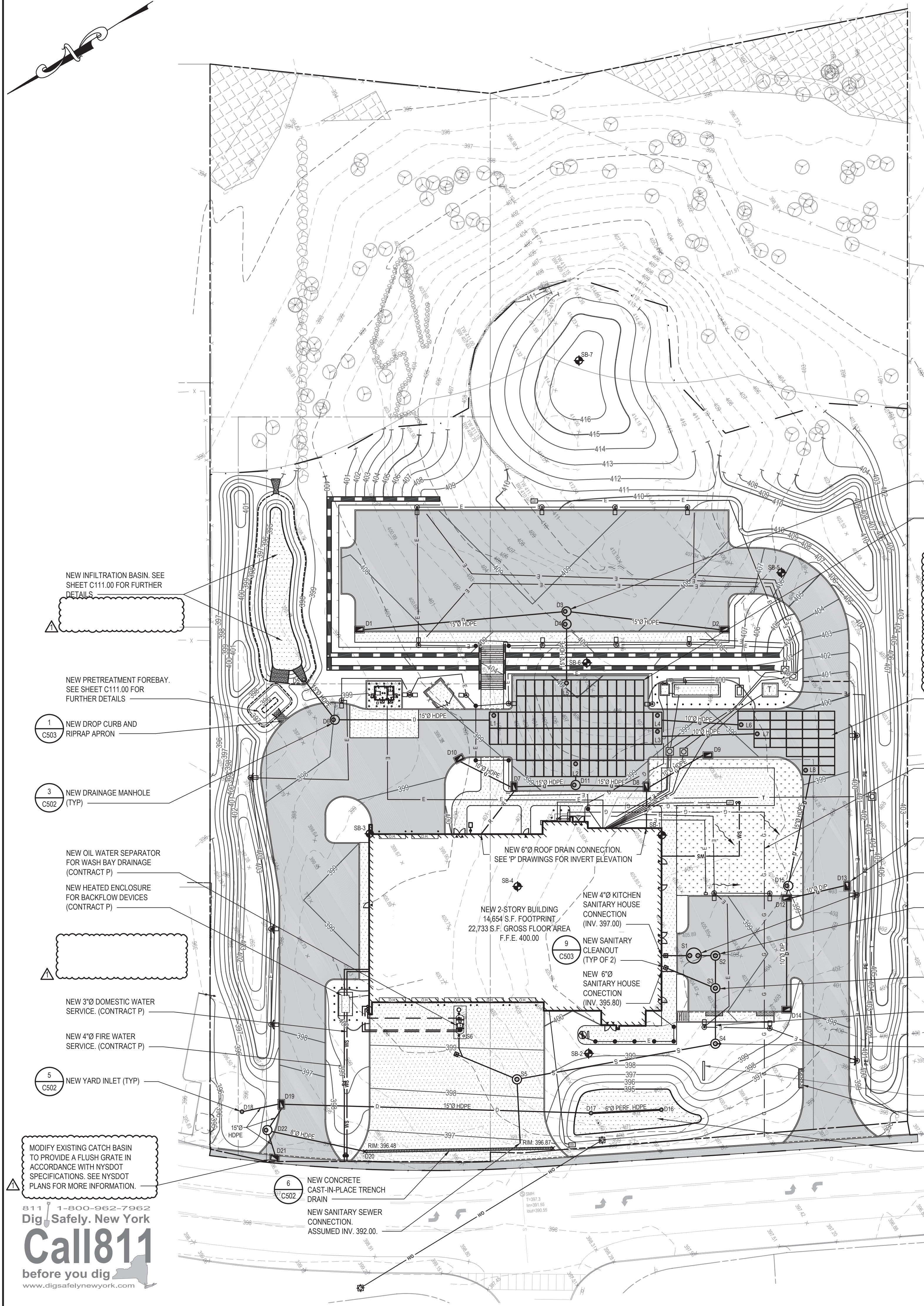


h2m.com/landscape/Project/THRD/Thiells-Roseville-Fire-District/THRD2302 New Fire Station/02-BIM-CADD/02a-DocSet/CallC110.01 DRAINAGE AND UTILITY PLAN.dwg Last Modified: Mar 12, 2025 - 2:55pm Plotted on: Mar 19, 2025 - 2:55pm By: wjg



GRADING AND DRAINAGE NOTES:

- FOR NEW CONSTRUCTION THAT MEETS EXISTING CONDITIONS, ABUTTING SURFACES SHALL BE FLUSH AND ALIGNED.
- THE CONTRACTOR SHALL CONFIRM INVERT ELEVATIONS OF ALL ROOF DRAINS AND SANITARY HOUSE CONNECTIONS PRIOR TO COMMENCING SITE DRAINAGE AND SANITARY CONSTRUCTION.
- ADJUST ALL EXISTING CASTINGS AND VALVE COVERS TO MEET PROPOSED GRADE.
- CONSTRUCTION DEBRIS AND EXCESS SOIL SHALL BE REMOVED AND LEGALLY DISPOSED OFF SITE.
- UNSATURABLE SOILS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IMMEDIATELY IN WRITING BEFORE REMOVAL OR DISTURBANCE.
- TOWN OF HAVERSTRAW HIGHWAY DEPARTMENT WILL ACCEPT APPROXIMATELY 500 TRUCK LOADS OF MATERIAL MATERIAL TO BE DELIVERED TO 113 THIELLS MT. RD. NY RD. THIELLS, NY 10984
- ALL SITE UTILITY TRENCHING TO BE PERFORMED BY CONTRACT C.

SANITARY SEWAGE FLOW CALCULATION:

PROPOSED FIRE DEPT. BUILDING:  
FIRE HALL (PER NYS SANITARY CODE):  
SANITARY WASTE: 120 SEATS @ 10 GPD/SEAT = 1,200 GPD  
KITCHEN WASTE: 120 SEATS @ 10 GPD/SEAT = 1,200 GPD  
WASH BAY FLOW: 100 SF @ 44.88 GAL/100 SF = 46 GAL  
6,211.11 SF @ 7.48 GAL/100 SF = 465 GAL  
TOTAL SANITARY SEWAGE: = 2,911 GPD

GREASE TRAP CALCULATION:

PROPOSED FIREHOUSE KITCHEN LOAD:  
NEEDED CAPACITY: 120 SEATS @ 10 GPD/SEAT = 1,200 GPD  
USE: 1 X 8"Ø GREASE TRAP W/ 5.0' LIQUID DEPTH: = 1,500 GAL

OIL-WATER SEPARATOR CALCULATION:

SEE PLUMBING PLANS FOR FURTHER INFORMATION.  
REQUIRED CAPACITY: 511 GAL  
PROVIDED: 550 GAL

PIPE MATERIAL SPECIFICATIONS:

DRAINAGE PIPING:

- CATCH BASIN TO LEACHING GALLEY CONNECTIONS: 15"Ø SMOOTH INTERIOR HDPE
  - CATCH BASIN TO CATCH BASIN CONNECTIONS: 15"Ø SMOOTH INTERIOR HDPE\*
  - CATCH BASIN TO DRAINAGE MANHOLE CONNECTIONS: 15"Ø SMOOTH INTERIOR HDPE\*
  - YARD INLET TO DRAINAGE MANHOLE CONNECTIONS: 15"Ø SMOOTH INTERIOR HDPE
  - DRAINAGE MANHOLE TO LEACHING GALLEY CONNECTIONS: 15"Ø SMOOTH INTERIOR HDPE
  - LEACHING GALLEY TO LEACHING GALLEY CONNECTIONS: 10"Ø SMOOTH INTERIOR HDPE
  - TRENCH DRAIN TO PIPE OUTLET CONNECTIONS: 8"Ø SMOOTH INTERIOR HDPE
  - ROOF LEADER TO CATCH BASIN CONNECTIONS: 6"Ø SMOOTH INTERIOR HDPE
  - FILTRATION BIO-RETENTION UNDERDRAIN: 6" CORRUGATED PERFORATED HDPE
- \*UNLESS OTHERWISE NOTED ON PLANS, PROFILES, OR DETAILS

SANITARY PIPING:

- GRAVITY SANITARY HOUSE CONNECTION: 6"Ø PVC (DR 18)"
  - GRAVITY SANITARY SEWER COLLECTION SYSTEM: 6"Ø PVC (DR 18)"
- \*UNLESS OTHERWISE NOTED ON PLANS, PROFILES, OR DETAILS

WATER PIPING

- SEE PLUMBING PLANS

LEGEND

DESCRIPTION	SYMBOL
MAJOR CONTOUR	240
MINOR CONTOUR	241
BORING / TEST HOLE LOCATION	
RIDGE LINE	
RETAINING WALL	
CATCH BASIN	
YARD INLET	
ROOF LEADER	
DRAINAGE CLEAN OUT	
SANITARY GREASE TRAP	
SANITARY CLEAN OUT	
SANITARY MANHOLE	
UTILITY POLE/GUY POLE	
TRAFFIC SIGNAL POLE	
LIGHT POLE	
LIGHTED BOLLARD	
FLOW ARROW	
GAS LINE	G
SANITARY LINE	S
DRAINAGE LINE	D
ELECTRIC LINE	E
ROOF LEADER LINE	R
FIRE SERVICE LINE	FS
WATER SERVICE LINE	WS
OVERHEAD UTILITIES LINE	OH
LIMIT OF DISTURBANCE LINE	

LEACHING GALLEY STRUCTURE SCHEDULE					
SYSTEM ID	PIPE CONNECTION ID	INV. ELEVATION	TOP OF STRUCTURE ELEVATION	BOTTOM OF STRUCTURE ELEVATION	MIN SURFACE ELEVATION
SYSTEM A	L1	NE 396.10 (15")	398.00	395.00	399.00
	L2	NW 395.00 (15")			
	L3	SW 395.00 (10")			
	L4	SW 395.00 (10")			
	L5	SE 395.00 (15")			
SYSTEM B	L6	NE 396.50 (10")	398.00	395.00	399.00
	L7	NE 396.50 (10")			
	L8	NW 395.00 (15")			

NOTE: PROVIDE CASTING TO GRADE AT ALL LEACHING GALLEYS W/ PIPED CONNECTION.

DRAINAGE STRUCTURE SCHEDULE			
STRUCT. NUMBER	STRUCTURE TYPE	RIM ELEVATION	INVERT ELEVATIONS
D1	NEW CATCH BASIN	RIM 407.47	SW 404.10 (15")
D2	NEW CATCH BASIN	RIM 407.33	NE 403.95 (15")
D3	NEW CASCADE HDS	RIM 408.70	NW,NE,SW 402.50 (15")
D4	NEW 4"Ø DRAINAGE MANHOLE W/ SOLID COVER	RIM 408.60	SE 402.25 (15")
D5	NEW YARD INLET	RIM 397.50	NW 394.10 (15")
D6	NEW 4"Ø DRAINAGE MANHOLE W/ SOLID COVER	RIM 398.00	SW, E 394.45 (15")
D7	NEW CATCH BASIN	RIM 398.80	NE 395.55 (10") SW 395.55 (15") NW 395.55 (6")
D8	NEW CATCH BASIN	RIM 398.76	NE 395.35 (15") SE 395.35 (10") SW 395.35 (6")
D9	NEW CATCH BASIN	RIM 398.62	NE 395.70 (10")
D10	NEW CATCH BASIN	RIM 398.75	SE 395.85 (15")
D11	NEW CASCADE HDS	RIM 399.25	NE, SE, SW 395.05 (15")
D12	NEW CATCH BASIN	RIM 398.50	SE 395.40 (15") NW, SW 395.40 (10")
D13	NEW CATCH BASIN	RIM 398.00	NE 395.60 (10")
D14	NEW CATCH BASIN	RIM 398.50	SE 396.20 (10")
D15	NEW CASCADE HDS	RIM 399.00	NW, SE 395.35 (15")
D16	NEW YARD INLET	RIM 396.00**	NE 391.70 (6")**
D17	NEW YARD INLET	RIM 396.00**	SW 391.70 (6")*** NE 391.70 (15")
D18	NEW YARD INLET	RIM 395.50	SW 392.10 (15")
D19	NEW CATCH BASIN	RIM 396.15	NE 391.70 (15") NW 392.75 (15") SW 390.00 (15")
D20	NEW TRENCH DRAIN	SEE PLAN	NE 393.75 (8")
D21	EXISTING NYS DOT CATCH BASIN	RIM 396.40	NE 391.65 (EXIST.) S 391.55 (15")
D22	NEW CASCADE HDS	RIM 396.30	N, S 392.65 (15")

(\*) DENOTES DUCTILE IRON PIPE SHALL BE USED  
(\*\*) DENOTES RIM IS HIGHER THAN FINISHED GRADE  
(\*\*\*) DENOTES PERFORATED UNDERDRAIN PIPE SHALL BE USED

SANITARY STRUCTURE SCHEDULE				SEWER PIPE SHALL BE 6"Ø DR 18 PVC UNLESS OTHERWISE NOTED			
STRUCT. NUMBER	STRUCTURE TYPE	RIM ELEVATION	TOP ELEVATION	BOTTOM ELEVATION	EFFECTIVE DEPTH	INVERT	
S1	8" DIA. GREASE TRAP	RIM 399.35	397.15	390.90	5'	396.40 (4")	395.90 (6")
S2	4" DIA. SEWER ACCESS PORT W/ RETENTION AREA	RIM 399.25	--	--	--	395.8 (6")	395.70 (6")
S3	4" DIA. SEWER ACCESS PORT W/ FORMED INVERT	RIM 399.20	--	--	--	395.20 (6")	395.10 (6")
S4	4" DIA. SANITARY MANHOLE	RIM 399.34	--	--	--	394.70 (6")	394.60 (6")
S5	4" DIA. SANITARY MANHOLE	RIM 398.36	--	--	--	393.10 (6")	393.00 (6")
S6	550-GAL OIL WATER SEPARATOR	VARIES	--	--	--	NOTE 1	396.65 (4")

NOTES:  
1. SEE PLUMBING PLANS.

H2M

architects  
+  
engineers

538 Broad Hollow Road, 4th Floor East  
Melville, NY 11747  
631.756.8000 • www.h2m.com  
NY Architecture & Landscape Architecture: No Certificate Required  
NY Engineering Certificate of Authorization No. 0018178

CONSULTANTS:		

MARK	DATE	DESCRIPTION
1	03/19/2025	BID ADDENDUM No. 1

STATE OF NEW YORK

DANIELLE A. DRAKE

092596

LICENSED PROFESSIONAL ENGINEER

*Danielle Drake*  
DANIELLE A. DRAKE, P.E.  
NY PROFESSIONAL ENGINEER Lic. No. 092596

\*IN ACCORDANCE WITH ARTICLE 145, SECTION 7200 OF THE NYS EDUCATION LAW,  
ALTERATION OF THIS DOCUMENT EXCEPT BY LICENSED PROFESSIONAL IS ILLEGAL.\*

DESIGNED BY: WHS  
PROJECT NO: TRFD 2302

DRAWN BY: WHS  
DATE: FEBRUARY 2025

CHECKED BY: DAD  
SCALE: AS SHOWN

REVIEWED BY: MRM  
DATE: 08/31/2027

CLIENT

THIELLS  
ROSEVILLE FIRE  
DISTRICT

NEW 26-100 FIRE  
HEADQUARTERS

THIELLS  
26  
FD

65 W RAMAPO RD  
GARNERVILLE, NY 10923

CONTRACT

CONTRACT C  
CIVIL CONSTRUCTION

STATUS

FINAL BID DOCUMENT

SHEET TITLE

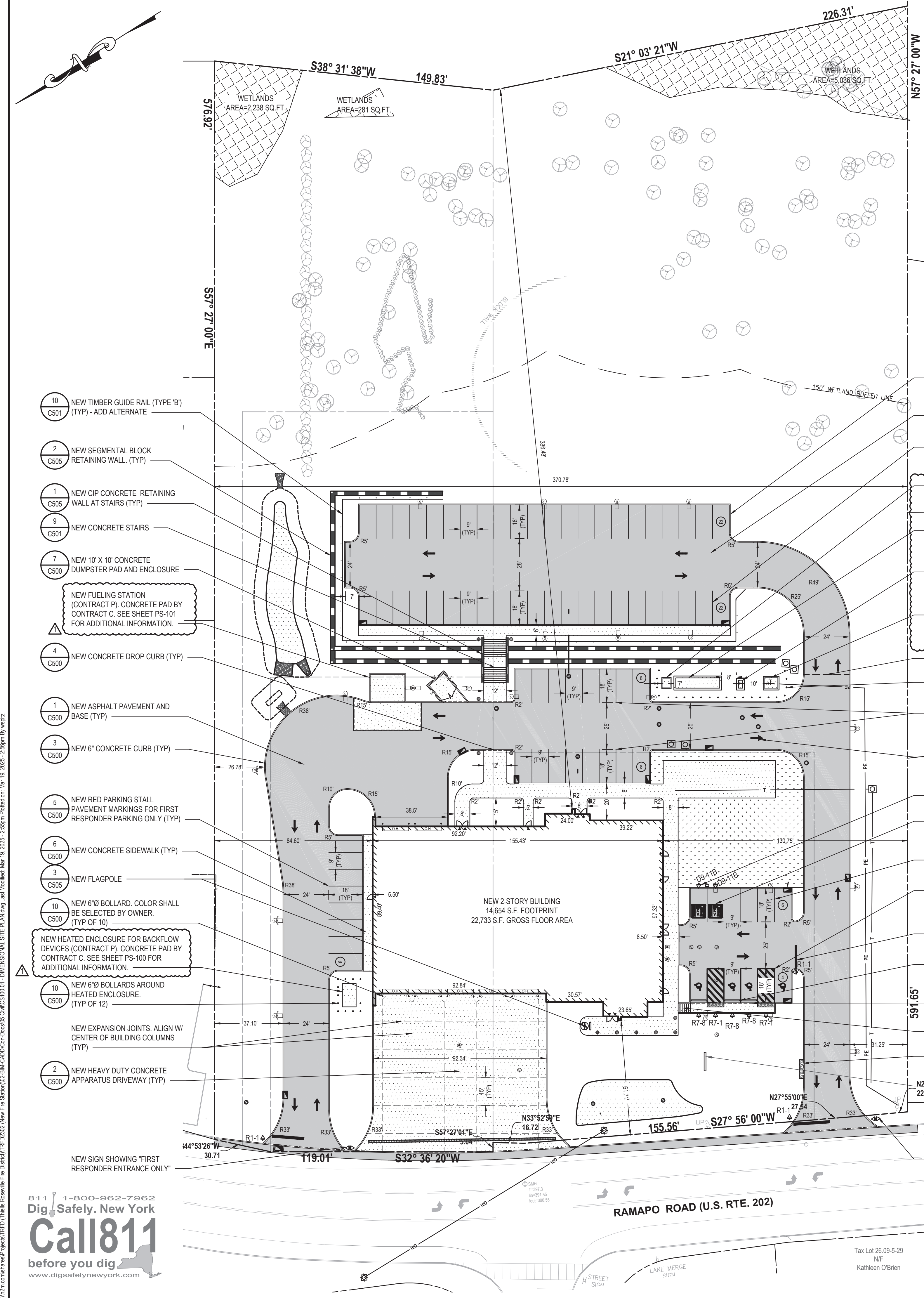
DRAINAGE & UTILITY  
PLAN

DRAWING No.

C 110.01



h2m architects + engineers  
538 Broad Hollow Road, 4th Floor East  
Melville, NY 11747  
631.756.8000 • www.h2m.com  
NY Architecture & Landscape Architecture: No Certificate Required  
NY Engineering Certificate of Authorization No. 0018178



### SIGN LEGEND

DESCRIPTION	SYMBOL
<b>R1-1</b>  (24" x 24")	
<b>R7-8</b>  (12x18)	
<b>R7-1</b>  (12"x18")	
<b>D9-11B</b>  (24"x24")	
  (18"x36")	
  (18"x36")	

### LEGEND

DESCRIPTION	SYMBOL
CURB	
RETAINING WALL	
CONCRETE DROP CURB	
ASPHALT PAVEMENT	
CONCRETE PAVEMENT SIDEWALK	
OUTDOOR WELLNESS AREA	
FLAGGED WETLAND AREA	
SIGN	
DOOR	
OVERHEAD DOOR	
UTILITY MANHOLE	
CLEAN OUT	
CATCH BASIN	
YARD INLET	
BOLLARD	
PARKING STALL COUNT	
LIGHT POLE	
LIGHTED BOLLARD	
TRAFFIC SIGNAL POLE	
OVERHEAD UTILITIES LINE	
TIMBER GUIDE RAIL	

### SITE DATA

RC/M: 26.09-4-11,12,13,14,15  
ZONE: R15 - MEDIUM DENSITY RESIDENCE DISTRICT / ROUTE 202 FLOATING OVERLAY DISTRICT  
PROPOSED USE: FIRE STATION  
SITE AREA: 213,918 SF / 4.91 ACRES

### BULK REQUIREMENTS (ROUTE 202 FLOATING OVERLAY ZONE)

ITEM	REQUIRED	NEW
MINIMUM LOT AREA	1.00 ACRES	4.91 ACRES
MINIMUM LOT WIDTH	150.00 FT	370.78 FT
MINIMUM LOT FRONTAGE	150.00 FT	377.22 FT
MINIMUM FRONT YARD DEPTH	25.00 FT	61.71 FT
MINIMUM SIDE YARD WIDTH	20.00 FT	84.60 FT
MINIMUM TOTAL SIDE YARD	40.00 FT	215.35 FT
MINIMUM REAR YARD DEPTH	40.00 FT	386.48 FT
MAXIMUM BUILDING HEIGHT	28 FT / 2 STORIES	28 FT / 2 STORIES
MAXIMUM F.A.R.	0.35	0.11
MAXIMUM BUILDING COVERAGE	20%	7%
MAXIMUM TOTAL LOT COVERAGE	60%	36%
MINIMUM LANDSCAPED AREA	15%	64%
MINIMUM BUFFER ZONE WIDTH	20.00 FT	26.78 FT

### PARKING CALCULATIONS

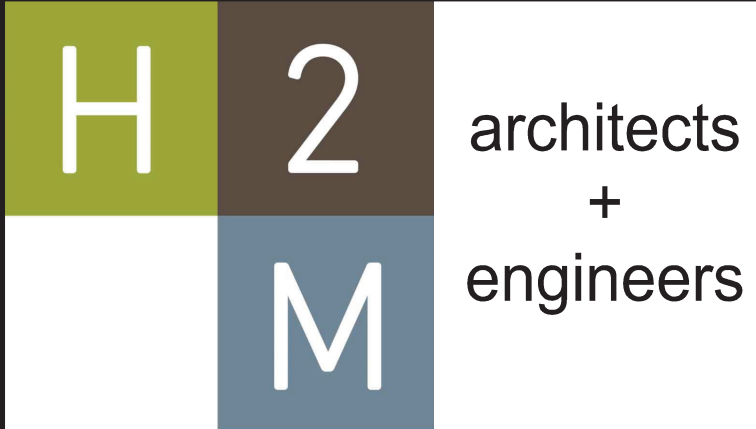
REQUIRED PARKING:  
NEW FIRE STATION:  
OFFICE & PUBLIC BUILDING: 22,733 SF @ 1 SPACE / 150 SF = 152 SPACES  
TOTAL REQUIRED PARKING: 152 SPACES

PARKING PROVIDED:  
FIRST RESPONDER PARKING: 24 SPACES  
PUBLIC PARKING: 54 SPACES  
TOTAL SPACES PROVIDED: 78 SPACES

\*INCLUDING 4 ACCESSIBLE SPACES

### SITE PLAN NOTES:

- INSPECT THE SITE PRIOR TO SUBMISSION OF BIDS AND MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
- NOTIFY THE OWNER AND H2M (TELEPHONE 631-756-8000) AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF THE WORK. THE SAME NOTICE SHALL BE REQUIRED WHEN RESUMING WORK AFTER ANY STOPPAGE OR DELAY.
- COMPLETE ALL SURVEY AND STAKEOUT AS REQUIRED TO PROPERLY COMPLETE THE WORK.
- PERFORM DAILY CLEANUP OPERATIONS INCLUDING REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL, AND DRIVEWAY/STREET CLEANING TO THE SATISFACTION OF THE OWNER.
- DURING ALL NON-WORKING HOURS, STORE ALL EQUIPMENT AND MATERIALS WITHIN AN AREA DESIGNATED BY THE OWNER AT THE PROJECT SITE.
- ALL CURB DIMENSIONS SHOWN REFER TO THE FACE OF CURB.
- ALL CONSTRUCTION TO CONFORM WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE REQUIREMENTS.
- COORDINATE CONSTRUCTION ACTIVITIES WITH OWNER TO MINIMIZE INTERRUPTION TO THE OWNER'S OPERATIONS.
- RESTORE SURROUNDING AREAS DAMAGED OR DISTURBED DURING CONSTRUCTION. RESTORE TO NEW CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
- RESTORE ALL DISTURBED GRASS AREAS AND ALL AREAS NOT SPECIFICALLY IDENTIFIED FOR OTHER IMPROVEMENTS WITH 4 INCHES OF TOPSOIL AND SEED.
- REMOVE ALL ASPHALT FROM EXISTING CASTINGS.
- SEAL ALL JOINTS BETWEEN NEW ASPHALT AND EXISTING ASPHALT WITH HOT ASPHALT CEMENT.
- ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL DRAWINGS FOR THE LAYOUT AND CONSTRUCTION OF BUILDING FOUNDATIONS AND OTHER BUILDING ELEMENTS. REPORT ANY DISCREPANCIES BETWEEN CIVIL, ARCHITECTURAL, AND STRUCTURAL DRAWINGS IN WRITING TO THE CIVIL ENGINEER PRIOR TO CONSTRUCTING BUILDING FOUNDATIONS AND/OR OTHER BUILDING ELEMENTS.



538 Broad Hollow Road, 4th Floor East  
Melville, NY 11747  
631.756.8000 • www.h2m.com  
NY Architecture & Landscape Architecture: No Certificate Required  
NY Engineering Certificate of Authorization No. 0018178

MARK	DATE	DESCRIPTION
1	03/19/2025	BID ADDENDUM No. 1

MARK	DATE	DESCRIPTION
1	03/19/2025	BID ADDENDUM No. 1



**THIELLS  
ROSEVILLE FIRE  
DISTRICT**

**NEW 26-100 FIRE  
HEADQUARTERS**



**65 W RAMAPO RD  
GARNERVILLE, NY 10923**

**CONTRACT C  
CIVIL CONSTRUCTION**

**FINAL BID DOCUMENT**

**DIMENSIONAL SITE PLAN**

**CS 100.01**