

PROPOSED 24 UNITS RESIDENTIAL DEVELOPMENT AT 340 MAIN STREET (RTE 6), BOURNE, MA 02532

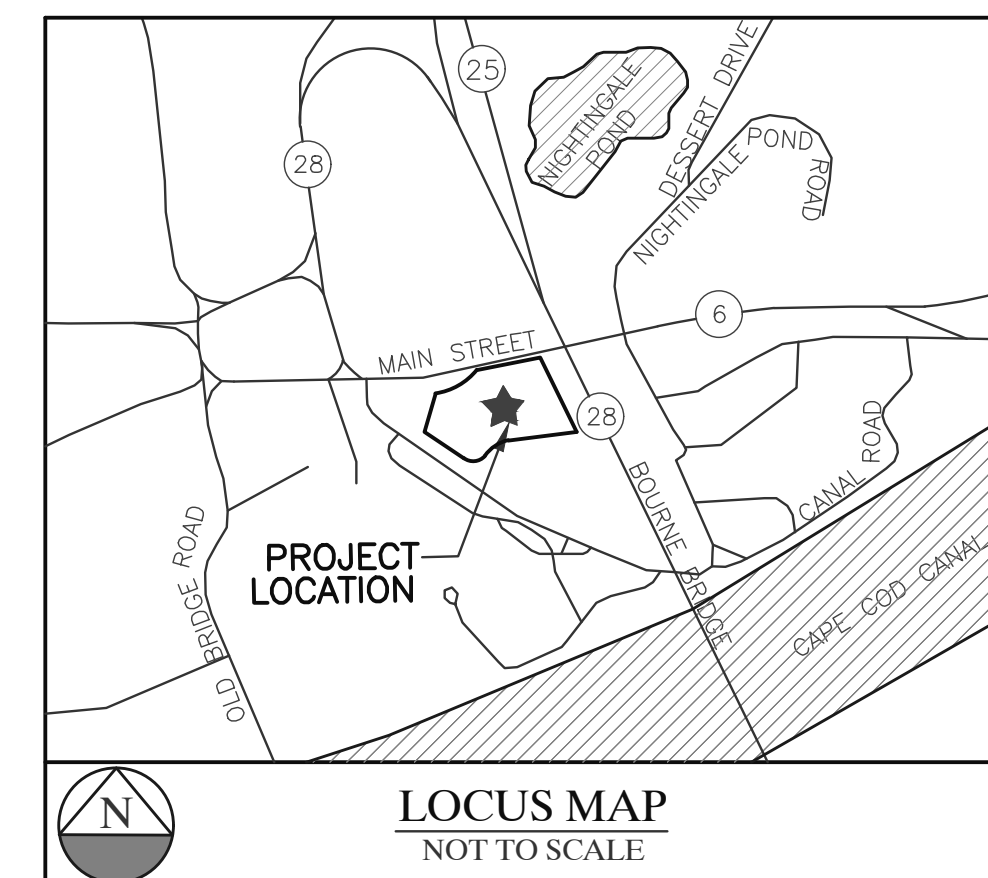


GENERAL NOTES

1. ALL LANDSCAPING SHOWN ON PLANS SHALL CONFORM TO THE TOWN OF BOURNE ZONING REGULATIONS.
2. ALL SITE LIGHTING SHOWN ON PLANS SHALL BE DIRECTED ONTO SITE AND CONFORM TO THE APPLICABLE TOWN OF BOURNE ZONING REGULATIONS.
3. SITE IMPROVEMENTS DEPICTED ON THESE PLANS SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSIONS AND GRADE AND NUMBER OF SPACES.
4. THE LOCATION OF EXISTING UNDERGROUND UTILITIES (ELECTRIC, GAS, TELEPHONE, WATER AND SEWER) SHOWN ON THESE PLANS IS APPROXIMATE AND WERE OBTAINED FROM VARIOUS SOURCES OF INFORMATION. PRIOR TO ANY EXCAVATION ON THIS SITE, THE EXCAVATING CONTRACTOR SHALL MAKE THE REQUIRED 72 HOUR NOTIFICATION TO DIG SAFE (1-888-344-7233) AND ANY OTHER UTILITIES WHICH MAY HAVE CABLE, PIPE OR EQUIPMENT IN THE CONSTRUCTION AREA FOR VERIFICATION OF LOCATIONS.
5. THE LOCATION OF EXISTING BUILDINGS, EXISTING UTILITIES, GRADING AND PROPERTY LINE INFORMATION ARE TAKEN FROM A PLAN ENTITLED, "EXISTING CONDITIONS PLAN IN BOURNE MASSACHUSETTS 340 MAIN STREET", PREPARED FOR CHOUBAH ENGINEERING GROUP, 112 STATE ROAD, NORTH DARTMOUTH, MA, BY BORDERLAND ENGINEERING, INC., 61b PLEASANT STREET, RANDOLPH, MA 02368, DATED APRIL 9, 2019, SCALE 1"=30'.
6. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF MASSACHUSETTS AND THE TOWN OF BOURNE PRIOR TO COMMENCING ANY WORK.
7. THE LOCATION OF EXISTING UNDERGROUND UTILITIES (ELECTRIC, GAS, TELEPHONE, WATER AND SEWER) SHOWN ON THIS PLAN IS APPROXIMATE AND WERE OBTAINED FROM VARIOUS SOURCES OF INFORMATION.
8. PRIOR TO ANY EXCAVATION ON THIS SITE, THE EXCAVATING CONTRACTOR SHALL MAKE THE REQUIRED 72 HOUR NOTIFICATION TO DIG SAFE (1-888-344-7233) AND ANY OTHER UTILITIES WHICH MAY HAVE CABLE, PIPE OR EQUIPMENT IN THE CONSTRUCTION AREA FOR VERIFICATION OF LOCATIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE CONSTRUCTION DRAWING AND TO NOTIFY THE ENGINEER WITH ANY DISCREPANCY BETWEEN THE PROPOSED WORK SHOWN ON THESE PLANS AND THE REQUIREMENTS OF LOCAL AND STATE CODES.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY AND JOB SAFETY ON THE SITE. THE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH "OSHA" AND THE LOCAL MUNICIPALITY CONSTRUCTION STANDARDS.
11. ALL SIGNAGE SHALL CONFORM TO APPLICABLE TOWN OF BOURNE ZONING REGULATIONS WITH ALL PERMITS SECURED PRIOR TO INSTALLATION.
12. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, SUPERVISION, TOOLS, EQUIPMENT, FUEL, POWER, SANITARY FACILITIES AND INCIDENTALS NECESSARY FOR THE FURNISHING, PERFORMANCE TESTING, START-UP AND COMPLETION OF THIS WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ANY UNSUITABLE OR SURPLUS MATERIALS PROPERLY OF SITE IN ACCORDANCE WITH LOCAL AND STATE ENVIRONMENTAL CODES.
14. ALL EXISTING UTILITIES WATER, GAS, DRAINS, & ELECTRIC SHALL BE PROPERLY PROTECTED AND MAINTAINED DURING THE CONSTRUCTION PERIOD. ANY DEVIATION FROM THE CONTENT OF THESE PLANS WITHOUT WRITTEN CONSENT OF THIS ENGINEER WOULD MAKE IT NULL AND VOID.
15. PROPOSED BUILDING IS A SLAB ON GRADE WITH NO BASEMENT.
16. IN CASE OF A CONFLICT BETWEEN THE PROPOSED WORK SHOWN ON THIS PLAN AND THE APPLICABLE LOCAL AND STATE CODES, THE APPLICABLE CODES SHALL GOVERN.
17. THE CONTRACTOR SHALL SHORE, BRACE, SHEET PILE OR OTHERWISE SUPPORT THE EXISTING UTILITIES AND STREETS NEXT TO THE PROPOSED WORK.
18. ALL CONSTRUCTION MATERIAL, COMPONENTS, AND METHODS EMPLOYED ON THIS PROJECT WORK SHALL CONFORM TO THE TOWN OF BOURNE OR THE MASS DOT FOR BRIDGES AND HIGHWAYS AS AMENDED TO PRESENT.
19. DESIGN LOADING FOR ALL PRE-CAST UNITS TO BE AASHTO-H20 UNLESS OTHERWISE NOTED.
20. RESTORE ALL DISTURBED AREAS BEYOND PROJECT LIMITS AND 6" LOAM AND SEED ALL AREAS NOT PAVED.
21. COORDINATE UTILITY INSTALLATION WITH APPROPRIATE VENDORS.
22. ALL OUTSIDE MECHANICAL APPURTENANCES TO BE PLACED ON CONCRETE UTILITY PADS AND SCREENED WITH FINISH TO MATCH BUILDING.
23. ROOF DRAIN TIE-INS AND DRAIN LINES SHALL BE INSPECTED PRIOR TO BACKFILLING AND PAVING.
24. 6" LOAM AND SEED ALL DISTURBED AREAS NOT PAVED. 24. THE CONTRACTOR SHALL MAINTAIN EXCAVATION IN DRY CONDITIONS.

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1. OF 1.	EXISTING CONDITIONS (BORDERLAND ENGINEERING)



SITE PLAN REVIEW/SPECIAL PERMIT SET

Prepared For:
340 MAIN STREET, LLC
561 THOMAS B LANDERS RD,
FALMOUTH, MA 02536



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APRIL 28, 2023
PROJECT N° 22-621

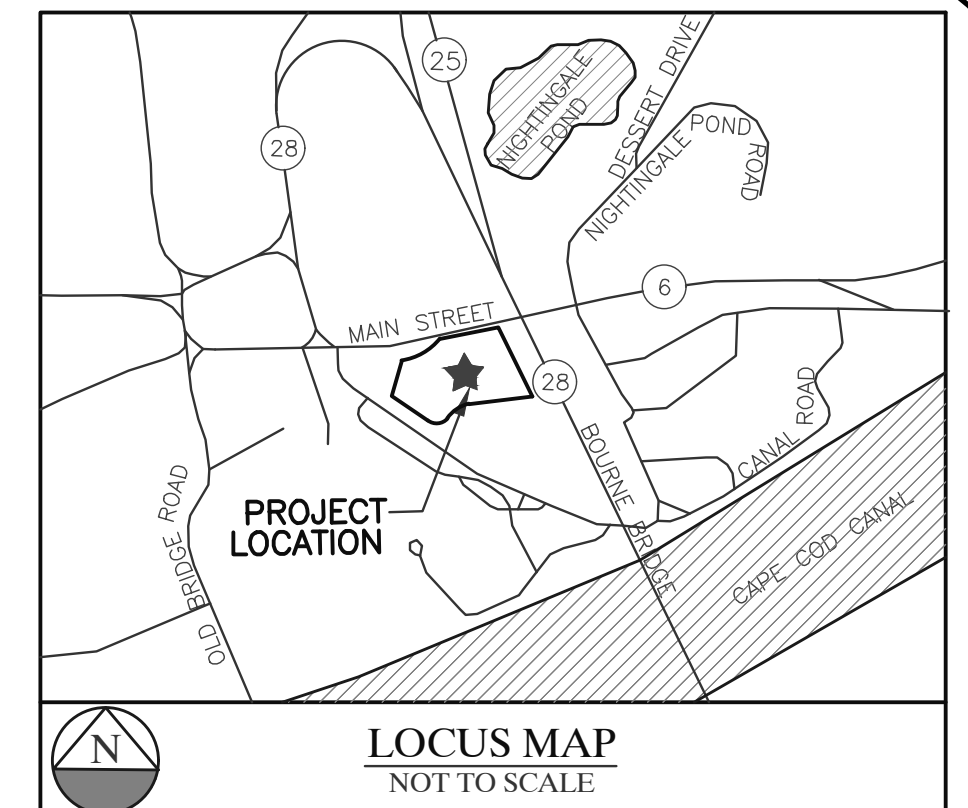


SITE DATA :
 ADDRESS: 340 MAIN STREET,
 BOURNE, MA 02532

ZONING DISTRICT:
 (DTG)-DOWNTOWN GATEWAY

TOTAL AREA: 179,987± S.F. 4.13 ACRES

EXISTING USE: GASOLINE FILLING STATION
 WITH MIXED USE BUILDING



LEGEND

SYMBOL	DESCRIPTION
	EXIST. CONTOUR
	PROP. CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EASEMENT LINE
	PROPERTY LINE
	SOCK BALES
	EDGE OF TREES/WOODED AREA
	EXIST. SEWER LINE
	EXIST. WATER LINE
	EXIST. ELECTRIC LINE
	EXIST. GAS LINE
	EXIST. TELEPHONE LINE
	EXIST. DRAINAGE LINE
	EXIST. OVERHEAD WIRE
	EXIST. CATCH BASIN
	EXIST. ELECTRIC MANHOLE
	EXIST. SEWER MANHOLE
	EXIST. LIGHT POLE
	EXIST. EDGE OF PAVEMENT
	EXIST. VERTICAL GRANITE CURB
	EXIST. GATE
	MA HIGHWAY BOUND

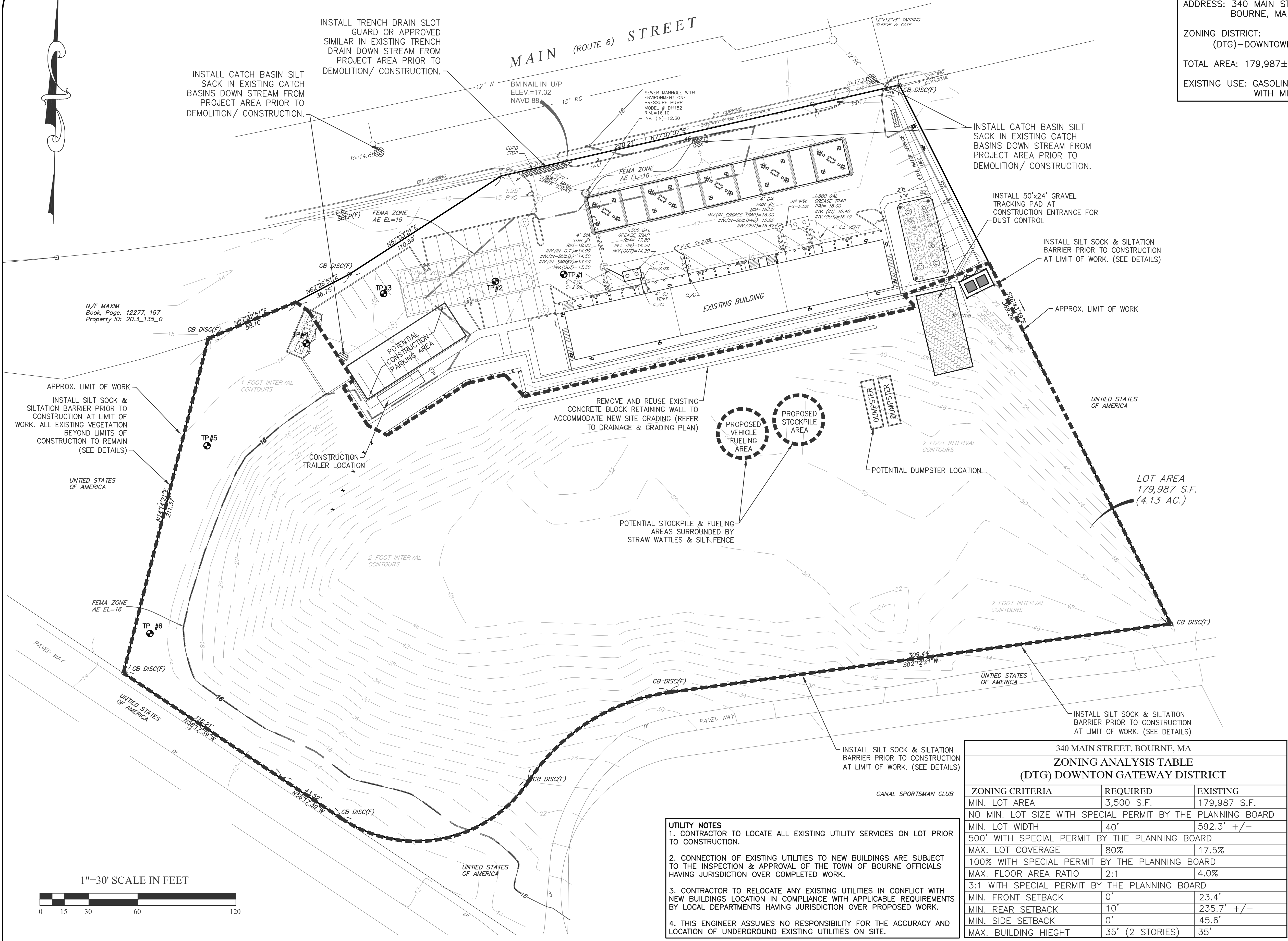
DUST CONTROL

1. WIND-BORNE DUST FROM EXPOSED SOIL SURFACES DURING LAND DISTURBING/CONSTRUCTION ACTIVITIES SHALL BE CONTROLLED WITH FREQUENT WATER IRRIGATION APPLICATIONS AND/OR CALCIUM CHLORIDE. CALCIUM CHLORIDE SHALL BE APPLIED WITH A MECHANICAL SPREADER IN STRICT ACCORDANCE WITH THE SUPPLIER'S SPECIFIED RATES.
2. INSTALL CATCH BASIN SILT SOCKS IN EXISTING CATCH BASINS ON MAIN STREET DOWN STREAM FROM PROJECT AREA PRIOR TO DEMOLITION/CONSTRUCTION.

CONSTRUCTION SEQUENCE

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

- INSTALLATION OF STABILIZED CONSTRUCTION EXIT (AS SHOWN)
- INSTALLATION OF EROSION CONTROL BARRIER (STRAW WATTLES AND SILT FENCE) (AS SHOWN)
- DEMOLITION OF EXISTING SITE STRUCTURES (SEE SHEET #3)
- DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE SHEET #3)
- CLEARING AND GRUBBING
- EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
- CONSTRUCTION OF UTILITIES
- STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
- INSTALLATION OF INLET PROTECTION ON ON-SITE UTILITIES (AS SHOWN)
- CONSTRUCTION OF BUILDINGS
- CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
- SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
- FINAL GRADING OF ALL SLOPED AREAS
- PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED REQUIRED.
- PAVE PARKING LOT
- LANDSCAPING PER LANDSCAPING PLAN
- REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.



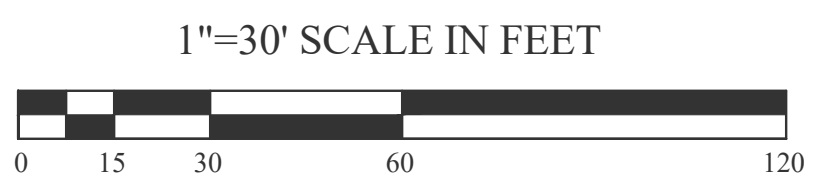
UTILITY NOTES

1. CONTRACTOR TO LOCATE ALL EXISTING UTILITY SERVICES ON LOT PRIOR TO CONSTRUCTION.
2. CONNECTION OF EXISTING UTILITIES TO NEW BUILDINGS ARE SUBJECT TO THE INSPECTION & APPROVAL OF THE TOWN OF BOURNE OFFICIALS HAVING JURISDICTION OVER COMPLETED WORK.
3. CONTRACTOR TO RELOCATE ANY EXISTING UTILITIES IN CONFLICT WITH NEW BUILDINGS LOCATION IN COMPLIANCE WITH APPLICABLE REQUIREMENTS BY LOCAL DEPARTMENTS HAVING JURISDICTION OVER PROPOSED WORK.
4. THIS ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY AND LOCATION OF UNDERGROUND EXISTING UTILITIES ON SITE.

340 MAIN STREET, BOURNE, MA

ZONING ANALYSIS TABLE
 (DTG) DOWNTOWN GATEWAY DISTRICT

ZONING CRITERIA	REQUIRED	EXISTING
MIN. LOT AREA	3,500 S.F.	179,987 S.F.
NO. MIN. LOT SIZE WITH SPECIAL PERMIT BY THE PLANNING BOARD		
MIN. LOT WIDTH	40'	592.3' +/-
500' WITH SPECIAL PERMIT BY THE PLANNING BOARD		
MAX. LOT COVERAGE	80%	17.5%
100% WITH SPECIAL PERMIT BY THE PLANNING BOARD		
MAX. FLOOR AREA RATIO	2:1	4.0%
3:1 WITH SPECIAL PERMIT BY THE PLANNING BOARD		
MIN. FRONT SETBACK	0'	23.4'
MIN. REAR SETBACK	10'	235.7' +/-
MIN. SIDE SETBACK	0'	45.6'
MAX. BUILDING HEIGHT	35' (2 STORIES)	35'



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Prepared For:

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 FALMOUTH, MA 02536

Project:

PROPOSED 24 UNITS
 RESIDENTIAL
 DEVELOPMENT
 AT 340 MAIN STREET (REAR),
 BOURNE, MA 02532

Issue Date: 04/28/2023

Project Number: 22-621

Revisions		
No.	Date	Description

Scale: AS SHOWN

Drawn By: C.M.S.

Designed By: C.M.S. Checked By: H.C.

Sheet Title:

EROSION & SEDIMENT
 CONTROL PLAN

**SITE PLAN REVIEW/
 SPECIAL PERMIT SET**



EROSION & SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME PERIOD. THESE AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 14 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
- SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
- IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
- REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
 - SIX INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
 - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SF).
 - FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE-GRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1,000 SF LAWN QUALITY SOIL MAY BE SUBSTITUTED FOR SEED.
 - STRAW MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON STRAW MULCH FOR WIND CONTROL.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.

MULCH

LOCATION PROTECT AREA	MULCH	RATE (1000 SF)
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS STRAW (ANCHORED)*	185-275 POUNDS 100 POUNDS

MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1

JUTE MESH OR EXCELSIOR MAT AS REQUIRED

GREATER THAN 3:1 (REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)

* A HYDRO-APPLICATION OF WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON straw MULCH FOR WIND CONTROL.

MULCH ANCHORING

ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS); USE OF A SERRATED STRAIGHT DISK. WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

- WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
- WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- EXPOSED AREA SHOULD BE LIMITED TO THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
- CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
- AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
- BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEED AT A RATE OF 200 - 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF STRAW OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- MULCHING REQUIREMENTS:
 - BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.
 - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
 - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
- DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
- STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
- EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.

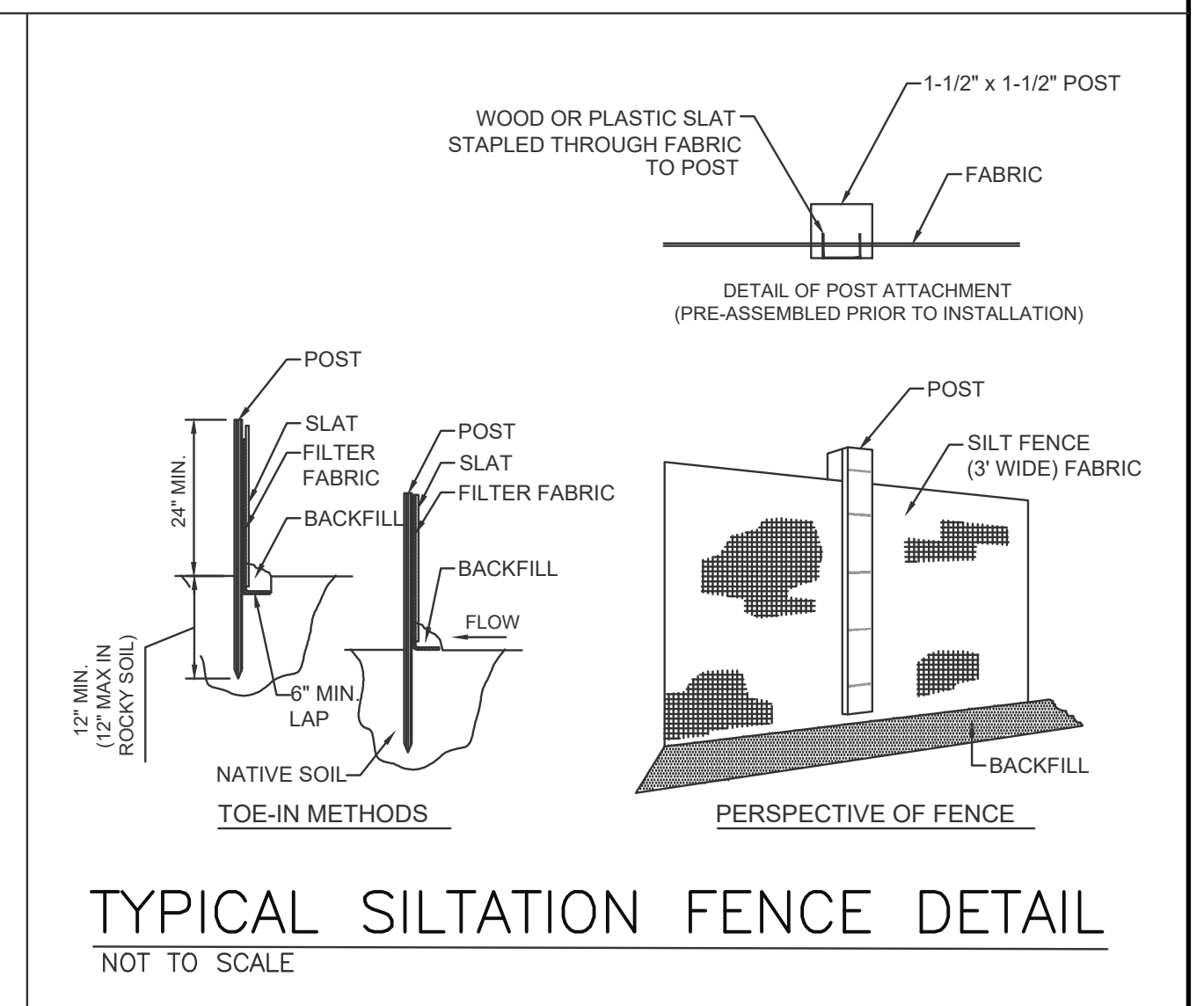
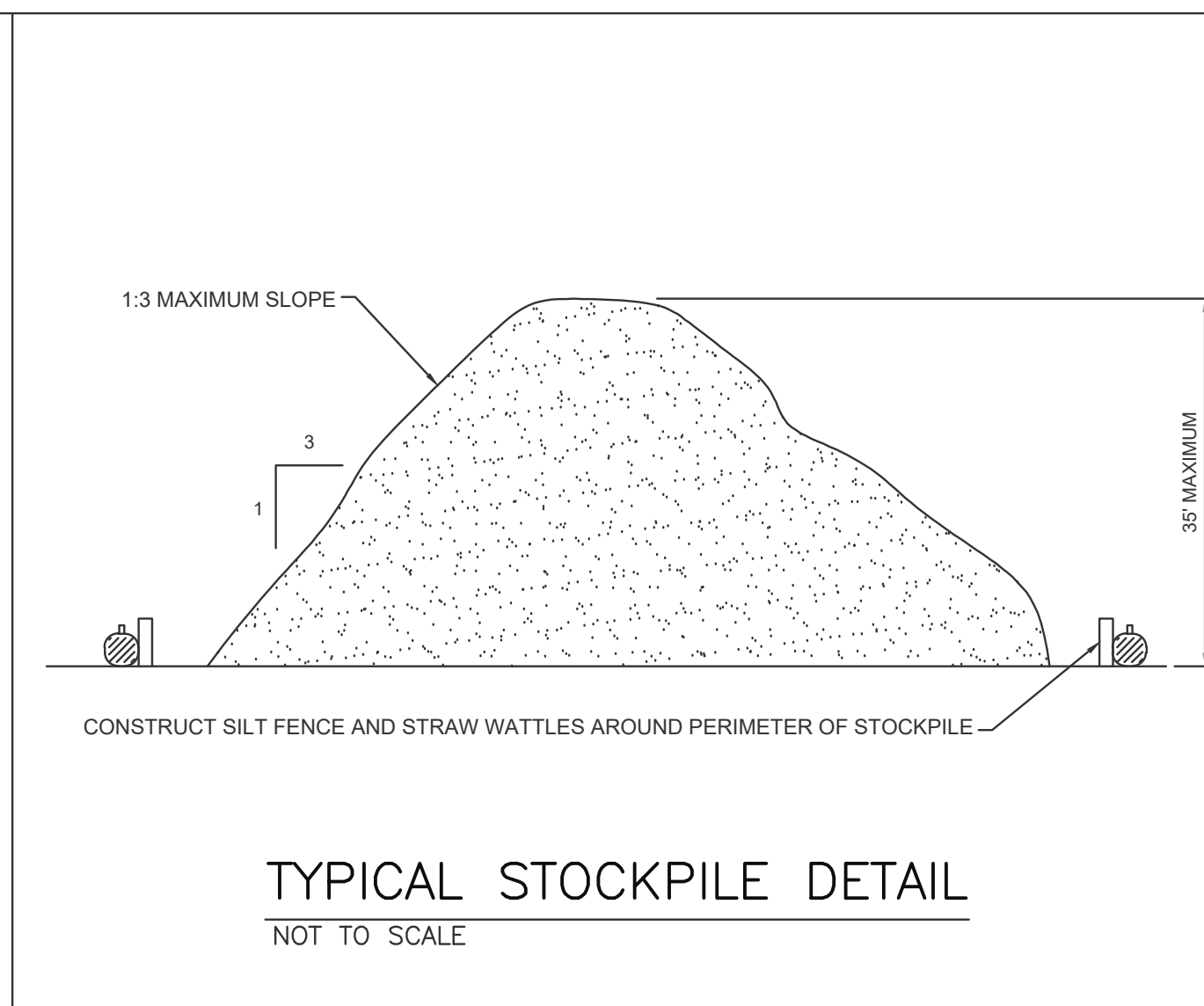
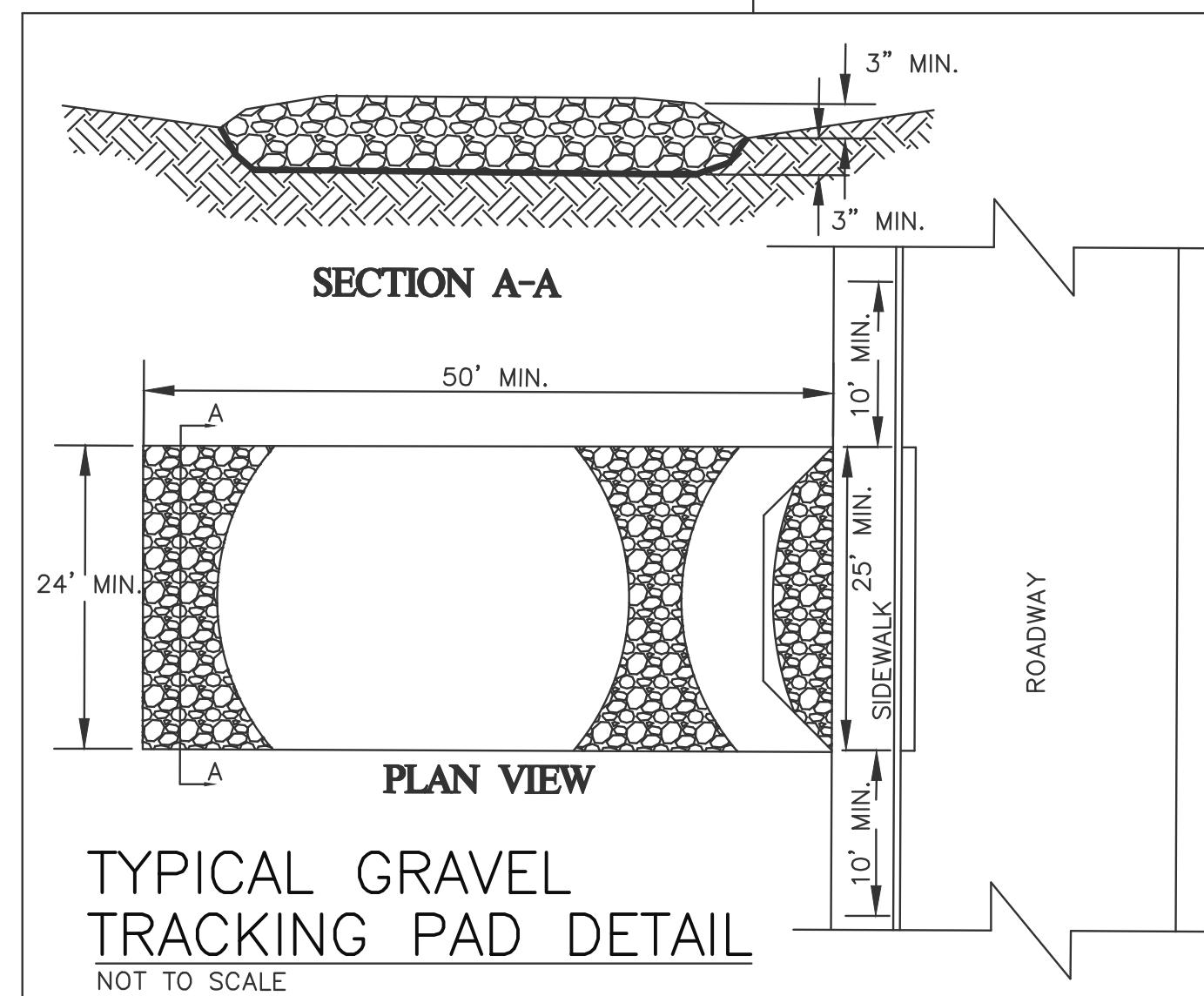
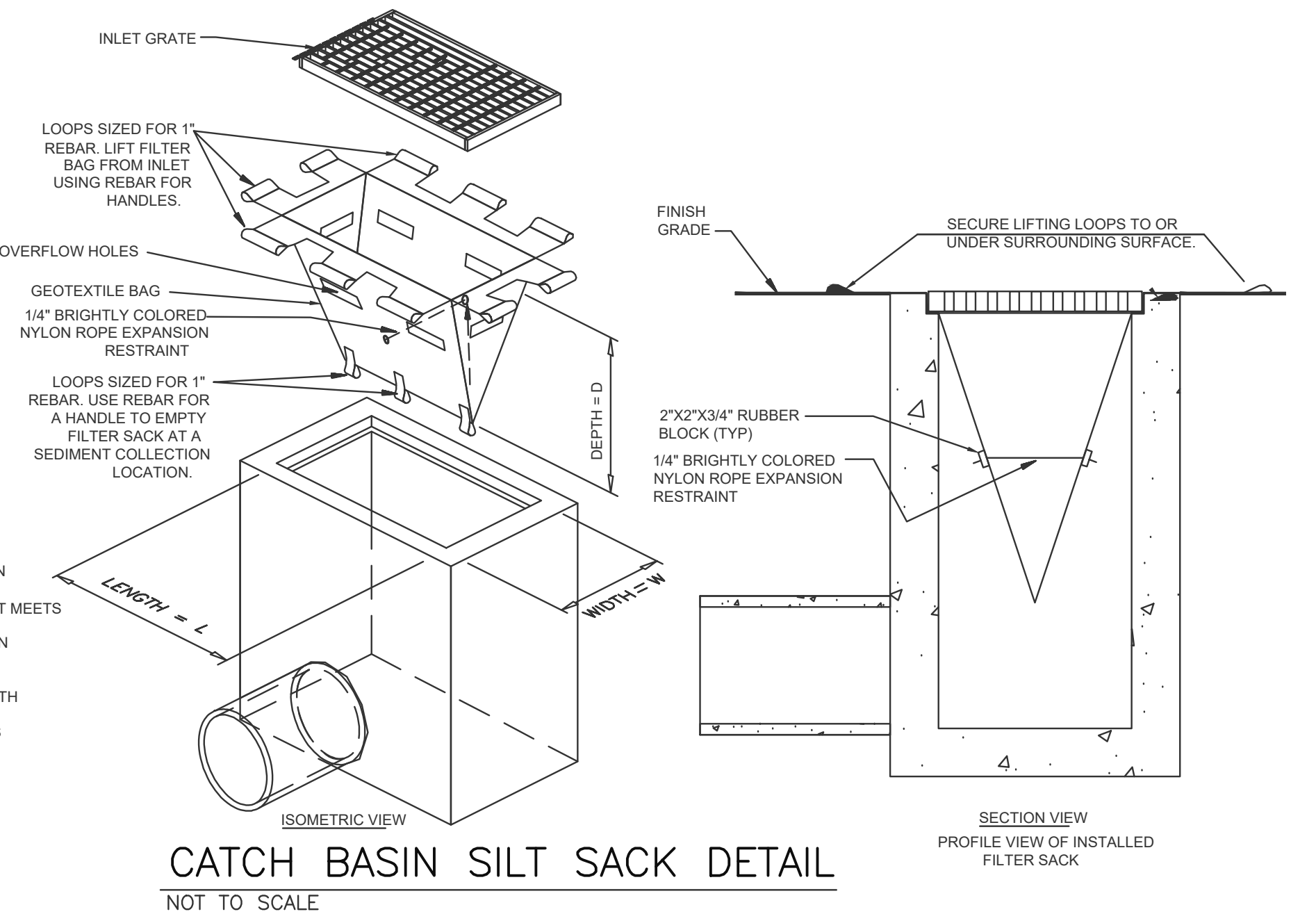
CONSTRUCTION SEQUENCE

- THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:
- INSTALLATION OF STABILIZED CONSTRUCTION EXIT (AS SHOWN)
 - INSTALLATION OF EROSION CONTROL BARRIER (STRAW WATTLES AND SILT FENCE) (AS SHOWN)
 - DEMOLITION OF EXISTING SITE STRUCTURES (SEE SHEET #3)
 - DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE SHEET #3)
 - CLEARING AND GRUBBING
 - EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
 - CONSTRUCTION OF UTILITIES
 - STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
 - INSTALLATION OF INLET PROTECTION ON ON-SITE UTILITIES (AS SHOWN)
 - CONSTRUCTION OF BUILDINGS
 - CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
 - SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
 - FINAL GRADING OF ALL SLOPED AREAS
 - PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED REQUIRED.
 - PAVE PARKING LOT
 - LANDSCAPING PER LANDSCAPING PLAN
 - REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4633	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1

- REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
- GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
- PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
- INSPECT PER REGULATORY REQUIREMENTS.
- THE WIDTH "W" OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
- THE DEPTH "D" OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
- THE LENGTH "L" OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

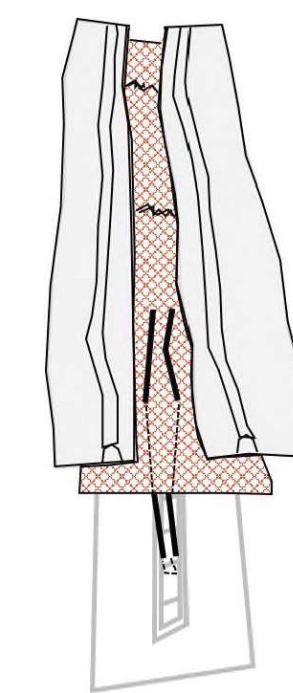
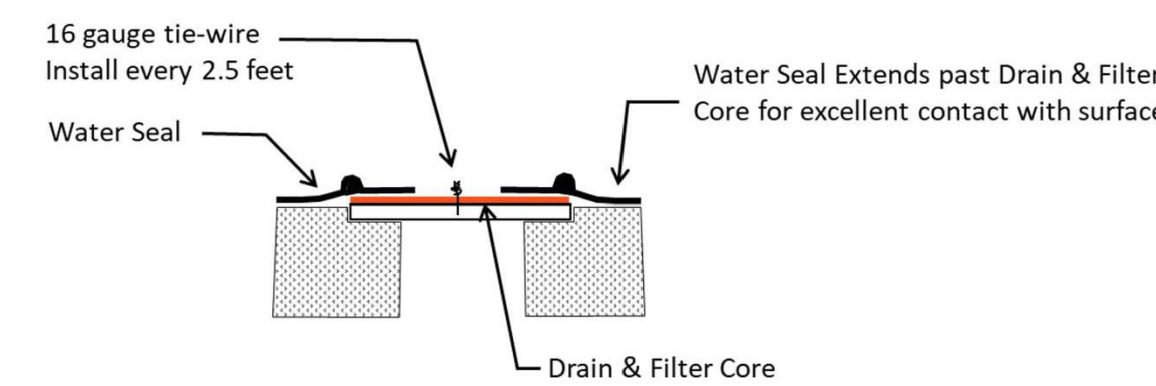
DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.
TO BE USED IN EXISTING RIGHT OF WAY



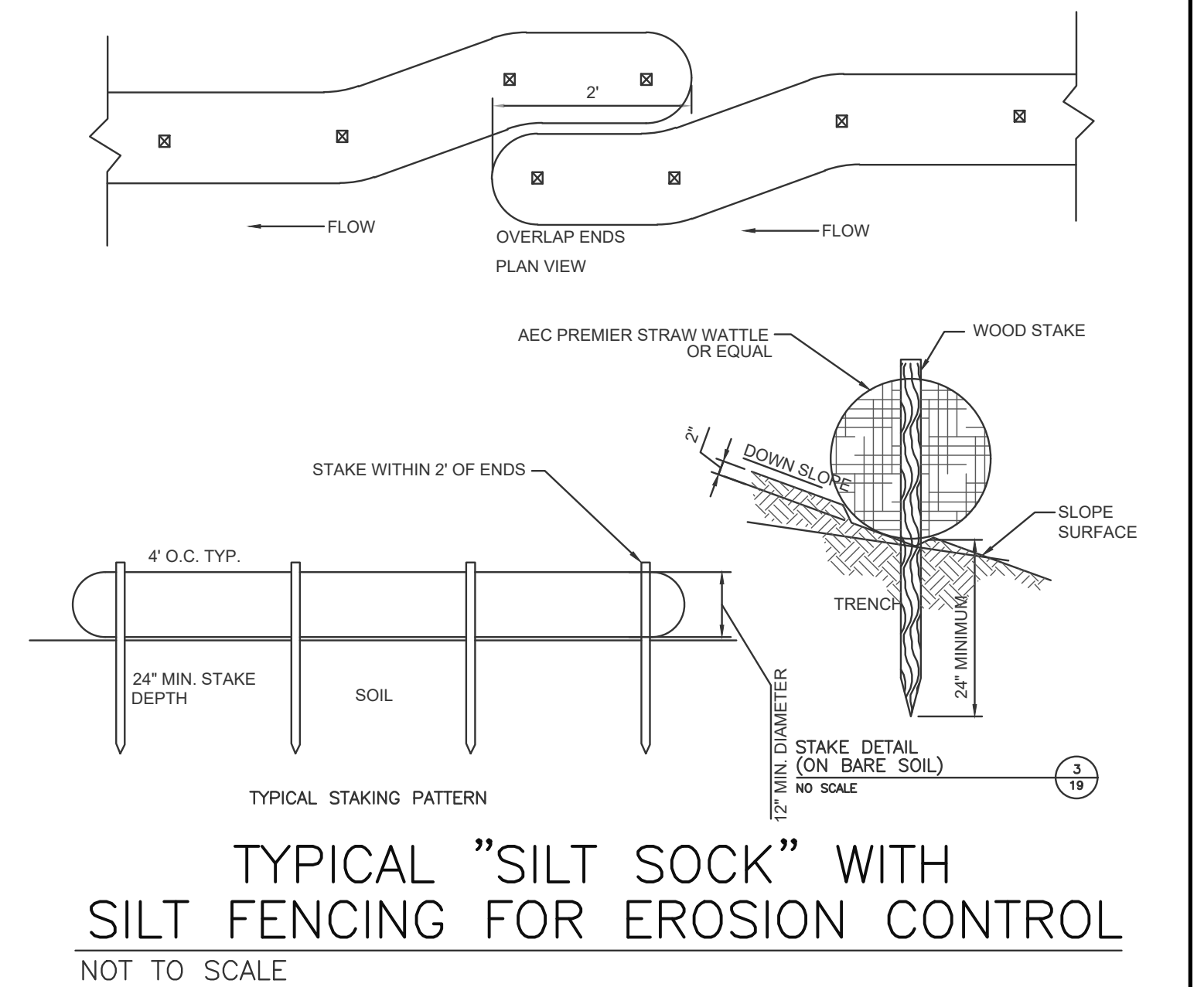
ERTEC® Slot Guard—Installation Guide—For slotted or trench drain inlets with grates in paved areas

- Installation Notes
- Placement: Select correct size (Table1). Lay the Slot Guard on top of the slot or trench drain grate. For safety, assure that grate is in place. Do not remove grate.
 - Anchor method: Attach with 16 gauge tie wire every 2.5 linear Feet (Fig1). Cut wire to 12" lengths. Feed one end of wire down thru Slot Guard, around grate bar, and back-up thru Slot Guard. Above ground, pull tight and twist wires several times. Cut off excess and bend twisted nub down.
 - Overlap: SlotGuard segments overlap for long slot/trench drains.
 - Clean: Accumulation of leaves, debris and sediment can cause backups! Clean after every storm or as necessary.

Fig.1



Slot/Trench drains up to:	SGSize
6" width	SG84x06
12" width	SG84x12
15" width	SG84x15
20" width	SG84x20



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Prepared For:
340 MAIN STREET, LLC
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FALMOUTH, MA 02536

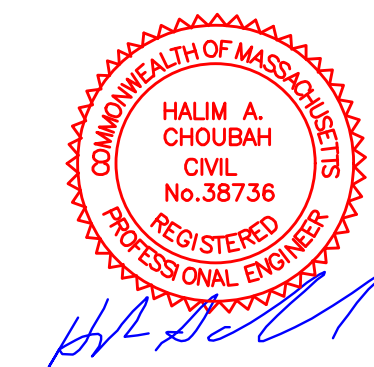
Project:
PROPOSED 24 UNITS
RESIDENTIAL
DEVELOPMENT
AT 340 MAIN STREET (REAR),
BOURNE, MA 02532

Revisions	
No.	Description

Issue Date: 04/28/2023	Project Number: 22-621
Scale: AS SHOWN	Drawn By: C.M.S.
Designed By: C.M.S.	Checked By: H.C.

Sheet Title:
EROSION &
SEDIMENT CONTROL
DETAILS & NOTES

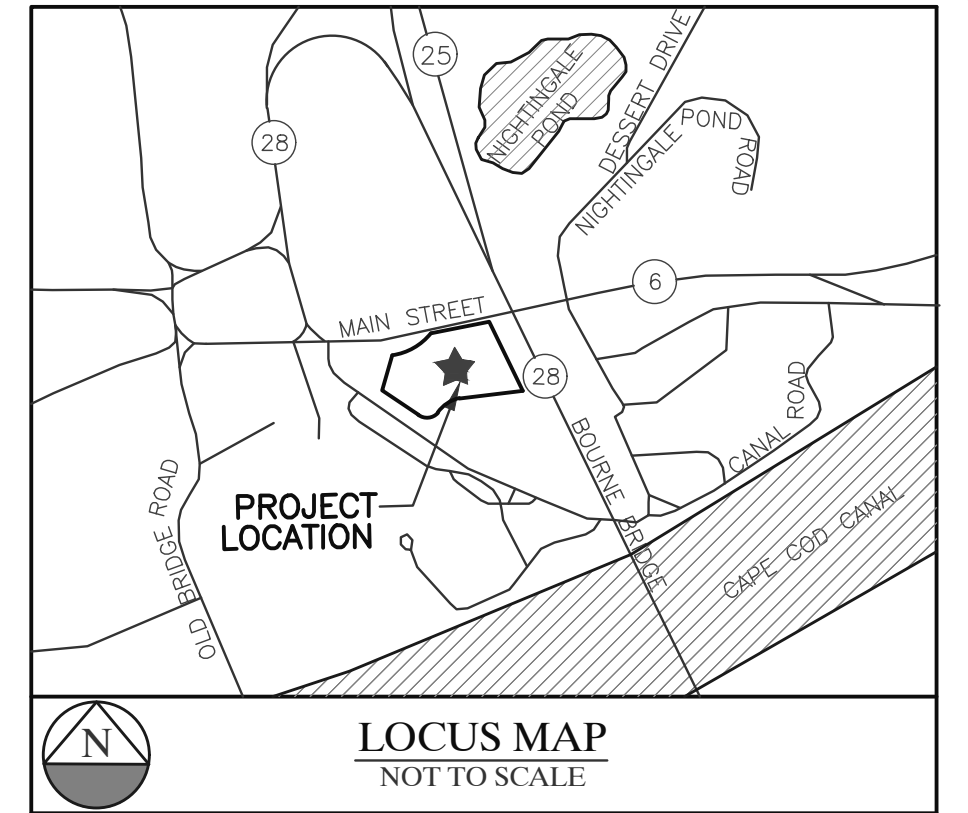
SITE PLAN REVIEW/
SPECIAL PERMIT SET





MAIN (ROUTE 6) STREET

APPROXIMATE LOCATION OF PROPOSED HYDRANT. (FINAL LOCATION TO BE APPROVED BY THE BOURNE FIRE DEPARTMENT)



SITE DATA:
 ADDRESS: 340 MAIN STREET, BOURNE, MA 02532
 ZONING DISTRICT: (DTG)-DOWNTOWN GATEWAY
 TOTAL AREA: 179,987± S.F. 4.13 ACRES
 PROPOSED USE: GASOLINE FILLING STATION WITH MIXED USE BUILDING & 24 UNIT RESIDENTIAL DEVELOPMENT

LEGEND

SYMBOL	DESCRIPTION
	EXIST. CONTOUR
	PROP. CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EASEMENT LINE
	PROPERTY LINE
	SOCK BALES
	EDGE OF TREES/WOODED AREA
	EXIST. SEWER LINE
	PROP. SEWER LINE
	EXIST. WATER LINE
	PROP. WATER LINE
	EXIST. ELECTRIC LINE
	PROP. ELECTRIC LINE
	EXIST. GAS LINE
	PROP. GAS LINE
	EXIST. TELEPHONE LINE
	PROP. TELEPHONE LINE
	EXIST. DRAINAGE LINE
	PROP. DRAINAGE LINE
	EXIST. OVERHEAD WIRE
	PROP. OVERHEAD WIRE
	EXIST. CATCH BASIN
	PROP. CATCH BASIN
	EXIST. ELECTRIC MANHOLE
	PROP. ELECTRIC MANHOLE
	EXIST. SEWER MANHOLE
	PROP. SEWER MANHOLE
	PROP. ELECTRIC MANHOLE
	PROP. UTILITY POLE
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
	EXIST. EDGE OF PAVEMENT
	EXIST. VERTICAL GRANITE CURB
	PROP. VERTICAL GRANITE CURB
	PROP. VERTICAL CONC. CURB
	PROP. PYLON SIGN
	PROP. SIGN
	EXIST. GATE
	MA HIGHWAY BOUND
	NUMBER OF PARKING SPACES

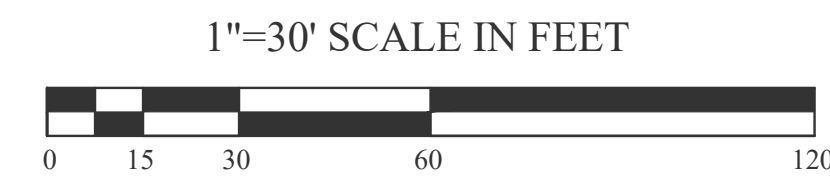


PARKING DATA (RESIDENTIAL DEVELOPMENT ONLY)

DWELLINGS:	(2) SPACES PER DWELLING UNIT	
TOTAL NUMBER OF DWELLINGS (24 UNITS)		
24 UNITS X 2 SPACES	=	48 SPACES
PARKING PROVIDED:	=	48 SPACES
PLUS 8 GUEST SPACES:	=	8 SPACES
TOTAL PARKING PROVIDED:	=	56 SPACES

340 MAIN STREET, BOURNE, MA
ZONING ANALYSIS TABLE
 (DTG) DOWNTOWN GATEWAY DISTRICT

ZONING CRITERIA	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	3,500 S.F.	179,987 S.F.	179,987 S.F.
NO MIN. LOT SIZE WITH SPECIAL PERMIT BY THE PLANNING BOARD			
MIN. LOT WIDTH	40'	592.3' +/-	592.3' +/-
500' WITH SPECIAL PERMIT BY THE PLANNING BOARD			
MAX. LOT COVERAGE	80%	17.5%	46.5%
100% WITH SPECIAL PERMIT BY THE PLANNING BOARD			
MAX. FLOOR AREA RATIO	2:1	4.0%	33.0%
3:1 WITH SPECIAL PERMIT BY THE PLANNING BOARD			
MIN. FRONT SETBACK	0'	23.4'	23.4'
MIN. REAR SETBACK	10'	235.7' +/-	22.5'
MIN. SIDE SETBACK	0'	45.6'	25.3'
MAX. BUILDING HEIGHT	35' (2 STORIES)	35'	35'



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Project:
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Issue Date: 04/28/2023

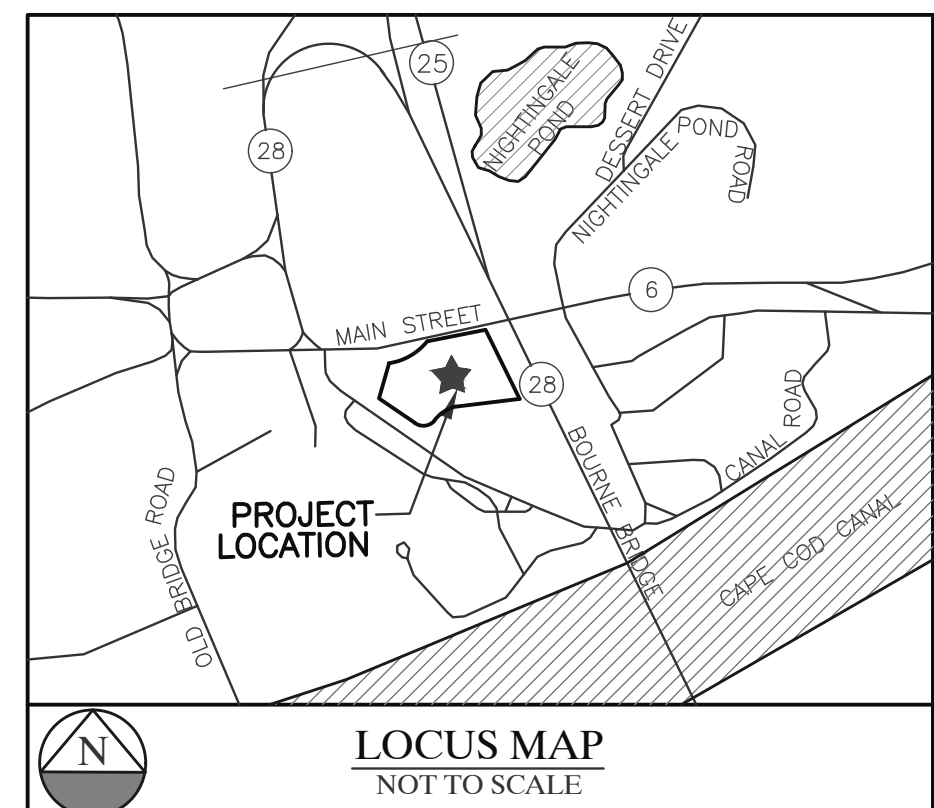
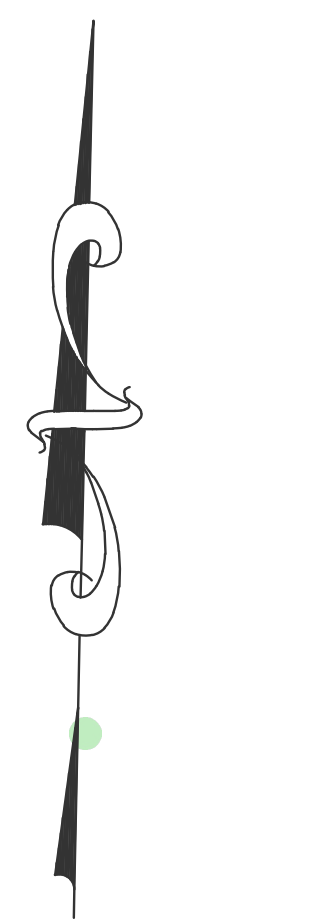
No.	Date	Description

Project Number: 22-621
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 Drawn By: C.M.S.
 Designed By: C.M.S. Checked By: H.C.

Sheet Title:
 SITE LAYOUT PLAN

SITE PLAN REVIEW/
 SPECIAL PERMIT SET





LEGEND

SYMBOL	DESCRIPTION
	EXIST. CONTOUR
	PROP. CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EASEMENT LINE
	PROPERTY LINE
	SOCK BALES
	EXIST. SEWER LINE
	PROP. SEWER LINE
	EXIST. WATER LINE
	PROP. WATER LINE
	EXIST. ELECTRIC LINE
	PROP. UNDERGROUND ELECTRIC LINE
	EXIST. GAS LINE
	PROP. GAS LINE
	EXIST. TELEPHONE LINE
	PROP. TELEPHONE LINE
	EXIST. DRAINAGE LINE
	PROP. DRAINAGE LINE
	EXIST. OVERHEAD WIRE
	EXIST. CATCH BASIN
	PROP. CATCH BASIN
	EXIST. ELECTRIC MANHOLE
	PROP. ELECTRIC MANHOLE
	EXIST. SEWER MANHOLE
	PROP. SEWER MANHOLE
	PROP. LIGHT POLE
	EXIST. EDGE OF PAVEMENT
	PROP. EDGE OF PAVEMENT
	EXIST. VERTICAL GRANITE CURB
	PROP. VERTICAL GRANITE CURB
	PROP. VERTICAL CONC. CURB
	PROP. PYLON SIGN
	PROP. SIGN
	EXIST. GATE
	MA HIGHWAY BOUND
	NUMBER OF PARKING SPACES
	PROP. SNOW STORAGE AREA

DUST CONTROL

1. WIND-BORNE DUST FROM EXPOSED SOIL SURFACES DURING LAND DISTURBING/CONSTRUCTION ACTIVITIES SHALL BE CONTROLLED WITH FREQUENT WATER IRRIGATION APPLICATIONS AND/OR CALCIUM CHLORIDE. CALCIUM CHLORIDE SHALL BE APPLIED WITH A MECHANICAL SPREADER IN STRICT ACCORDANCE WITH THE SUPPLIER'S SPECIFIED RATES.

2. INSTALL CATCH BASIN SILT SOCKS IN EXISTING CATCH BASINS ON MAIN DRAIN STREAM FROM PROJECT AREA PRIOR TO DEMOLITION / CONSTRUCTION.

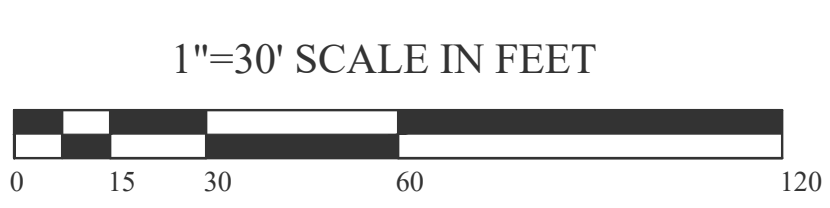
LOT AREA
179,987 S.F.
(4.13 AC.)

SOIL EVALUATIONS PERFORMED BY MASSACHUSETTS CERTIFIED DEP SOIL EVALUATOR ON SEPTEMBER 3 & 5, 2019.

Thomas Roux
THOMAS C. ROUX, SE 2703

TP-1 9-5-19	TP-2 9-5-19	TP-3 9-3-19	TP-4 9-3-19	TP-5 9-3-19	TP-6 9-3-19
0" 16.8±	0" 15.2±	0" 15.0±	0" 14.0±	0" 14.0±	0" 14.0±
21" 15.0	23" 13.3	35" 12.1	37" 10.9	33" 11.2	6" 13.5
40" 13.5	42" 11.7	58" 10.2	54" 9.5	52" 9.7	43" 10.4
126" 6.3	124" 4.9	122" 4.8	121" 3.9	123" 3.7	122" 3.8

MOTTLES: NONE VISIBLE
WATER STANDING: NONE VISIBLE
WEEPING: NONE VISIBLE



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Project:
**PROPOSED 24 UNITS
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Issue Date: 04/28/2023

Revisions		
No.	Date	Description

Project Number: 22-621
Scale: AS SHOWN
Drawn By: C.M.S.
Designed By: C.M.S. Checked By: H.C.

Sheet Title:
GRADING & DRAINAGE PLAN

**SITE PLAN REVIEW/
SPECIAL PERMIT SET**



Sheet Number: 5 OF 19

IA-10 DRAINAGE DESIGN CRITERIA (100 YEAR STORM, 24 HR TYPE III STORM)

DESIGN FOR 7.1" OF PAVED AREAS
 PERCOLATION RATE = $8.27 \text{"/hr} \times 24 \text{ hours}/12 \text{"/FT}$
 (*SANDY SOIL PER SOIL DATA) = 16.6 FEET/DAY

TOTAL IMPERVIOUS AREAS TO DRAINAGE SYSTEM (PAVEMENT)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 7,349 \text{ S.F.} \times 0.9 = 3,913 \text{ C.F.}$

TOTAL LANDSCAPED AREAS TO DRAINAGE SYSTEM (GRASS)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 13,403 \text{ S.F.} \times 0.3 = 2,379 \text{ C.F.}$

TOTAL RUNOFF TO DRAINAGE SYSTEM
 VOLUME OF RUNOFF = 3,913 C.F. + 2,379 C.F. = 6,292 C.F.

SYSTEM STORAGE CAPACITY
 USE (6" DIAMETER) x (6" DEEP) CONCRETE GALLEYS WITH 1' CRUSHED STONE BETWEEN AND AROUND GALLEYS & 1' UNDER.
 VOLUME OF STORAGE PER GALLEY (INSIDE VOLUME) = $(R)^2 \times (\text{DEPTH}) = \pi(3)^2 \times 6' = 170 \text{ CF/GALLEY}$

VOLUME OF STONE STORAGE (40% POROSITY) = (TOTAL SYSTEM VOLUME - VOLUME OF GALLEY) x 0.40
 = $(\pi(R)^2 \times \text{DEPTH} - 170) \times 0.40$
 = $(3.14(4)^2 \times 7 - 170) \times 0.40$
 = 73 CF/GALLEY

TOTAL CAPACITY PER UNIT = 170 C.F. + 73 C.F. = 243 C.F./UNIT
 TOTAL SYSTEM STORAGE CAPACITY = (243 C.F.) x (5 UNIT) = 1,215 C.F.

SYSTEM INFILTRATION CAPACITY
 INFILTRATION BOTTOM AREA = (8' x 8') x 5 UNITS = 320 S.F.
 INFILTRATION RATE = (INFILTRATION AREA) x (INFILTRATION RATE)
 = (320 S.F.) x (16.6 FEET/DAY) = 5,312 C.F.

TOTAL CAPACITY = (TOTAL STORAGE + INFILTRATION CAPACITY)
 = (1,215 C.F. + 5,312 C.F.) = 6,527 C.F.

TOTAL SYSTEM CAPACITY = (6,527 C.F.) > (6,292 C.F.) REQUIRED (SYSTEM OK)

IA-20 DRAINAGE DESIGN CRITERIA (100 YEAR STORM, 24 HR TYPE III STORM)

DESIGN FOR 7.1" OF PAVED AREAS
 PERCOLATION RATE = $8.27 \text{"/hr} \times 24 \text{ hours}/12 \text{"/FT}$
 (*SANDY SOIL PER SOIL DATA) = 16.6 FEET/DAY

TOTAL IMPERVIOUS AREAS TO DRAINAGE SYSTEM (PAVEMENT)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 7,849 \text{ S.F.} \times 0.9 = 4,180 \text{ C.F.}$

TOTAL LANDSCAPED AREAS TO DRAINAGE SYSTEM (GRASS)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 12,410 \text{ S.F.} \times 0.3 = 2,203 \text{ C.F.}$

TOTAL RUNOFF TO DRAINAGE SYSTEM
 VOLUME OF RUNOFF = 4,180 C.F. + 2,203 C.F. = 6,383 C.F.

SYSTEM STORAGE CAPACITY
 USE (6" DIAMETER) x (6" DEEP) CONCRETE GALLEYS WITH 1' CRUSHED STONE BETWEEN AND AROUND GALLEYS & 1' UNDER.
 VOLUME OF STORAGE PER GALLEY (INSIDE VOLUME) = $(R)^2 \times (\text{DEPTH}) = \pi(3)^2 \times 6' = 170 \text{ CF/GALLEY}$

VOLUME OF STONE STORAGE (40% POROSITY) = (TOTAL SYSTEM VOLUME - VOLUME OF GALLEY) x 0.40
 = $(\pi(R)^2 \times \text{DEPTH} - 170) \times 0.40$
 = $(3.14(4)^2 \times 7 - 170) \times 0.40$
 = 73 CF/GALLEY

TOTAL CAPACITY PER UNIT = 170 C.F. + 73 C.F. = 243 C.F./UNIT
 TOTAL SYSTEM STORAGE CAPACITY = (243 C.F.) x (5 UNIT) = 1,215 C.F.

SYSTEM INFILTRATION CAPACITY
 INFILTRATION BOTTOM AREA = (8' x 8') x 5 UNITS = 320 S.F.
 INFILTRATION RATE = (INFILTRATION AREA) x (INFILTRATION RATE)
 = (320 S.F.) x (16.6 FEET/DAY) = 5,312 C.F.

TOTAL CAPACITY = (TOTAL STORAGE + INFILTRATION CAPACITY)
 = (1,215 C.F. + 5,312 C.F.) = 6,527 C.F.

TOTAL SYSTEM CAPACITY = (6,527 C.F.) > (6,383 C.F.) REQUIRED (SYSTEM OK)

IA-30 DRAINAGE DESIGN CRITERIA (100 YEAR STORM, 24 HR TYPE III STORM)

DESIGN FOR 7.1" OF PAVED AREAS
 PERCOLATION RATE = $8.27 \text{"/hr} \times 24 \text{ hours}/12 \text{"/FT}$
 (*SANDY SOIL PER SOIL DATA) = 16.6 FEET/DAY

TOTAL IMPERVIOUS AREAS TO DRAINAGE SYSTEM (PAVEMENT)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 7,967 \text{ S.F.} \times 0.9 = 4,242 \text{ C.F.}$

TOTAL LANDSCAPED AREAS TO DRAINAGE SYSTEM (GRASS)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 4,877 \text{ S.F.} \times 0.3 = 866 \text{ C.F.}$

TOTAL RUNOFF TO DRAINAGE SYSTEM
 VOLUME OF RUNOFF = 4,242 C.F. + 866 C.F. = 5,108 C.F.

SYSTEM STORAGE CAPACITY
 USE (6" DIAMETER) x (6" DEEP) CONCRETE GALLEYS WITH 1' CRUSHED STONE BETWEEN AND AROUND GALLEYS & 1' UNDER.
 VOLUME OF STORAGE PER GALLEY (INSIDE VOLUME) = $(R)^2 \times (\text{DEPTH}) = \pi(3)^2 \times 6' = 170 \text{ CF/GALLEY}$

VOLUME OF STONE STORAGE (40% POROSITY) = (TOTAL SYSTEM VOLUME - VOLUME OF GALLEY) x 0.40
 = $(\pi(R)^2 \times \text{DEPTH} - 170) \times 0.40$
 = $(3.14(4)^2 \times 7 - 170) \times 0.40$
 = 73 CF/GALLEY

TOTAL CAPACITY PER UNIT = 170 C.F. + 73 C.F. = 243 C.F./UNIT
 TOTAL SYSTEM STORAGE CAPACITY = (243 C.F.) x (4 UNIT) = 972 C.F.

SYSTEM INFILTRATION CAPACITY
 INFILTRATION BOTTOM AREA = (8' x 8') x 4 UNITS = 256 S.F.
 INFILTRATION RATE = (INFILTRATION AREA) x (INFILTRATION RATE)
 = (256 S.F.) x (16.6 FEET/DAY) = 4,250 C.F.

TOTAL CAPACITY = (TOTAL STORAGE + INFILTRATION CAPACITY)
 = (972 C.F. + 4,250 C.F.) = 5,222 C.F.

TOTAL SYSTEM CAPACITY = (5,222 C.F.) > (5,108 C.F.) REQUIRED (SYSTEM OK)

IA-40 DRAINAGE DESIGN CRITERIA (100 YEAR STORM, 24 HR TYPE III STORM)

DESIGN FOR 7.1" OF PAVED AREAS
 PERCOLATION RATE = $8.27 \text{"/hr} \times 24 \text{ hours}/12 \text{"/FT}$
 (*SANDY SOIL PER SOIL DATA) = 16.6 FEET/DAY

TOTAL IMPERVIOUS AREAS TO DRAINAGE SYSTEM (PAVEMENT)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 8,112 \text{ S.F.} \times 0.9 = 4,320 \text{ C.F.}$

TOTAL LANDSCAPED AREAS TO DRAINAGE SYSTEM (GRASS)
 VOLUME OF RUNOFF = $7.1 \text{"/}12 \text{"/FT} \times 9,037 \text{ S.F.} \times 0.3 = 1,604 \text{ C.F.}$

TOTAL RUNOFF TO DRAINAGE SYSTEM
 VOLUME OF RUNOFF = 4,320 C.F. + 1,604 C.F. = 5,924 C.F.

SYSTEM STORAGE CAPACITY
 USE (6" DIAMETER) x (6" DEEP) CONCRETE GALLEYS WITH 1' CRUSHED STONE BETWEEN AND AROUND GALLEYS & 1' UNDER.
 VOLUME OF STORAGE PER GALLEY (INSIDE VOLUME) = $(R)^2 \times (\text{DEPTH}) = \pi(3)^2 \times 6' = 170 \text{ CF/GALLEY}$

VOLUME OF STONE STORAGE (40% POROSITY) = (TOTAL SYSTEM VOLUME - VOLUME OF GALLEY) x 0.40
 = $(\pi(R)^2 \times \text{DEPTH} - 170) \times 0.40$
 = $(3.14(4)^2 \times 7 - 170) \times 0.40$
 = 73 CF/GALLEY

TOTAL CAPACITY PER UNIT = 170 C.F. + 73 C.F. = 243 C.F./UNIT
 TOTAL SYSTEM STORAGE CAPACITY = (243 C.F.) x (5 UNIT) = 1,215 C.F.

SYSTEM INFILTRATION CAPACITY
 INFILTRATION BOTTOM AREA = (8' x 8') x 5 UNITS = 320 S.F.
 INFILTRATION RATE = (INFILTRATION AREA) x (INFILTRATION RATE)
 = (320 S.F.) x (16.6 FEET/DAY) = 5,312 C.F.

TOTAL CAPACITY = (TOTAL STORAGE + INFILTRATION CAPACITY)
 = (1,215 C.F. + 5,312 C.F.) = 6,527 C.F.

TOTAL SYSTEM CAPACITY = (6,527 C.F.) > (5,924 C.F.) REQUIRED (SYSTEM OK)

ROOF TOP DRAINAGE DESIGN CRITERIA (100 YEAR STORM, 24 HR TYPE III STORM)

TOTAL IMPERVIOUS AREAS TO DRAINAGE SYSTEM (ROOF TOPS) = 2,000 S.F.
 VOLUME OF RUNOFF = $(7.1 \text{"/}12 \text{"/FT} \times 2,000 \text{ S.F.}) = 1,183 \text{ C.F.}$

SYSTEM STORAGE CAPACITY
 (1) 500 GALLON RECTANGULAR DRYWELL 1' CRUSHED STONE AROUND DRYWELL & 1' UNDER PER BUILDING

VOLUME OF RECTANGULAR GALLEY
 = (L x W x DEPTH)
 = (8.5' x 4.8' x 2') = 82 CF/GALLEY

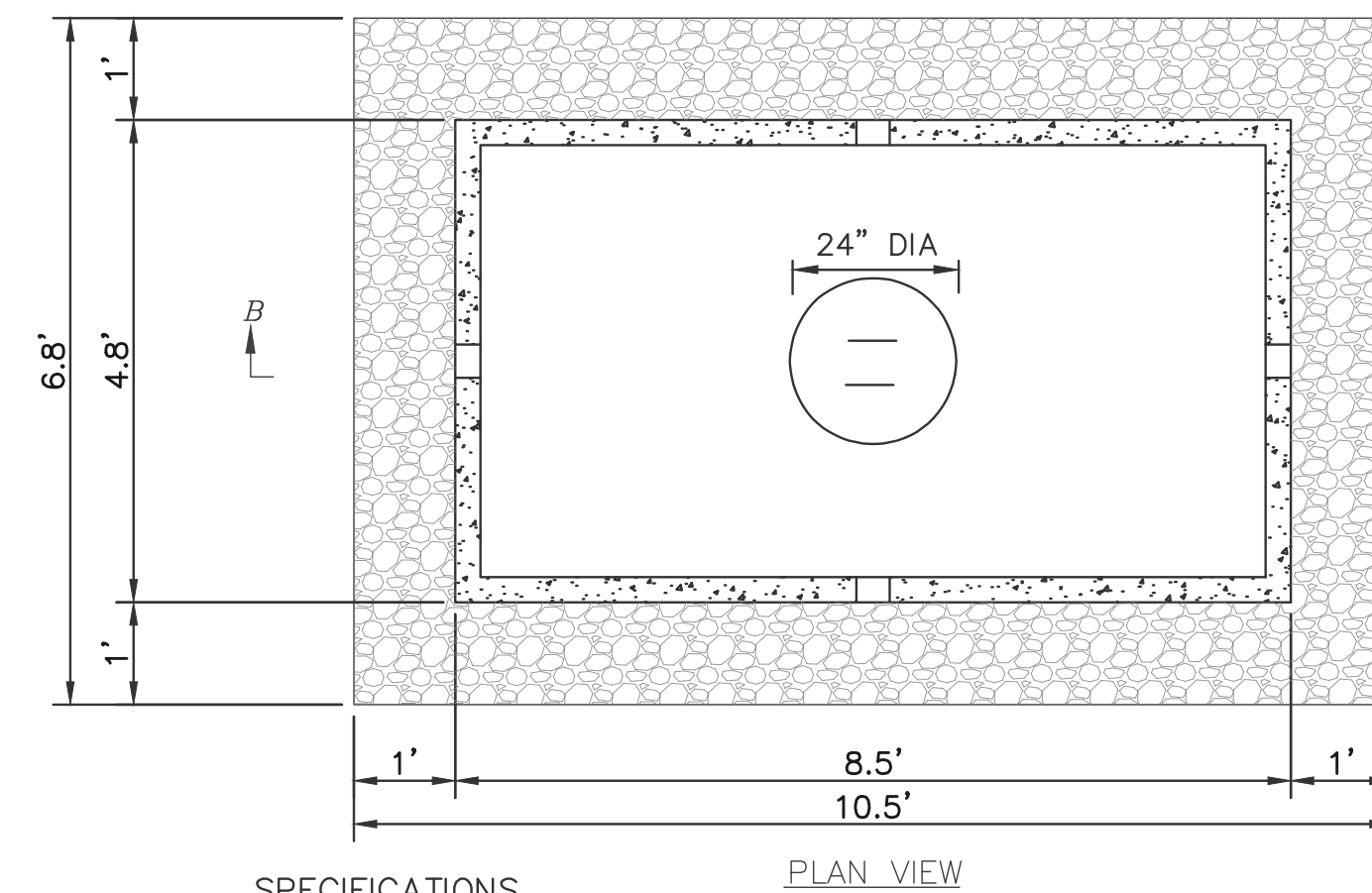
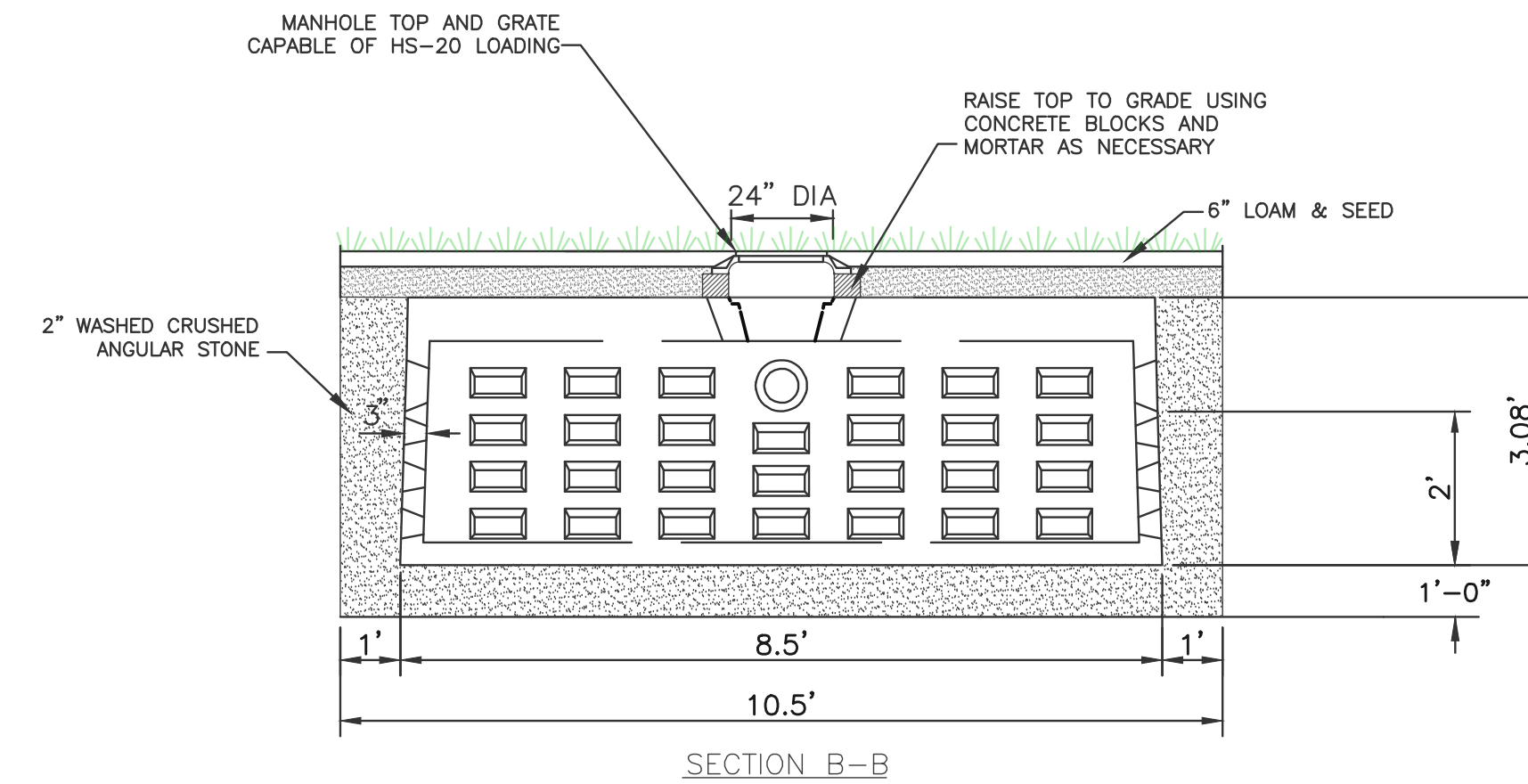
VOLUME OF STONE STORAGE (40% POROSITY)
 = (TOTAL SYSTEM VOLUME - VOLUME OF GALLEY) x 0.4 x 7.48 GALLONS
 = ((10.5' x 6.8' x 3') - 82.0) x 0.4 = 53 C.F.

TOTAL VOLUME = 82 C.F. + 53 C.F. = 135 C.F.

SYSTEM INFILTRATION CAPACITY
 INFILTRATION BOTTOM AREA = (10.5' x 6.8') = 71.4 S.F.
 INFILTRATION RATE = (INFILTRATION AREA) x (INFILTRATION RATE)
 = (71.4 S.F.) x (16.6 FEET/DAY) = 1,185 C.F.

TOTAL CAPACITY = (TOTAL STORAGE + INFILTRATION CAPACITY)
 = (135 C.F. + 1,185 C.F.) = 1,320 C.F.

TOTAL SYSTEM CAPACITY = (1,320 C.F.) > (1,183 C.F.) REQUIRED (SYSTEM OK)
 - USE ONE UNIT PER BUILDING (TYPICAL)



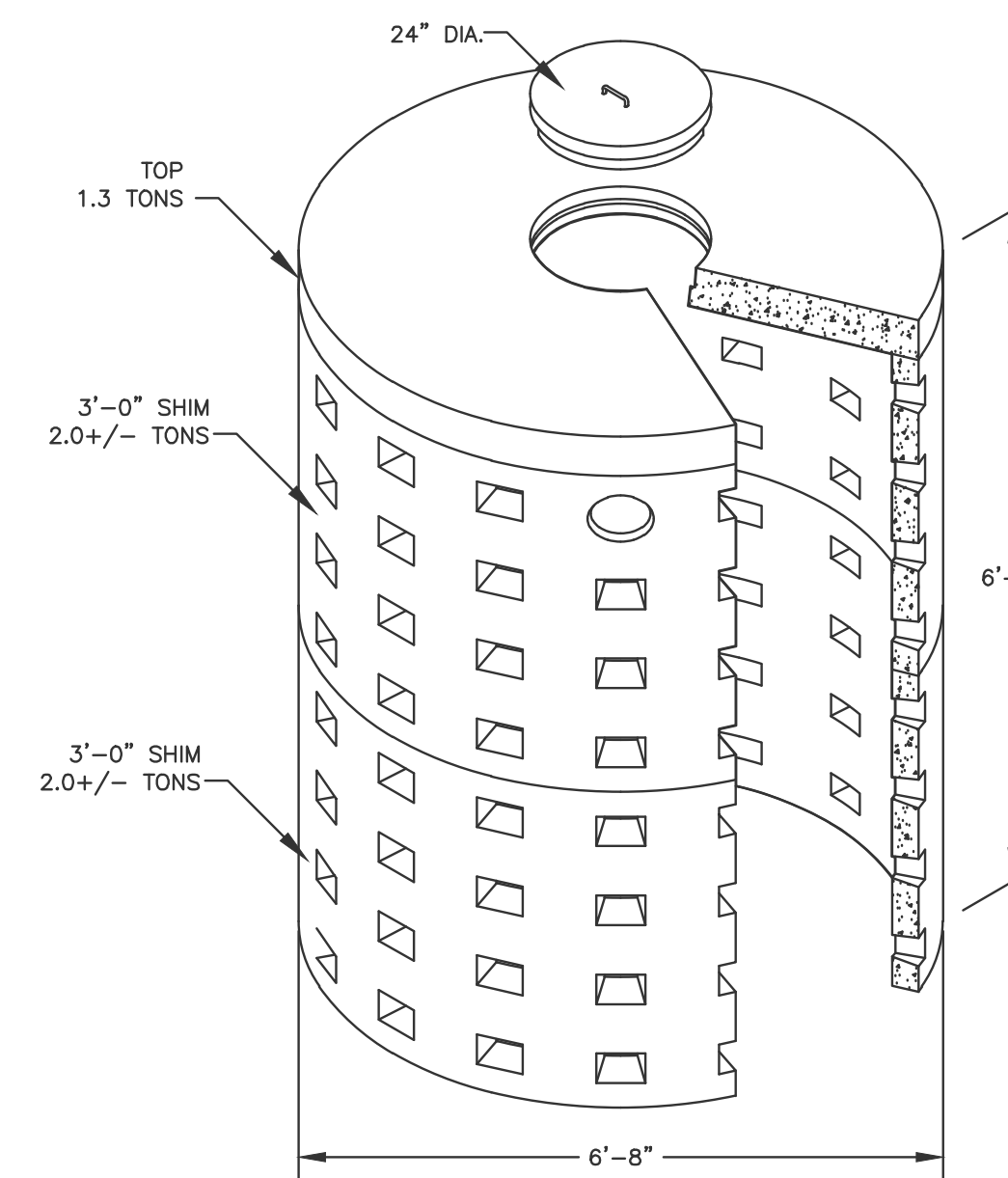
- SPECIFICATIONS**
- 1) CONCRETE COMPRESSIVE STRENGTH 5000 PSI IN 28 DAYS
 - 2) LIVE LOAD AT SURFACE-HS-20
 - 3) REINFORCED WITH REBAR GRADE # 60 MEETS REQUIREMENTS OF ACI 318
 - 4) WEIGHT 5772 LBS

500 GALLON PRECAST LEACHING CHAMBER DETAIL
 NOT TO SCALE

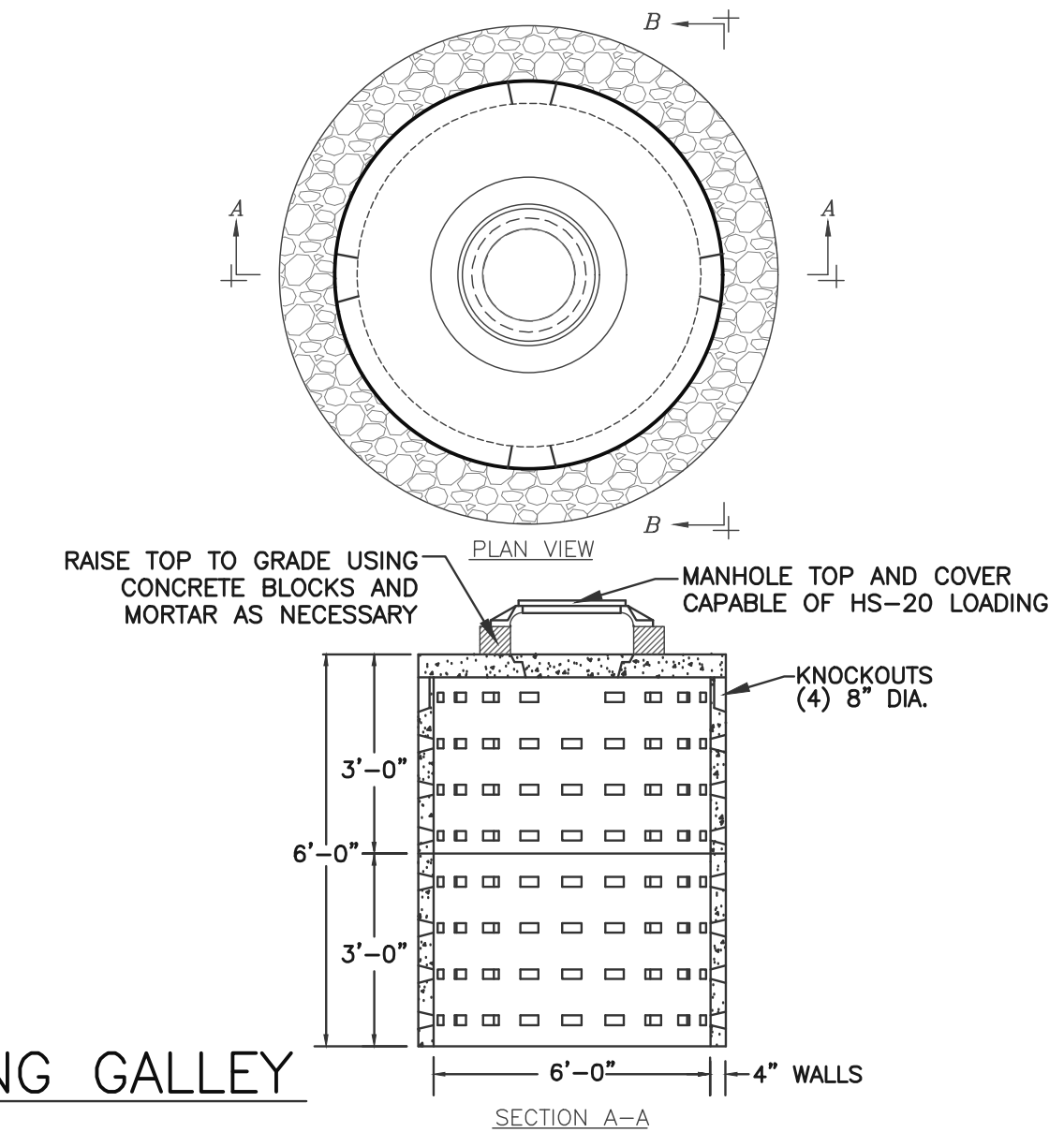
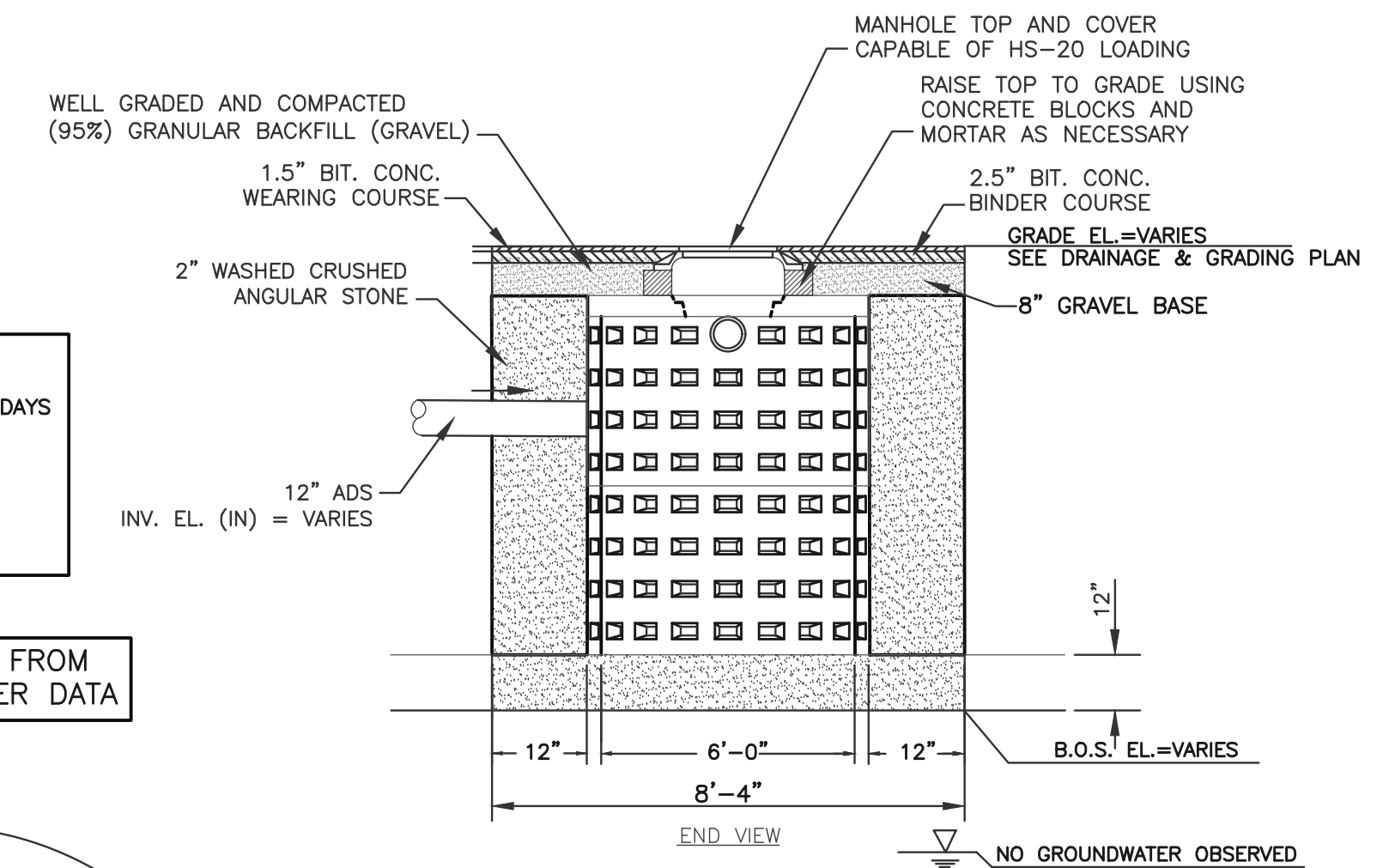
- LEGEND**
- INV. EL. = INVERT ELEVATION
 - B.O.S. = BOTTOM OF SYSTEM
 - = GROUNDWATER ELEVATION

- NOTES:**
1. CONCRETE-5,000 P.S.I. MINIMUM STRENGTH @ 28 DAYS
 2. STEEL REINFORCEMENT-ASTM A-615, GRADE 60
 3. COVER TO STEEL-1" MINIMUM
 4. DESIGN LOADING-AASHTO HS20-44
 5. EARTH COVER-0-5 FEET
 6. CONSTRUCTION JOINT LAPPED

NOTE: GROUNDWATER ELEVATION TAKEN FROM SEWAGE DISPOSAL SYSTEM GROUNDWATER DATA



6' DIA. LEACHING GALLEY
 NOT TO SCALE



DRAINAGE & MAINTENANCE SCHEDULE

ONCE ACCEPTED AS-BUILT, THE OWNER SHALL PERFORM ROUTINE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE OWNER SHALL COORDINATE/SCHEDULE STORMCEPTOR TO BE CLEANED IN COMPLIANCE WITH ALL STATE, FEDERAL GUIDELINES AND REGULATIONS.

ROUTINE SITE MAINTENANCE
 PARKING LOT MAINTENANCE IN THE FORM OF SWEEPING WITH HIGH EFFICIENCY VACUUM SWEEPER SHALL BE CONDUCTED ON A MONTHLY AVERAGE WITH SWEEPING SCHEDULED PRIMARILY IN SPRING AND FALL. SWEEPING PROVIDES IMPORTANT NON-POINT SOURCE POLLUTION CONTROL WHEN PRACTICAL AND AS WEATHER PERMITS. ACCUMULATED SEDIMENTS SHOULD BE SWEEP AND REMOVED ON AN AS NEEDED BASIS DURING THE MONTHS OF JANUARY THROUGH MARCH.

STORMCEPTOR
 ALL STRUCTURES WILL BE INSPECTED (2) TWO TIMES PER YEAR. STRUCTURES WILL BE CLEANED TWICE A YEAR OR WHENEVER THE DEPTH OF SEDIMENT IS ONE FOOT OR MORE FROM THE BOTTOM OF THE INVERT OF THE LOWEST PIPE IN THE STRUCTURE AND AT THE END OF THE FOLIAGE AND SNOW REMOVAL SEASONS. ALL STRUCTURES WILL BE CLEANED USING A VACUUM SWEEPER TRUCK TO REMOVE TRAPPED SEDIMENT AND WATER/OIL FROM THE DEEP SUMPS. MATERIAL OR FLUID REMOVED DURING CLEANINGS WILL BE DISPOSED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

DRAINAGE MANHOLES/CATCH BASINS
 ALL STRUCTURES WILL BE INSPECTED (4) FOUR TIMES PER YEAR. STRUCTURES WILL BE CLEANED TWICE A YEAR OR WHENEVER THE DEPTH OF DEPOSITS IS GREATER THAN OR EQUAL TO ONE HALF THE DEPTH FROM THE BOTTOM OF THE INVERT OF THE LOWEST PIPE IN THE STRUCTURE AND AT THE END OF THE FOLIAGE AND SNOW REMOVAL SEASONS. ALL STRUCTURES WILL BE CLEANED USING A VACUUM SWEEPER TRUCK TO REMOVE TRAPPED SEDIMENT AND WATER/OIL FROM THE DEEP SUMPS. MATERIAL OR FLUID REMOVED DURING CLEANINGS WILL BE DISPOSED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

UNDERGROUND INFILTRATION SYSTEMS MAINTENANCE
 INFILTRATION SYSTEMS WILL BE AGGRESSIVELY MAINTAINED ON A REGULAR SCHEDULE. UNITS WILL BE INSPECTED EVERY SIX MONTHS. FOR THE FIRST YEAR OF INSTALLATION INFILTRATION UNITS SHALL BE CHECKED AND INSPECTED AFTER EVERY MAJOR STORM EVEN (2 YEAR RETURN FREQUENCY). INLET PIPES WILL BE CHECKED TO DETERMINE IF THEY ARE CLOGGED AND ACCUMULATED SEDIMENT, TRASH, DEBRIS, LEAVES AND VEGETATION WILL BE REMOVED. IF INFILTRATION SYSTEM FAILS TO FULLY DEWATER WITHIN 72 HOURS OF A STORM EVEN, THEN THE RESPONSIBLE PARTY (FACILITY OWNER/OPERATOR) SHALL RETAIN A QUALIFIED PROFESSIONAL ENGINEER TO ASSESS THE CAUSE OF THE FAILURE OF THE SYSTEM AND DEVELOP RECOMMENDATIONS FOR CORRECTIVE ACTION. CORRECTIVE ACTION MUST BE IMPLEMENTED TO RESTORE SYSTEM FUNCTION.

DURING CONSTRUCTION OF THE FACILITY AND THE STORMWATER MANAGEMENT SYSTEM THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAY TO DAY OPERATIONS AND MAINTENANCE OF ALL STORMWATER CONTROL SYSTEMS. AFTER CONSTRUCTION IS COMPLETED, THE OWNER WILL TAKE OVER ALL MAINTENANCE REQUIREMENTS FOR THE STORMWATER CONTROL SYSTEM IN COMPLIANCE WITH THE OPERATION AND MAINTENANCE PLAN.

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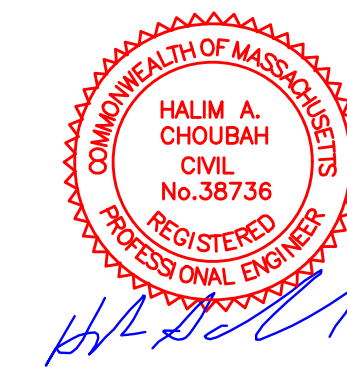
Prepared For:
 340 MAIN STREET, LLC
 561 THOMAS B LANDRS RD
 FALMOUTH, MA 02536

Project:
 PROPOSED 24 UNITS
 RESIDENTIAL
 DEVELOPMENT
 AT 340 MAIN STREET (REAR),
 BOURNE, MA 02532

Issue Date: 04/28/2023		Project Number: 22-621	
Revisions			
No.	Date	Description	Scale: AS SHOWN
			Drawn By: C.M.S.
			Designed By: C.M.S. Checked By: H.C.

Sheet Title:
 DRAINAGE DESIGN
 COMPUTATIONS
 & DETAILS

**SITE PLAN REVIEW/
 SPECIAL PERMIT SET**



CONNECT SEWER SERVICE FROM NEW BUILDING TO EXISTING SEWER SYSTEM ON PAGE STREET PER TOWN OF BOURNE SEWER DEPARTMENT REQUIREMENTS. (TYP.) (VERIFY INVERTS IN FIELD & REPORT ANY DISCREPANCIES TO ENGINEER) INV. (IN)=EXISTING

CONNECT LOW PRESSURE SEWER SERVICE TO SEWER MANHOLE #6 WITH 1-1/4" FORCE MAIN SEWER SERVICE (270'+/-)

MAIN (ROUTE 6) STREET

APPROXIMATE LOCATION OF PROPOSED HYDRANT #1. (FINAL LOCATION TO BE APPROVED BY THE BOURNE FIRE DEPT.)

EXTEND NEW UNDERGROUND ELECTRIC LINE TO NEW DEVELOPMENT

NEW GAS LINE TO NEW DEVELOPMENT PER GAS COMPANY SPECIFICATIONS

EXTEND EX. 8" WATERLINE TO NEW DEVELOPMENT PER WATER SUPERINTENDENT & FIRE DEPARTMENT REVIEW TO ENSURE SIZE OF WATER LINE IS LARGE ENOUGH FOR DOMESTIC SUPPLY AND FIRE HYDRANTS.

N/F MAXIM Book, Page: 12277, 167 Property ID: 20.3_135_0
 PROPOSED SEWER MANHOLE #1 WITH ENVIRONMENT ONE PRESSURE PUMP MODEL # DH152 OR APPROVED EQUAL (BY SUPPLIER) STA. 2+95 RIM.=16.45 INV. (IN)=12.25

8" PVC SDR 35 SEWER SERVICE, 85 L.F. S=7.0%

PROPOSED 4' DIA. SEWER MANHOLE #2 STA 3+80 RIM=21.80 INV. (IN)=18.50 INV. (OUT)=18.25

8" PVC SDR 35 SEWER SERVICE, 65 L.F. S=5.5%

PROPOSED 4' DIA. SEWER MANHOLE #3 STA 4+45 RIM=25.50 INV. (IN)=22.30 INV. (OUT)=22.10

8" PVC SDR 35 SEWER SERVICE, 80 L.F. S=4.5%

PROPOSED 4' DIA. SEWER MANHOLE #4 STA 5+25 RIM=29.90 INV. (IN)=26.20 INV. (OUT)=25.90

8" PVC SDR 35 SEWER MAIN, 110 L.F. S=4.0%

PROPOSED 4' DIA. SEWER MANHOLE #6 STA 7+40 RIM=31.30 INV. (IN)=27.10 INV. (OUT)=26.80

APPROXIMATE LOCATION OF PROPOSED HYDRANT #1. (FINAL LOCATION TO BE APPROVED BY THE BOURNE FIRE DEPT.)

PROPOSED 4' DIA. SEWER MANHOLE #5 STA 6+30 RIM=34.00 INV. (OUT-SMH#4)=30.90 INV. (OUT TO SMH#6)=31.50 INV. (IN-FROM PUMP STATION SMH#8)=30.60

8" PVC SDR 35 SEWER MAIN, 105 L.F. S=4.0%

PROPOSED SEWER MANHOLE #8 PUMP TO SMH#5 WITH ENVIRONMENT ONE PRESSURE PUMP MODEL # DH152 OR APPROVED EQUAL (BY SUPPLIER) STA 8+97 RIM.=25.20 INV. (IN)=19.40

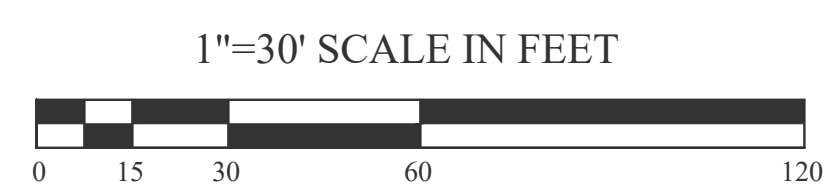
PROPOSED 4' DIA. SEWER MANHOLE #7 STA 9+00 RIM=24.90 INV. (IN-BUILDING)=19.90 INV. (IN-SMH#6)=20.40 INV. (OUT)=19.60

UTILITY NOTES
 1. CONTRACTOR TO LOCATE ALL EXISTING UTILITY SERVICES ON LOT PRIOR TO CONSTRUCTION.
 2. RECONNECTION OF EXISTING SEWER SERVICE AND OTHER UTILITIES TO NEW BUILDINGS ARE SUBJECT TO THE INSPECTION & APPROVAL OF THE TOWN OF BOURNE OFFICIALS HAVING JURISDICTION OVER COMPLETED WORK.
 3. CONTRACTOR TO RELOCATE ANY EXISTING UTILITIES IN CONFLICT WITH NEW BUILDINGS LOCATION IN COMPLIANCE WITH APPLICABLE REQUIREMENTS BY LOCAL DEPARTMENTS HAVING JURISDICTION OVER PROPOSED WORK.
 4. THIS ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY AND LOCATION OF UNDERGROUND EXISTING UTILITIES ON SITE.

LEGEND	
SYMBOL	DESCRIPTION
	EXIST. CONTOUR
	PROP. CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EASEMENT LINE
	PROPERTY LINE
	SOCK BALES
	EXIST. SEWER LINE
	PROP. SEWER LINE
	EXIST. WATER LINE
	PROP. WATER LINE
	EXIST. ELECTRIC LINE
	PROP. UNDERGROUND ELECTRIC LINE
	EXIST. GAS LINE
	PROP. GAS LINE
	EXIST. TELEPHONE LINE
	PROP. TELEPHONE LINE
	EXIST. DRAINAGE LINE
	PROP. DRAINAGE LINE
	EXIST. OVERHEAD WIRE
	EXIST. CATCH BASIN
	PROP. CATCH BASIN
	EXIST. ELECTRIC MANHOLE
	PROP. ELECTRIC MANHOLE
	EXIST. SEWER MANHOLE
	PROP. SEWER MANHOLE
	PROP. ELEC. JUNCTION BOX
	PROP. LIGHT POLE
	EXIST. EDGE OF PAVEMENT
	PROP. EDGE OF PAVEMENT
	EXIST. VERTICAL GRANITE CURB
	PROP. VERTICAL GRANITE CURB
	PROP. VERTICAL CONC. CURB
	PROP. PYLON SIGN
	PROP. SIGN
	EXIST. GATE
	MA HIGHWAY BOUND
	NUMBER OF PARKING SPACES
	PROP. SNOW STORAGE AREA

CONSTRUCTION SEQUENCE

- THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:
- INSTALLATION OF STABILIZED CONSTRUCTION EXIT (AS SHOWN)
 - INSTALLATION OF EROSION CONTROL BARRIER (SOCK BALES AND SILT FENCE) (AS SHOWN)
 - DEMOLITION OF EXISTING SITE STRUCTURES (SEE SHEET #3)
 - DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE SHEET #3)
 - CLEARING AND GRUBBING
 - EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
 - CONSTRUCTION OF UTILITIES
 - STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
 - INSTALLATION OF INLET PROTECTION ON ON-SITE UTILITIES (AS SHOWN)
 - CONSTRUCTION OF BUILDINGS
 - CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
 - SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
 - FINAL GRADING OF ALL SLOPED AREAS
 - PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED REQUIRED.
 - PAVE PARKING LOT
 - LANDSCAPING PER LANDSCAPING PLAN
 - REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.



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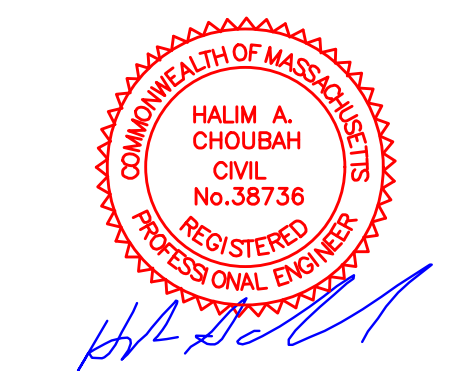
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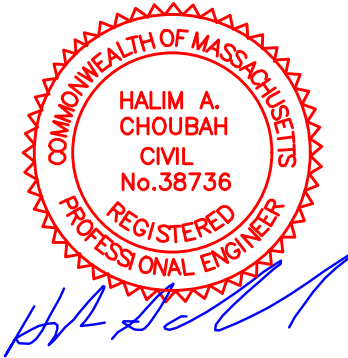
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 UTILITY PLAN

**SITE PLAN REVIEW/
 SPECIAL PERMIT SET**



Prepared For:
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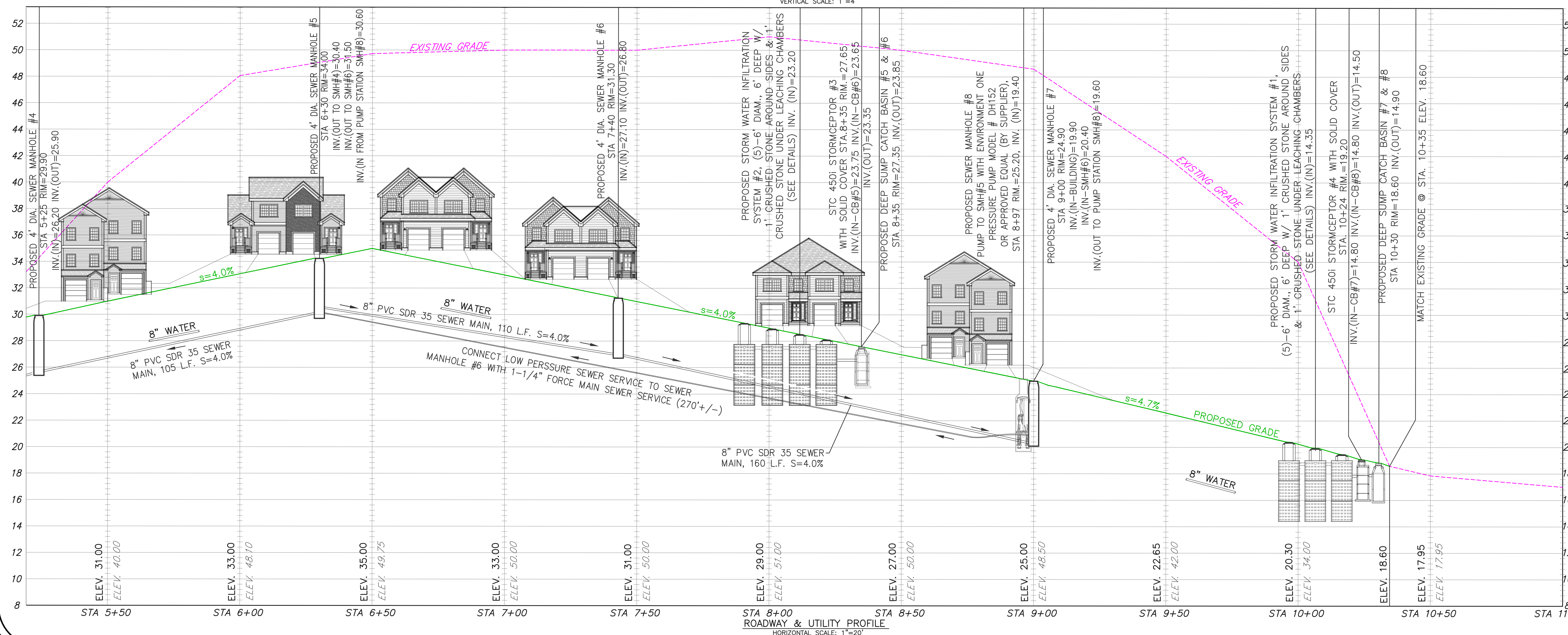
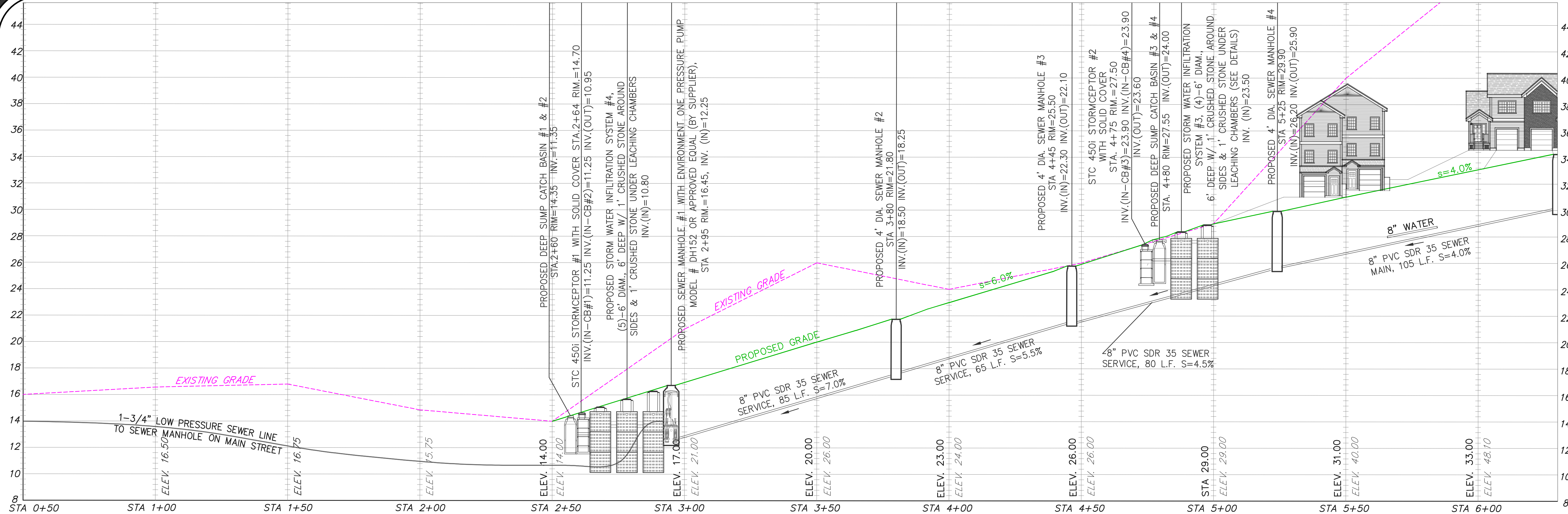
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Sheet Title:
**ACCESS ROADWAY
&
UTILITY PROFILE**

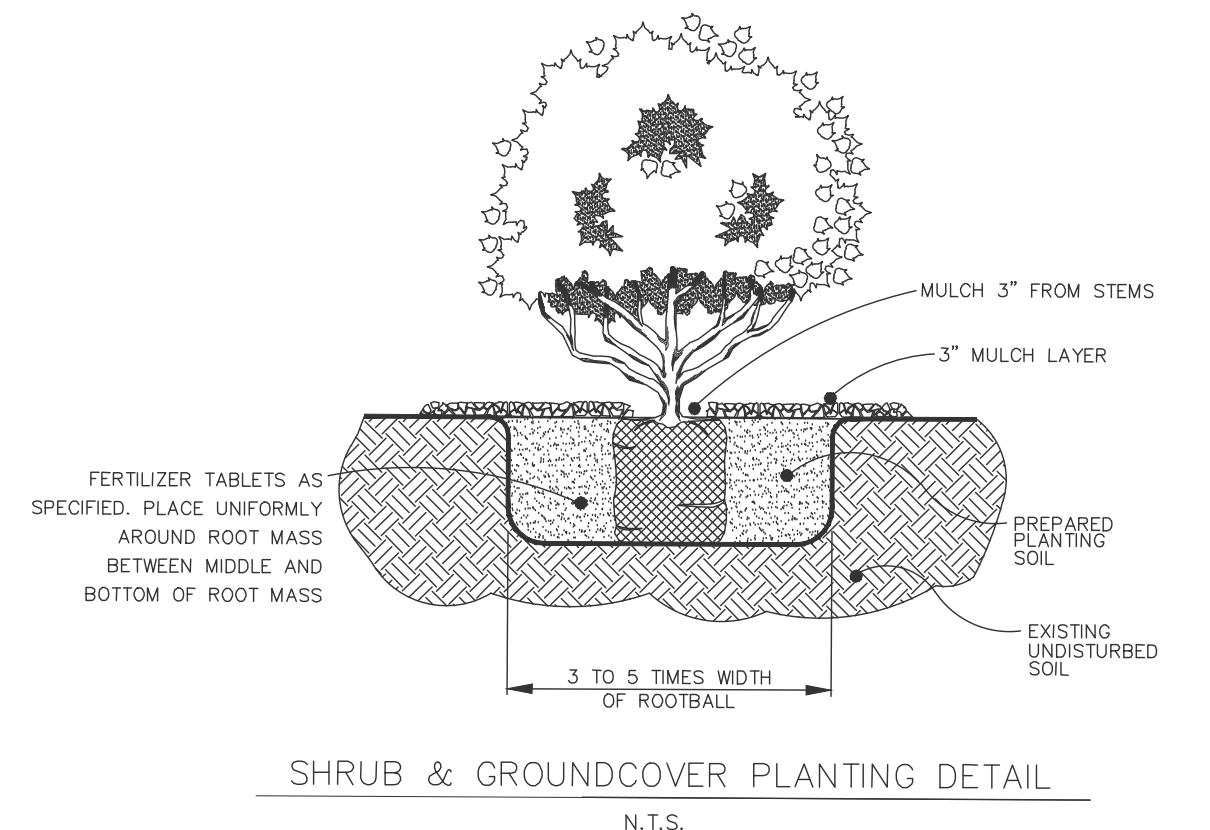
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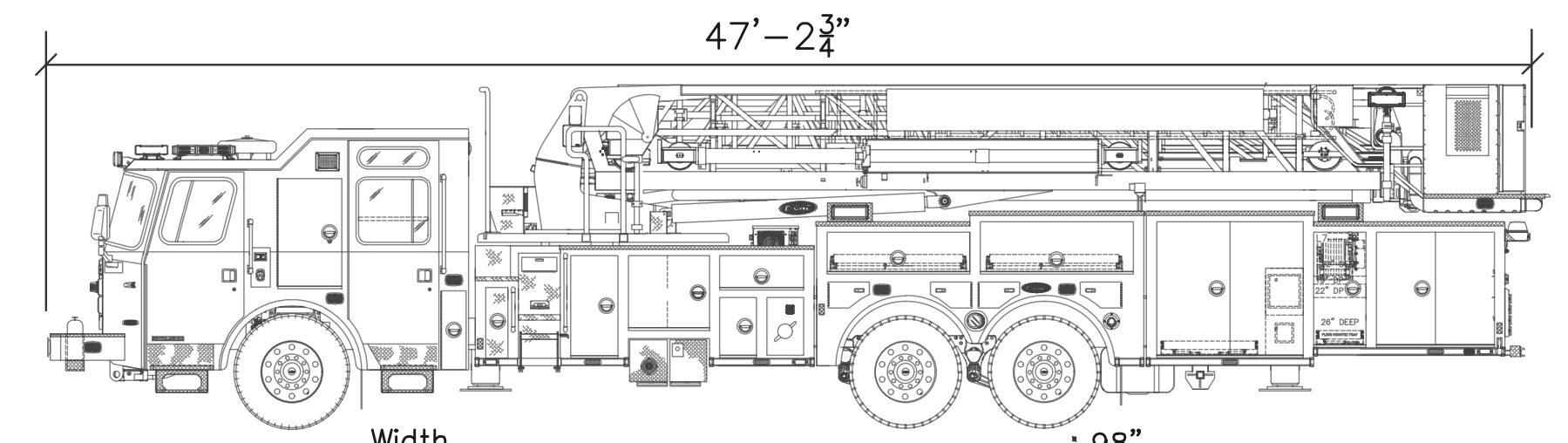
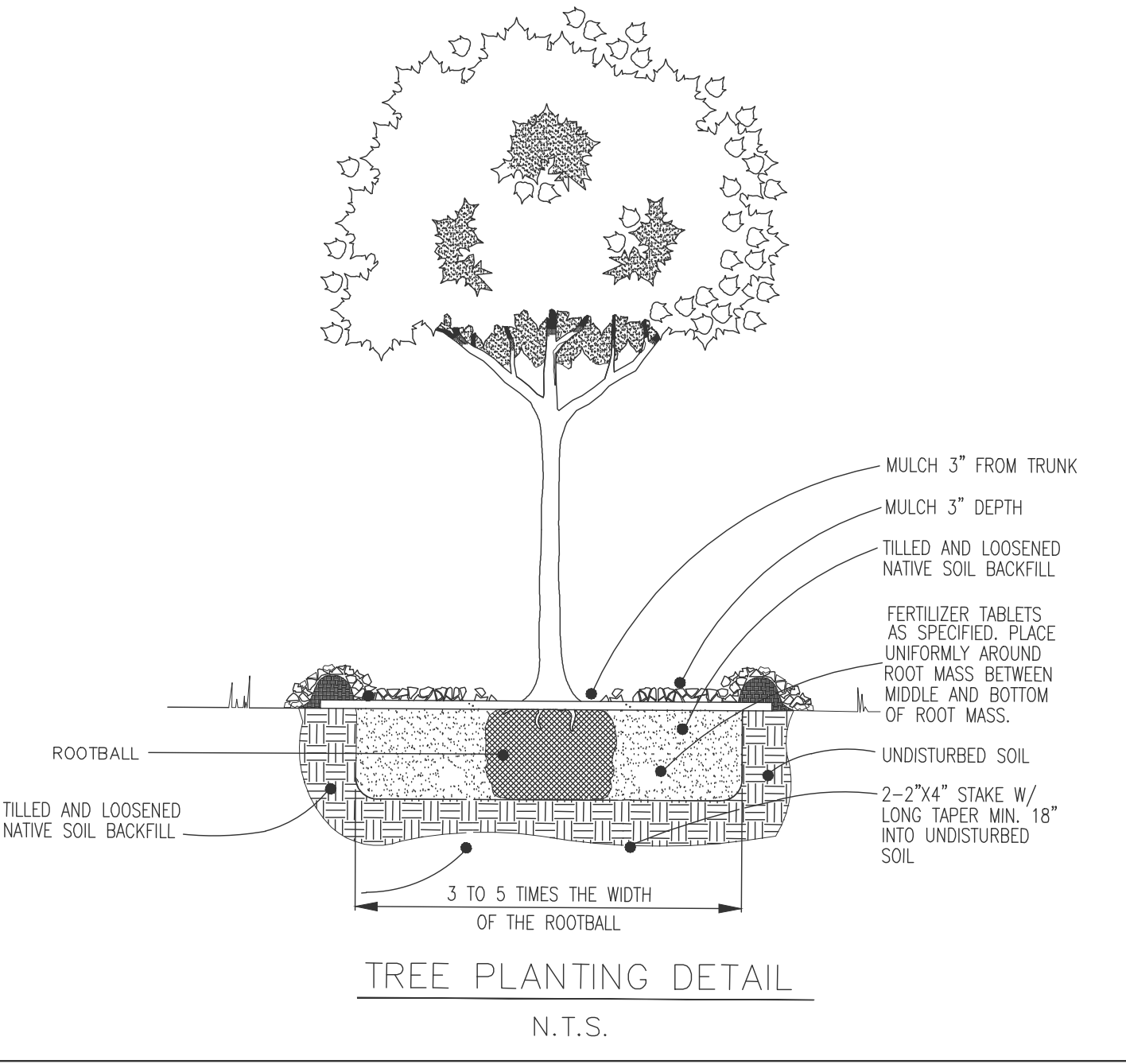


LAWN SEED MIX:
 RUGBY II LS HYBRID BY NORTHEAST NURSERY, INC.
 20% SPYDER LS TURF TYPE TALL FESCUE
 20% SCREAMER LS TURF TYPE TALL FESCUE
 20% FIRECRACKER LS TURF TYPE TALL FESCUE
 15% TITANIUM LS TURF TYPE TALL FESCUE
 20% LATERAL SPREAD BLEND PERENNIAL RYEGRASS BLENDS
 05% FAHRENHEIT 90 HYBRID BLUEGRASS
 REFER TO NURSERY'S REQUIRED SEED RATE

LOT AREA
 179,987 S.F.
 (4.13 AC.)



- NOTES:**
1. REMOVE ALL STRING &/OR WIRE WRAPPED AROUND TRUNK.
 2. REMOVE ALL STRAPS, ROPES, WIRE, &/OR STRINGS USED TO LIFT THE ROOTBALL.
 3. REMOVE ALL BURLAP &/OR WIRE FROM THE TOP OF THE ROOT BALL.
 4. TOP OF ROOTBALL TO BE SET 2" ABOVE FINISH SURROUNDING FINISH GRADE.
 5. REVIEW STAKING OPTIONS WITH LANDSCAPE CONTRACTOR PER SITE CONDITIONS.



Width : 98"
 Inside Turning Radius : 35.71'
 Curb To Curb Turning Radius : 49.00'
 Wall To Wall Turning Radius : 52.65'

- PLANTING NOTES**
1. DO NOT SCALE FROM DRAWINGS.
 2. CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD CONDITIONS TO THE ENGINEER PRIOR TO PLANTING. QUANTITIES REPRESENTED ON THE DRAWING SHALL SUPERCEDE THOSE ON THE PLANT LIST.
 3. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR APPROVAL BY THE ENGINEER AND/OR OWNER.
 4. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN UNLESS OTHERWISE NOTED ON THE PLANT LIST.
 5. ALL PLANTS SHALL BE APPROVED BY THE ENGINEER AND/OR OWNER PRIOR TO THEIR INSTALLATION.
 6. ANY PLANTS LABELED "SPECIMEN" ON THE PLANT LIST SHALL BE TAGGED AT SOURCE BY THE ENGINEER AND/OR OWNER UNLESS DIRECTED OTHERWISE.
 7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING ABOVE AND BELOW GRADE UTILITIES AND SERVICES AND SHALL PROVIDE APPROPRIATE PROTECTIONS DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE LOCAL UTILITY LOCATION SERVICE PROVIDER PRIOR TO COMMENCING WORK. ANY UTILITIES DAMAGED DURING SITE WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 8. THE CONTRACTOR SHALL POSITION ALL PLANT MATERIAL IN LOCATIONS SHOWN ON THE PLAN FOR REVIEW BY ENGINEER AND/OR OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE PLANTS AS NEEDED TO ACCOMMODATE FOR LEDGE AND SHALL CONTACT THE ENGINEER IF PLANTING IS IMPEDED BY LEDGE.
 9. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, LATEST EDITION. THE CONTRACTOR SHALL INSTALL PLANTS USING THE METHODS OUTLINED IN THE "RECOMMENDATIONS FOR PLANTING TREES AND SHRUBS" - UMASS EXTENSION FACT SHEET SERIES, MAY 1996, AND COMMONLY ACCEPTED REGIONAL PRACTICE STANDARDS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL TILL ALL NEW PLANT PLANTING BEDS FOR SHRUBS AND PERENNIALS TO A DEPTH OF 12" FOR PERENNIALS AND 18" FOR SHRUBS BEFORE PLANTING. IN CONDITIONS WHERE THIS IS NOT ACHIEVABLE BECAUSE OF TREE ROOTS, UTILITIES OR OTHER OBSTACLES, THE PLANTING AREA SHALL BE TURNED OVER BY HAND. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND OWNER PRIOR TO BEGINNING SITE WORK TO DETERMINE THE PLANTING SOIL AMENDMENTS REQUIRED - SUCH AS THE ADDITION OF COMPOST AND/OR PEAT MOSS. UNLESS OTHERWISE DIRECTED, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING GENERALLY ACCEPTED SOIL BACKFILL RATIO: 1/2 NATIVE SOIL, 1/4 IMPORTED LOAM, 1/4 COMPOST/PEAT MOSS. INITIALLY, THE CONTRACTOR SHALL ASSUME THE INCORPORATION OF 1-2 CUBIC YARDS OF COMPOST/PEAT MOSS PER 1000 SQUARE FEET OF PLANT BED. IN ADDITION, THE CONTRACTOR SHALL INCORPORATE A PLANT STARTER FERTILIZER SUCH AS 10-10-10 IN THE PLANTING SOIL MIX.
 10. THE CONTRACTOR SHALL REVIEW ANY ADDITIONAL SITE DRAINAGE REQUIREMENTS WITH THE OWNER AND/OR ENGINEER AND COORDINATE POTENTIAL IMPROVEMENTS IN ORDER TO ATTAIN POSITIVE DRAINAGE IN ALL CONDITIONS.
 11. THE CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD BARK MULCH, SUCH AS PINE BARK MULCH THAT IS MEDIUM TO DARK BROWN IN COLOR AND FREE OF ANY DEBRIS OR LARGE PIECES OF WOOD. MULCHES WITH DYES WILL NOT BE ACCEPTED. MULCH ALL PLANT BEDS AFTER PLANTING TO THE FOLLOWING "LOOSE MEASURE" DEPTHS:
 - TREES AND SHRUBS - 3"
 - PERENNIAL, GROUND COVER AND ORNAMENTAL GRASS BEDS - 1.5"
 12. THE CONTRACTOR IS RESPONSIBLE FOR SEEDING ALL AREAS DISTURBED DURING CONSTRUCTION ACCORDING TO THE PLANTING PLAN OR AS DIRECTED BY THE ENGINEER AND/OR OWNER. GRASS SEED SHALL BE A CAPE COD FESCUE SEED BLEND: 60% TALL FESCUE, 10% BORNITO HARD FESCUE, 10% JAMESTOWN CHEWING FESCUE, 20% PERENNIAL RYE.
 13. EXISTING TREES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. THERE SHALL BE NO PARKING OR STOCKPILING OF CONSTRUCTION MATERIAL WITHIN THE DRIP LINE OF THE TREES TO REMAIN.
 14. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL UNTIL PROVISIONAL ACCEPTANCE OF THE PROJECT IS ISSUED BY THE ENGINEER. ALL PLANTS SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF ONE (1) FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. FINAL ACCEPTANCE WILL BE MADE BY THE ENGINEER AND OWNER AT THE END OF THE GUARANTEE PERIOD. ANY PLANTS DEEMED UNACCEPTABLE PRIOR TO THE END OF THE GUARANTEE PERIOD SHALL BE PROMPTLY REPLACED AT THE CONTRACTOR'S EXPENSE. LANDSCAPE CONTRACTOR SHALL REMOVE INVASIVE PLANT MATERIAL PRIOR TO COMMENCEMENT OF PLANTING BED PREPARATION. THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE CITY OF BROCKTON TO VERIFY INVASIVE SPECIES AND METHOD OF REMOVAL.
 15. TYP. PLANTING SEASON IS BETWEEN MID-APRIL AND MID-NOVEMBER, BUT EACH YEAR IS DEPENDENT ON CURRENT WEATHER CONDITIONS AND PLANT MATERIAL AVAILABILITY.
 16. IRRIGATION LAYOUT IS SCHEMATIC IRRIGATION CONTRACTOR IS RESPONSIBLE FOR IRRIGATION PUMP & PIPE SIZING, SPRINKLER HEAD TYPE & LAYOUT TO COVER ALL LANDSCAPED AREAS.

LANDSCAPE SCHEDULE								
TYPE	QTY	SIZE	COMMON NAME	BOTANICAL NAME	PLANTING HT	MATURE HT	MATURE SPREAD	REMARKS
DECIDUOUS TREES								
JV	40	3" CAL.	RED CEDAR	<i>JUNIPERUS VIRGINIANA</i>	6'-8'	40'-50'	8'-20'	
DECIDUOUS TREES								
TP	8	3" CAL.	TULIP POPLAR LITTLE VOLUNTEER	<i>LIRIODENDRON TULIPIFERA</i>	10'-12'	30'-35'	18'-20'	
AR	8	3" CAL.	RED MAPLE	<i>ACER RUBRUM</i>	10'-12'	40'-60'	40'-60'	
KD	8	3" CAL.	CORNUS KOUSA	<i>KOUSA DOGWOOD</i>	10'-12'	15'-25'	15'-25'	
SHRUBS								
WGB	47	36"	WINTER GEM BOXWOOD	<i>BUXUS MICROPHYLLA VAR. JAPONICA "WINTER GEM"</i>	36"	36"	24"-48"	SPACING 4' O.C.
RI	66	36"	DWARF RHODODENDRON	<i>RHODODENDRON IMPEDITUM</i>	36"	36"	24"-36"	SPACING 3' O.C.
PERENNIALS & GRASSES								
PV	83	#2	SWITCHGRASS	<i>PINNACULUM VIRGATUM</i>	#2	-	-	SPACING 2' O.C.

1. All Landscaping shown on plans shall conform to the town of Bourne zoning regulations.
 2. Mulch planting beds after shrubs, to a 3 inch depth, dark brown mulch.
 3. Location of Perennial plantings to be approved by the town of Bourne Planning Staff.

WARRANTY
 A. Special Warranty: Warrant the following exterior plants, for the warranty period of one year against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by owner, or incidents that are beyond contractor's control.
 B. Warranty period for Trees and Shrubs: one year from the date of substantial completion.
 C. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
 D. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at the end of the warranty period.
 E. A limit of one replacement of each exterior plant will be required, except for losses or replacements due to failure to comply with requirements.

MAINTENANCE
 A. Trees and Shrubs" Maintain for the following maintenance period by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease. Restore or replace damaged tree wrappings
 Maintenance Period: 1 year from date of substantial completion.
 B. Ground Cover and Plants: Maintain for the following maintenance period by watering, weeding, fertilizing, and other operations as required to establish healthy, viable planting:
 Maintenance Period: 1 year from date of substantial completion.

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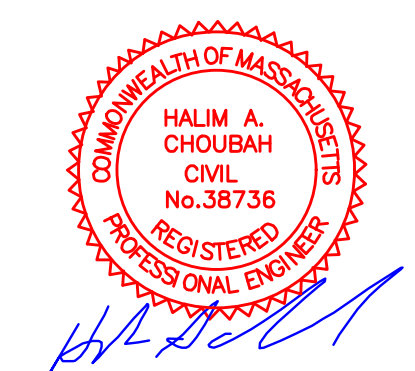
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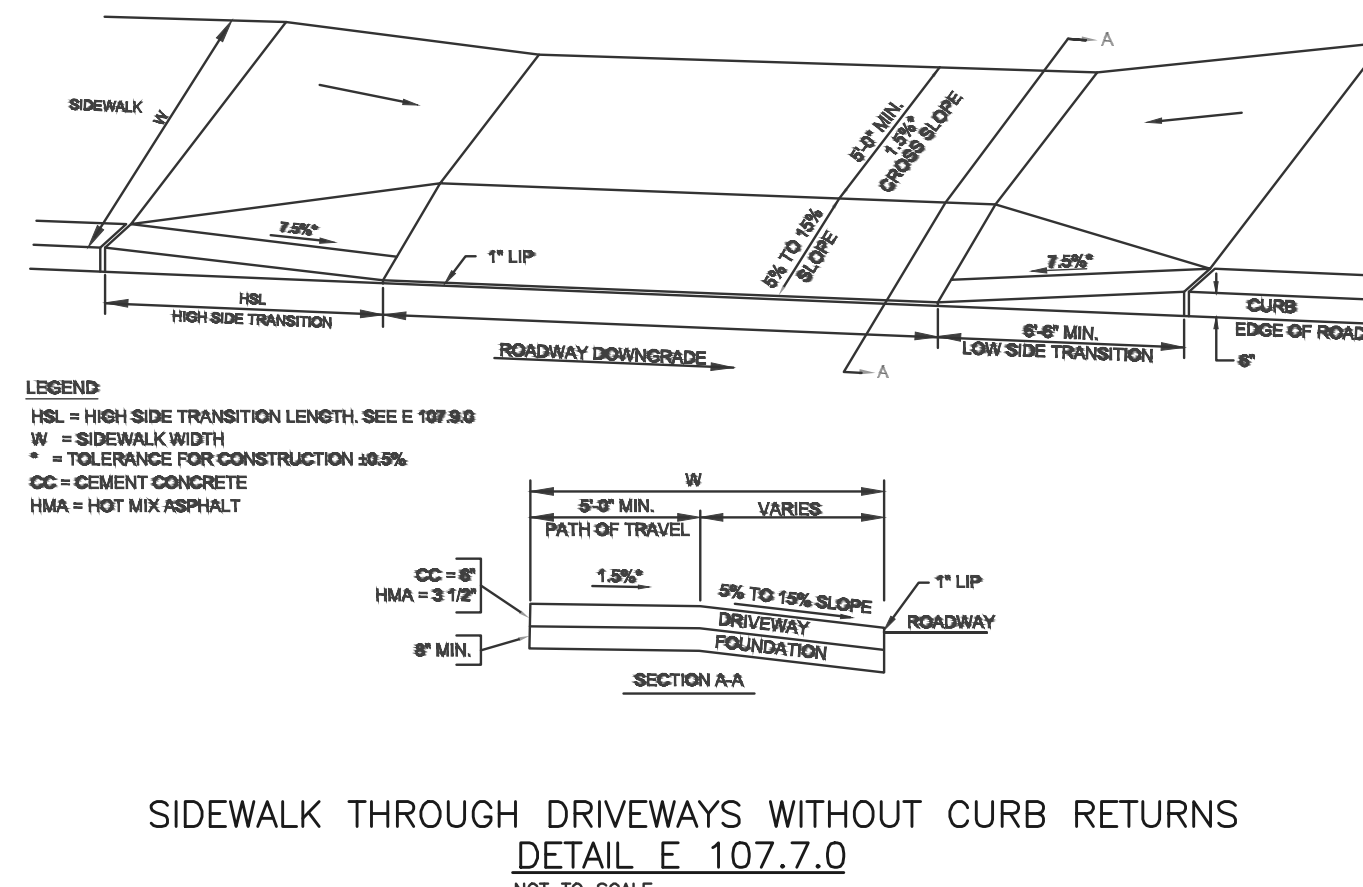
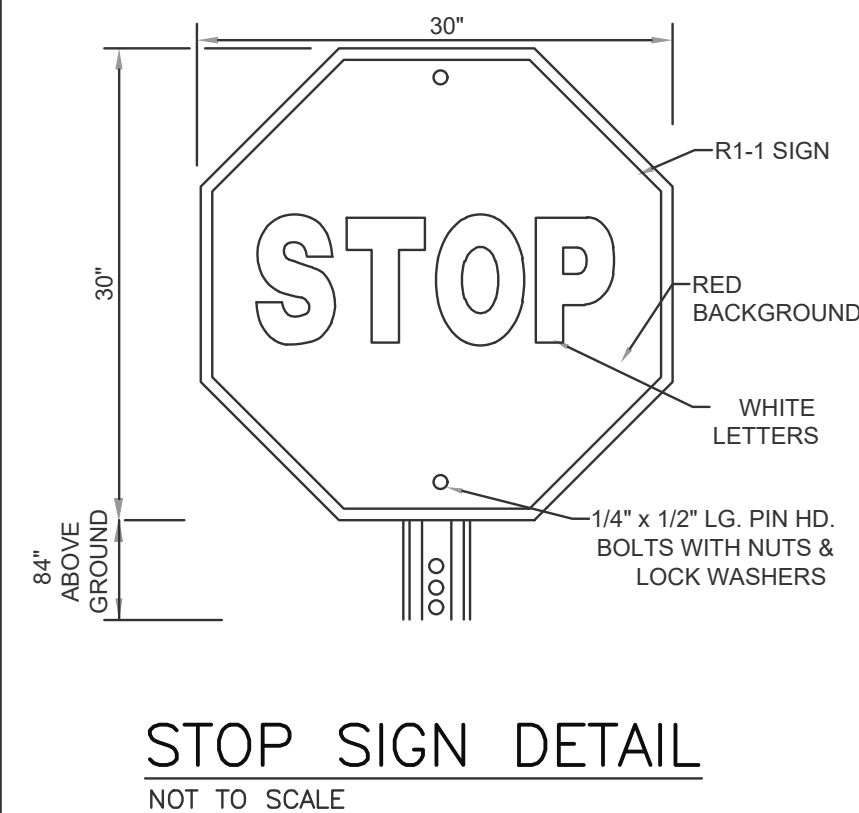
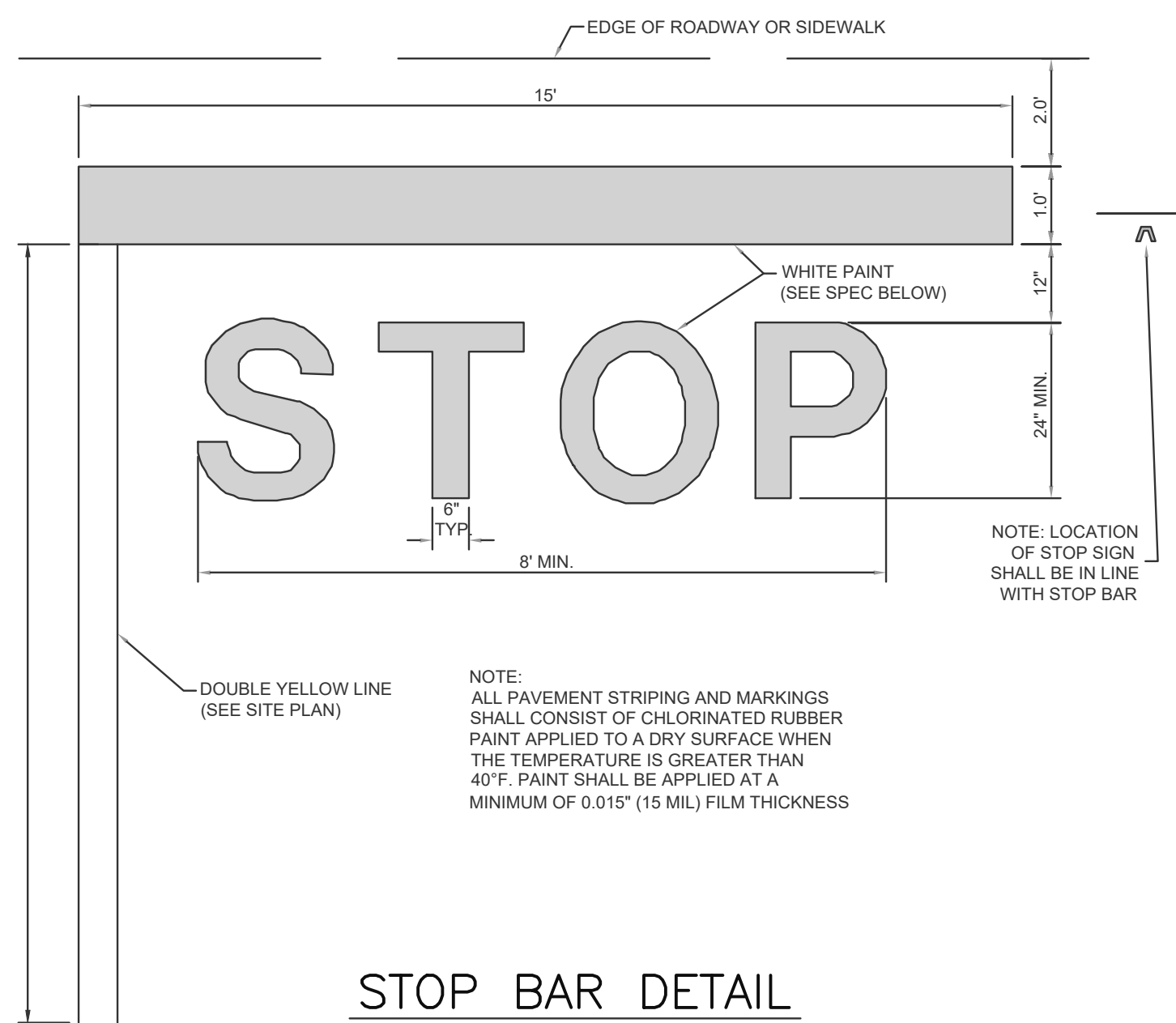
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Sheet Title:
 LANDSCAPE LAYOUT
 &
 FIRE APPARATUS ACCESS
 PLAN

**SITE PLAN REVIEW/
 SPECIAL PERMIT SET**

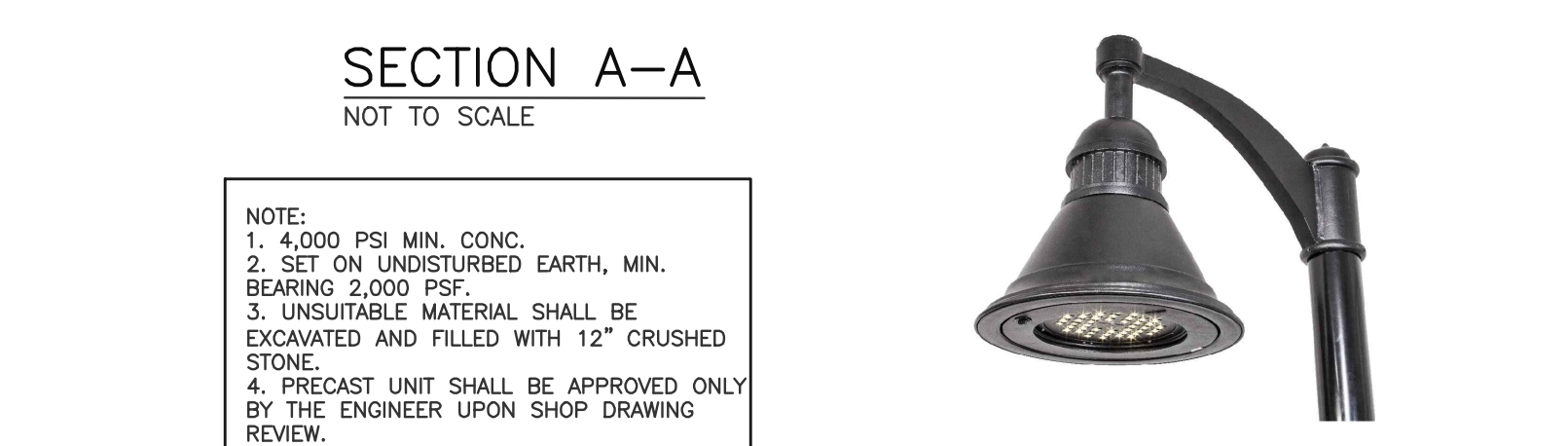
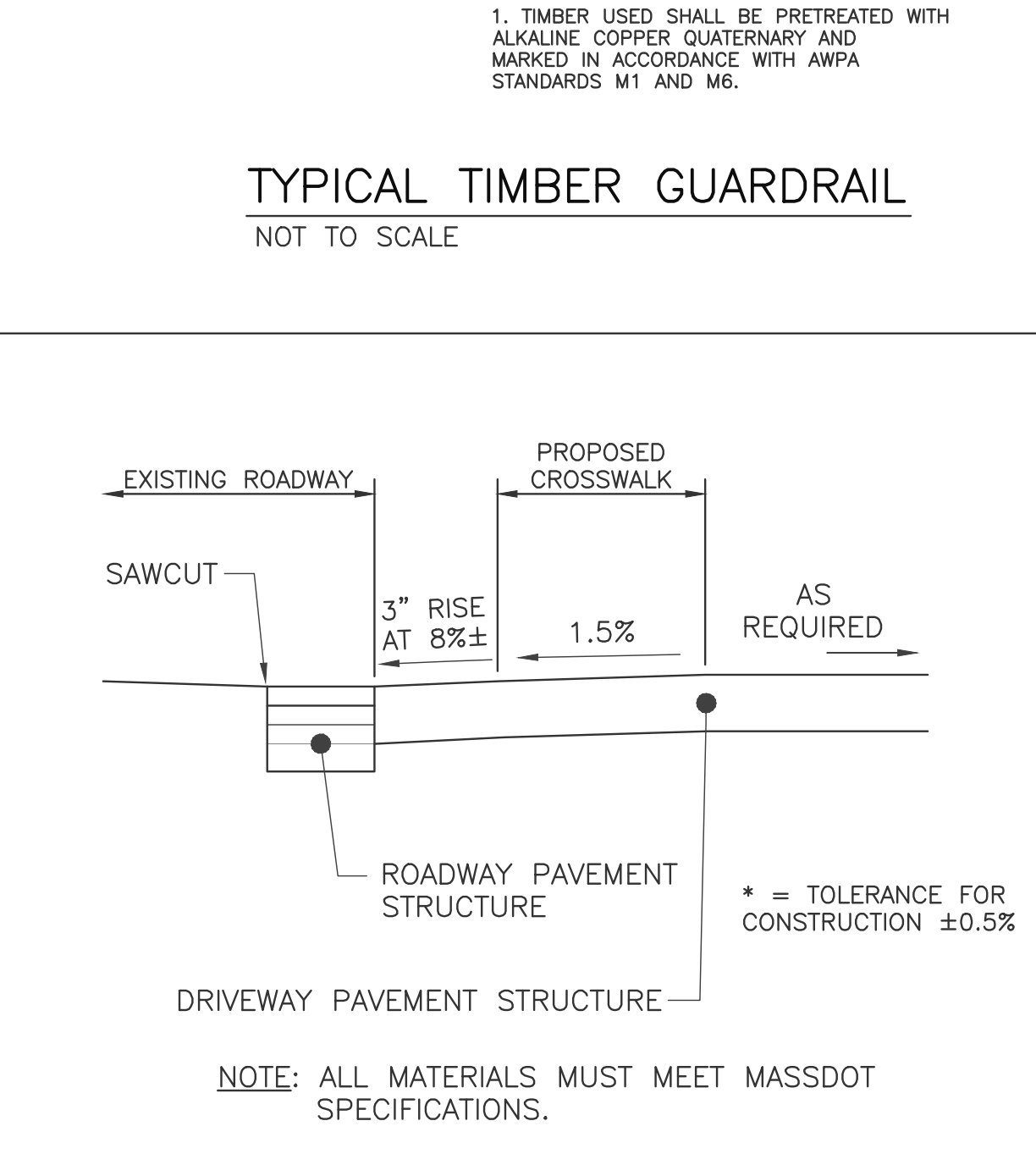
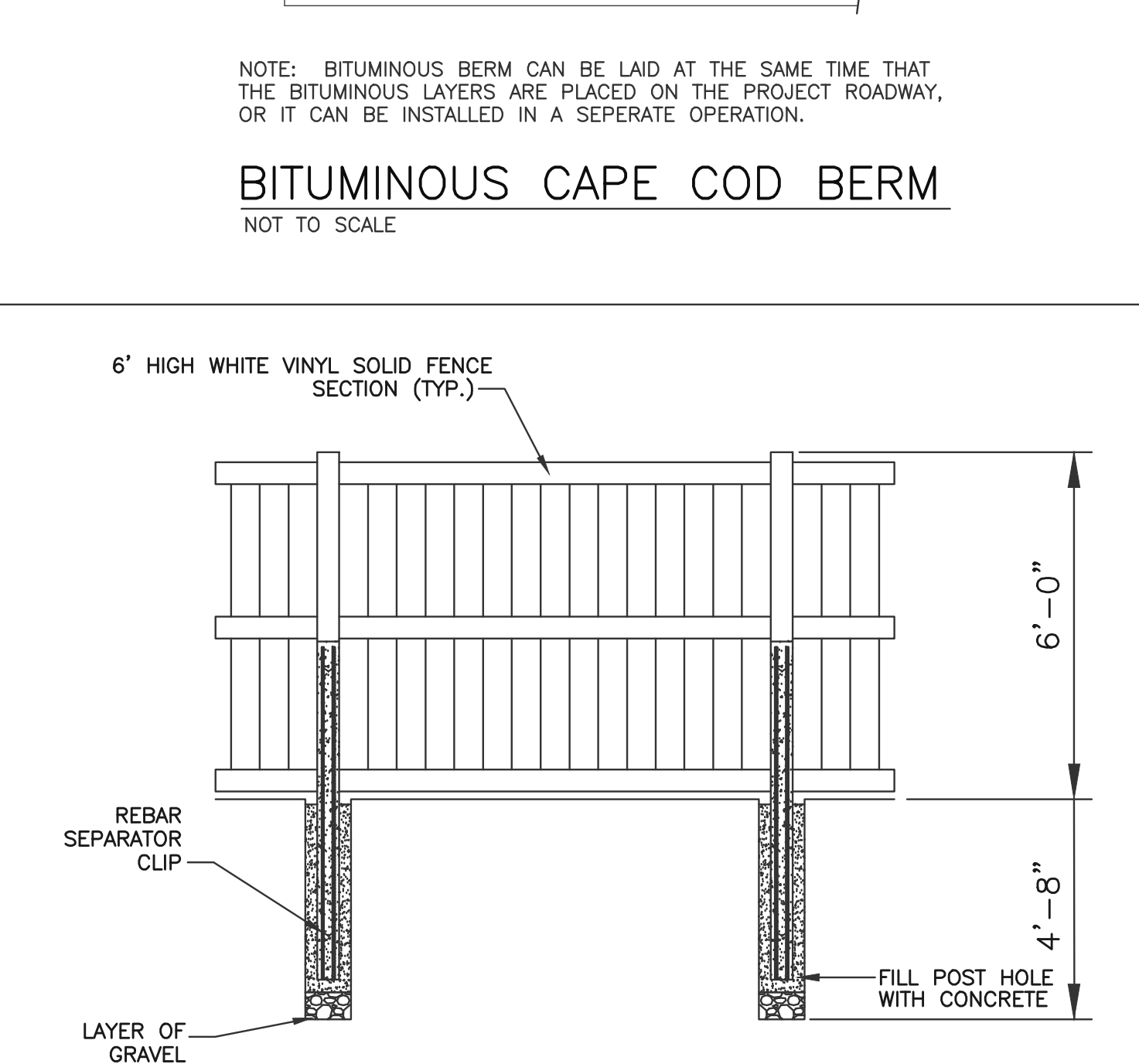
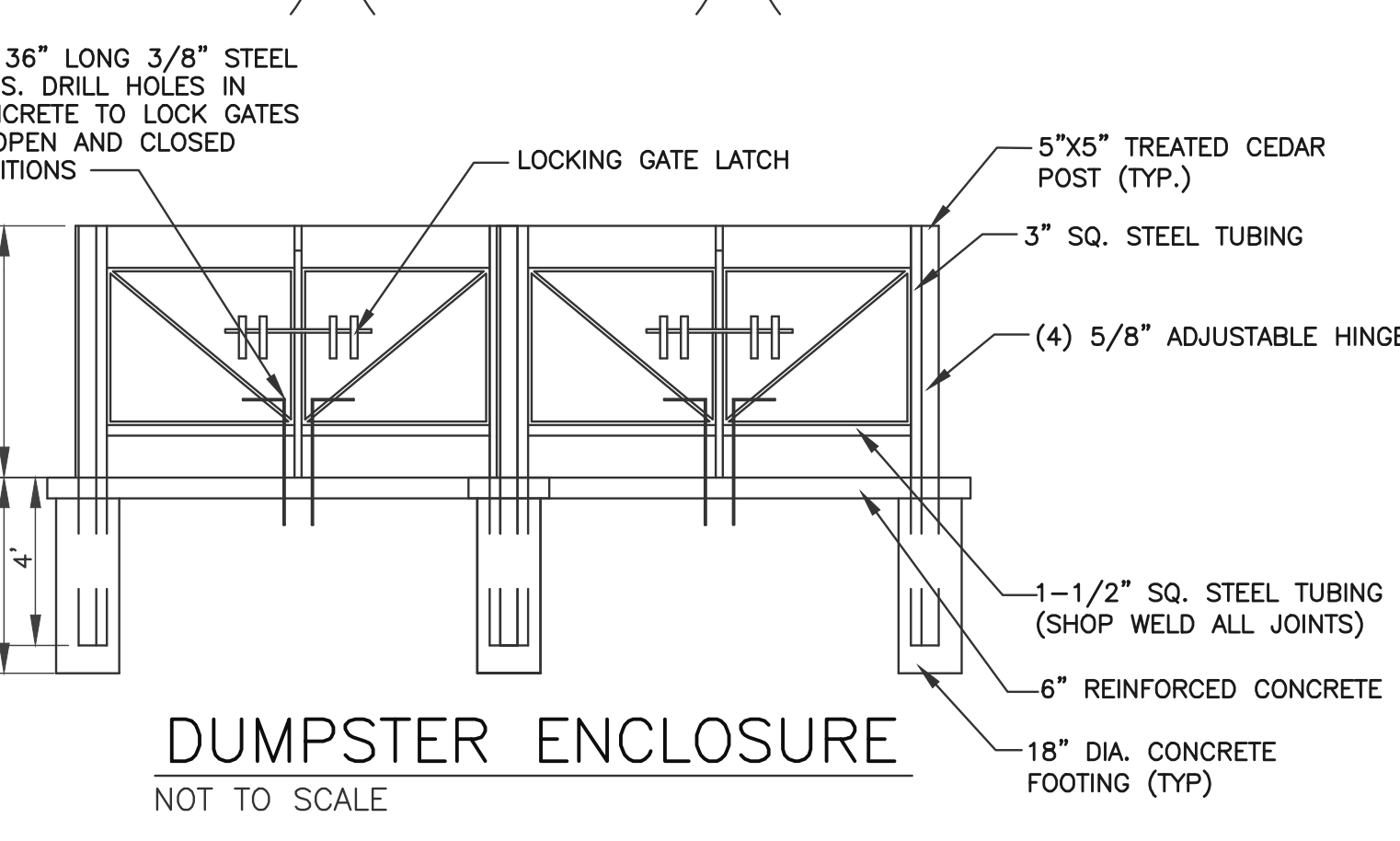
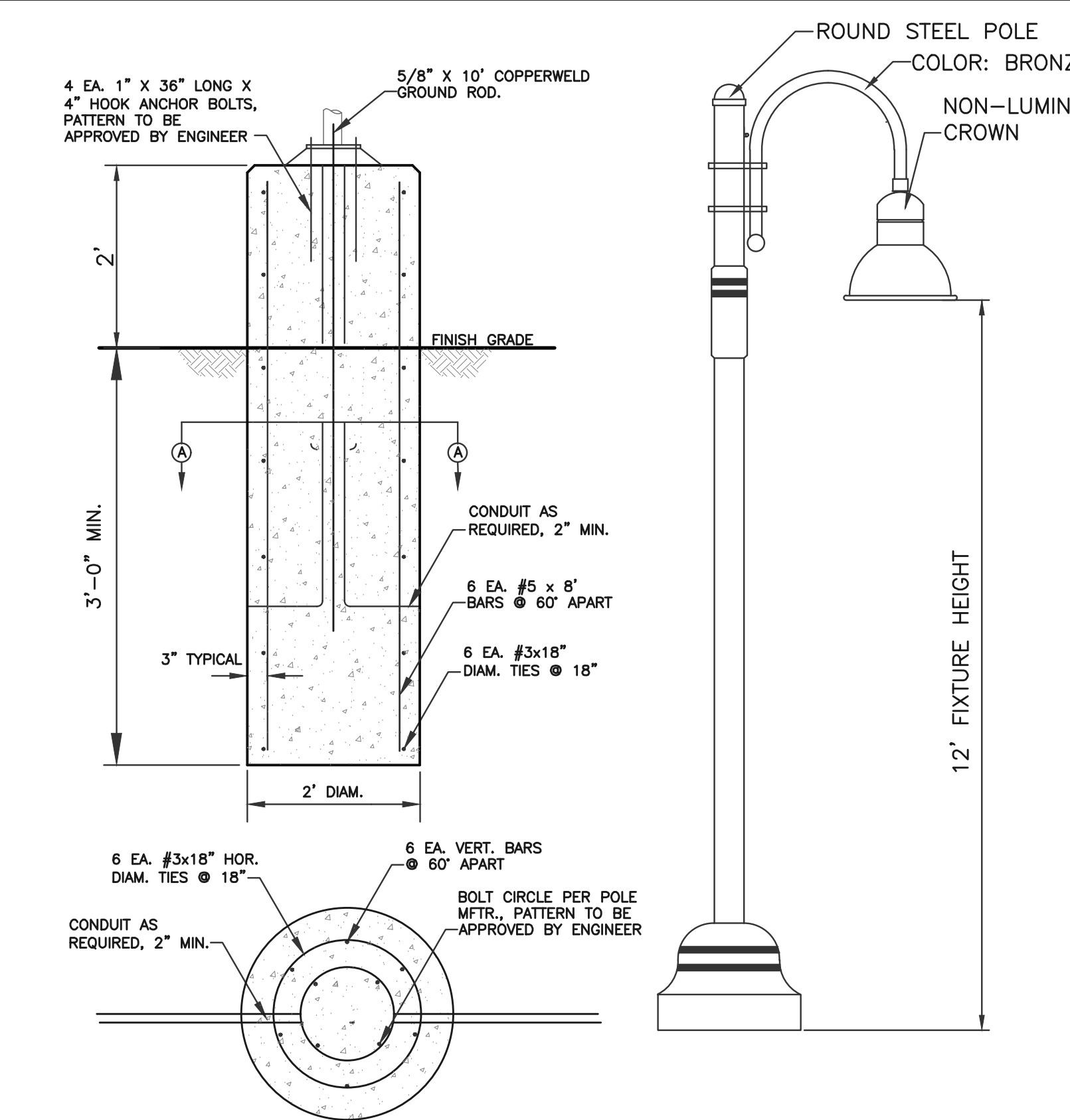
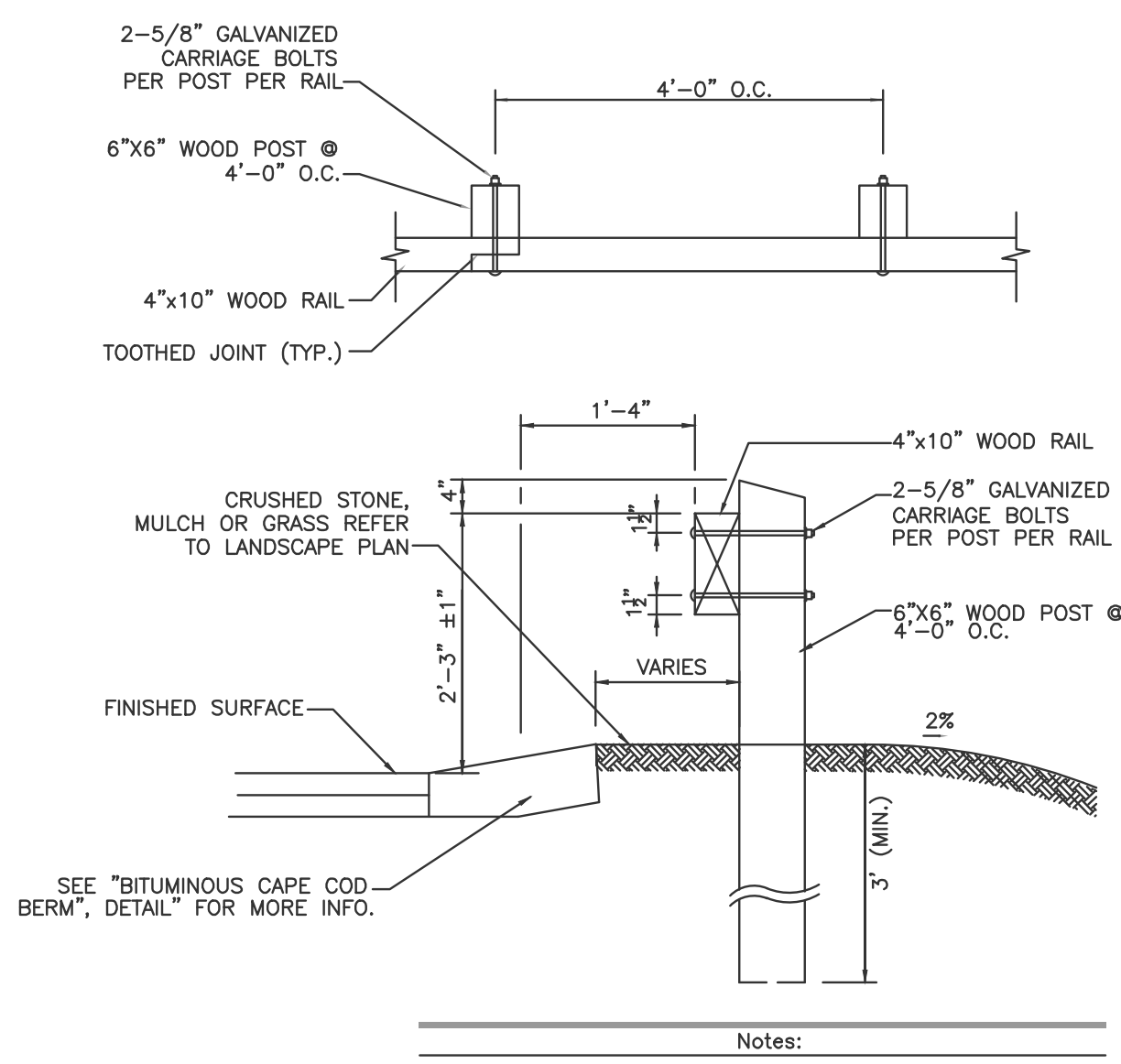
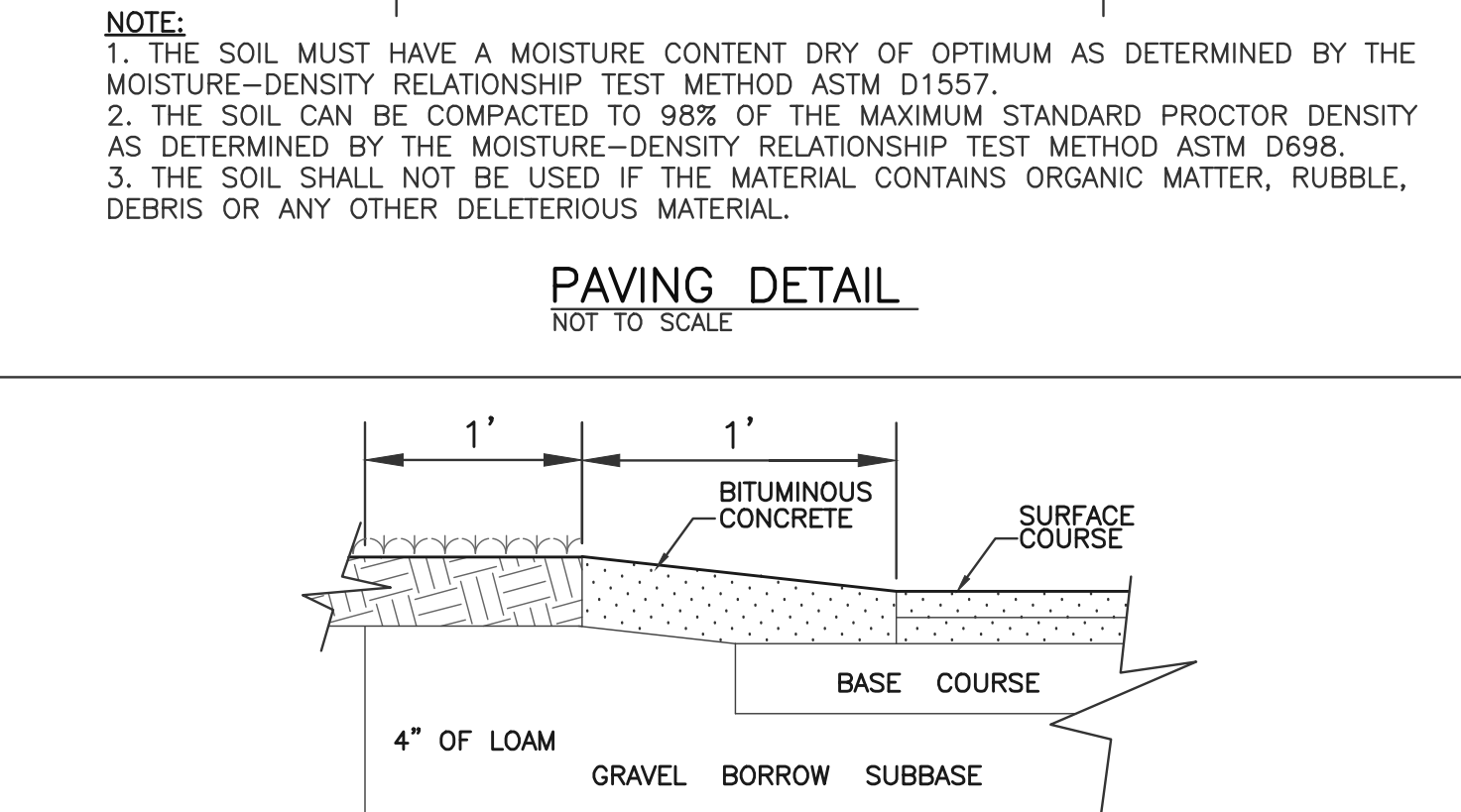
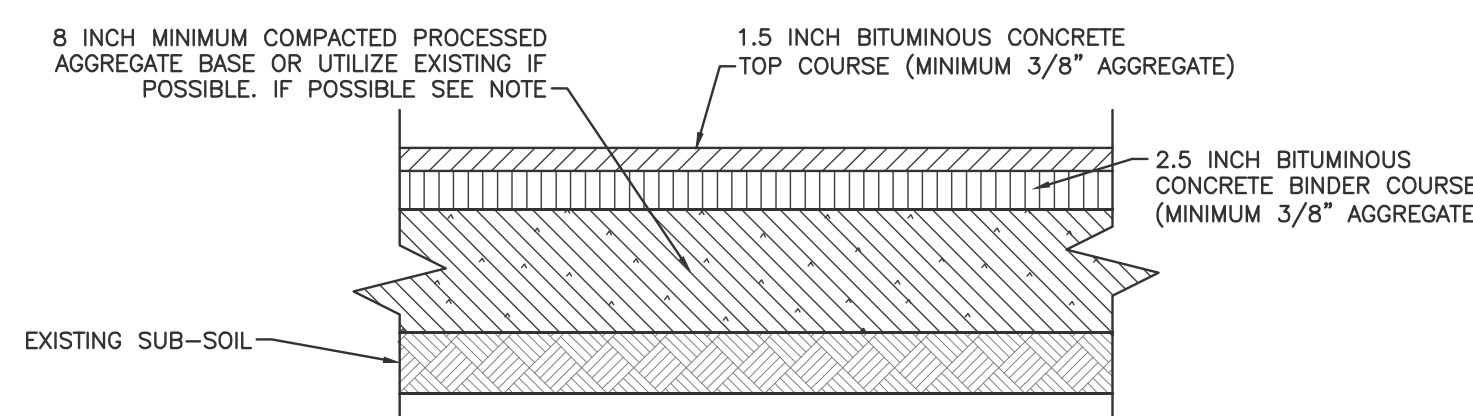
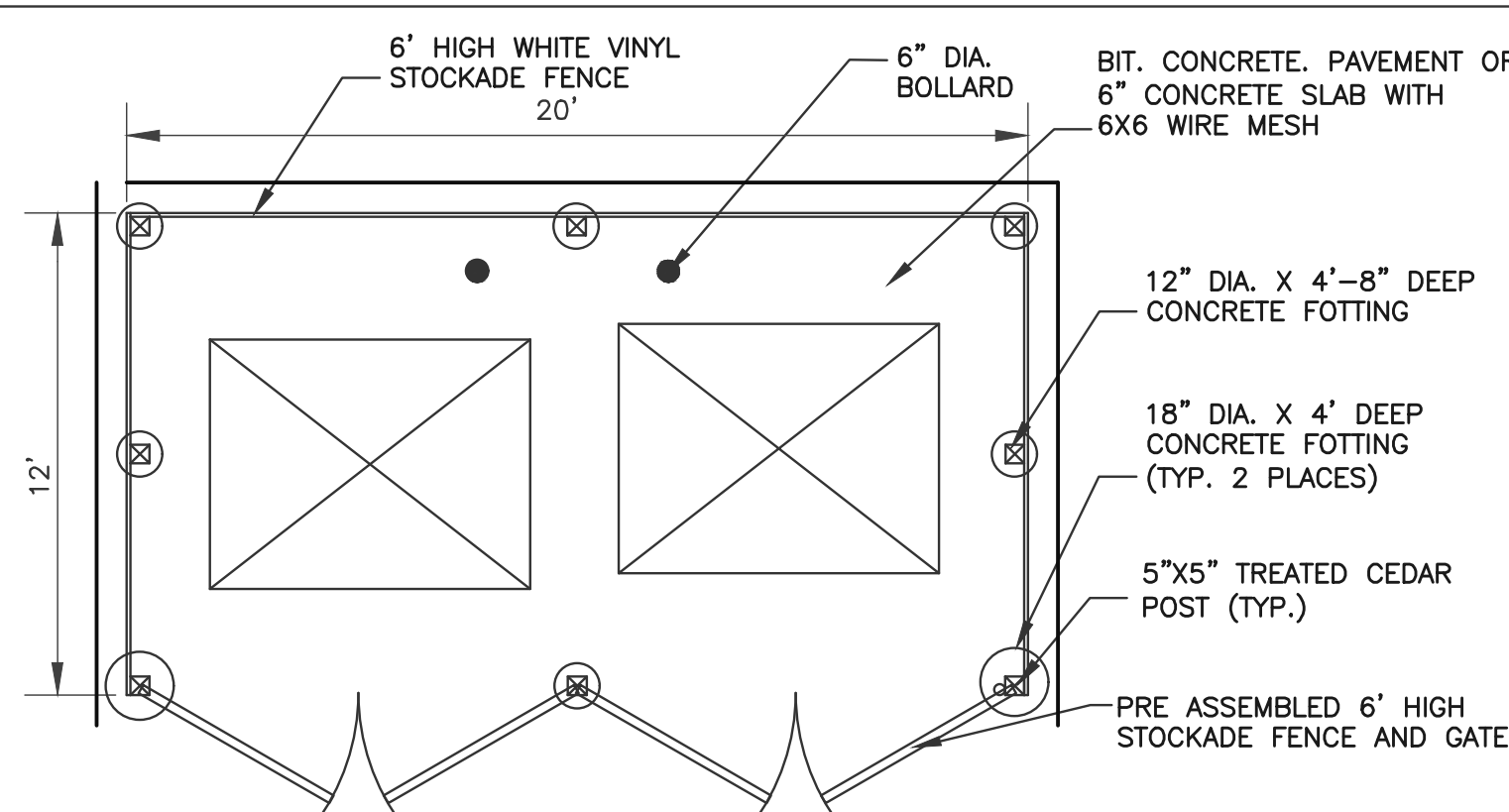
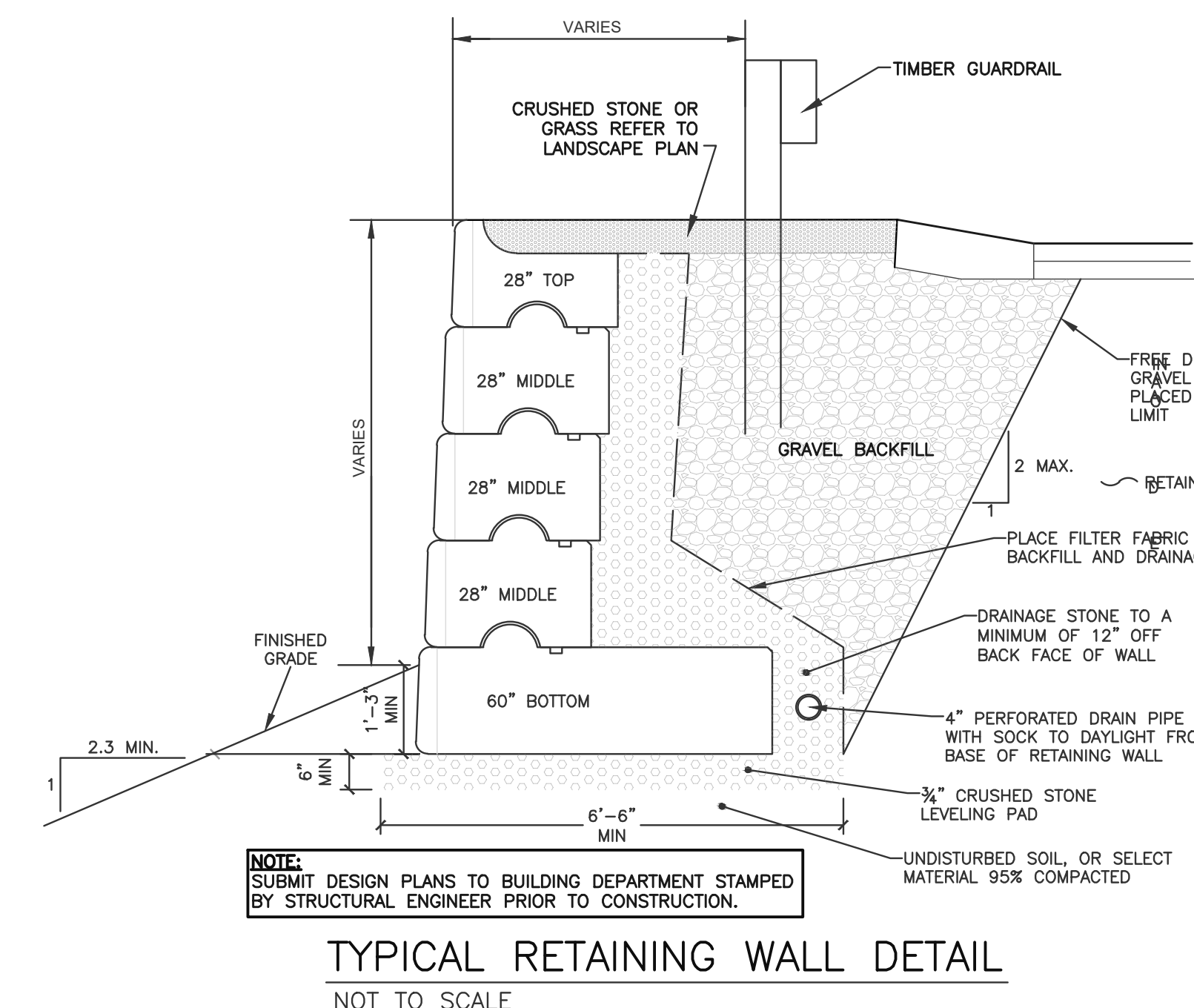




ROADWAY PROFILE GRADE	* HIGH SIDE TRANSITION LENGTH
%	ENGLISH UNITS
≤0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" Max

NOTE:
* BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS
NOT TO SCALE



NOTE:
1. 4,000 PSI MIN. CONC.
2. SET ON UNDISTURBED EARTH, MIN. BEARING 2,000 PSF.
3. UNSUITABLE MATERIAL SHALL BE EXCAVATED AND FILLED WITH 12" CRUSHED STONE.
4. PRECAST UNIT SHALL BE APPROVED ONLY BY THE ENGINEER UPON SHOP DRAWING REVIEW.

ODEN SERIES LIGHT POLE DETAILS
NOT TO SCALE

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561 THOMAS B LANDRS RD
FALMOUTH, MA 02536

Project:
PROPOSED 24 UNITS
RESIDENTIAL
DEVELOPMENT
AT 340 MAIN STREET (REAR),
BOURNE, MA 02532

Issue Date: 04/28/2023		Project Number: 22-621	
Revisions			
No.	Date	Description	

Scale: AS SHOWN

Drawn By: C.M.S.

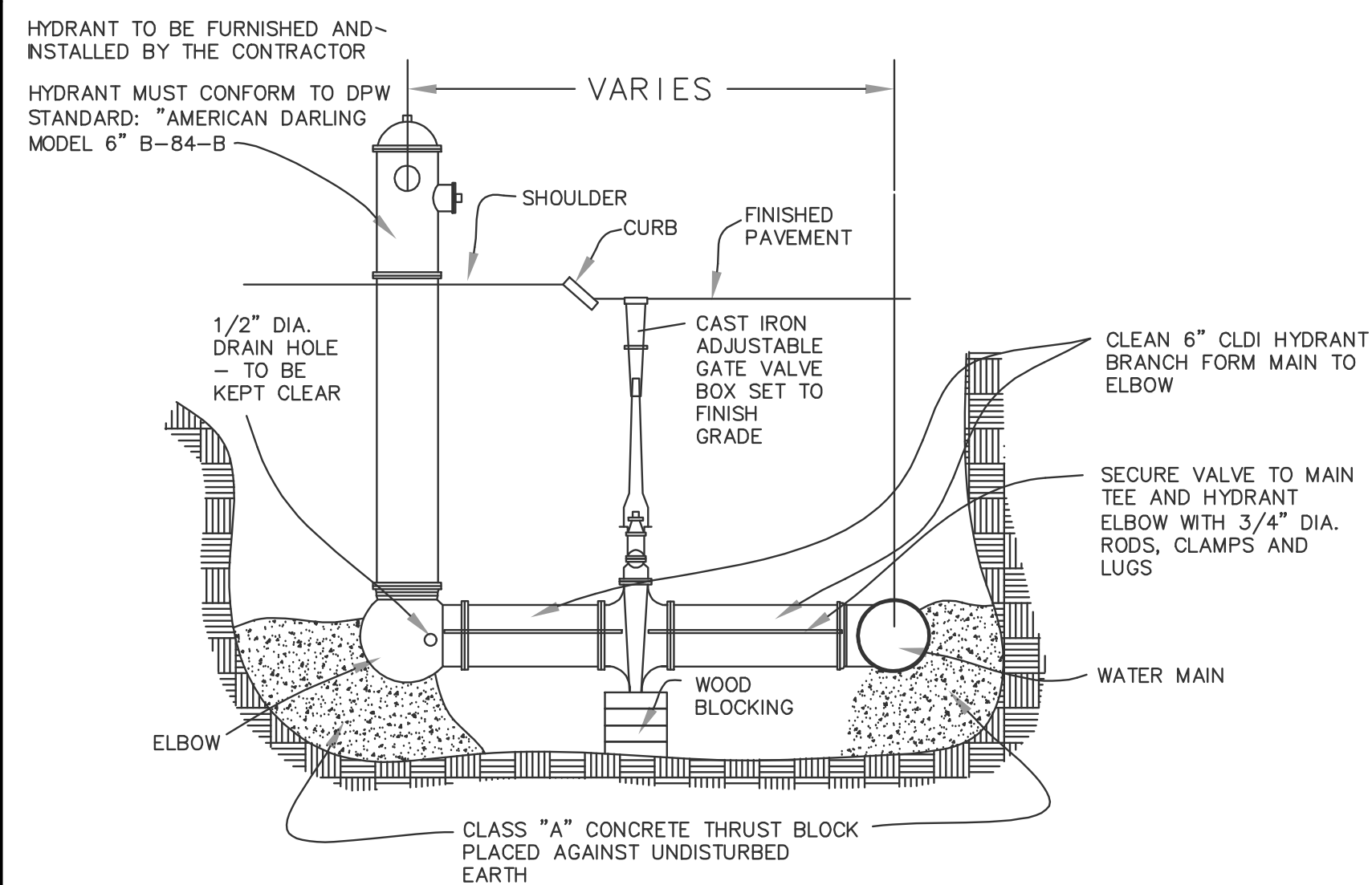
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Sheet Title:
SITE DETAILS #1

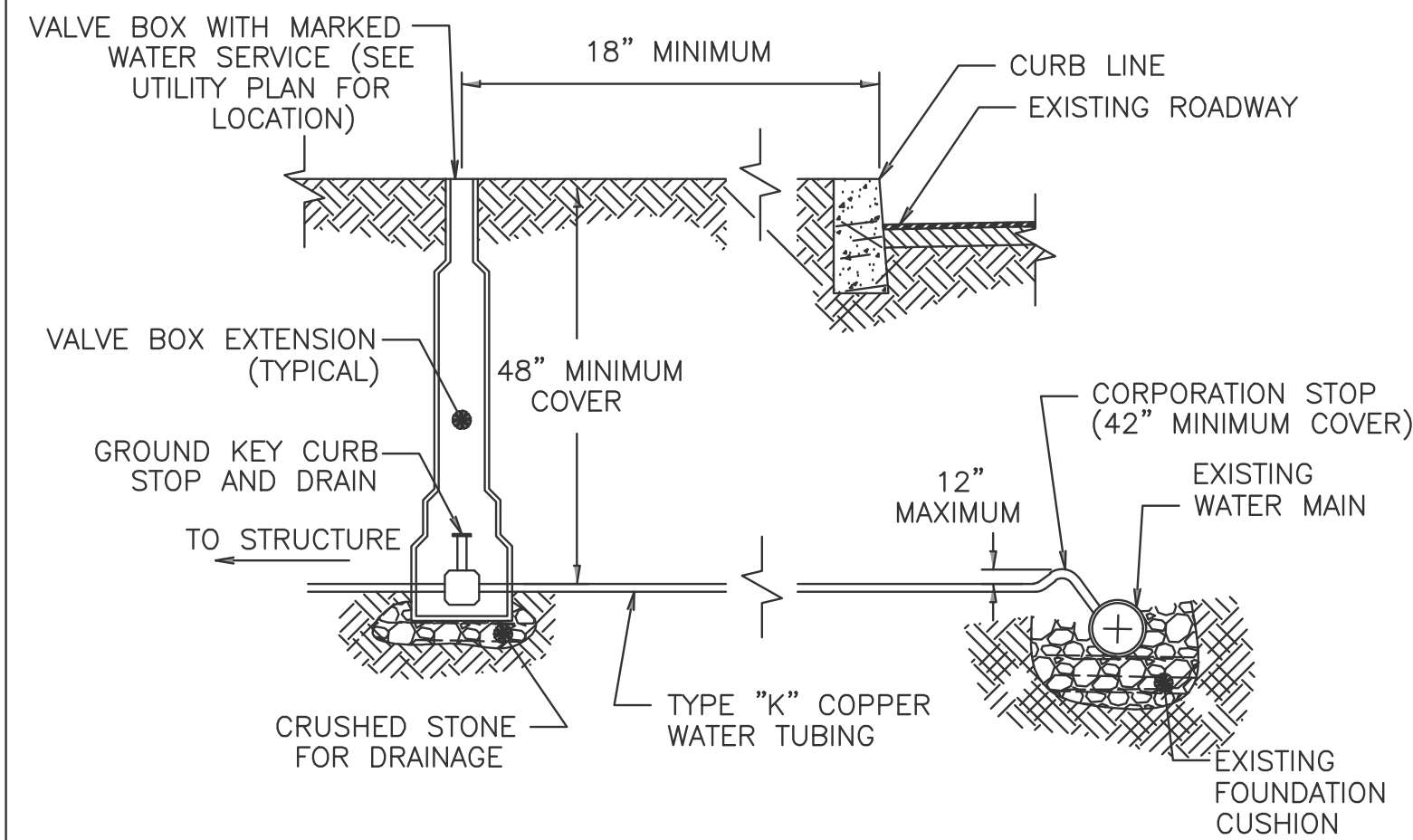
SITE PLAN REVIEW/
SPECIAL PERMIT SET

REGISTERED PROFESSIONAL ENGINEER
HALIM A. CHOUBAH
CIVIL
No. 38736

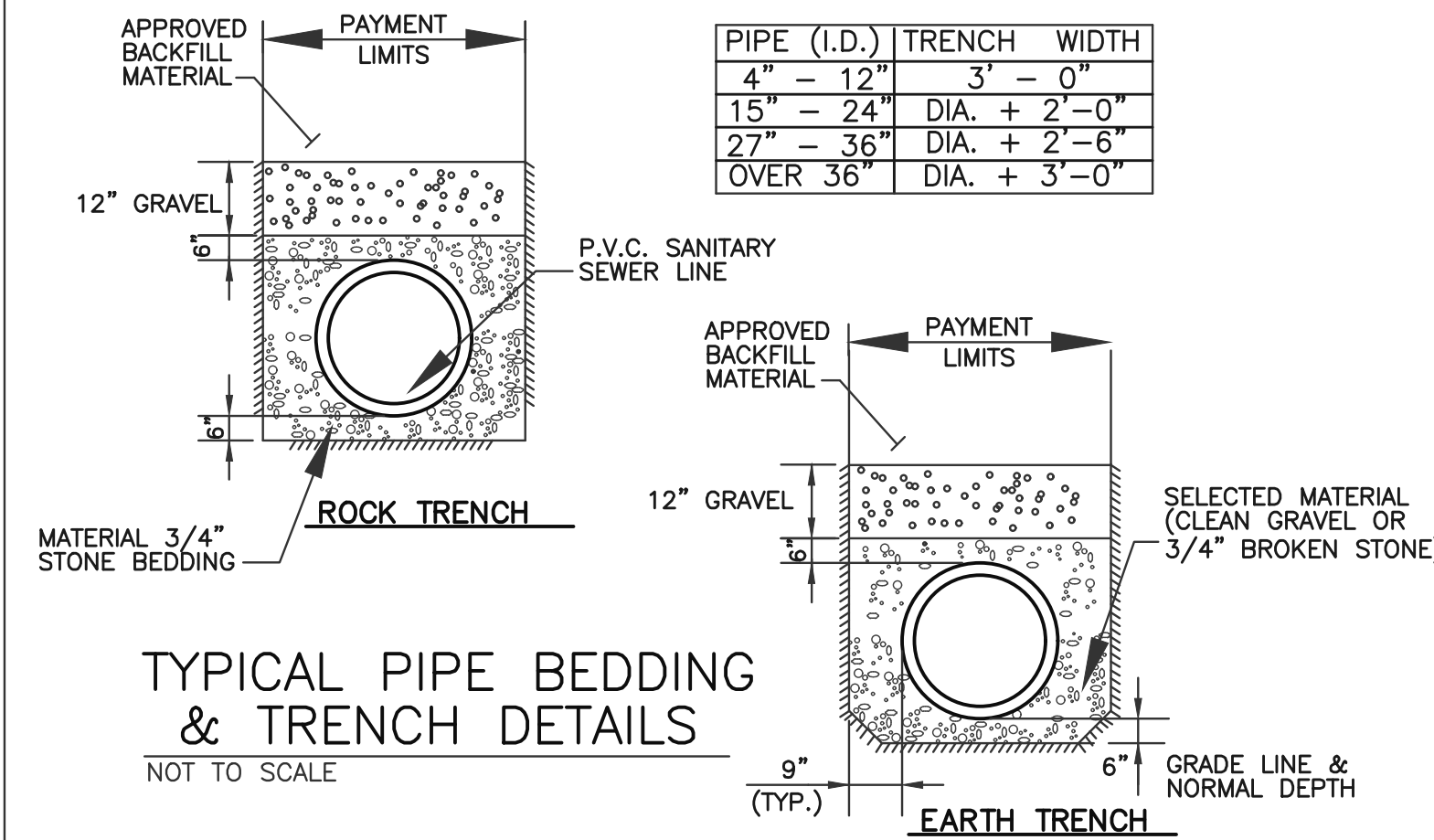
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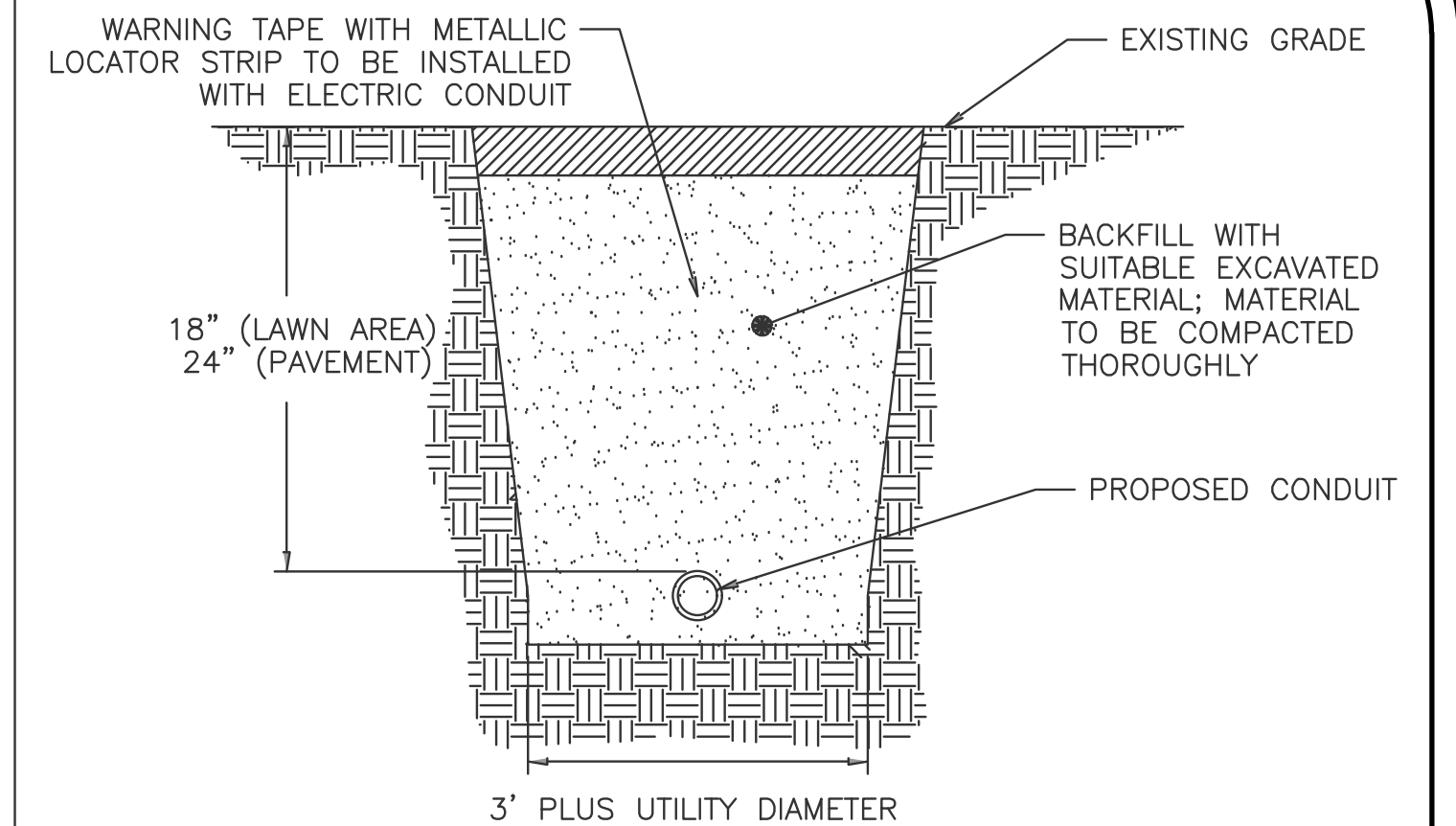
TYPICAL HYDRANT CONNECTION DETAIL
NOT TO SCALE



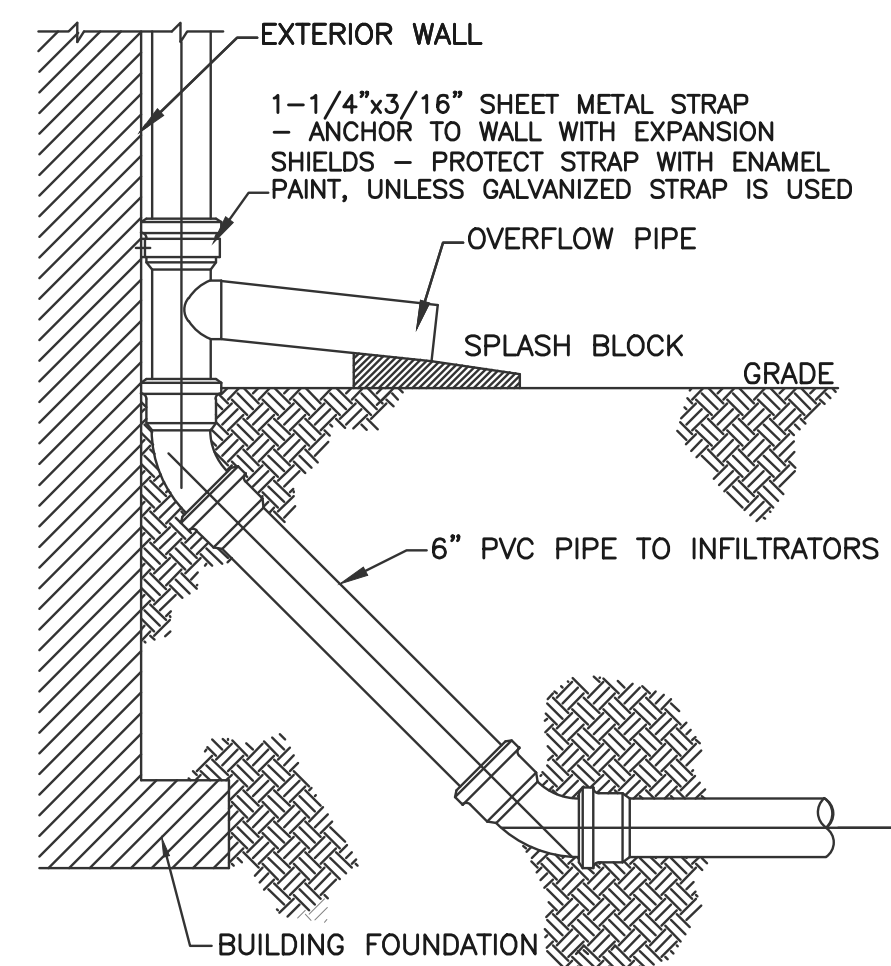
WATER CONNECTION DETAIL
NOT TO SCALE



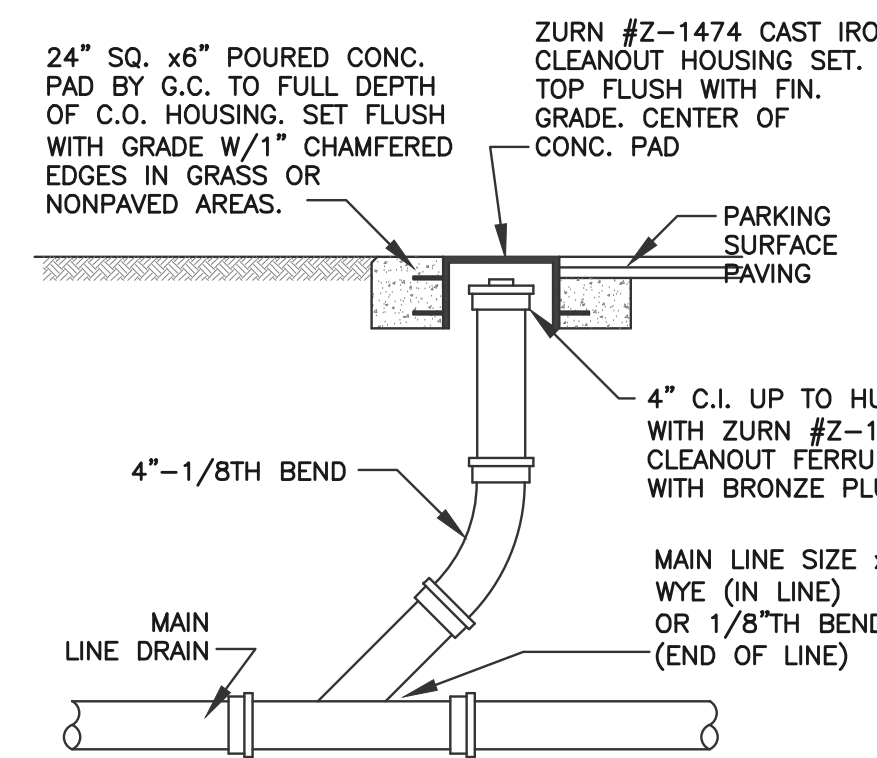
TYPICAL PIPE BEDDING & TRENCH DETAILS
NOT TO SCALE



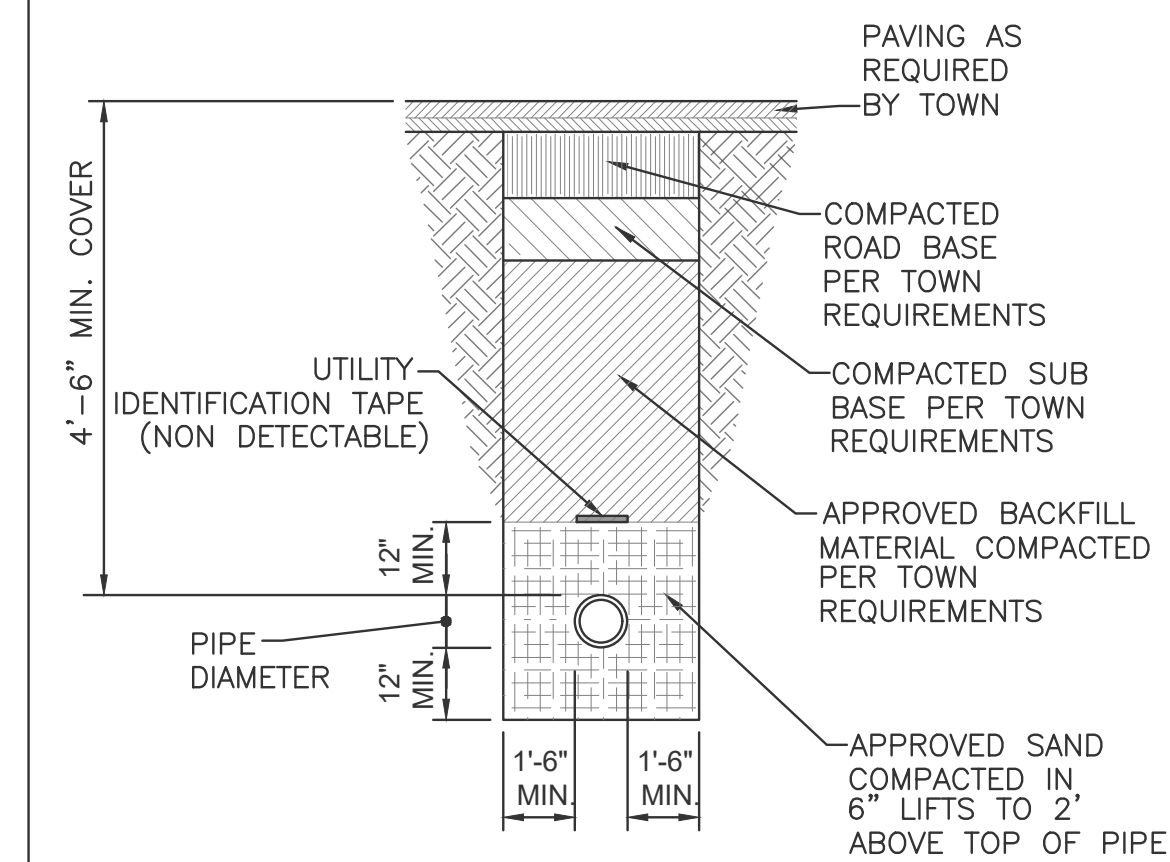
ELECTRICAL CONDUIT TRENCH DETAIL
NOT TO SCALE



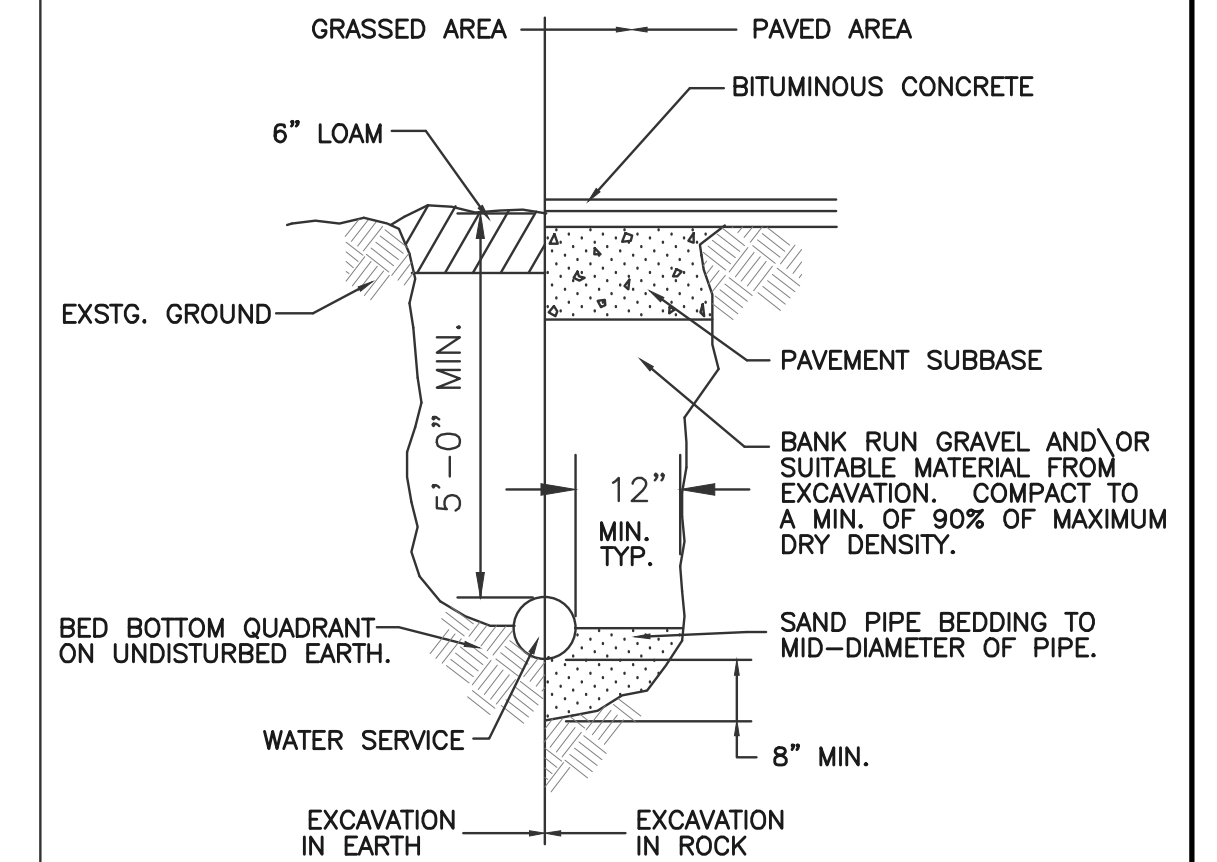
TYPICAL ROOF DRAIN
NOT TO SCALE



GROUND CLEANOUT DETAIL
NOT TO SCALE



UTILITY TRENCH DETAIL
NOT TO SCALE



WATER SERVICE TRENCH DETAIL
NOT TO SCALE

OPTIONS: **DH152** (HARD WIRED LEVEL CONTROLS) **DR152** (WIRELESS LEVEL CONTROLS)

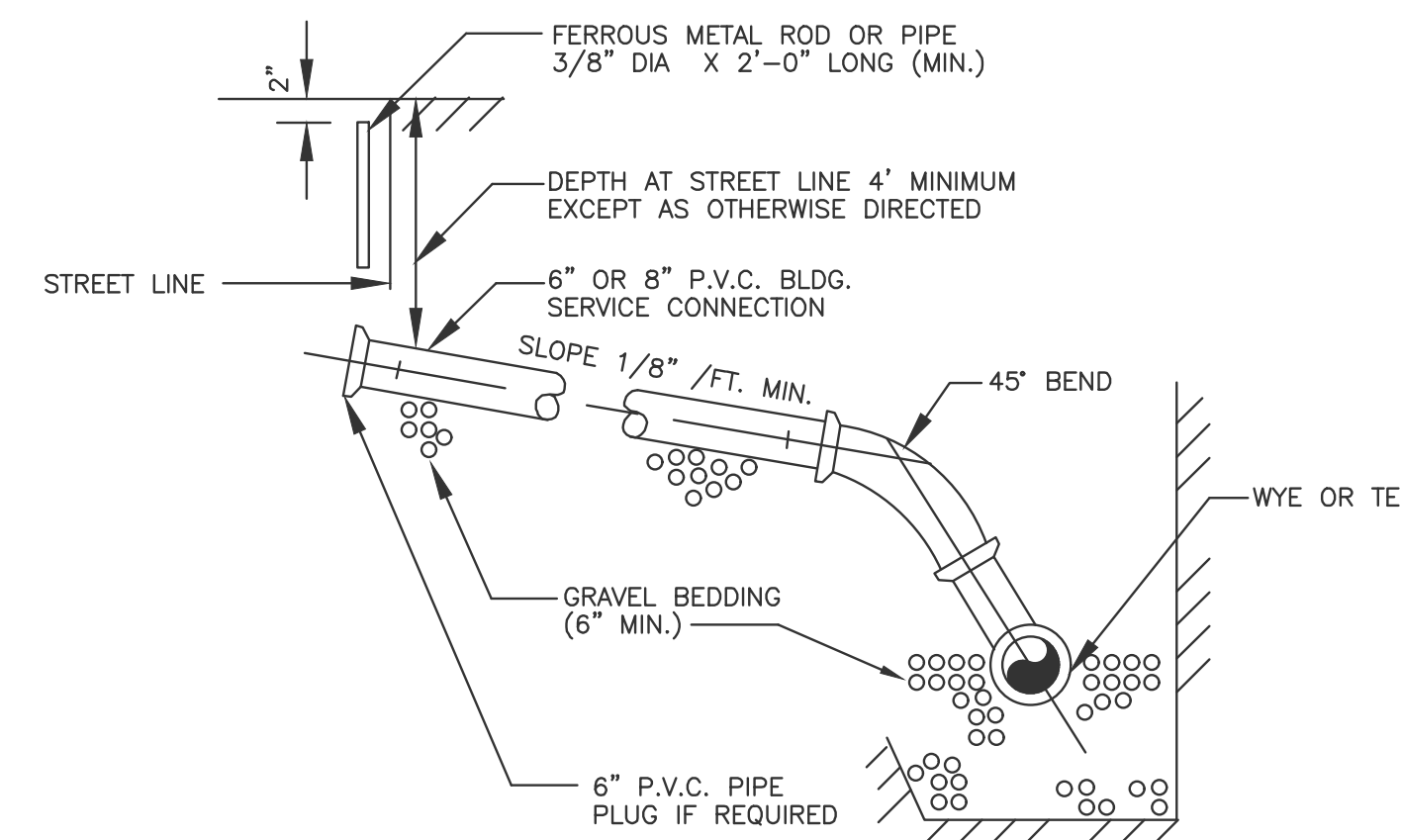
SEMI-POSITIVE DISPLACEMENT TYPE PUMP EACH DIRECTLY DRIVEN BY A 1 HP MOTOR

CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

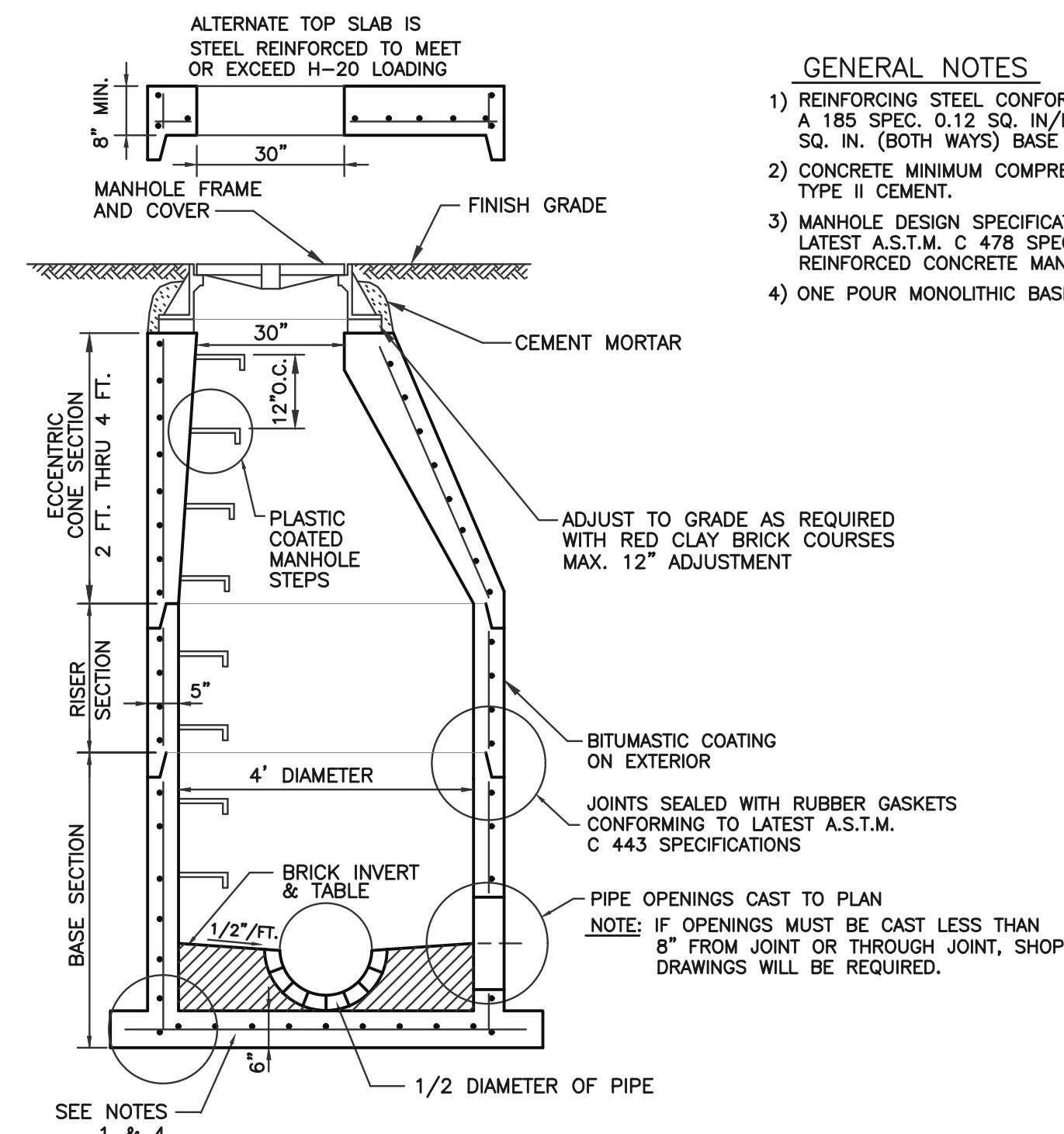
AD	CH	10/20/10	D	
DR BY	CHK'D	DATE	ISSUE	SCALE

eone
SEWER SYSTEMS
MODEL DH152 / DR152
DETAIL SHEET
NA0052P02



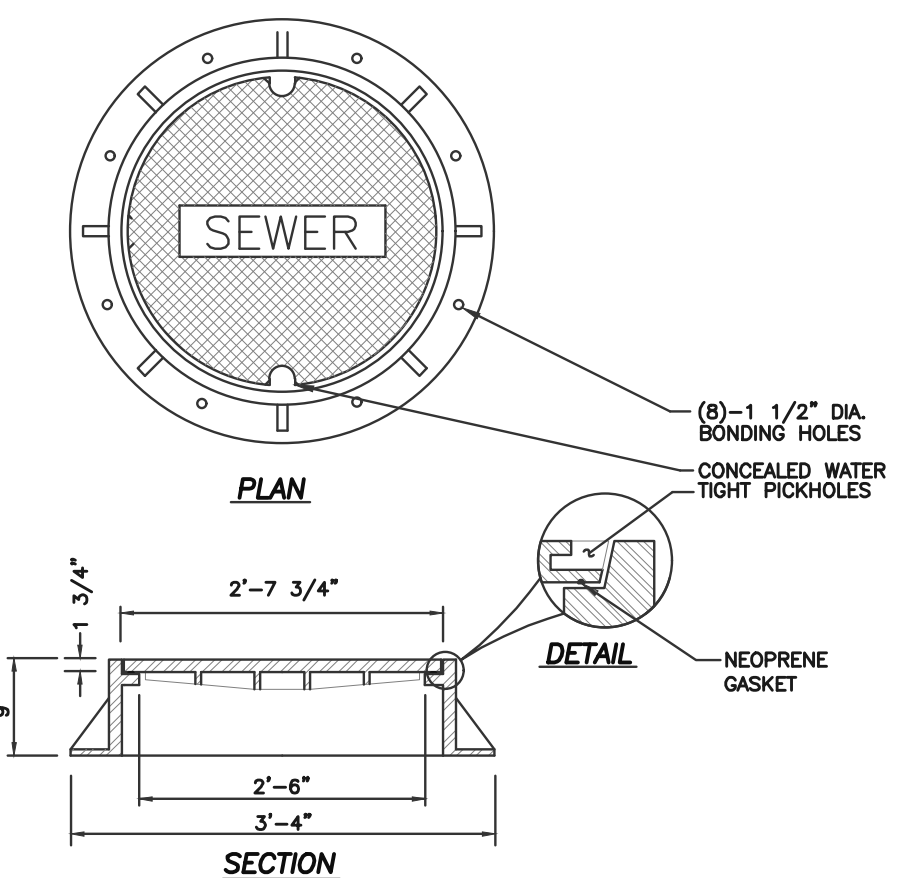
NOTE:
LINE MARKER SHALL BE INSTALLED 2 FEET ABOVE BLDG. SERVICE CONNECTIONS FROM WYE TO PROPERTY LINE. THE LINE MARKER SHALL BE A STANDARD PERMANENT DETECTION TAPE, CONTINUOUS-PRINTED POLYETHYLENE TAPE WITH A METALLIC CORE FOR EASY DETECTION. INTENDED FOR DIRECT BURIAL SERVICE; 6" WIDE X 4 MILS THICK. TAPE SHALL BE GREEN WITH BLACK LETTERING "CAUTION SEWER LINE BURIED BELOW" AS MANUFACTURED BY SETON OR EQUAL.

SEWER SERVICE CONNECTION DETAIL
NOT TO SCALE



GENERAL NOTES

- 1) REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM
- 2) CONCRETE MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE II CEMENT.
- 3) MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
- 4) ONE POUR MONOLITHIC BASE SECTION.



SANITARY SEWER MANHOLE FRAME AND COVER
NOT TO SCALE

- NOTES:**
1. MANHOLE COVER TO BE SOLID AND WATER-TIGHT WITH NO VENT HOLES.
 2. THE LOWER SURFACE OF THE COVER AND THE CORRESPONDING UPPER SURFACE OF THE FRAME SHALL BE MACHINE FINISHED TO PROVIDE SMOOTH FLAT CONTACT OR FIT WITHOUT ANY TENDENCY FOR THE COVER TO ROCK OR RATTLE.
- PRECAST MANHOLE - 4' DIA.**
NOT TO SCALE

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Revisions

Scale: AS SHOWN

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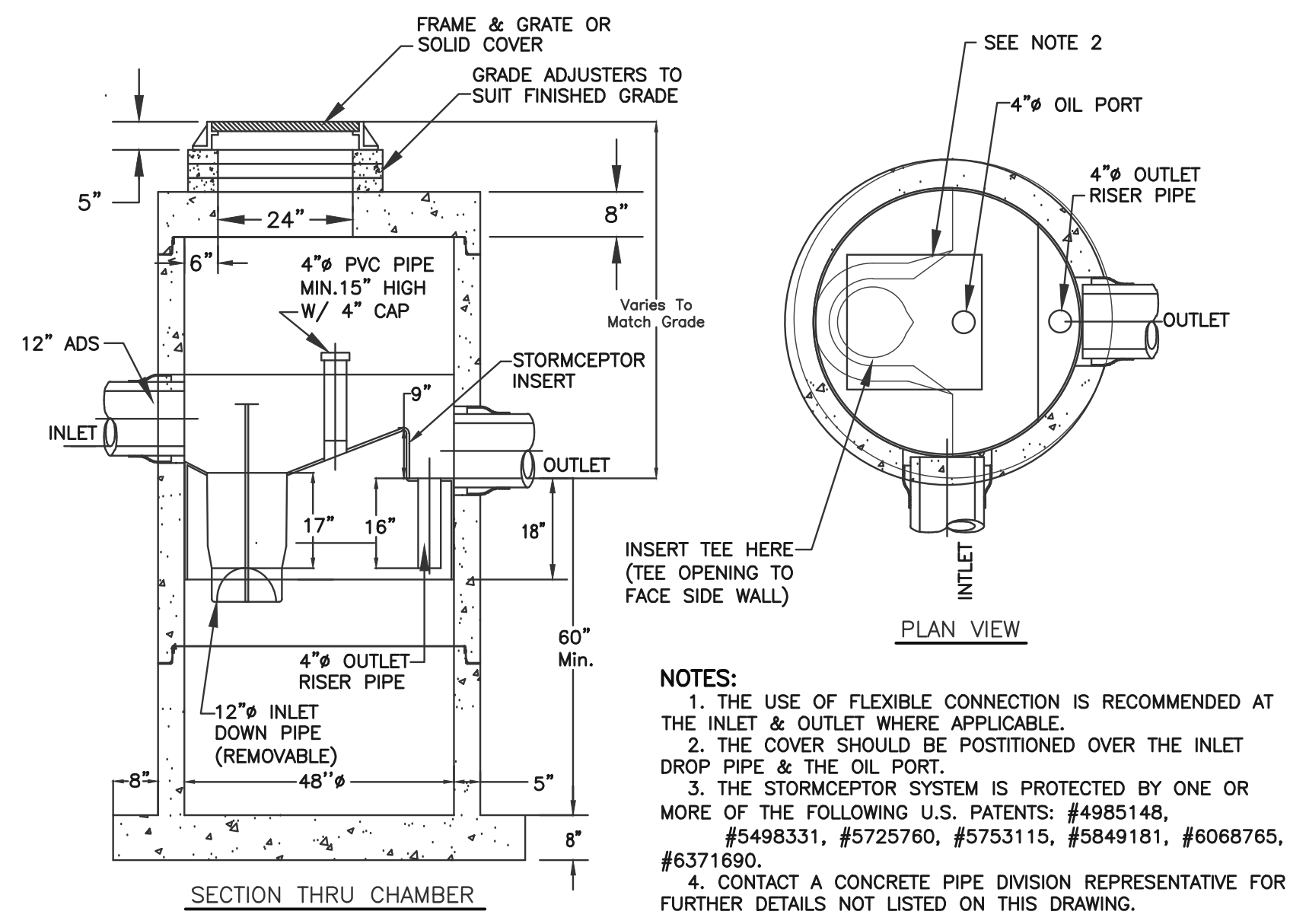
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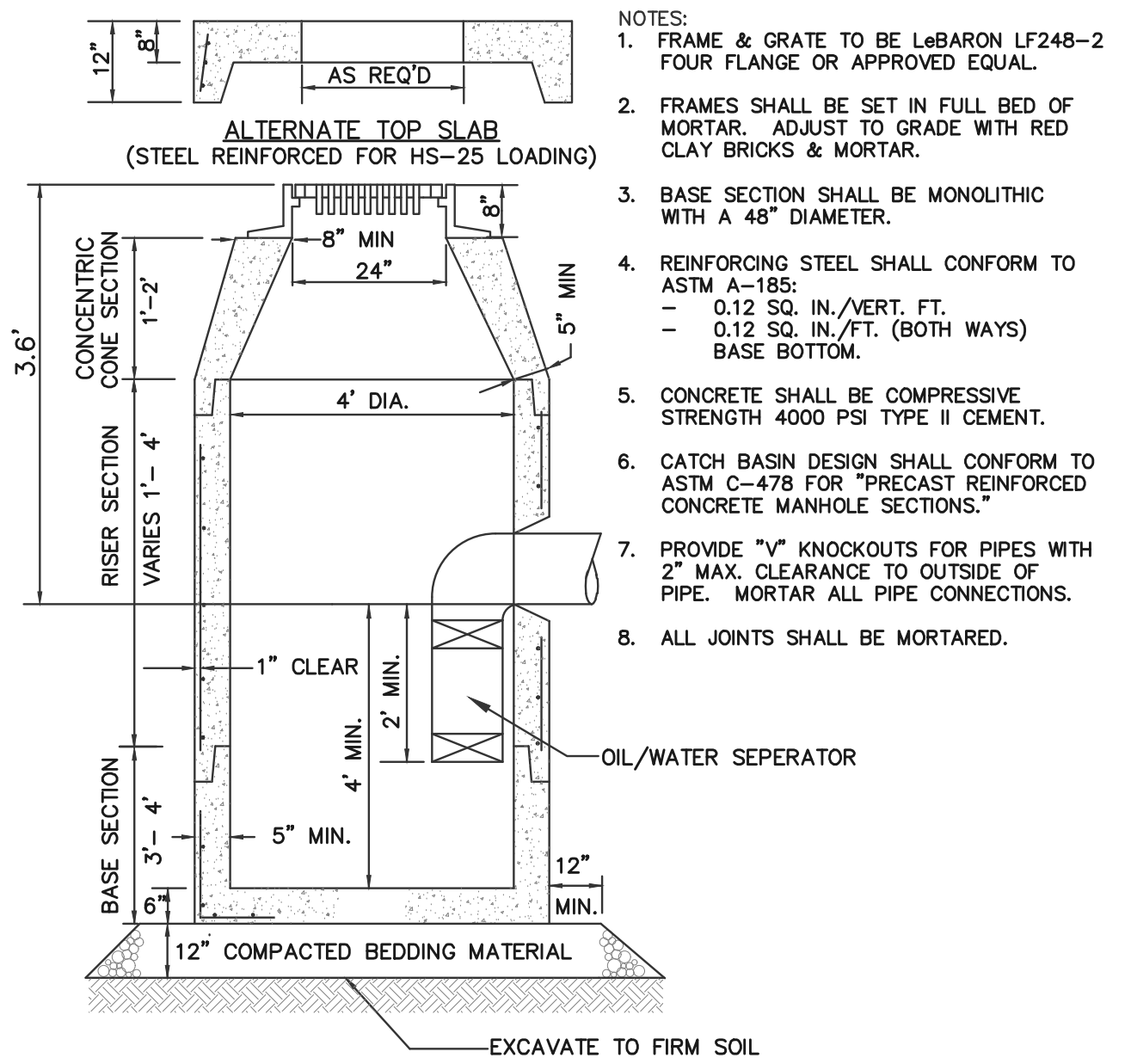
SITE DETAILS #2

**SITE PLAN REVIEW/
SPECIAL PERMIT SET**

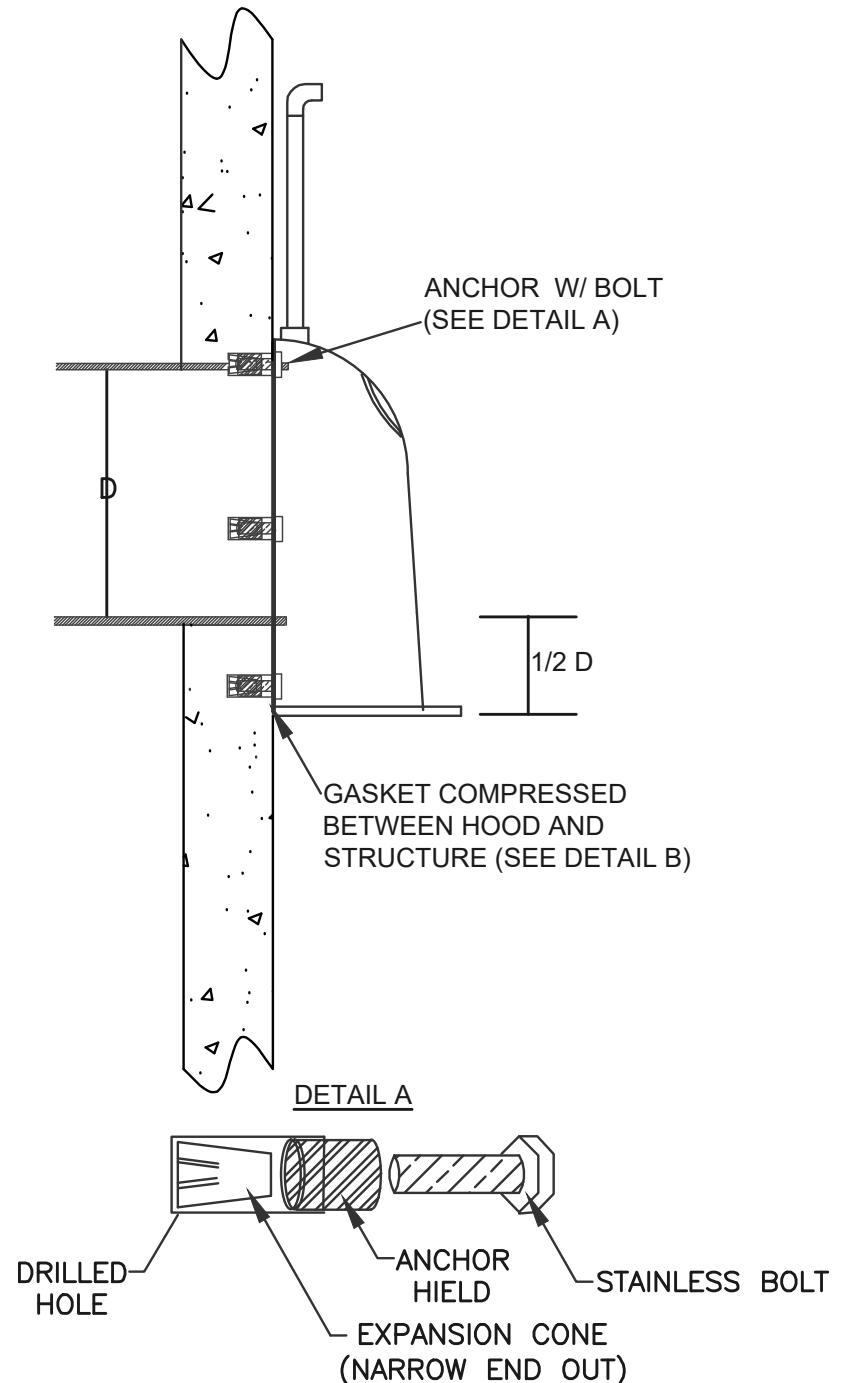




STC 450i PRECAST CONCRETE STORMCEPTOR (EXTENDED OIL SYSTEM)
NOT TO SCALE

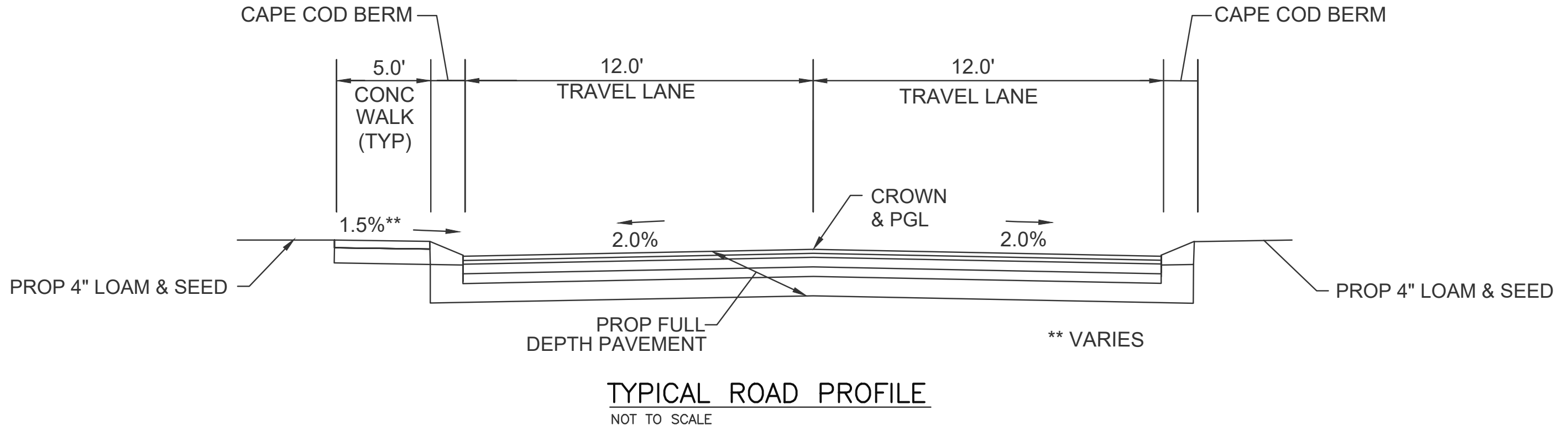


PRECAST 4' DIA. DEEP SUMP WITH OIL/WATER SEPARATOR CATCH BASIN
NOT TO SCALE

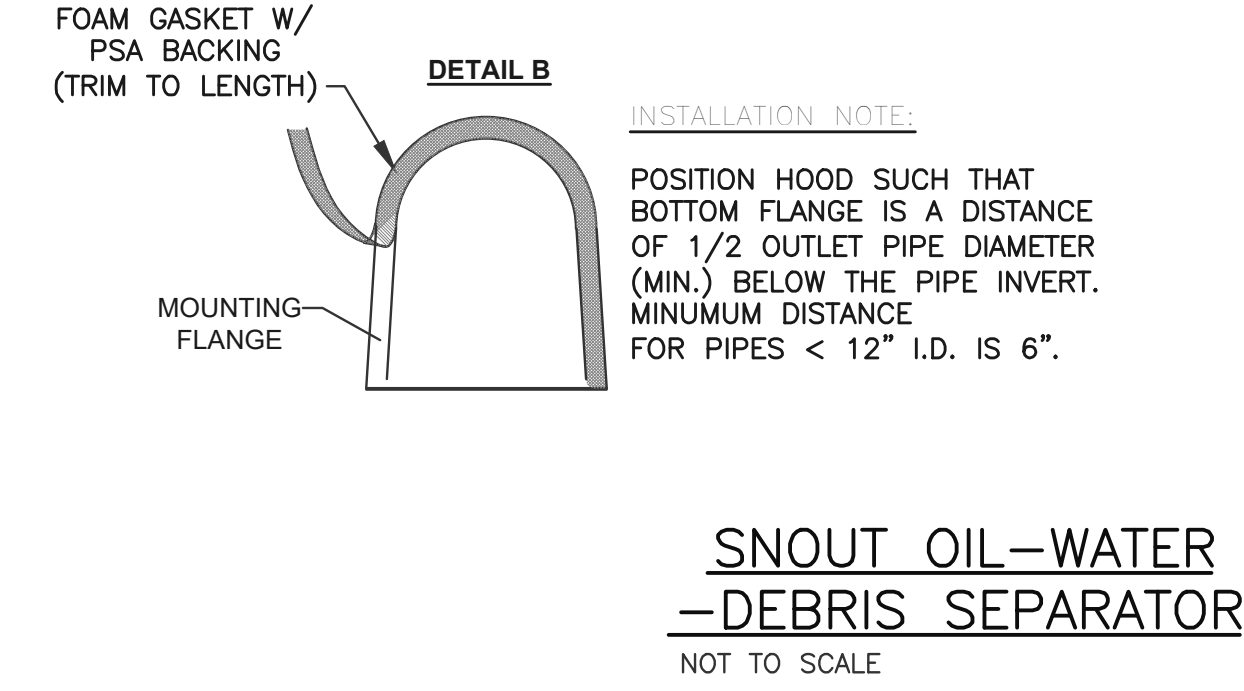


INSTALLATION DETAIL
NOT TO SCALE

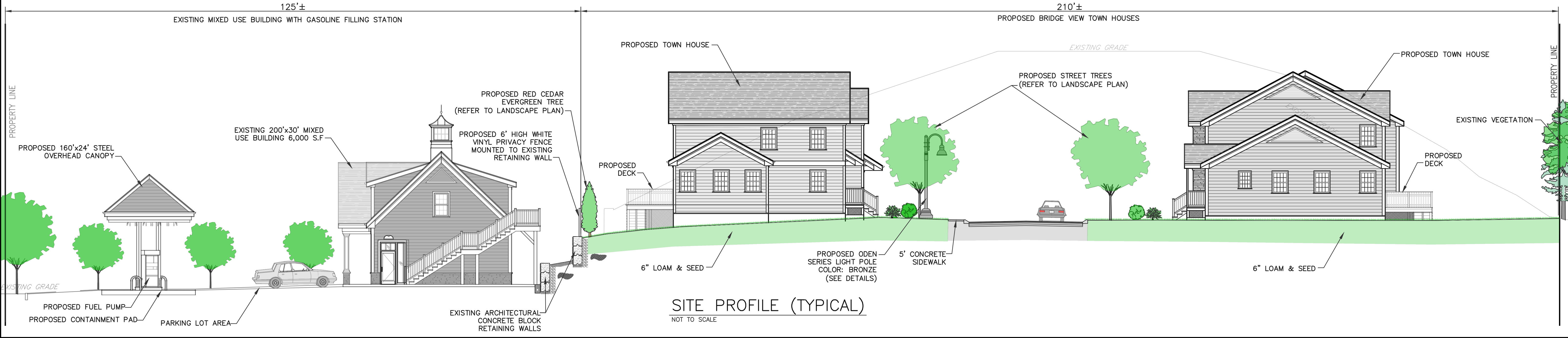
- NOTES:**
- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY: BEST MANAGEMENT PRODUCTS, INC. 53 MT. ARCHER RD. LYME, CT 06371 (860) 434-0277, (860) 434-3195 FAX TOLL FREE: (800) 504-8008 OR (888) 354-7585 WEB SITE: www.brmpinc.com OR PRE-APPROVED EQUAL
 - ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
 - ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
 - THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
 - THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
 - THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
 - THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
 - THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
 - INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
- INSTALLATION KIT SHALL INCLUDE:
- INSTALLATION INSTRUCTIONS
 - PVC ANTI-SIPHON VENT PIPE AND ADAPTER
 - OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
 - 3/8" STAINLESS STEEL BOLTS
 - ANCHOR SHIELDS



TYPICAL ROAD PROFILE
NOT TO SCALE



SNOUT OIL-WATER-DEBRIS SEPARATOR
NOT TO SCALE



SITE PROFILE (TYPICAL)
NOT TO SCALE

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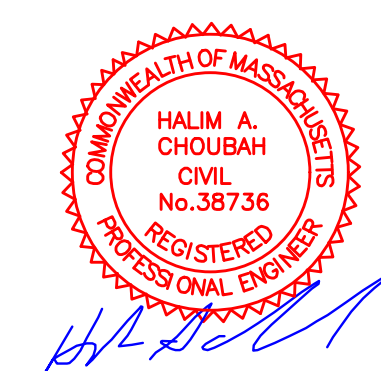
Project:
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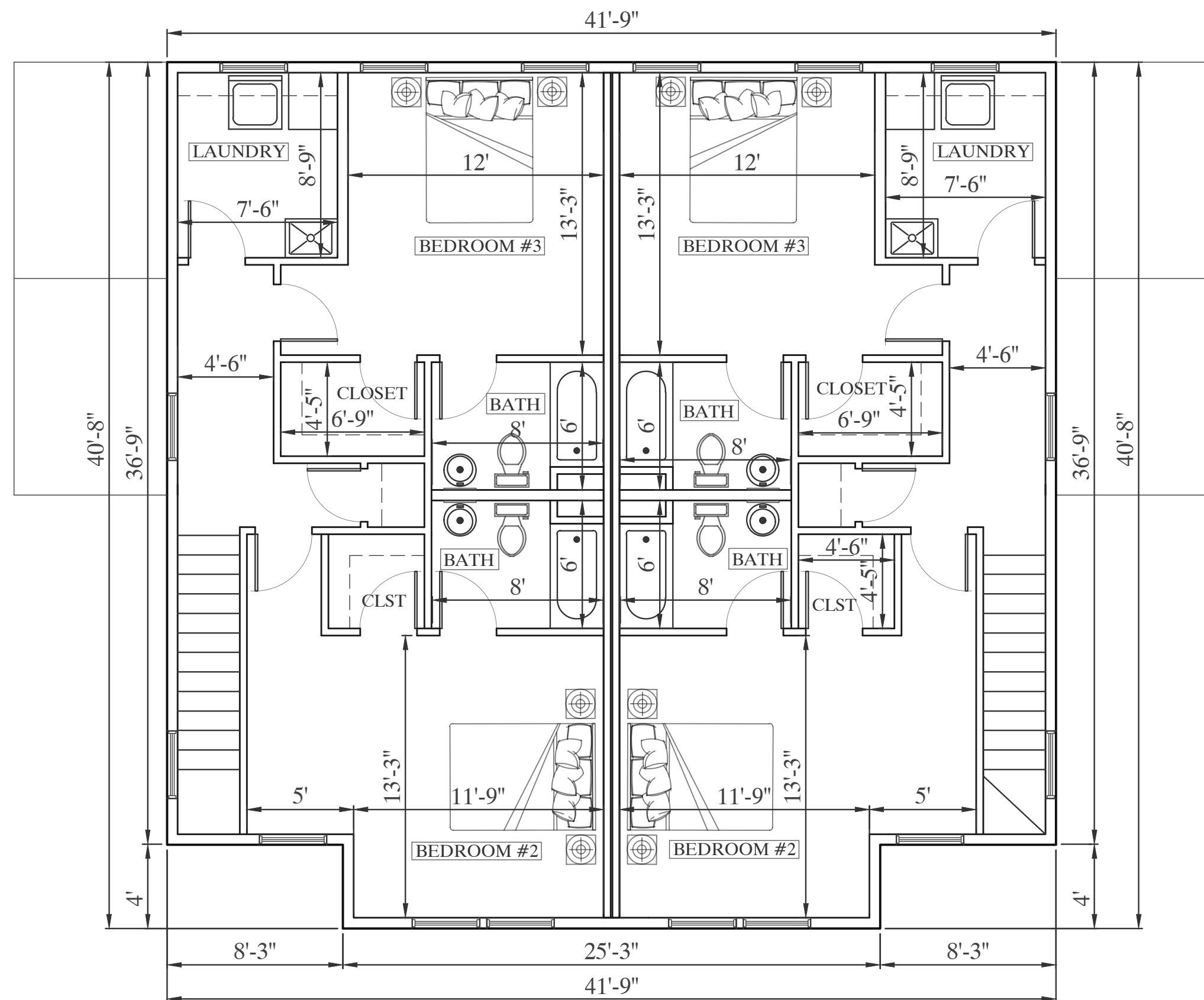
Issue Date: 04/28/2023		Project Number: 22-621	
Revisions			
No.	Date	Description	

Scale: AS SHOWN
Drawn By: C.M.S.
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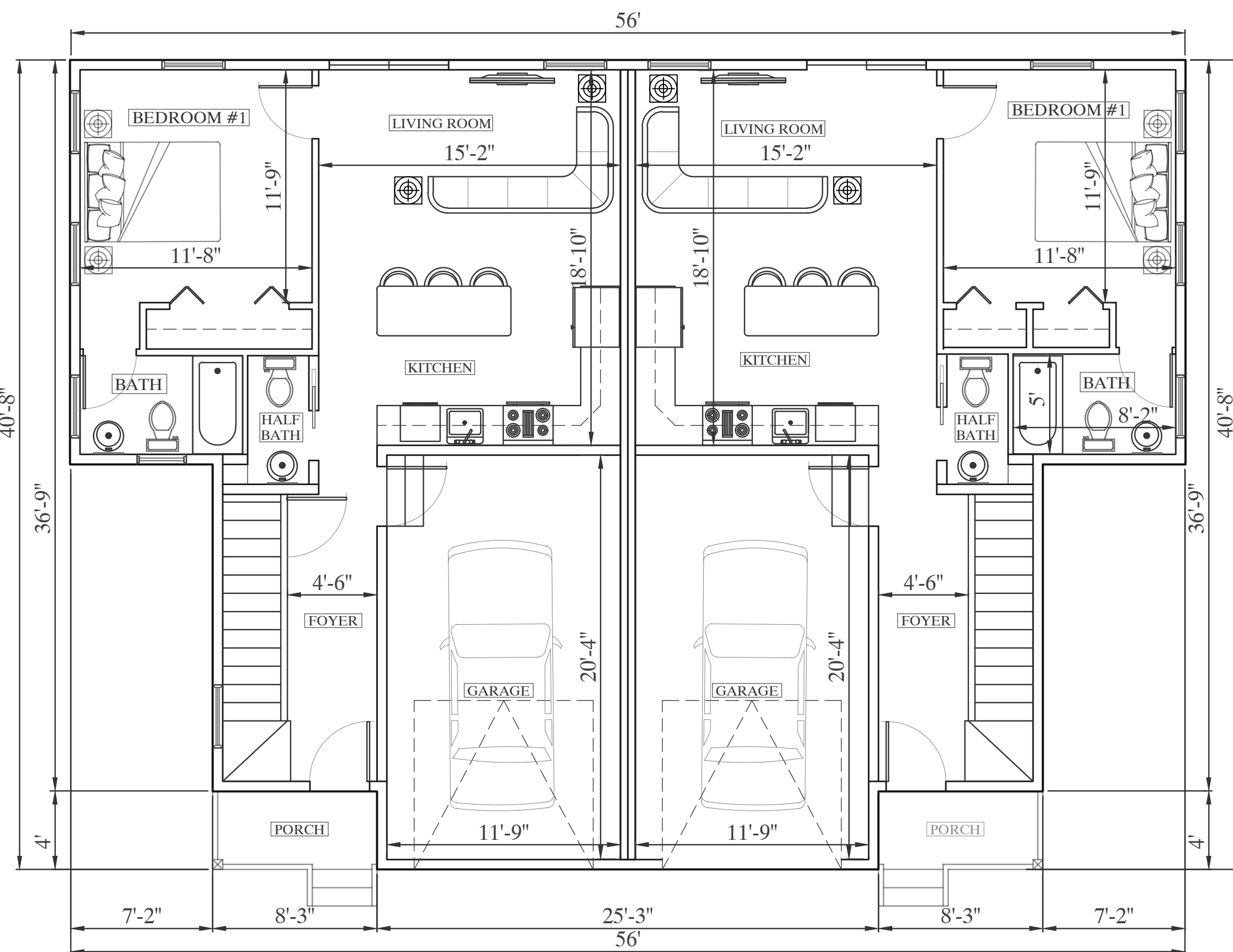
Sheet Title:
SITE DETAILS #3

**SITE PLAN REVIEW/
SPECIAL PERMIT SET**





PROPOSED 2nd FLOOR LAYOUT
SCALE: 3/16"=1'-0"



PROPOSED 1st FLOOR LAYOUT
SCALE: 3/16"=1'-0"



PROPOSED FRONT ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED LEFT SIDE ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED RIGHT SIDE ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED REAR ELEVATION
SCALE: 3/16"=1'-0"

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Revisions		
No.	Date	Description

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Scale: AS SHOWN	
Drawn By: C.M.S.	
Designed By: C.M.S.	Checked By: H.C.

Sheet Title:
FLOOR LAYOUTS
&
ELEVATIONS #1

**SITE PLAN REVIEW/
SPECIAL PERMIT SET**





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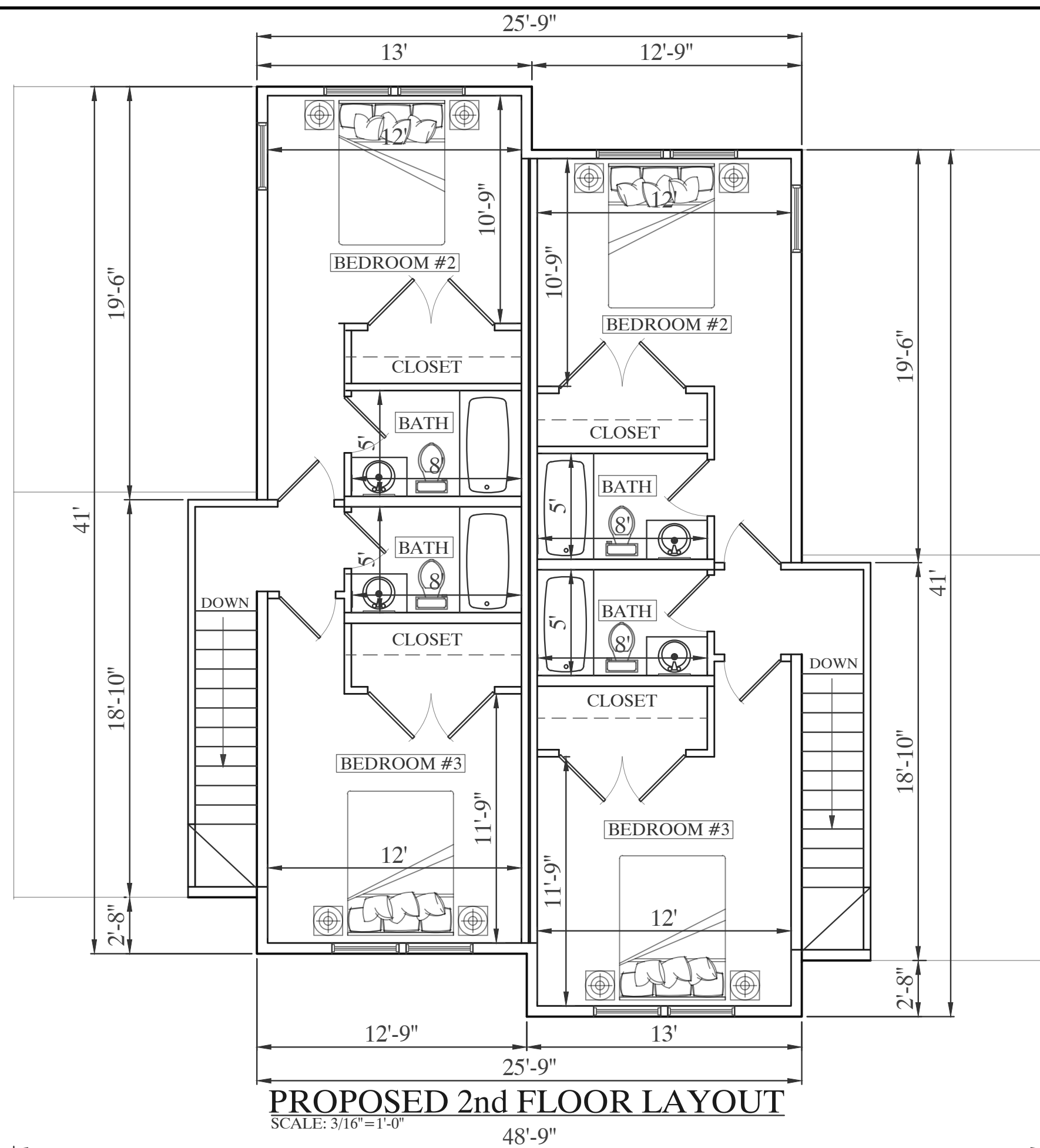
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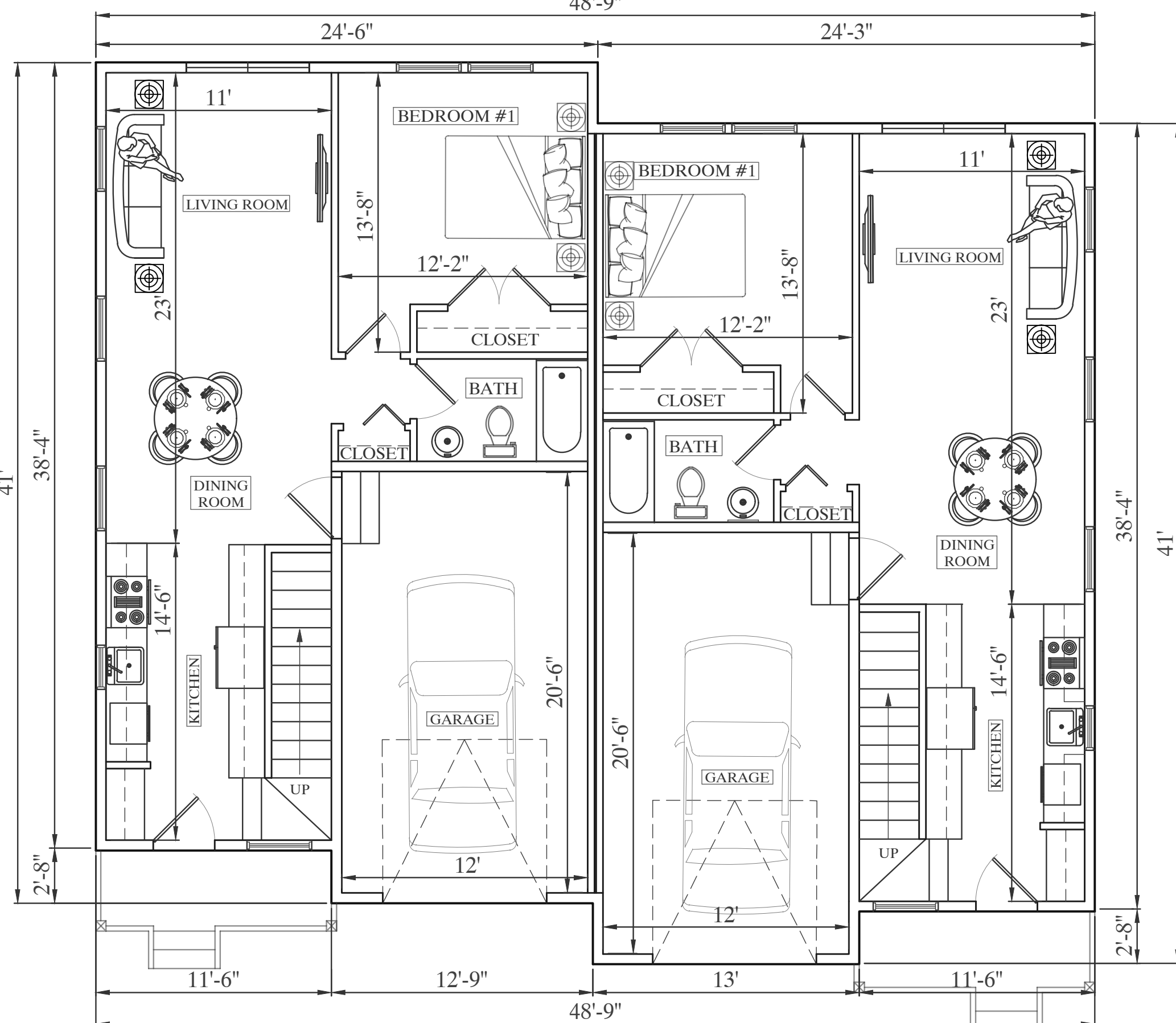
Sheet Title:
 ARCHITECTURAL
 RENDERINGS #1

SITE PLAN REVIEW/
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PROPOSED 2nd FLOOR LAYOUT
SCALE: 3/16"=1'-0"



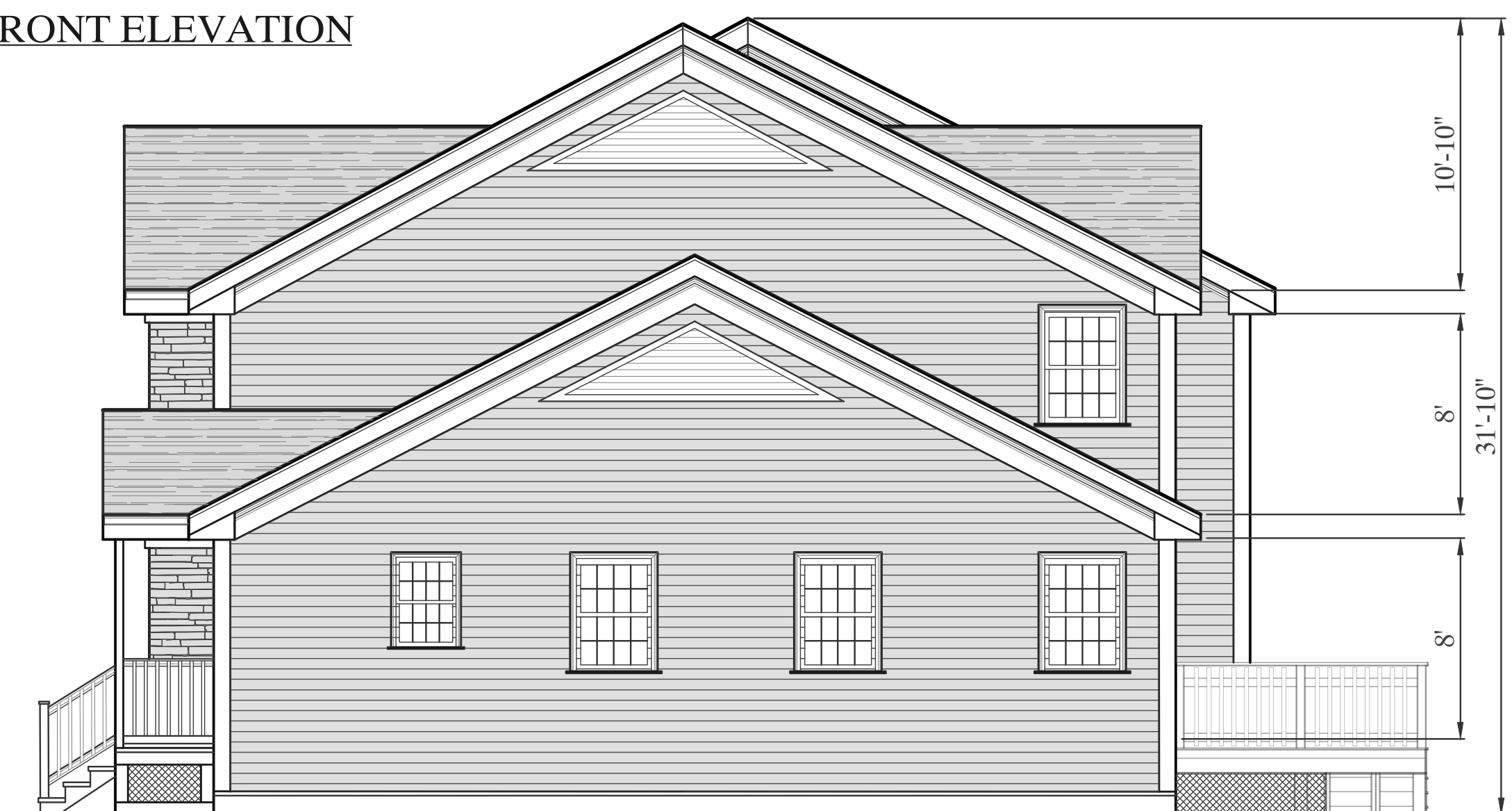
PROPOSED 1st FLOOR LAYOUT
SCALE: 3/16"=1'-0"



PROPOSED FRONT ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED LEFT SIDE ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED RIGHT SIDE ELEVATION
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PROPOSED REAR ELEVATION
SCALE: 3/16"=1'-0"

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Drawn By: C.M.S.	
Designed By: C.M.S.	Checked By: H.C.

Sheet Title:
FLOOR LAYOUTS
&
ELEVATIONS #2

**SITE PLAN REVIEW/
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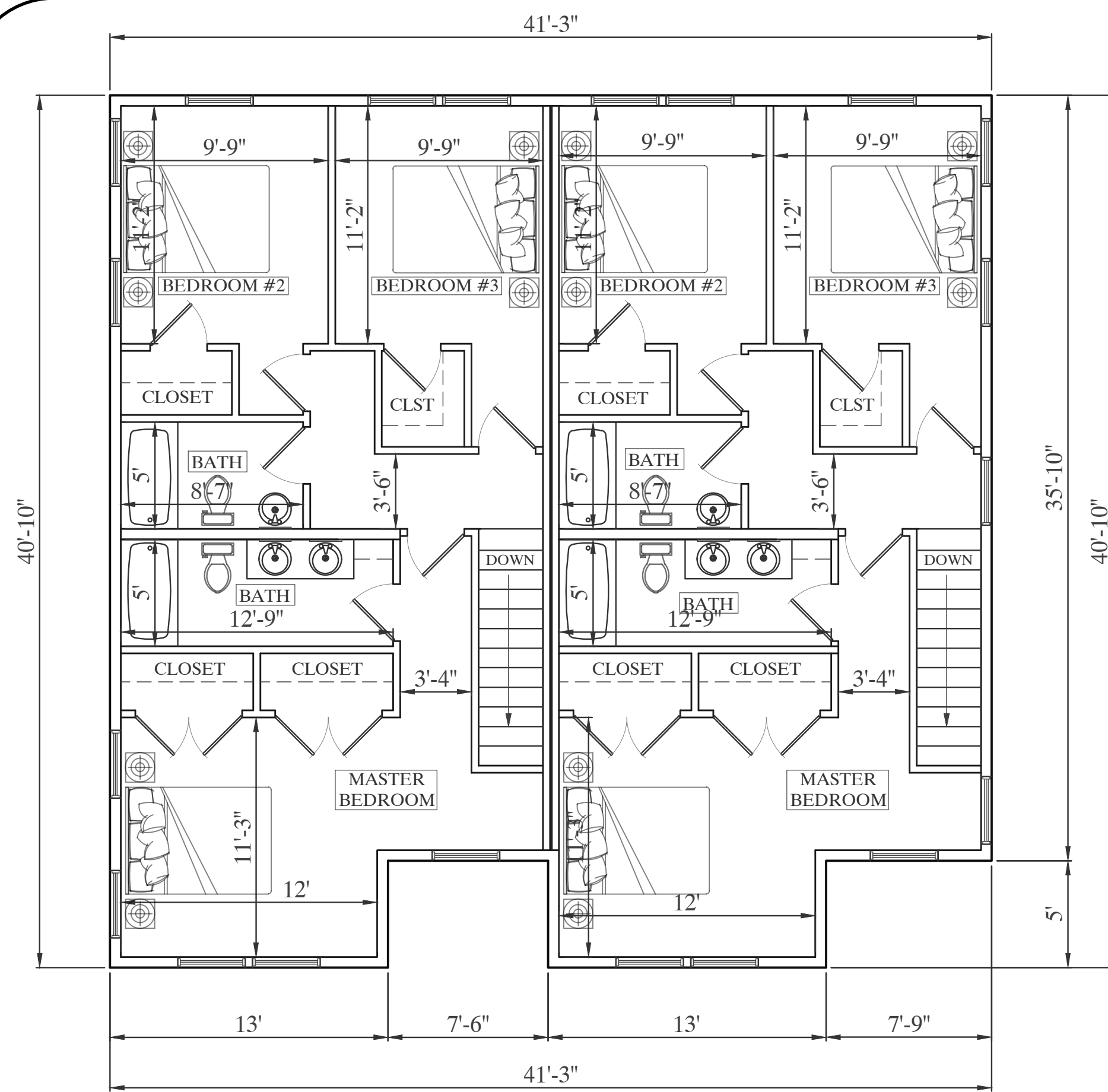
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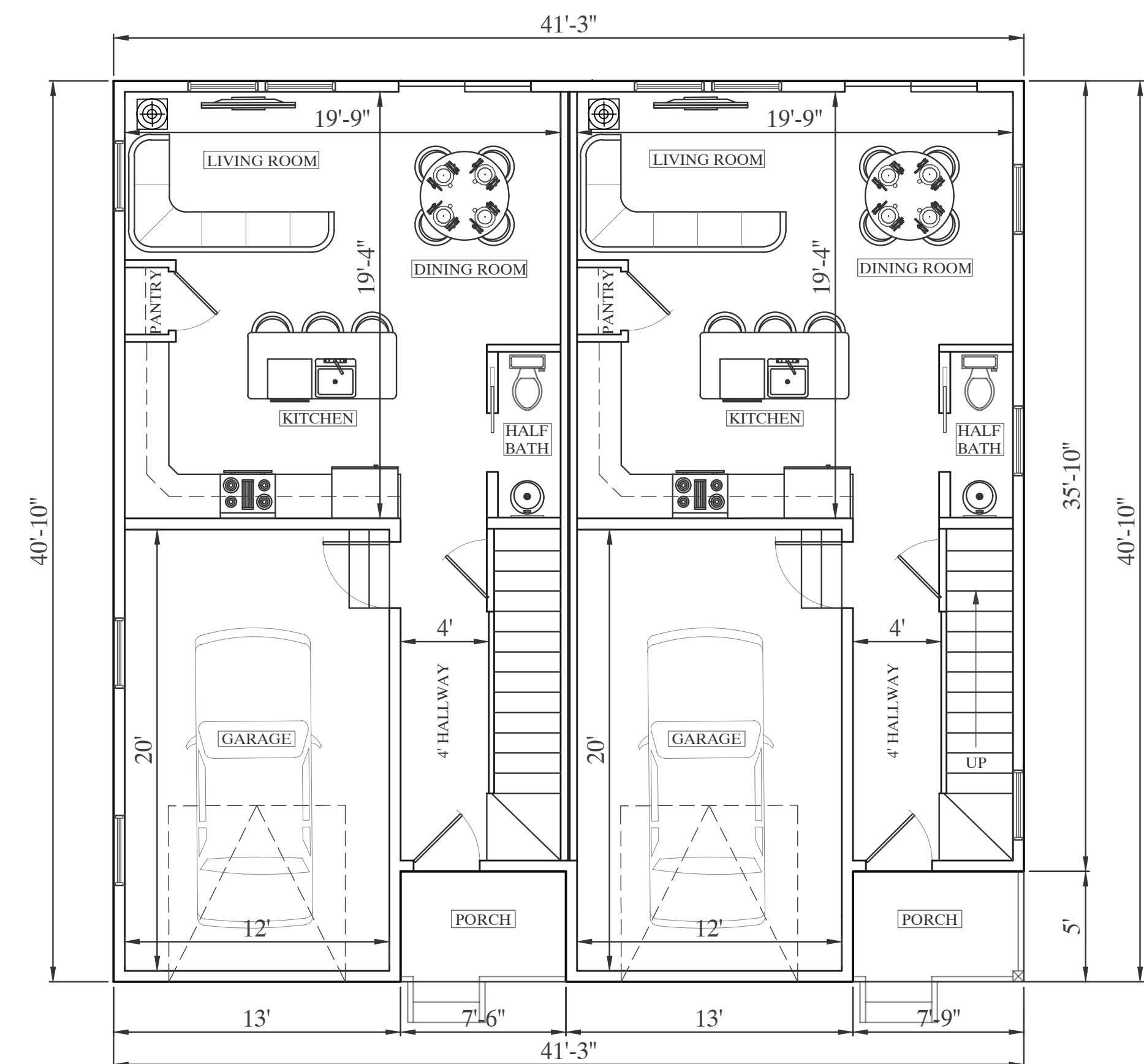
Sheet Title:
 ARCHITECTURAL
 RENDERINGS #2

SITE PLAN REVIEW/
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PROPOSED 2nd FLOOR LAYOUT
SCALE: 3/16"=1'-0"



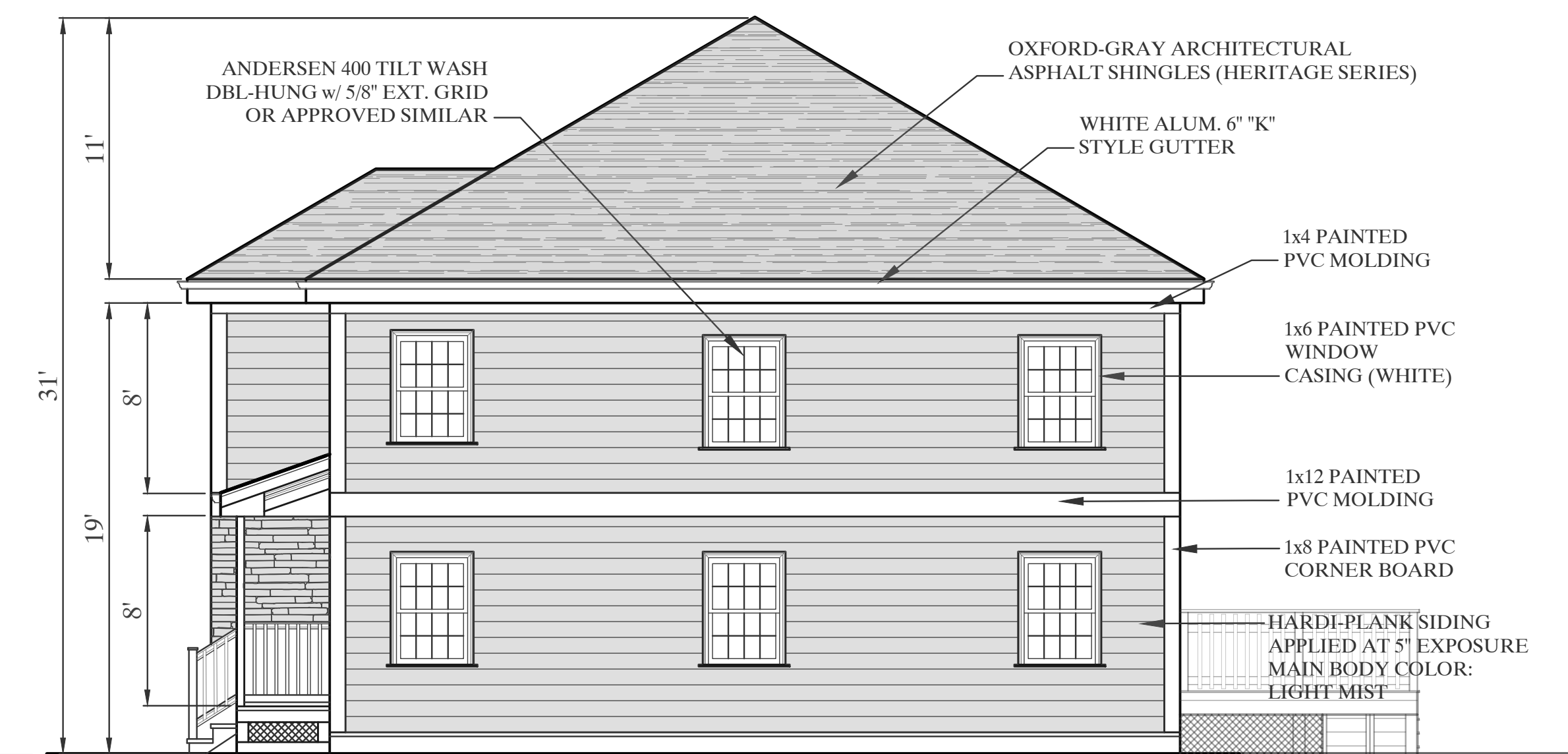
PROPOSED 1st FLOOR LAYOUT
SCALE: 3/16"=1'-0"



PROPOSED FRONT ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED LEFT SIDE ELEVATION
SCALE: 3/16"=1'-0"



PROPOSED RIGHT SIDE ELEVATION
SCALE: 3/16"=1'-0"



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SCALE: 3/16"=1'-0"

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Scale: AS SHOWN
Drawn By: C.M.S.
Designed By: C.M.S. Checked By: H.C.

Sheet Title:
FLOOR LAYOUTS
&
ELEVATIONS #3

SITE PLAN REVIEW/
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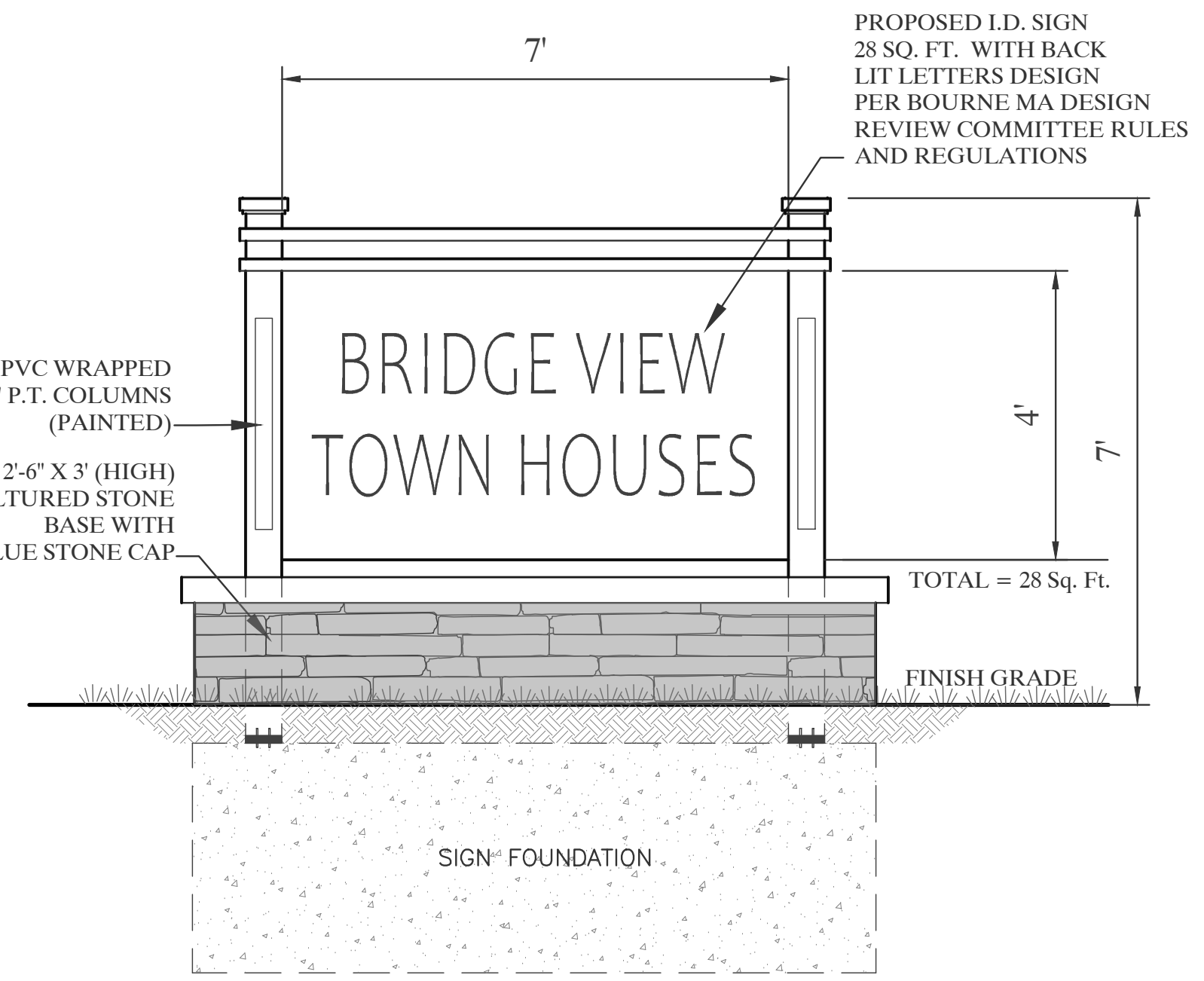
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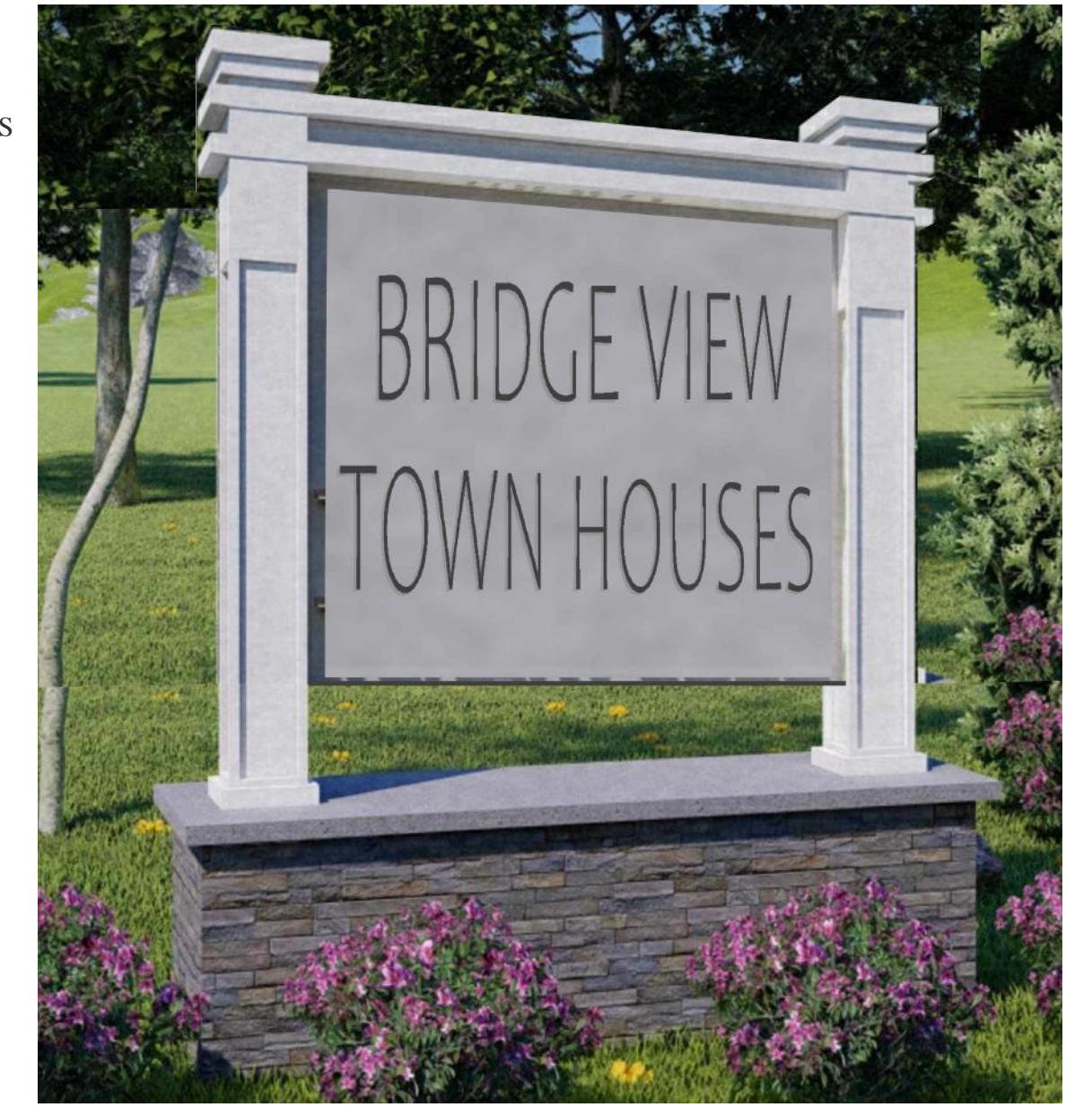
Sheet Title:
 ARCHITECTURAL
 RENDERINGS #3

SITE PLAN REVIEW/
 SPECIAL PERMIT SET





PROPOSED I.D. SIGN DETAIL
SCALE: 3/8" = 1'-0"



PROPOSED I.D. SIGN RENDERING
NOT TO SCALE



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No.	Date	Description

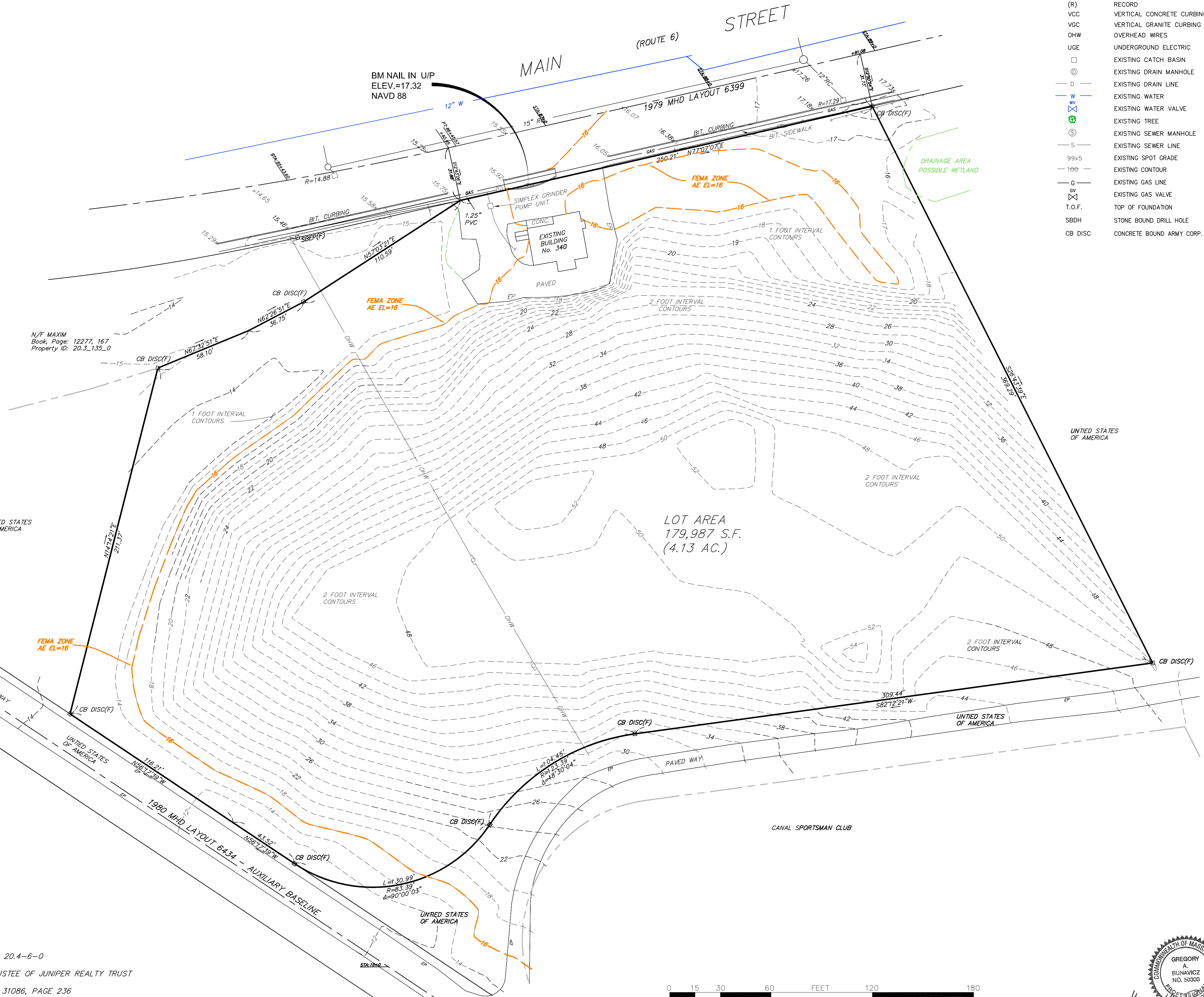
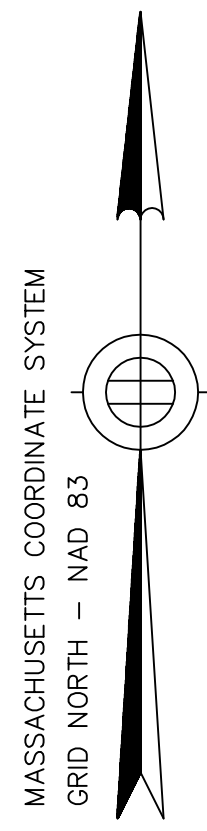
Project Number: 22-621

Scale: AS SHOWN
Drawn By: C.M.S.
Designed By: C.M.S. | Checked By: H.C.

Sheet Title:
ARCHITECTURAL
RENDERINGS #4
&
I.D. SIGN DETAILS

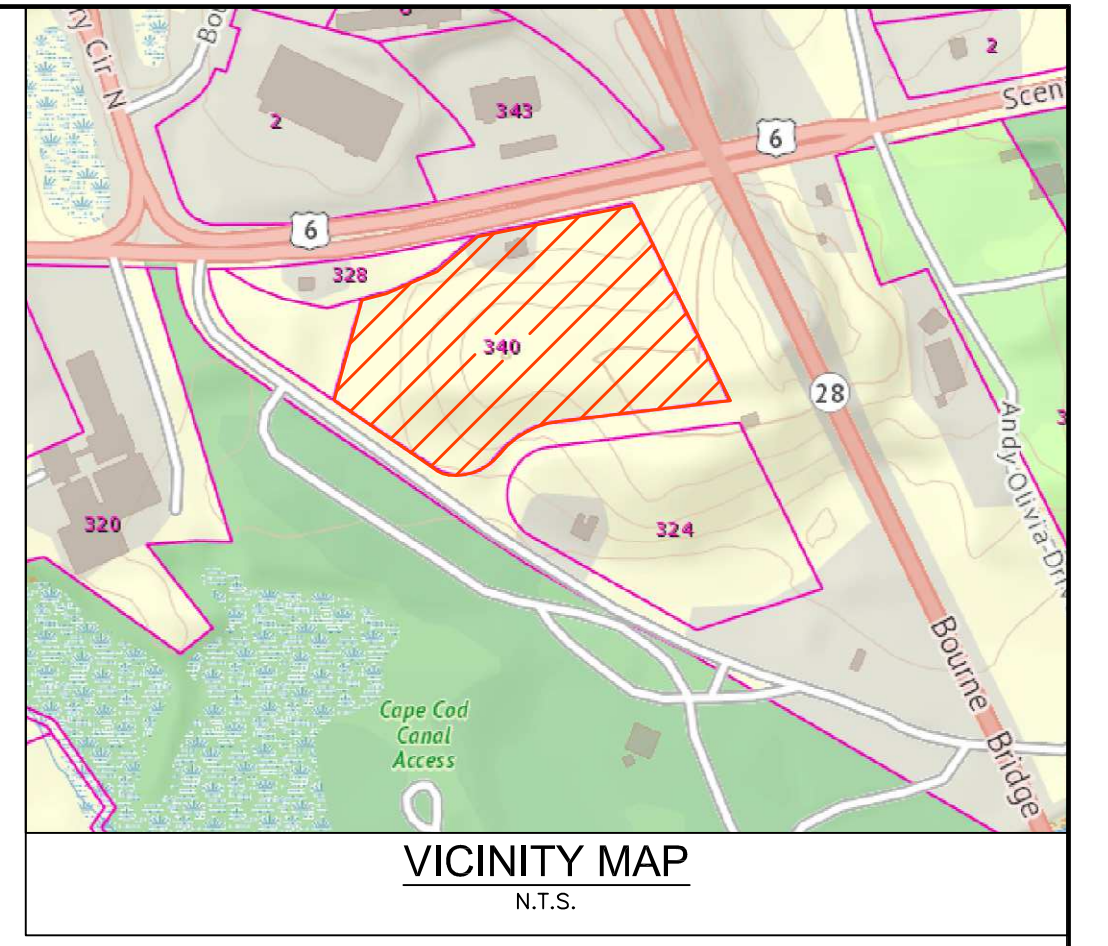
**SITE PLAN REVIEW/
SPECIAL PERMIT SET**





LEGEND

- (F) FOUND
- (M) MEASURED
- (R) RECORD
- VCC VERTICAL CONCRETE CURBING
- VGC VERTICAL GRANITE CURBING
- OHW OVERHEAD WIRES
- UGE UNDERGROUND ELECTRIC
- EXISTING CATCH BASIN
- ⊙ EXISTING DRAIN MANHOLE
- - - EXISTING DRAIN LINE
- - - EXISTING WATER
- ⊕ EXISTING WATER VALVE
- ⊗ EXISTING TREE
- ⊙ EXISTING SEWER MANHOLE
- - - EXISTING SEWER LINE
- 99x5 EXISTING SPOT GRADE
- 100 EXISTING CONTOUR
- - - EXISTING GAS LINE
- ⊕ EXISTING GAS VALVE
- T.O.F. TOP OF FOUNDATION
- ⊗ SBDH STONE BOUND DRILL HOLE
- CB DISC CONCRETE BOUND ARMY CORP. DISC



NOTES:

1. THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.
2. THE OFFSETS AS SHOWN ON THIS PLAN ARE NOT TO BE USED FOR THE ESTABLISHMENT OF PROPERTY LINES OR FOR THE ESTABLISHMENT OF ANY PROPOSED CONSTRUCTION.
3. THIS PLAN WAS PREPARED FOR THE EXCLUSIVE USE AND PURPOSE FOR THE PARTY STATED HEREON AND SHALL NOT BE USED BY ANY THIRD PARTY WITHOUT THE EXPRESSED WRITTEN PERMISSION OF BORDERLAND ENGINEERING, INC.
4. A PORTION OF THIS SITE FALLS WITHIN A SPECIAL HAZARDOUS WASTE FLOOD ZONE AS DESIGNATED BY F.I.R.M. NUMBER 25001C0314J EFFECTIVE DATE JULY 16, 2014.
5. UTILITIES ARE PLOTTED FROM FIELD LOCATION AND ANY RECORD INFORMATION AVAILABLE, AND SHOULD BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST WHICH ARE NOT EVIDENT OR FOR WHICH RECORD INFORMATION WAS NOT AVAILABLE. CONTRACTORS (IN ACCORDANCE WITH MASSACHUSETTS LAW) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING. ALSO, CALL "DIG-SAFE" AT 1(888)344-7233 (1(888)DIG-SAFE).

ZONING TABLE

CLASSIFICATION: (DTG) DOWNTOWN GATEWAY

BUILDING SETBACKS (BY RIGHT)

Primary/Front
0 feet minimum
15 feet maximum
30 feet maximum under criteria in Section 2835

Front Setback Exceptions:
The maximum front yard setback only applies to portions of a building meeting the minimum facade requirement. On Primary Street intersections, the maximum setback for chamfered corners shall be 20 feet from the lot corner to the center of the building facade that faces the lot corner. All structures fronting the Buzzards Bay Bypass shall be set back at least 10 feet from the property line. All structures on Main Street between Perry Avenue and Belmont Circle shall be set back at least 10 feet from the right of way line.

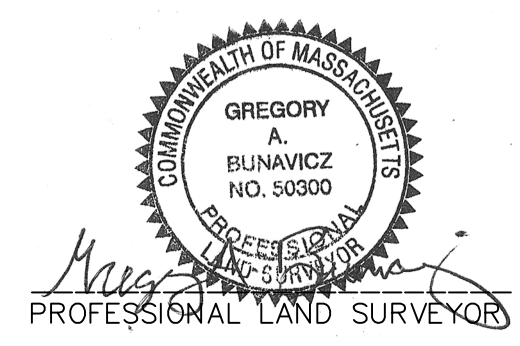
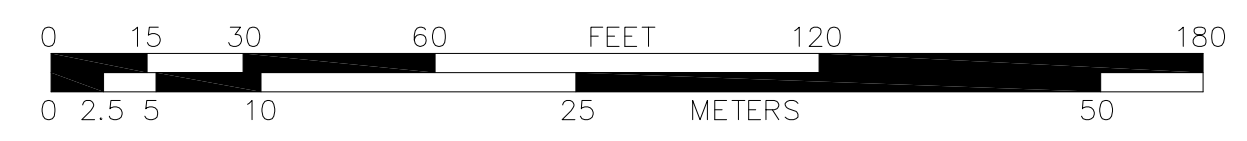
Primary/Side
0 feet minimum
24 feet maximum

Primary/Rear 10 feet minimum

Outbuilding/Front 20 feet minimum
Outbuilding/Side and Rear 5 feet minimum No Minimum

LOT AREA
179,987 S.F.
(4.13 AC.)

ASSESSOR'S REFERENCE: 20.4-6-0
OWNER: DENNIS PAUL TRUSTEE OF JUNIPER REALTY TRUST
DEED REFERENCE: BOOK 31086, PAGE 236



BORDERLAND ENGINEERING, INC.

61b Pleasant Street, Randolph, MA 02368 | office 781-963-9500, fax 888-566-4131

EXISTING CONDITIONS PLAN
IN
BOURNE, MASSACHUSETTS

340 MAIN STREET

PREPARED FOR: CHOUBAH ENGINEERING GROUP, P.C.
112 STATE ROAD
DARTMOUTH, MA 02747

DRAWING SCALE: 1 INCH = 30 FEET

DATE: APRIL 9, 2019 PROJECT NUMBER: P2141