the same floor.
	b	Spatial requirements			*	Standard by VBBL.
	c	Equipment			*	Paper towel dispenser.
					*	Paper towel dispenser, toilet paper holder and soap dispenser to be Owner supplied Contractor install. All other accessories supplied / installed by the Contractor.
					*	Sanitary napkin disposal (typical all washrooms)
	d	Comments:			*	No storage required beneath countertop
					*	Automatic shut of for exhaust fan when room not in use so noise is not an issue
					*	Acoustical separation from remainder of surrounding spaces
					*	Tile walls throughout for ease of cleaning.
	e	Plumbing			*	Hands free / infra red sensor with temperature control for faucet. Hydro powered/ solar powered no battery powered allowed.
					*	Dual flush, flush valve toilets
9	**Kitchen / Dining Area**		**645.00**	**60.00**		
	a	Location			*	Adjacent to Day room and main access to apparatus bays.
					*	Preferred location is on the main floor.
					*	If needed Kitchen can be on the main floor and Day Room upstairs.
	b	Spatial Requirements			*	Visual connection to Day Room is desirable but must have acoustic separation; glass partition is acceptable. Should be located adjacent to BBQ area.
					*	Seating for 16 people. Table could be two separate tables of 8.

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			Net Areas			**Comments**
					*	1.5m (5') clear in front of all counter if in front of other counters or appliances
	c	Millwork			*	AWMAC Custom Grade: except all cores shall be plywood. Durability and LEED to be carefully incorporated with finishes. Heavy-duty hardware to be reviewed in detail by VFRS.
					*	Stainless steel countertops - other surfaces may be considered as long as they meet durability test.
					*	4- 600mm w x 600mm (24"w x 24" d) food lockers, one dedicated to each shift; Common food storage equivalent to three lockers.
					*	Recycle area to store cardboard, cans and other recyclables required for LEED. Garbage area and recycling to be easily accessible by crews.
					*	Storage to be sized for commercial-sized pots & pans
	d	Equipment			*	2-20 cu ft fridges
					*	Near-commercial quality gas stove with automatic shut-off shut off. 6 burner stove.
					*	Solenoid shut off required for gas stove and BBQ outlet (BBQ to be located under cover)
					*	all duplex outlets at the counter should be dual circuit.
					*	exhaust hood over stove - not NFPA hood
					*	2 Microwaves - full sized residential quality.
					*	Additional equipment - toasters and coffee makers if NOT standard residential quality - info to be provided by VRFS.
					*	Double bowl large deep sinks.
					*	Sinks should have flexible rinsing hose
					*	Residential quality dishwasher
					*	Eye wash - plumbed in.
	e	Communications			*	1 data (wall phone)
					*	1 TELUS phone (wall-mounted) for Union
					*	Enterphone answering station
	f	Comments			*	Garbage & recycling to conform to residential standards: newspaper, mixed paper, glass, metal cans & plastics, food scraps/garden compost.
10	**Day Room**		**473.00**	**44.00**		
	a	Location			*	Near to Kitchen and Dining area.
	b	Spatial Requirements			*	Space for relaxing, watching TV, social time, and e-learning via TV/computer; candy kitty located here.
					*	Needs moderate acoustical separation from other spaces
					*	Computer station to be provided for the E- Learning opportunity. Locate near TV.
	c	Millwork			*	Counter for candy display with storage below and bulletin board above. Approx. 4' long.
					*	Millwork storage under TV (for TV components, books etc.) Must be deep enough to accommodate E-Learning CPU - minimum 610mm (2'-0") high and 450mm (18") - 500mm (20") deep
	d	Equipment			*	Room for 9 lounge chairs based on standard lounge chairs provided by VFRS + table with 4 chairs.
					*	1 large TV w/ wall-mounting hardware
					*	1 table & 4 chairs.

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			Net Areas			**Comments**
					*	E-learning computer near TV to control TV
	e	Communications			*	1 Data / Power for E- Learning space
					*	1 Data / Cable / power wall hung flat screen TV .
					*	1 TELUS line for Firefighter's phone if room is not adjacent to the kitchen.
	f	Comments			*	Access to natural light is key. Regular and black out blinds required for different uses within the space.
					*	Multilevel lighting required
11	**Staff Washroom**		**32.25**	**3.00**		
	a	Location			*	Access from non apparatus bay side of hall. Serves the second floor if dorms are on the third floor
	b	Spatial Requirements			*	Single occupant washroom with sink & toilet.
	c	Equipment			*	Paper towel dispenser.
					*	Paper towel dispenser, toilet paper holder and soap dispenser to be Owner supplied Contractor install. All other accessories supplied / installed by the Contractor.
					*	Sanitary napkin disposal (typical all washrooms)
	d	Millwork			*	Counter for sink.
	e	Plumbing			*	Dual flush - flush valve toilet
					*	Low flow faucets and no automatic controls.
12	**Dispatch - Rip and Run**		**32.25**	**3.00**		
	a	Location			*	Immediately adjacent to Apparatus Bay or within Apparatus Bay near main entry from Firehall. Located in hallway as long as hallways is made wide enough. Also in close proximity to map area in apparatus bays.
	b	Spatial Requirements			*	"Rip & Run" Printer on shelf in alcove or widened corridor. Due to large size of hall second printer location may be considered
	c	Millwork			*	Stainless Steel counter approx. 6' long, open below for Emergency Storage, balance of area under counter to have cupboard with shelves.
					*	Emergency preparedness cabinet to be located under counter.
	d	Equipment			*	Computer printer approx. 20"x24"
					*	Locution box above counter
					*	1 wall phone above counter
					*	Emergency Preparedness Cabinet
					*	Wall mounted battery charging station on shelf or wall mounted.
	e	Communications			*	1 data for Locution
					*	1 data for phone
13	**Janitor's Closet - Main Floor**		**58.05**	**5.40**		
13A	**Janitor's Closet Second Floor**		**43.00**	**4.00**		
13B	**Janitor's Closet Third Floor**		**59.13**	**5.50**		*includes washer dryer*
	a	Location			*	On all occupied floors of the hall.
	b	Spatial Requirements			*	Square janitorial sink. Storage for mop & bucket, brooms, janitorial chemicals, vacuum, and spare space for miscellaneous items.

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			Net Areas			**Comments**
					*	Accommodate self dispensing janitorial supplies adjacent to sink.
	c	Equipment			*	Towel dispenser required for hand drying.
					*	Stainless steel back splash against floor sink to extend min 6 " in front.
	d	Comments			*	Duplex near shelving for rechargeable equipment.
					*	mop-holders above sink
13C	**Recycling Area - Main Floor**		**26.88**	**2.50**		
13D	**Recycling Area - Second Floor**		**26.88**	**2.50**		
13E	**Recycling Area - Third Floor**		**26.88**	**2.50**		
					*	Accommodation for the COV recycling bins - 6 bins.
					*	Can be an alcove off corridor but should be located near the living quarters
					*	One recycling area required per floor with regularly occupied spaces.
Bay Areas						
14	**Utility / Janitor / Wash Down**		**104.81**	**9.75**		
	a	Location			*	Access from Apparatus Bays; can share space with Gear Washer if present in Firehall. This could be divided into to two spaces.
	b	Spatial Requirements			*	Square janitorial sink located close to entry point. Space for bulk storage of supplies for truck washing , mop & bucket, brooms, janitorial chemicals, and spare space for miscellaneous maintenance items. First Aid cabinet to be stored here as well- 6'w x 2' d x 7' h cabinet.
					*	Clear floor space immediately adjacent to sink to accommodate self dispensing janitorial supplies.
	c	Equipment			*	Towel dispenser required for hand drying.
					*	Dispensing systems to accommodate cleaners for trucks.
					*	Backflow preventer required due to the self dispensing janitorial supplies.
					*	610 x 610 (24x24) Terrazzo floor sink with stainless steel back splash to extend min 6 " past front edge of sink.
					*	SCBA Stainless steel wash down sink
					*	Goose neck faucet at double bowl sink.
	d	Comments			*	mop-holders next to sink
					*	Duplex near shelving for rechargeable equipment.
15	**Gear Storage Room**		**591.25**	**55.00**		
	a	Location			*	This room should be located directly off the apparatus bays to avoid spread of contamination
	b	Spatial Requirements			*	This should be located within its own room, directly off the bays with the raised air duct 100mm above floor level. Temperature control, separate exhaust system and environmental controls for the room key to ensuring that the gear can dry within the space effectively.

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			Net Areas			Comments
					*	Gross decontamination if required again once returning to the hall can be done in the wash down area located within the Hose Tower.
	c	Equipment			*	Storage for 48 sets of gear in proprietary gear storage units. Ready Rack preferred, Gear Grid to be considered. Storage should be provided for additional set of dry bunker gear above the current gear.
					*	600mm x 600mm (24" x 24") size units.
					*	Units must have shelf or place for proper helmet storage.
	d	Comments			*	In floor heating to be provided.
					*	Circular supply duct mounted at 100mm (4") from finished floor to run along floor underneath gear storage units to provide warm air to room.
16	**Decontamination Washroom**		**77.40**	**7.20**		
	a	Location			*	Directly off of the Gear Storage. Minimize spread of contamination from bay side to living quarters.
	b	Spatial Requirements			*	Single occupant washroom located in decontamination area with shower, sink, toilet and shelves for storage of shorts and t-shirt to allow for change and shower within the decontamination zone. Contaminated clothing can be bagged and take to washer or send out for cleaning.
	c	Equipment			*	Dual flush - flush valve toilet
					*	wall hung sink - no millwork needed
					*	Low flow fixtures with no automatic (infra-red) controls.
					*	laundry hampers / storage for laundry bags
					*	hooks for clothes and towels
					*	no urinal
					*	Utility shelves in both the dry areas as well as in the showers
17	**Stores Area**		**96.75**	**9.00**		
	a	Location			*	Directly off the apparatus bays and adjacent to exterior door.
					*	this area is for drop off and pick up of supplies & equipment by VFRS drivers.
	b	Spatial Requirements				
					*	Stores Area: Room for 2 mobile storage bottle racks, storage drop off and PPE bagging/ mustering zone. Hooks to be provided for ladder storage.
	c	Equipment				
					*	Rollers at all corners into hose tower.
					*	Plumbed in eye wash
18	**Hose Tower**		**1773.75**	**165.00**		
	a	Location			*	Directly off the apparatus bays and adjacent to any training area.
					*	Removed from building if possible to allow for full training access on three sides by projecting into yard

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	b	Spatial Requirements			*	This tower will be used for hose drying and training. Full 18.5 m (60') in height and larger footprint for training opportunities. Area is measure to include 5 levels @ 33sm ea = 165sm
					*	Hose Tower vestibule is an extension of the Hose Tower main floor: • 1 portable gear drying rack • wash-down area
					*	TBD with room Data Sheets: Repelling anchors, confined space training could expanded inside the tower and on the roof.
					*	Hose storage should be placed directly outside room if possible.
					*	Run hose hangers in between flights of stairs.
					*	Hose Tower to incorporate as many training opportunities as the site size will allow for.
					*	Large pedestrian door. (3-6" or 4'-0")
	c	Equipment			*	Hose roller and all door headers and jambs – in all locations.
					*	Decontamination wash-down (shower) in this area..
					*	Built in hose washer and hose hoist to upper level.
					*	2 mobile gear drying racks provided.
	d	Comments			*	Durable finishes, water resistant fittings both electrically and mechanically required
					*	Space is heated and ventilated at a minimum in order to dry hoses in winter months.
					*	Galvanized steel grating used throughout interior of tower. All steel to be bolted to structure rather than using embeds.
19	**Workshop**		**104.28**	**9.70**		
	a	Location			*	Directly off the apparatus bays.
	b	Spatial Requirements			*	Room for a single large wooden work-bench. Storage above and below to be provided for tools and supplies. Provisions for storage for 4 buckets of foam, 3 bags of kitty litter and road salt. Hazardous Materials Cabinet to be stored in this location.
					*	Space for under counter mobile tool storage.
	c	Equipment			*	Shop compressor for tools required - 60 gallon to be located in a separated area but with drops to the truck and to the workshop.
					*	Tire Chain Storage Rack
					*	Hazardous Materials Cabinet - under counter
					*	Mobile bottle storage rack to accommodate 8-12 bottles in this location.
					*	disposable rag dispenser with hazardous rag waste disposal below - mounted outside workshop
	d	Compressed Air			*	1 outlet from shop compressor to bench
	d	Comments			*	Outlets to be provided above workbench; minimum two circuits.
					*	Hazardous Materials Cabinet 36"w x 24"d x 35"h - stored below bench.

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			Net Areas			**Comments**
20		**Apparatus Bays**	**4955.75**	**461.00**		
	a	Location			*	Location of apparatus bays is determined by best access to the street.
	b	Spatial Requirements			*	Spatial relationships: Key to have gear storage, utility, washroom, and workshop access to be located directly off of the apparatus bays
					*	Five apparatus to be accommodated within four bays.
						Ladder (Quint) 43'
						Haz Mat 36'
						Cross Over 22'
						Engine 34'
						Spill Response 22'
						Tender 21'
					*	Storage for salt, foam and hose racks directly off bays.
	c	Size			*	Bay lengths:
						2 bays @ 60' (18.3m) drive thru. Acceptable if one bay is not drive thru due to site constraints.
						2 bays @ 75' (22.86m) drive thru
					*	Bay Widths: based on columns between the center bays.
						All Bays @ 18. ft4. (5.6m) clear inside
					*	Minimum clear height to u/s of overhead doors and structure to be 6100mm (20')
					*	Storage around the perimeter will be outside of the width of the apparatus space
	d	Finishes			*	Finishes/ Construction to be durable.
	e	Maps / Visual Display			*	Area for maps directly adjacent to or in the apparatus bays. This should be combined with white board and overhead map light for good use of the apparatus bay walls
					*	Prewire for future electronic displays (2) on columns between bay doors above the hose reels
	f	Floor Finish			*	Floor finish to be anti-slip but easily cleanable – integral colour floor is an option.
					*	Painted guide drive lines to assist with parking.
	g	Floor drainage			*	Centrally located trench drain system for each bay.
	h	Overhead Doors			*	Overhead doors to be minimum 4200mm x 4200mm (14' x 14') clear inside. Controls for overheads doors to be at each bay door as well as master door control panel beside Nederman system control panel on interior wall
					*	Bottom 4' of doors to have solid panels.
					*	Stop/ Proceed lights required at each door.
					*	Door model to be high lift door to accommodate desire for door to run up to u/s of roof structure- use jack shaft operator for opening mechanism as the draw bay operator will not accommodate required space above doors.

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					*	Door Controls: open / close / stop at each door. Master Door control Panels inside bays at wall against Hall Quarters. Remote control required for each door to open / close
	i	Cord Reels -Electric			*	Electrical retractable cord reel - 1 per bay and 2 in the long bays.
					*	Locate on driver's side of vehicles - near driver's door
					*	Required amperage to be 20 amps
	j	Cord Reels -Air			*	Air retractable cord reel – *1 per bay and 2 in the long bays.*
					*	Locate on diver's side of vehicles next to electrical reels
	k	Nederman			*	Nederman exhaust system to be specified. Structural steel supports for the rails may be required depending on final design of roof forms
					*	One Nederman exhaust connection in each short bay and two in the long bays. In the long bays install a dual piping.
					*	Long bays require dual Nederman track.
	l	Hose Bibs			*	2 Nederman hose reels - to be installed between bay doors. Minimum 75' hose required for each.
					*	2- Large volume fill hose bibs to be provided for filling 600 gallon tanks in trucks to be positioned at the front of the bay. 2" HB with reducer to 1".
	m	Equipment			*	Eye wash: Plumbed in located near workshop.
					*	Hose Storage Rack as supplied by Shannahan`s or Ready Rack - 2 per hall.
					*	Oily rag disposal bin
	n	Comments:			*	As much natural light as possible to be integrated into design
					*	Weather/moisture proof fittings for electrical fixtures and fittings
					*	Radiant floor heating to be used throughout for maintenance of vehicles and energy efficiency. This would be supplemented with forced flow heaters in the bays.
					*	Provide 2 hooks for PPE gear on each sidewall near the front of the trucks.
21A	**Pole Room (Main Floor)**		**64.50**	**6.00**		*2 pole rooms @ 3.0sm each likely for this size of hall.*
21B	**Pole Room Second Floor**		**79.55**	**7.40**		*2 pole rooms @ 3.7sm each likely for this size of hall.*
	a	Location			*	Locate for quick access to Apparatus Bays from Dorm areas.
					*	2 pole rooms @ 3.0sm each likely for this size of hall. 1 to be located on each floor
	b	Spatial Requirements			*	Man door access to top of pole is preferred. Layout and detailing to provide multiple cues that this man-door leads to the pole.
					*	Second Floor Pole room is a transition pole and requires additional space to transfer from one pole to another to reach the ground level due to the overall drop.

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			Net Areas			**Comments**
	c	Equipment			*	Pole shall be brass; reuse an existing pole if possible (VFRS has several poles in storage)
	d	Comments			*	Light to turn on when door opened and for a 30 second duration after door closes, with switch override. Maximum-sized window in door; length of landing to be designed for safety.
22	**Mezzanine**			**varies**		*area will vary and is alocated to programmed spaces*
	a	Spatial Requirements			*	Located within the apparatus bays above spaces located within the confines of the apparatus bays. To be used for training / Storage space
	b	Location			*	Within the height of the apparatus bays often located above ancillary spaces such as the works shop or gear room
	c	Program			*	to accommodate Haz Mat and compressor room
Dorm Spaces						
23	**Dorm Washrooms**		**318.20**	**29.60**		
	a	Location			*	Near dorms
	b	Spatial Requirements			*	Provide 4 single occupant washrooms with shower. All rooms to be gender neutral. 4 washrooms @ 7.4sm each.
					*	A shower designed with over-sized floor and partial-length sidewall so that no shower curtain is required is preferred, alternately a curtain may be used.
	c	Plumbing			*	Low flow fixtures throughout with individual temperature, duration and volume control.
					*	Dual-flush flush-valve toilet
					*	No urinals
					*	Individual control for each shower and faucets required.
	d	Millwork/Accessories			*	Vanity with sink - no storage below
					*	Toilet paper, paper towels soap dispenser - supplied by Owner; installed by Contractor.
					*	Hooks for clothes and towels
					*	Shelves for personal toiletries
					*	Accessory ledge or shelf in shower for soap and shampoo
24	**Dormitories**		**679.40**	**63.20**		
	a	Location				Locate for easy access to Apparatus Bays
	b	Spatial Requirements				This calculation is base on 4 double spaces at 15.8sm per double.
	c	Millwork				Millwork beds w/storage; mattress platform shall provide ventilation for mattress.
	d	Equipment				Bedside light and night table at each bed - night table to be furnishing.
					*	metal lockers for personal gear and bedding locker above - 600mm x 600mm (24"x 24") wide located in the dorm corridors. Number to meet 5 per bed for a total of 40 crew lockers.

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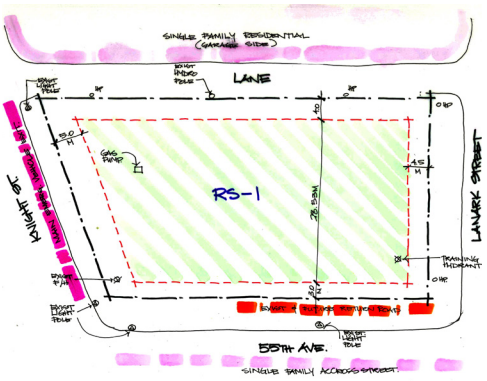
			Net Areas			Comments
	e	Comments				No phased lighting on calls – for wake up. Floor level night lighting provides good option when not in an emergency situation.
						Low-level nightlight in corridors controlled by switch. Fixtures should be located so that there is no annoying view of light bulbs from sleeping areas.
						No cable and telephone outlets in dorm rooms.
					*	Mirrors, tack board and hooks as shown.
24A	**Lockers**		**430.00**	**40.00**		
	a	Location			*	Located with corridors for ease of access.
	b	Equipment			*	Lockers for personal gear with bedding locker above - 610 x 610x locker and a user zone of 1000mm x 610mm = an area of 1 sm per locker. User zone can double as corridor space.
					*	Wood millwork lockers not acceptable due to durability when wet towels are hung over the doors. Lockers must be able to suit damp and dry conditions, be quiet and add character to the space.
					*	40 lockers required - 5 lockers per bed.
					*	lockers shall have a 610 x610 x610 bedding storage area included.
25	**Officer's Dormitories**		**258.00**	**24.00**		
	a	Location			*	2 Officer's Dorms in hall - single occupant dorms. Lieutenant + Captain
	b	Millwork			*	Millwork beds w/storage; mattress platform shall provide ventilation for mattress.
					*	Storage for personal effects
	c	Equipment			*	5 lockers for personal gear and bedding locker above - 600mm x 600mm (24"x 24") wide for each room
	c	Communications			*	1 data / 1 power - VOIP for telephone
	d	Comments			*	No phased lighting on calls – for wake up. Floor level night lighting provides good option when not in an emergency situation.
					*	Acoustically separated from remainder of halls
					*	No cable outlets in dorm rooms.
26	**Fire Fighter`s Phone Closet**		**21.50**	**2.00**		
	a	Location			*	Locate on floor close to dorm areas. This function can be accommodated through a wall mounted phone but a small room is preferred.
	b	Spatial Requirements			*	Enough room for a single person to stand off the main corridor.
	c	Millwork			*	shallow counter
	d	Equipment				
	e	Communications			*	1 data (COV phone)
					*	1 TELUS phone line (Union phone)
					*	1 power at counter; 1 power on sidewall.
	f	Comments			*	Room for a chair

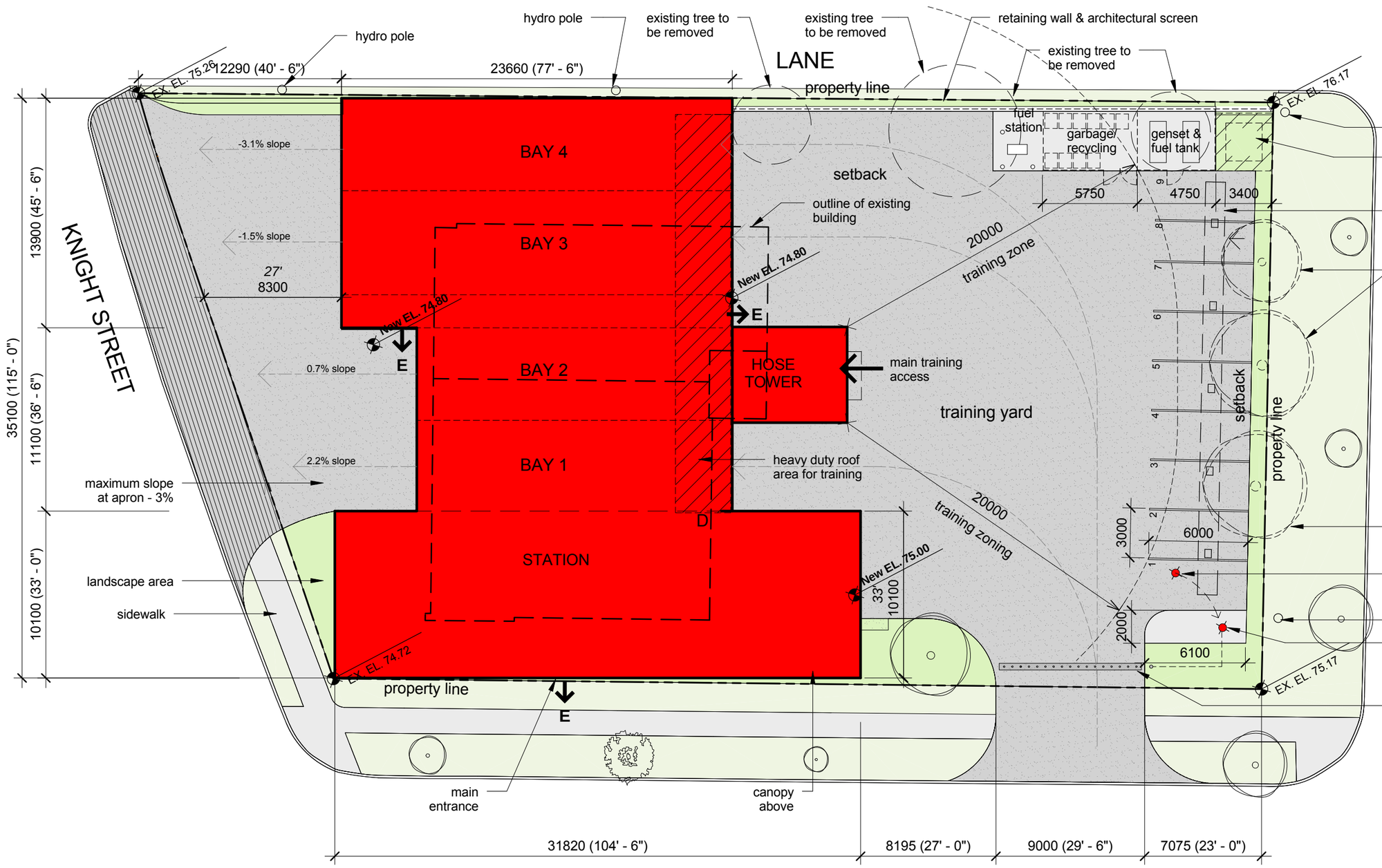
City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			**Comments**
28/28A		**Pole Room (Upper Floor)**	**79.55**	**7.40**		*2 rooms required at 3.7sm*
	a	Location			*	Locate for quick access to Apparatus Bays from Dorm areas.
	b	Spatial Requirements			*	Man door access to top of pole is preferred. Layout and detailing to provide multiple cues that this man-door leads to the pole.
	c	Equipment			*	Pole shall be brass; reuse an existing pole if possible (VFRS has several poles in storage)
	d	Comments			*	Light to turn on when door opened and for a 30 second duration after door closes, with switch override. Maximum-sized window in door; length of landing to be designed for safety.
29		**NOT USED**				
Specialty						
30		**Training Storage**	**161.25**	**15.00**		
	a	Spatial Requirements			*	Size to be appropriate for storage of items noted below in the hose tower for exterior training exercises. Floor drain and ventilation required. Ladder storage required as noted below
	b	Location			*	Locate near the hose tower and or attached to the hose tower at the rear of the hall for easy access by training crews. Hose nozzles, axes, hose etc.
					*	Equipment:
						• 2 or 3 18' -20' ladders • 20 lengths of hose (1 hose rack 8' (2400mm) long) • 6-8 nozzles • 2-3 axes • 6-8 couplings • 2 6'-8' pike poles • Plus room for misc. items.
31		**Haz Mat Storage**	**161.25**	**15.00**		
	a	Spatial Requirements			*	1/3 on main floor and 2/3 stored on Mezzanine
	b	Location			*	Storage on Main floor will be for foam barrels.
32		**VFRS Band Storage**	**215.00**	**20.00**		
	a	Spatial Requirements			*	Enough room for storage of all band equiement, music stands and any other equipment.
					*	Room to store 20-25 music stands
					*	Flags, Uniforms, Drums, They will need to train within the training room
Service Areas						
33		**Maintenance Storage - Baseme**	**107.50**	**10.00**		
	a	Location			*	Located for ease of access by CoV staff - this space is specifically designed to house storage for building maintenance by CoV staff.

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
			Firehall No. 17			
			Net Areas			Comments
	b	Spatial Requirements			*	Shelving around perimeter to house light bulbs, excess paint, flooring etc. Access by CoV staff only.
					*	Clear floor space immediately adjacent to sink to accommodate self dispensing janitorial supplies.
	c	Equipment			*	
	d	Comments			*	Duplex near shelving for rechargeable equipment.
34	**Janitor`s Closet - Basement**		**32.25**	**3.00**		
	a	Location			*	Not required in this hall as there are no regularly occupied spaces on this level.
35	**Compressor Room**		**43.00**	**4.00**		
	a	Location			*	Could be located in Mechanical Room or in its own room on the mezzanine which is acoustically separated.
	b	Spatial Requirements			*	Room to be large enough for shop compressor with clear space around for maintenance. Must have the ability to have direct air piped directly into the compressor.
36	**IT Room**		**86.00**	**8.00**		
	a	Location			*	As required by consultants; near entry point for City fibre.
	b	Spatial Requirements			*	CoV IT to provide specific requirements.
					*	TBD
	c	Comments			*	No other equipment may be added to this room; other communication panels shall be elsewhere.
	d	Security			*	Card reader to room required. CoV access only.
37	**Communications Room**		**53.75**	**5.00**		
	a	Location			*	Area to be confirmed during Design Development
	b	Spatial Requirements			*	To house Telus, Cable TV etc.
					*	Specific requirements per hall to be determined
	c	Comments			*	COV IT equipment to be located in IT Room.
38	**Bike Storage**		**53.75**	**5.00**		
	a	Spatial Requirements			*	Locked room with 6 bike racks per parking by-law standards.
					*	1 outlet to charge Electric Bike.
	b	Location			*	Adjacent to parking and / or easy access to exterior.
39	**Valve Room**		**53.75**	**5.00**		

City of Vancouver + VFRS						PROGRAMMING
Functional Programming						**V23**
				Firehall No. 17		
			Net Areas			Comments
	a	Location			*	Located to suit service needs and comprise of the water entry valves. Exposed for training purposes. This includes the sprinkler tree as well.
40		**Outdoor Storage**	**86.00**	**8.00**		
	a	Location			*	Outdoor Store-room: in basement for seasonal storage; gardening equipment should be located convenient to outdoors
41		**Genset Room**	**258.00**	**24.00**		
	a	Location			*	Genset is located in the rear training yard adjacent to the garbage and recycling area.
	b	Spatial requirements			*	If relocated inside the buildng 24 sq m allowance will be required.



drawings



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APPARATUS BAY SIZE

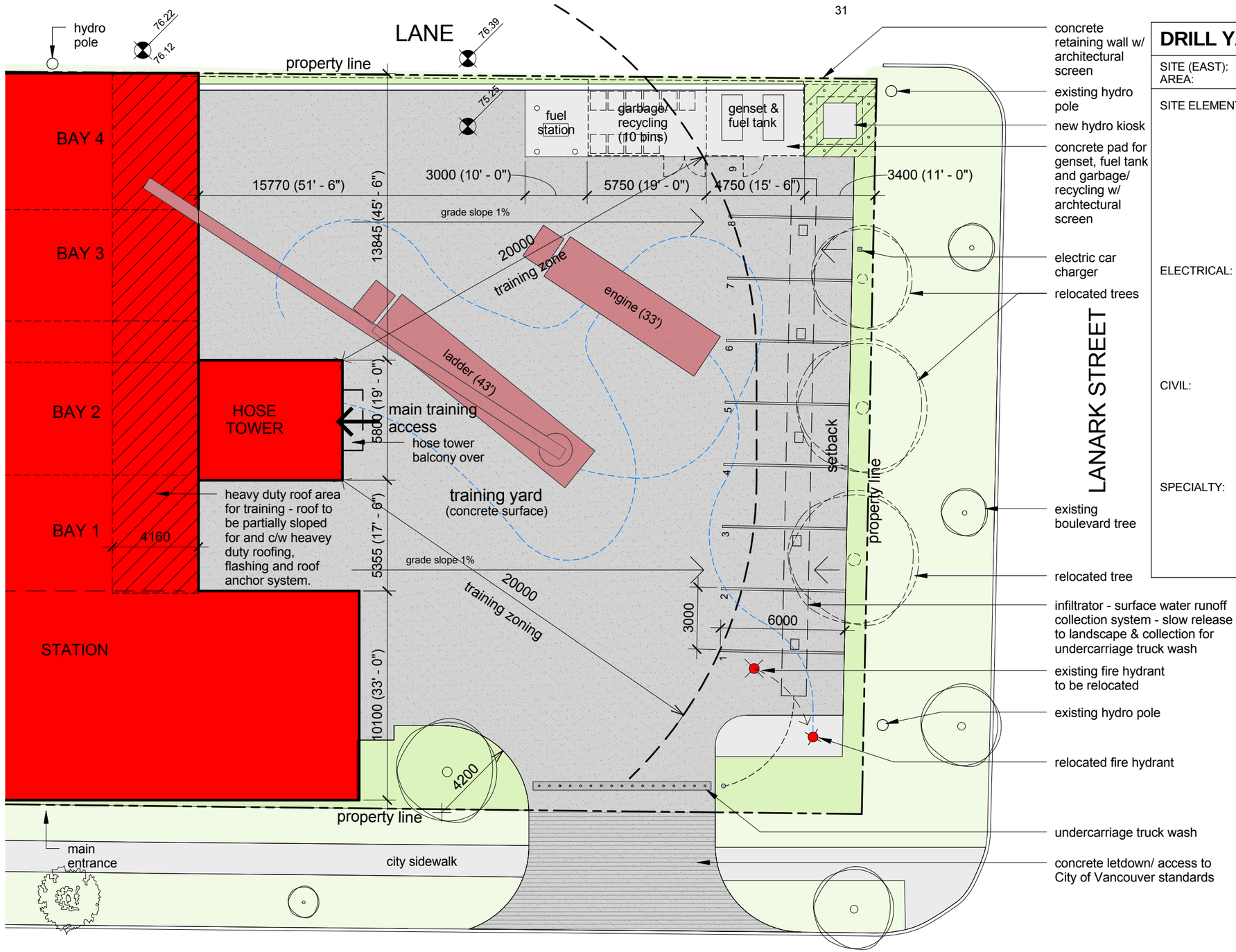
BAY	DIMENSIONS
BAY 1	18.3M X 5.6M (60'-0" X 18'-4")
BAY 2	18.3M X 5.6M (60'-0" X 18'-4")
BAY 3	22.86M X 5.6M (75'-0" X 18'-4")
BAY 4	22.86M X 5.6M (75'-0" X 18'-4")

Feasibility Study

City of Vancouver
Fire & Rescue Services
Vancouver FH No.17

site plan

1:250
15-oct-13



55TH AVENUE

1 Site - Drill Yard
scale - 1 : 200

DRILL YARD SPECIFICATIONS

SITE (EAST): DRILL YARD /W PARKING
AREA: 925 SM

SITE ELEMENTS:
- GENSET AND FUEL TANK (ABOVE GRADE)
- GARBAGE & RECYCLING ENCLOSURE - 10 BINS
- 8 PARKING STALLS
- RETAINING WALL & SCREEN AT LANE
- ASPHALT SURFACE AT TRAINING AND PARKING AREAS
- FIRETRUCK AND PARKING ACCESS TO 55TH AVE
- TRAINING FIRE HYDRANT (ONE)

ELECTRICAL:
- GENSET WITH MIN. 925ga FUEL TANK WITH 72 HOURS USE
- LEVEL 2 ELECTRIC CAR CHARGING - SINGLE STALL
- HYDRO KIOSK
- 2 LEVELS OF SITE LIGHTING: LOW LEVEL FOR SECURITY + PARKING AND HIGH LEVEL FOR TRAINING

CIVIL:
- INFILTRATOR - WATER COLLECTION SYSTEM WITH SLOW DISCHARGE TO GROUND
- SINGLE SLOPE TRAINING SURFACE, DRAINS RUNOFF TO COLLECTION SYSTEM AT EAST OF SITE

SPECIALTY:
- IN GROUND TRUCK UNDERCARRIAGE WASH - WATER SUPPLY FROM AT GRADE WATER COLLECTION SYSTEM
- SIAMESE CONNECTION @ HOSE TOWER FOR TRAINING

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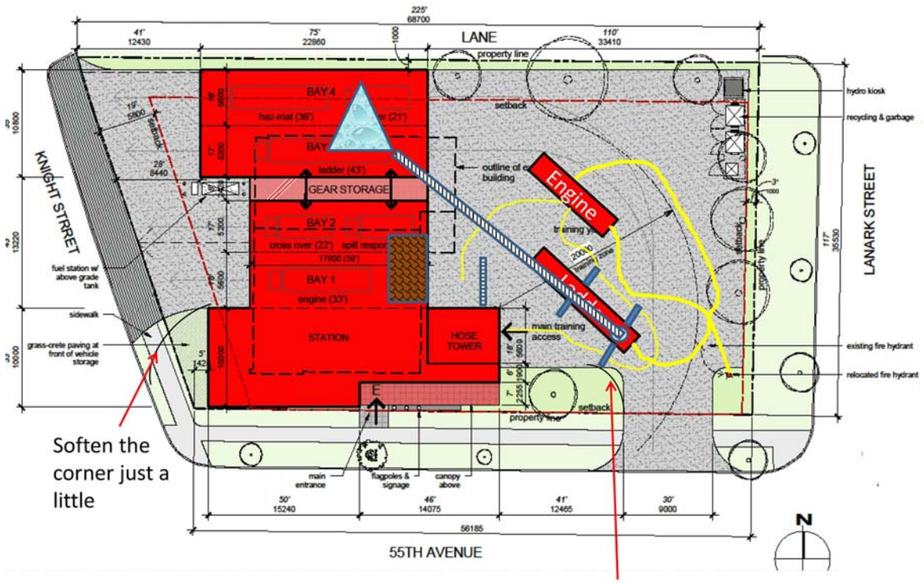
Vancouver FH No.17

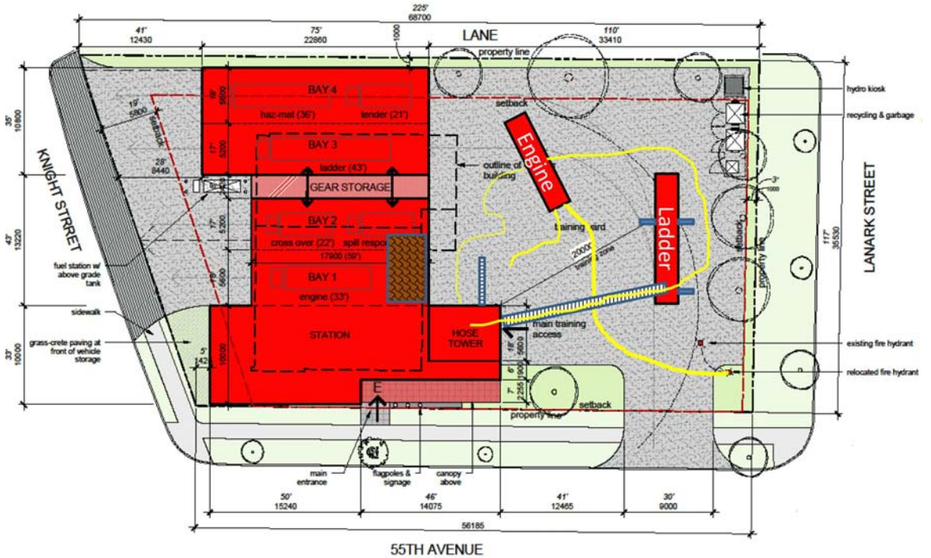
drill yard

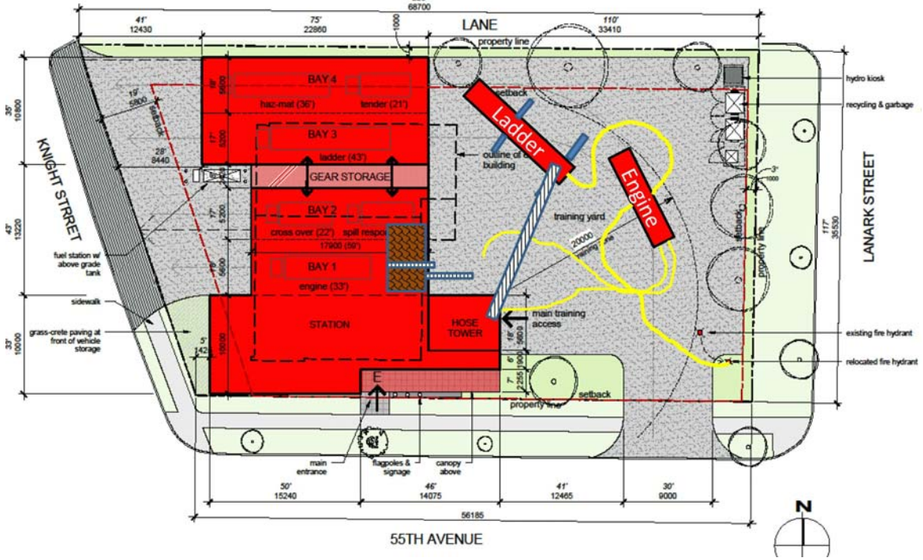
1:200
15-oct-13



Soften the corner just a little

Round the corner just a little





Hose and Ladders specifications

Sizes

- Diameters
  - 2”1/2 ”
  - 1”3/4”
  - 5”
- Lengths
  - 2”1/2” – 50’
  - 1”3/4” – 50’
  - 5” – 50’ & 100’

Ladders

- 10-14’ inside extensions
- 16’ roof ladders
- 20-24’ wall ladders
- 30-35’ Extension ladders

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Fire & Rescue Services

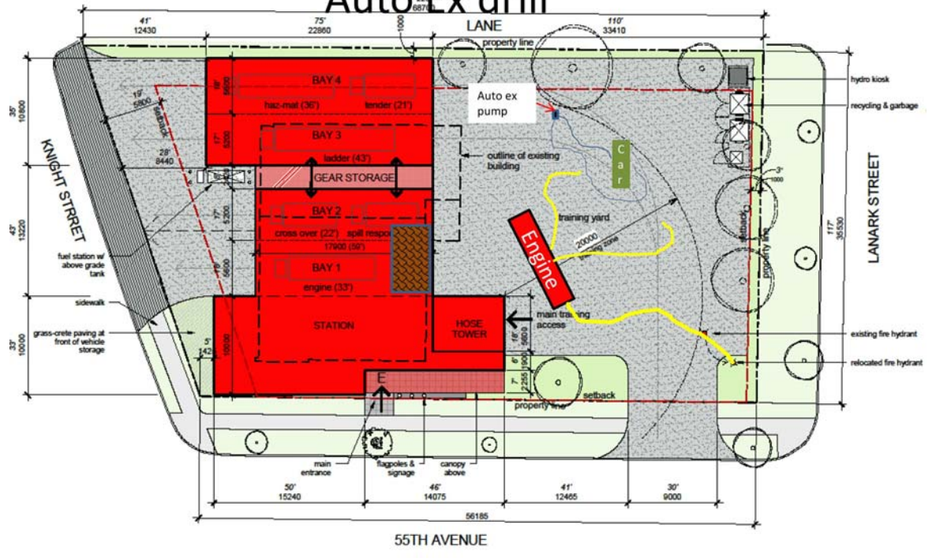
Vancouver FH No.17

training yard options
sheet 1

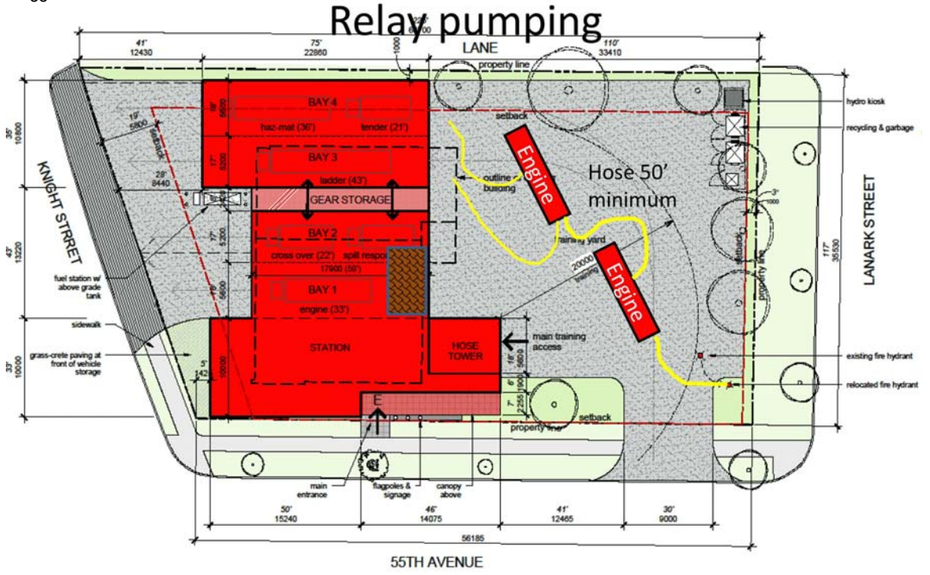
n.t.s.

15-may-28

Auto Ex drill



Relay pumping



Hose and Ladders specifications

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  - 5”
- Lengths
  - 2”1/2” – 50’
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  - 5” – 50’ & 100’

Ladders

- 10-14’ inside extensions
- 16’ roof ladders
- 20-24’ wall ladders
- 30-35’ Extension ladders

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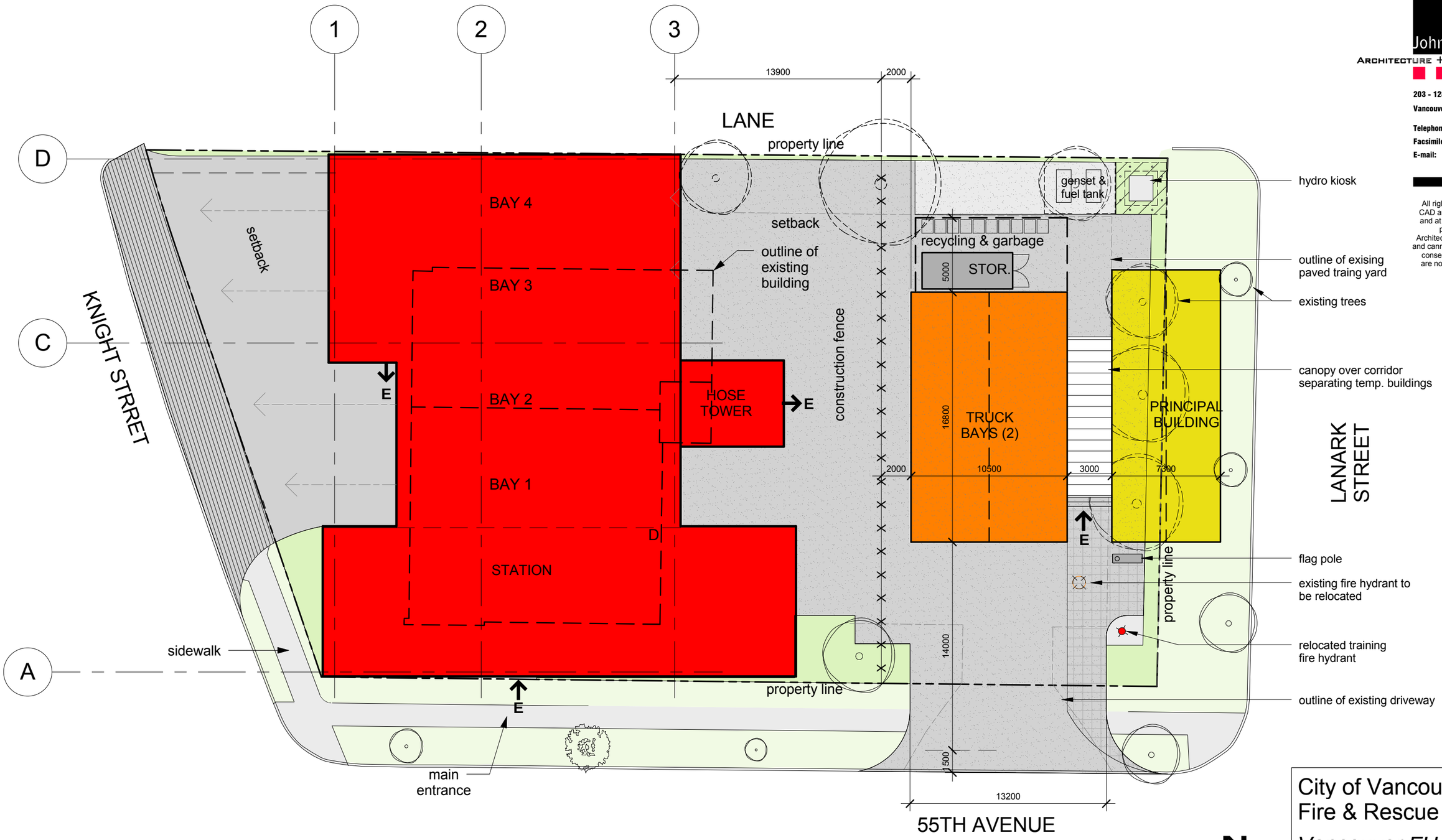
training yard options sheet 2

n.t.s.

5-may-28



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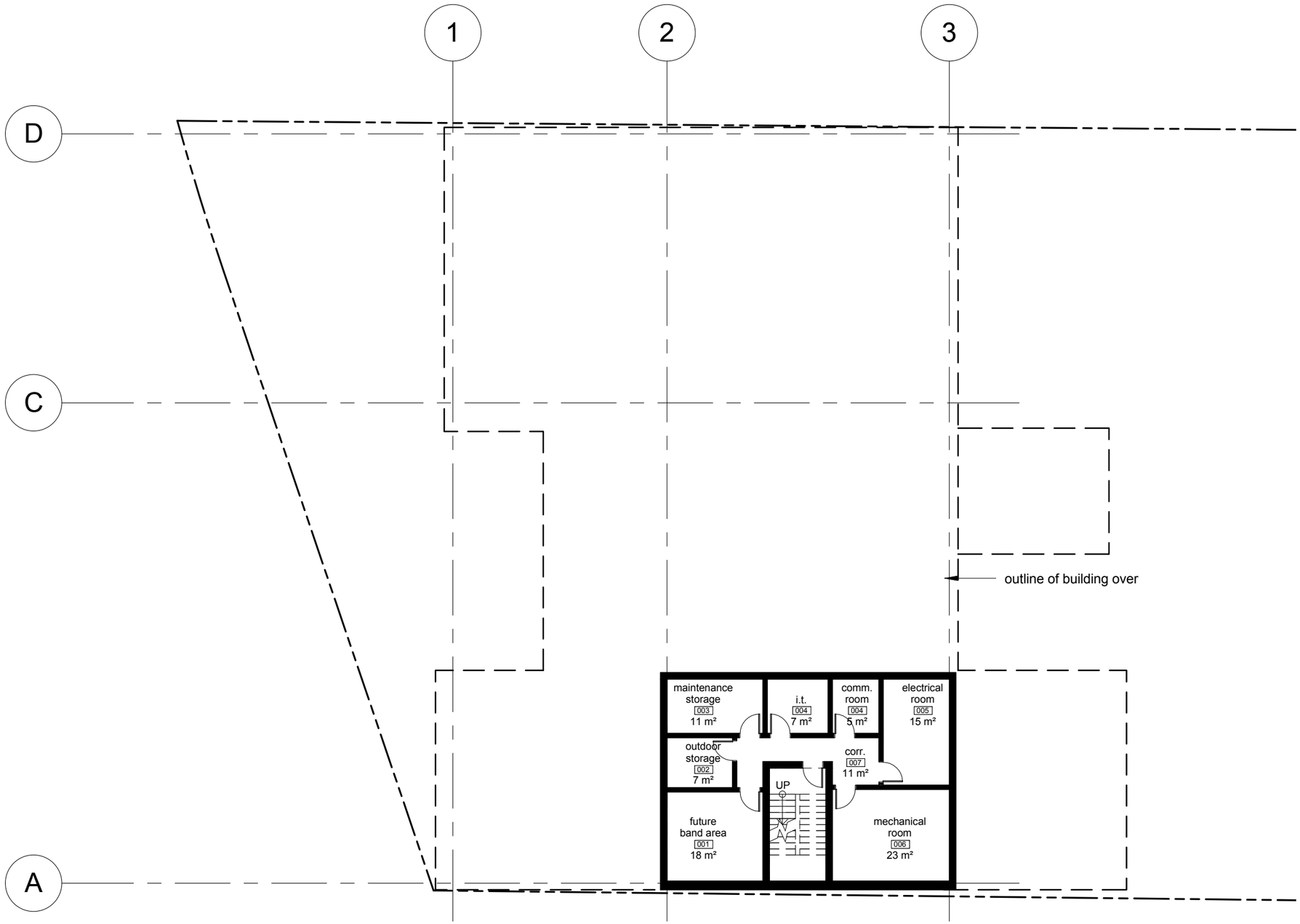
site plan - temp option 4

1:250
15-sep-21



1 FH - BASEMENT
scale - 1 : 200

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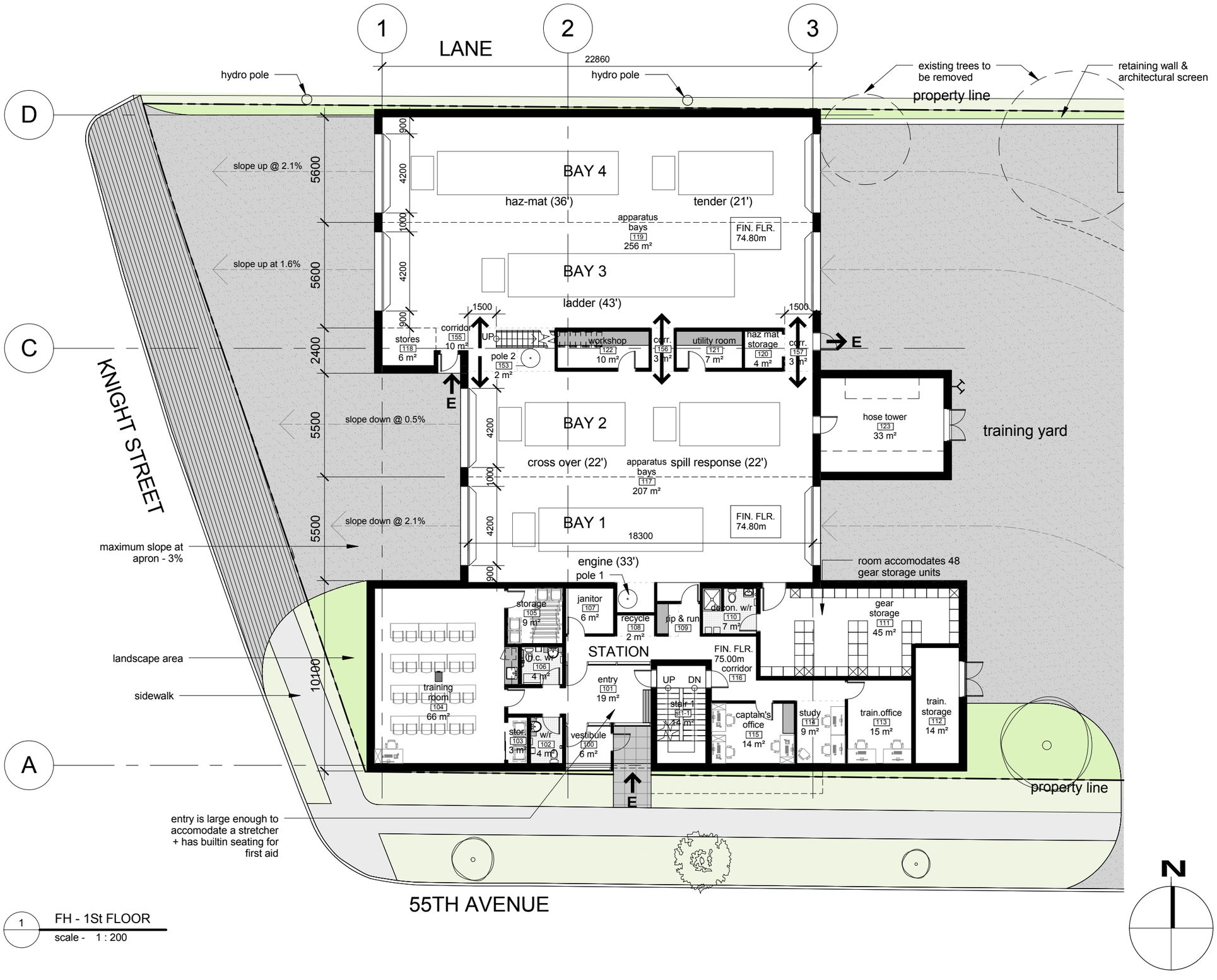
basement floor plan

1:200
15-oct-13



1 FH - 1St FLOOR
scale - 1 : 200

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Feasibility Study

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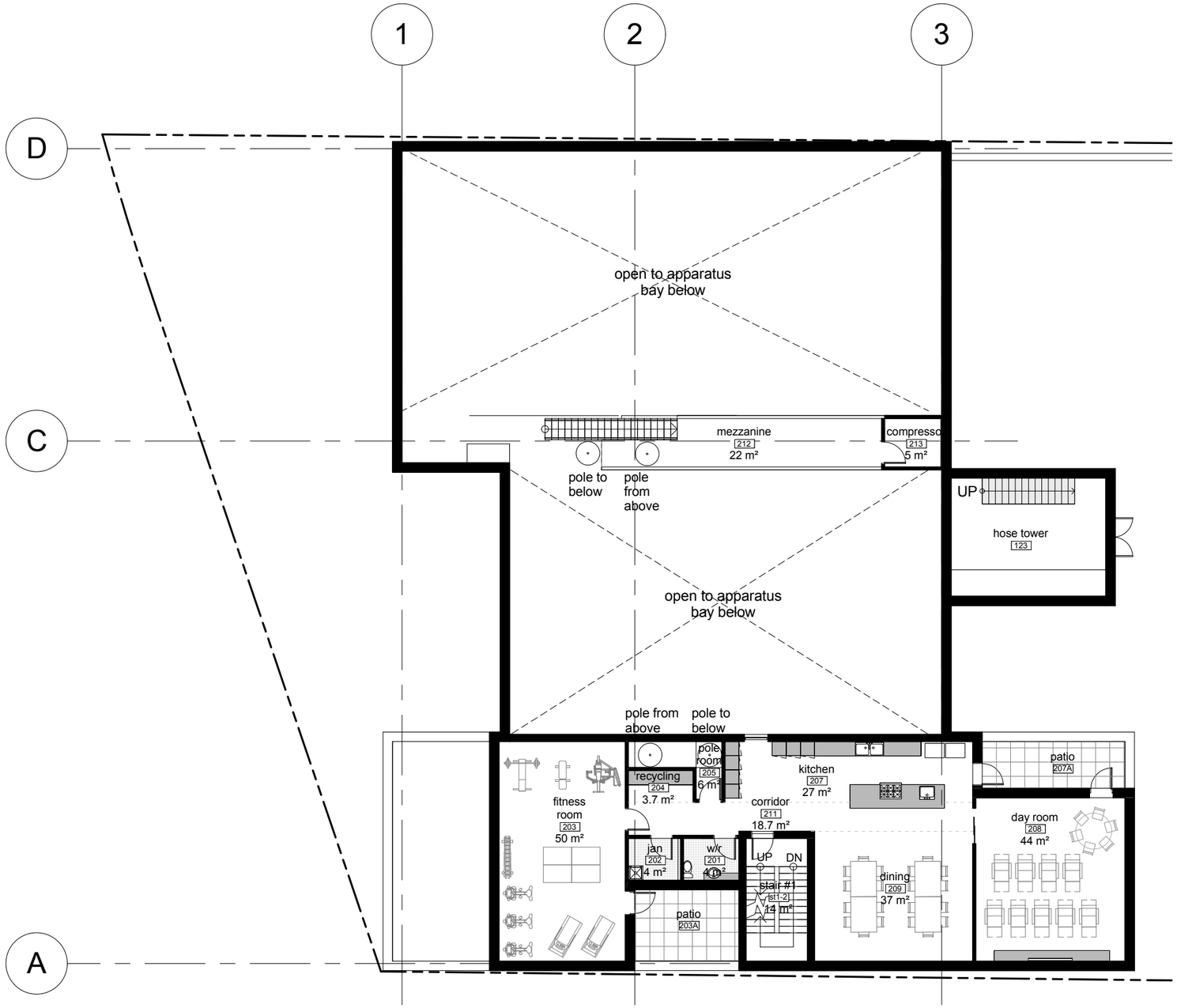
main floor plan

1:200
15-oct-13



1 FH - 2ND FLOOR
scale - 1 : 200

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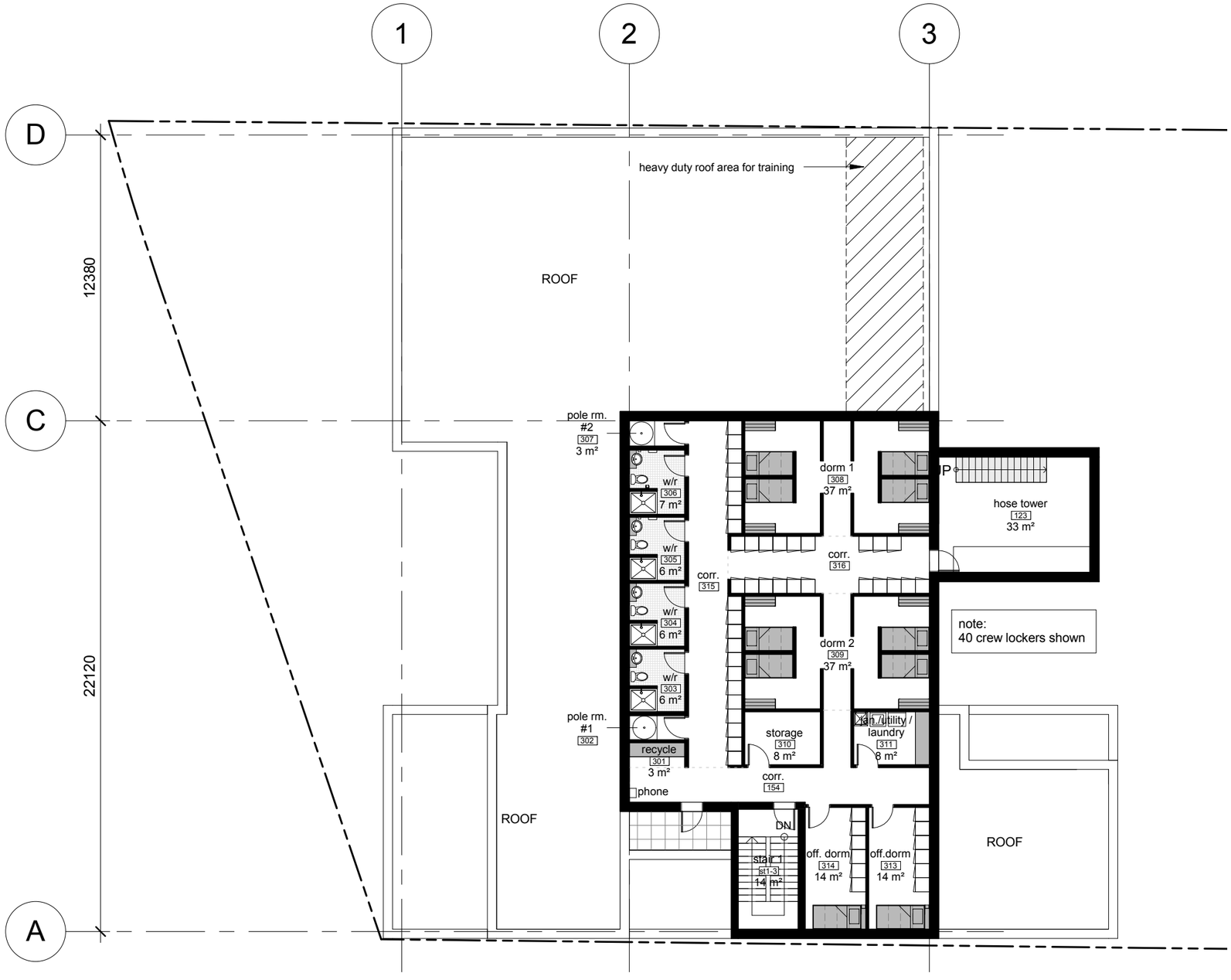
2nd floor plan

1:200
15-oct-13



1 FH - 3RD FLOOR
scale - 1 : 200

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Feasibility Study

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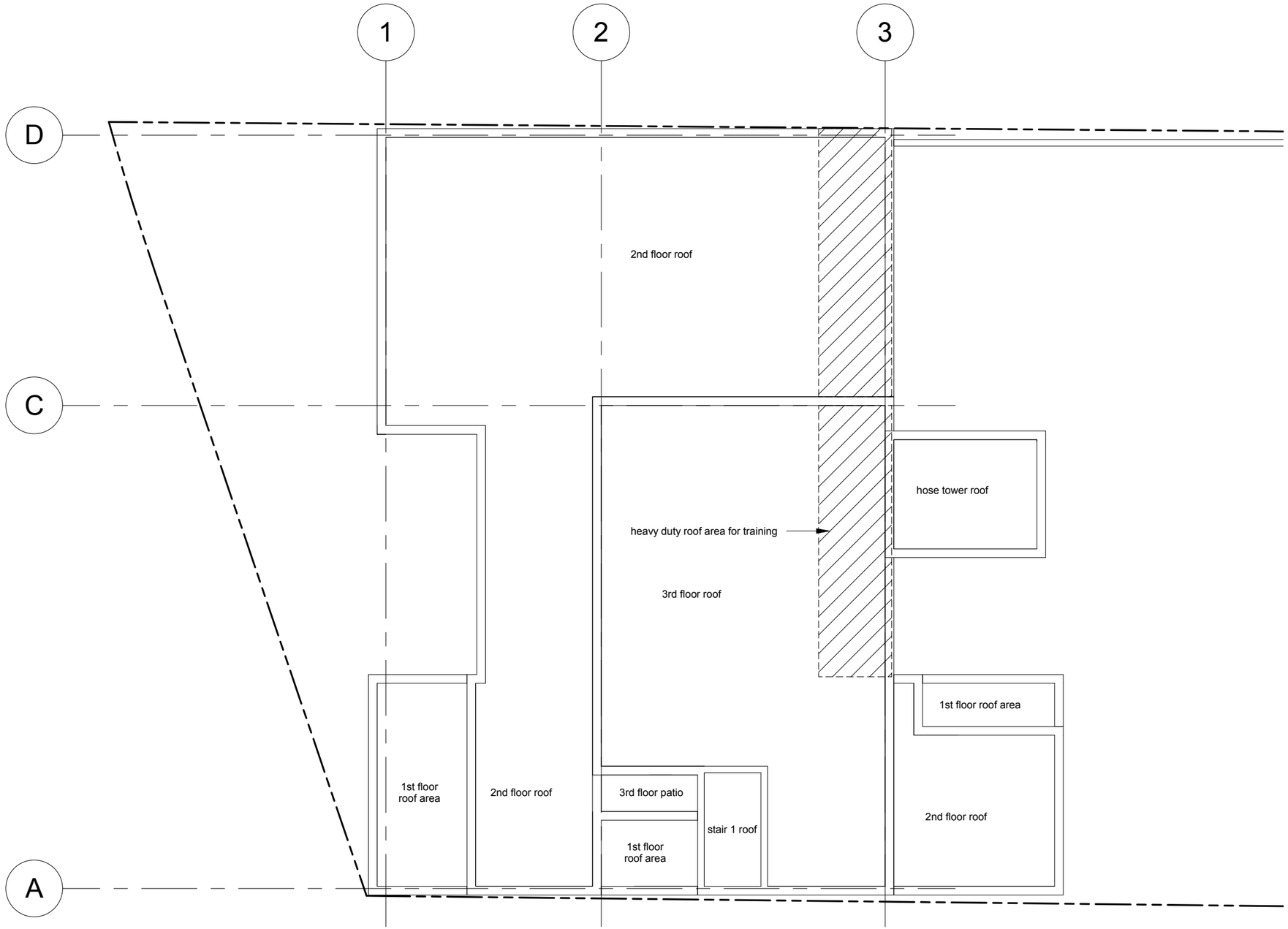
3rd floor plan

1:200
15-oct-13



1 FH - ROOF PLAN
scale - 1 : 200

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roof plan

1:200
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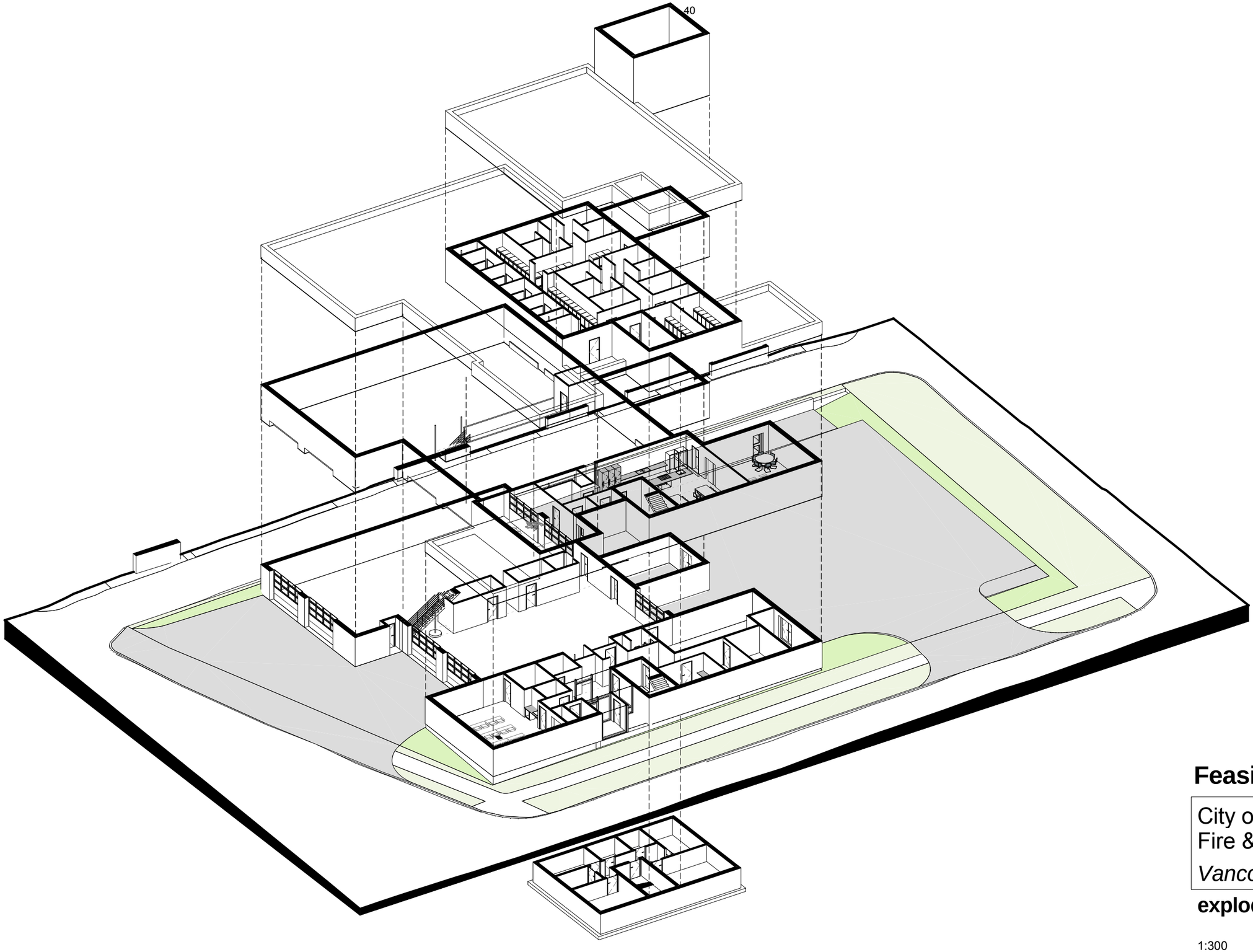

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Feasibility Study

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Fire & Rescue Services

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exploded axonometric

1:300

15-oct-13

view from south east

view from north east

view from north west

view from south west

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Feasibility Study

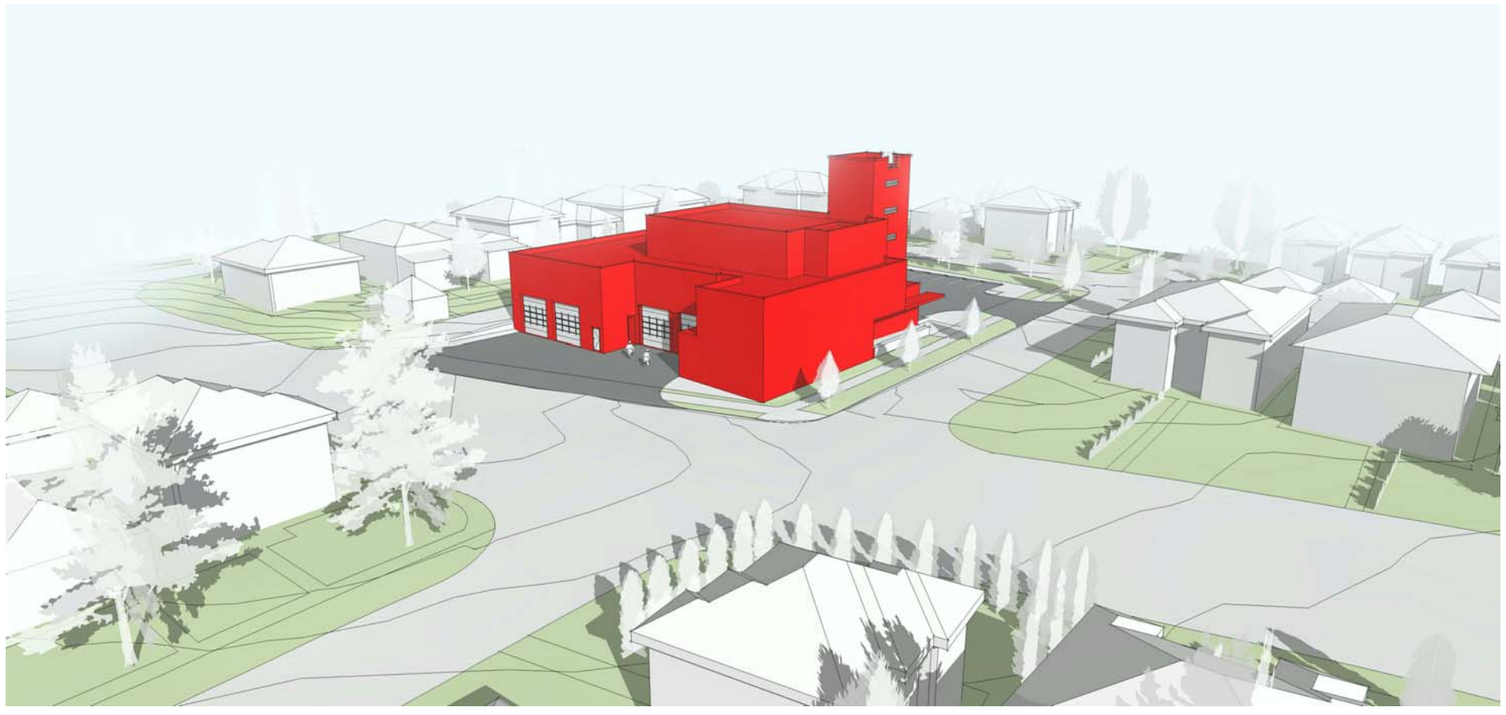
City of Vancouver
Fire & Rescue Services

Vancouver FH No.17

perspective views

15-may-28

view from south east



view from south west

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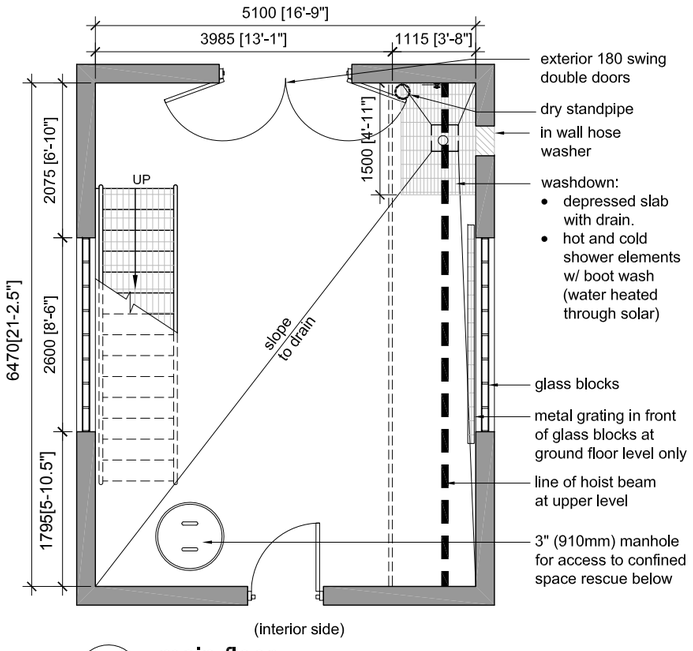
Feasibility Study

City of Vancouver
Fire & Rescue Services

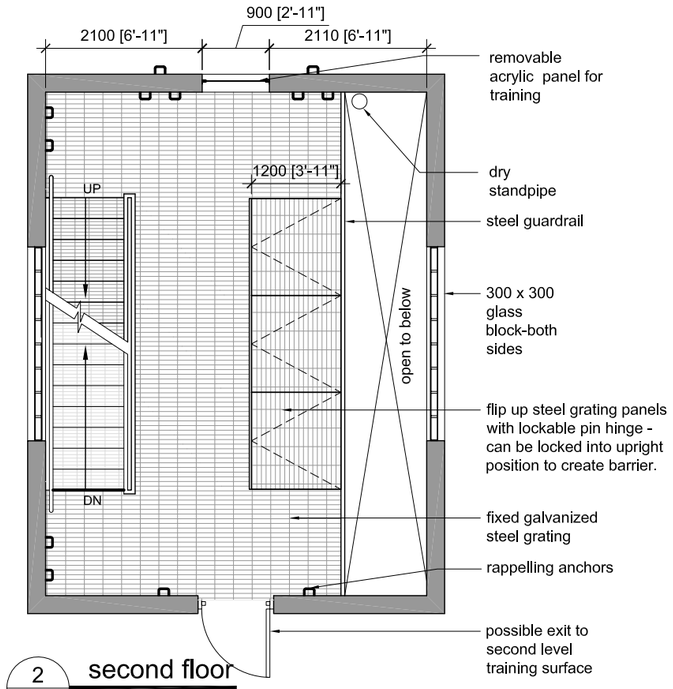
Vancouver FH No.17

perspective views

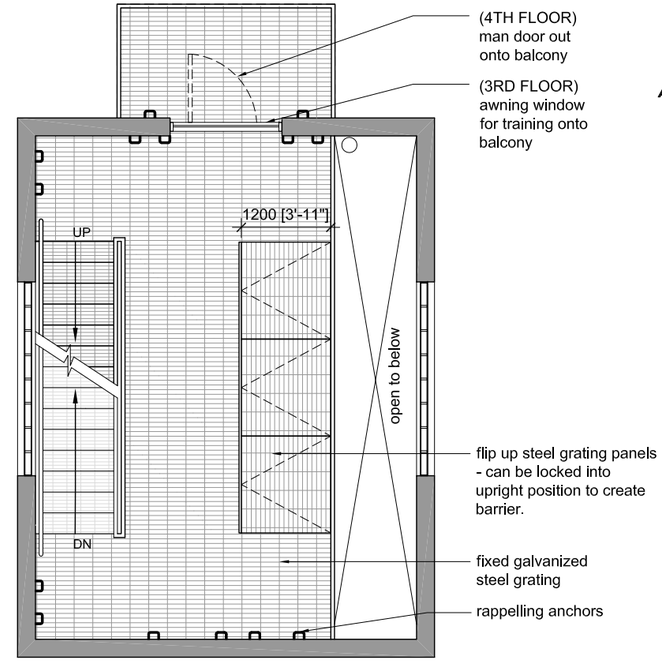
15-may-28



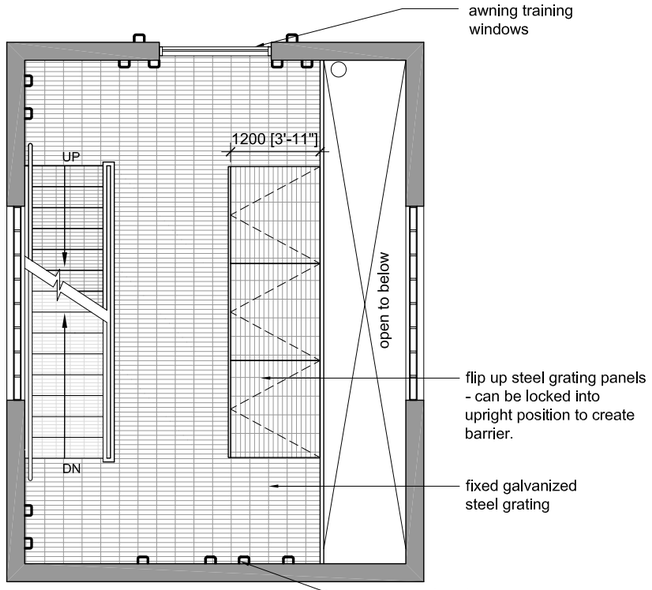
1 main floor



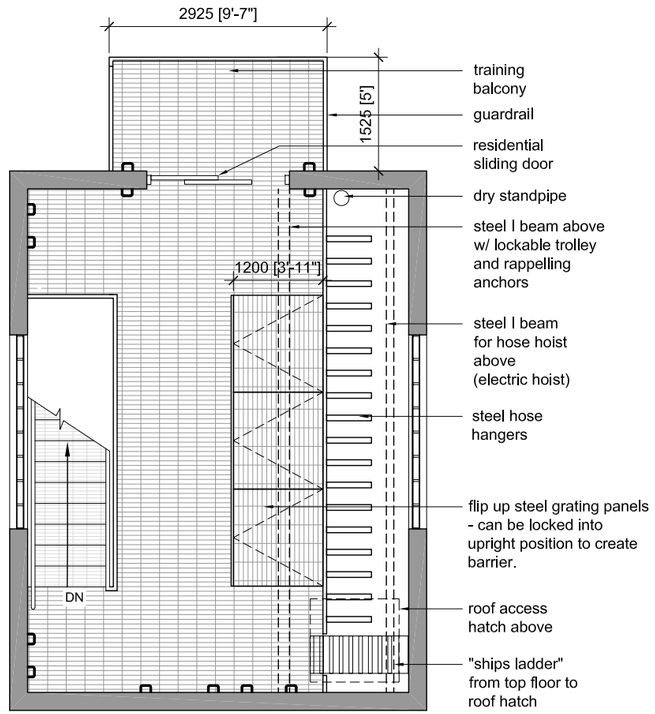
2 second floor



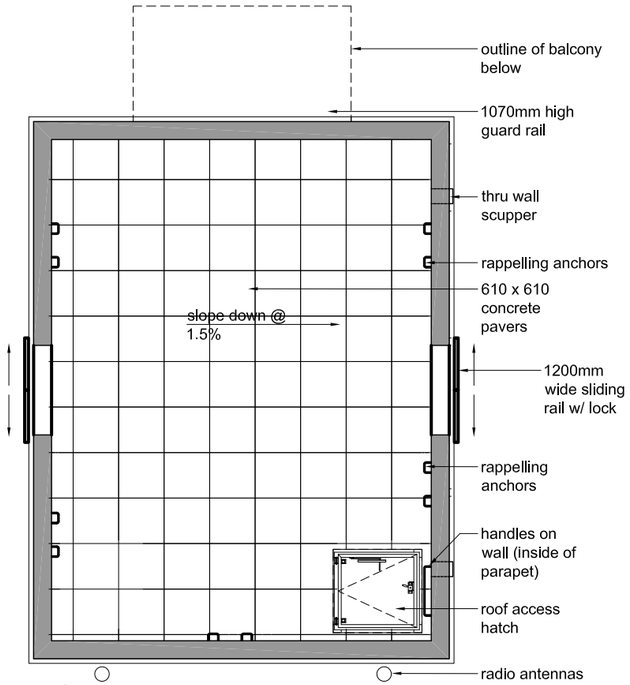
3 third & fourth floors



4 fifth floor



5 sixth floor



6 roof plan

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Firehall - No.17

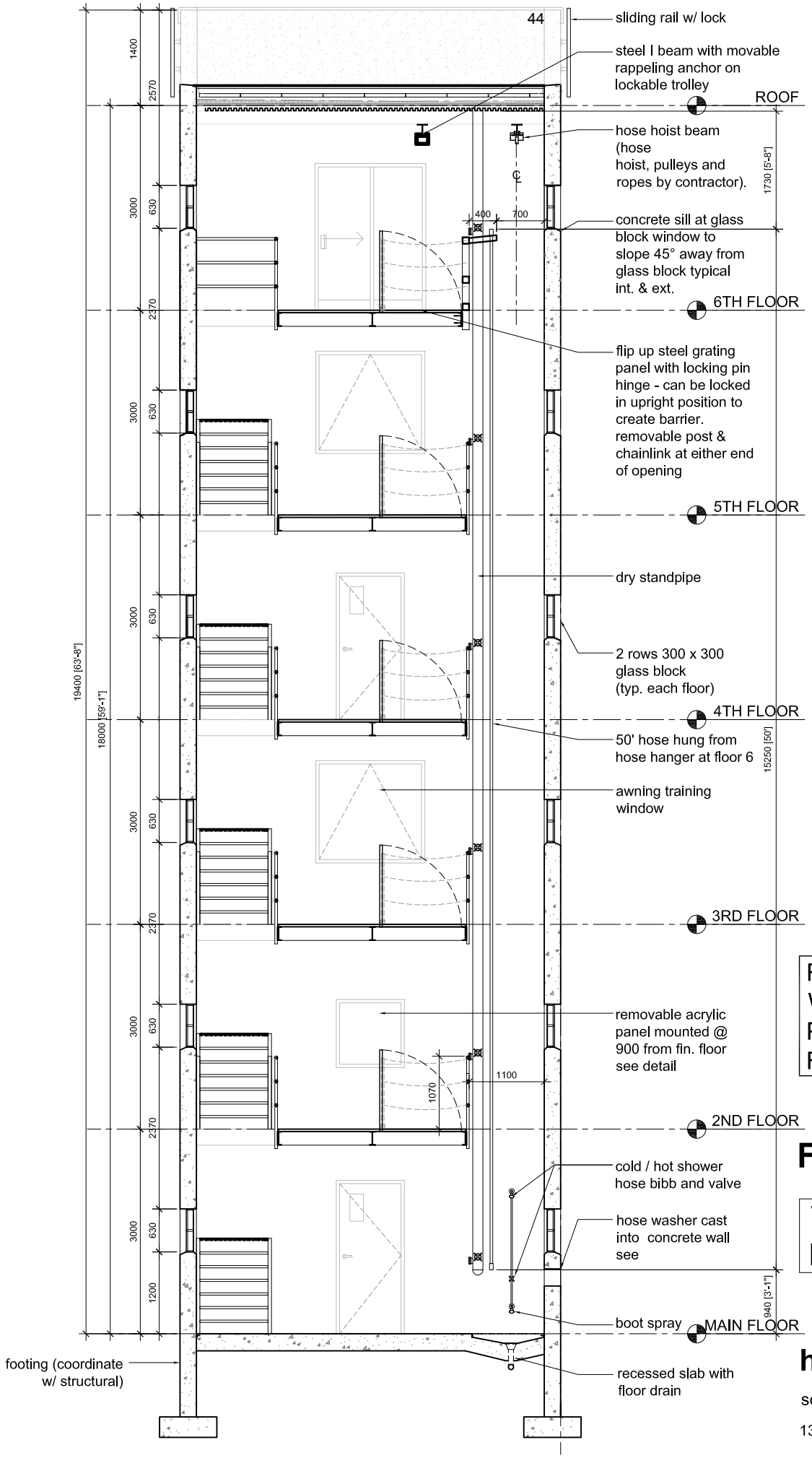
Vancouver Fire and Rescue Services

hose tower 1 of 2 -

scale - n.t.s

13 - dec - 6 R8

19



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Firehall - No.17

Vancouver Fire and Rescue Services

hose tower 2 of 2 -

scale - n.t.s

13 - dec - 6 R8

19