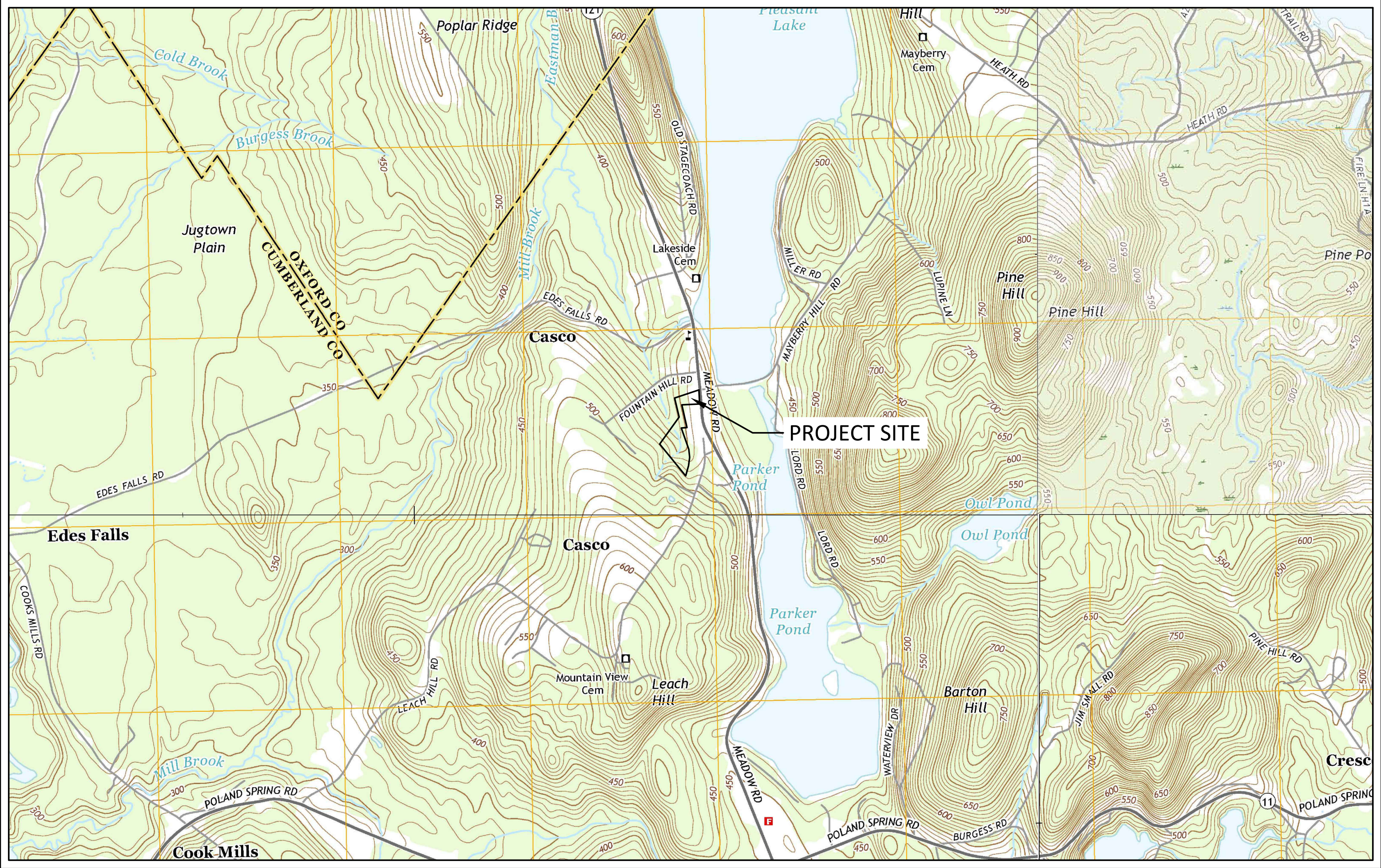


COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION

960 MEADOW ROAD
CASCO, MAINE

CONSULTANTS	
CIVIL ENGINEER	DM ROMA CONSULTING ENGINEERS
LAND SURVEYOR	SURVEY, INC.
GEOLOGIST & SITE EVALUATOR	MAIN-LAND DEVELOPMENT CONSULTANTS, INC.
WETLAND SCIENTIST	ALBERT FRICK ASSOCIATES, INC.
BUILDING DESIGNER	WOODHULL ARCHITECTS AND BUILDERS



PROJECT VICINITY MAP

REVISED PER TOWN REVIEW - NOT FOR CONSTRUCTION
SEPTEMBER 2, 2026

PREPARED BY:

DM ROMA

CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310 - 0506

APPLICANT:
960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

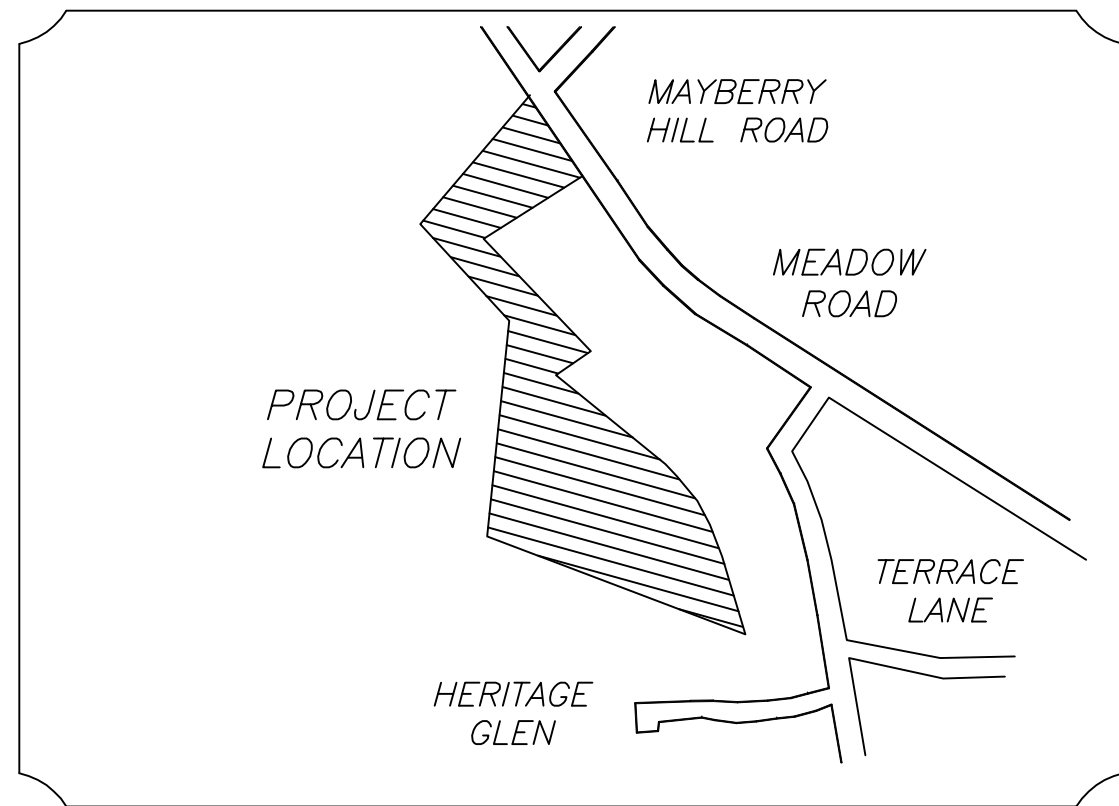
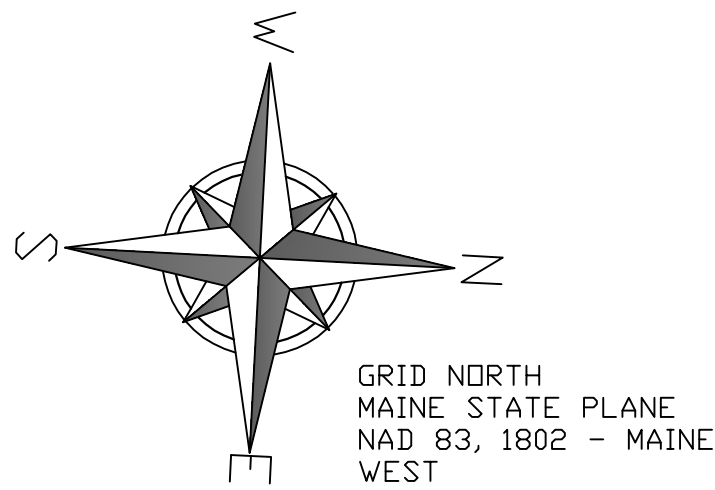
COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION

DRAWING SHEET INDEX

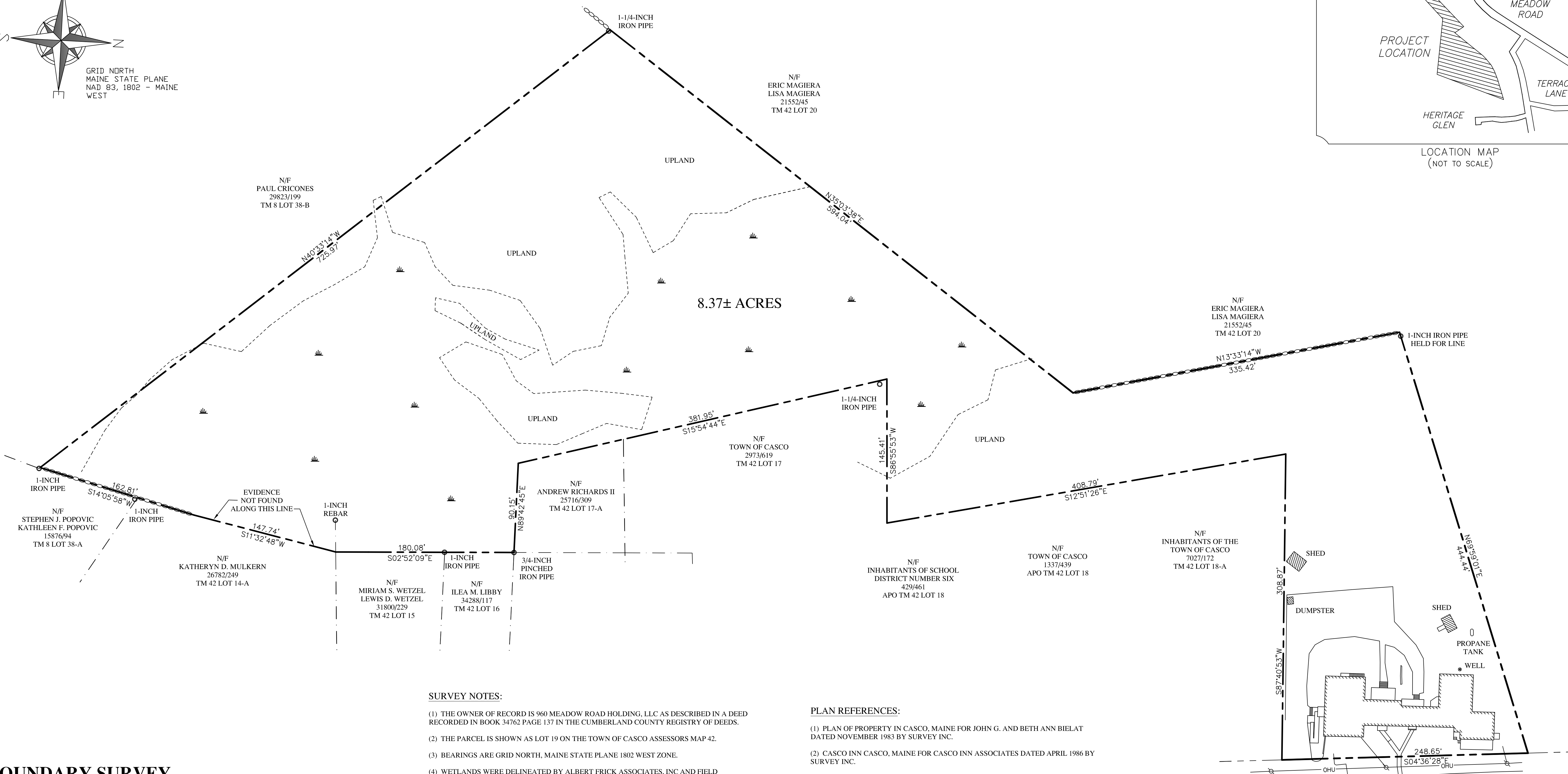
PAGE NO.	DESCRIPTION
1	TITLE SHEET
2	BOUNDARY SURVEY
3	OVERALL SITE PLAN
4	SITE PLAN
5	GRADING AND UTILITY PLAN
6	DETAILS
7	DETAILS
8	DETAILS

PERMITTING PLAN ATTACHMENTS

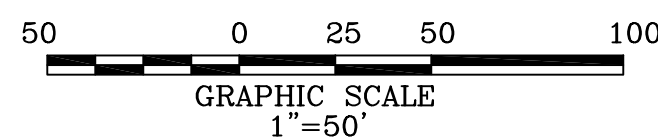
PHOTOMETRIC PLAN
ENGINEERED WASTEWATER DISPOSAL PLAN
PRE-DEVELOPMENT WATERSHED MAP
POST DEVELOPMENT WATERSHED MAP
STORMWATER REDEVELOPMENT PLAN



LOCATION MAP
(NOT TO SCALE)



MEADOW ROAD



BOUNDARY SURVEY

960 MEADOW ROAD
CASCO, MAINE

FOR: **960 MEADOW ROAD
HOLDING, LLC**
960 MEADOW ROAD
CASCO, MAINE
(CLIENT)

SURVEY BY: **SURVEY, INC.**
P.O. BOX 210
WINDHAM, ME 04062
(207) 892-2556
INFO@SURVEYINCORPORATED.COM

SURVEY NOTES:

- THE OWNER OF RECORD IS 960 MEADOW ROAD HOLDING, LLC AS DESCRIBED IN A DEED RECORDED IN BOOK 34762 PAGE 137 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
- THE PARCEL IS SHOWN AS LOT 19 ON THE TOWN OF CASCO ASSESSORS MAP 42.
- BEARINGS ARE GRID NORTH, MAINE STATE PLANE 1802 WEST ZONE.
- WETLANDS WERE DELINEATED BY ALBERT FRICK ASSOCIATES, INC AND FIELD LOCATED BY SURVEY INC.

CERTIFICATION:

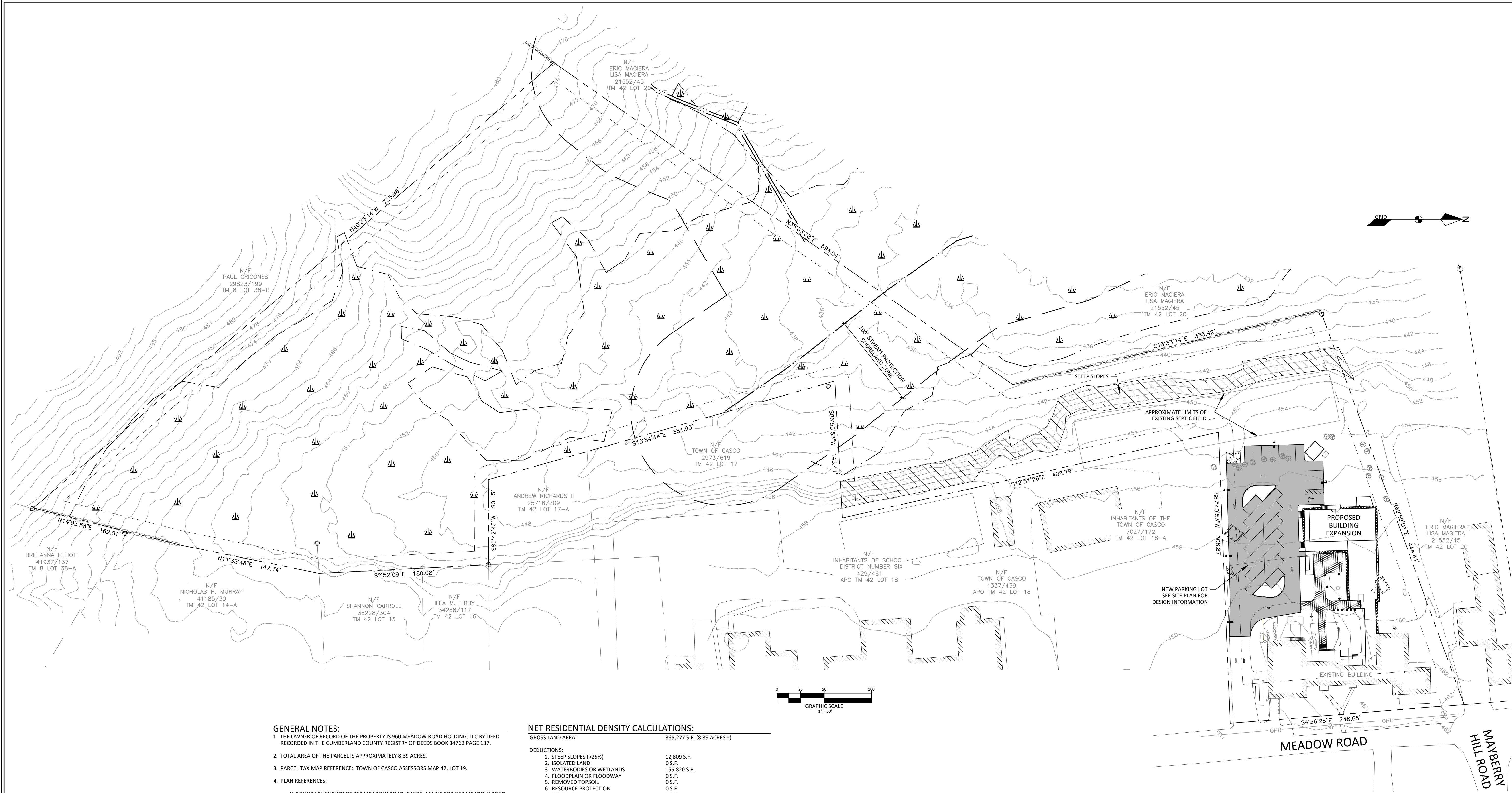
I CERTIFY THAT THIS SURVEY CONFORMS TO THE STANDARDS OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS AND IS CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

WILLIAM C. SHIPPEN P.L.S. 2118



PLAN REFERENCES:

- PLAN OF PROPERTY IN CASCO, MAINE FOR JOHN G. AND BETH ANN BIELAT DATED NOVEMBER 1983 BY SURVEY INC.
- CASCO INN CASCO, MAINE FOR CASCO INN ASSOCIATES DATED APRIL 1986 BY SURVEY INC.
- FINAL SUBDIVISION PLAN FIELDCREST ESTATES FOUNTAIN HILL ROAD CASCO, MAINE DATED 12-01-05 RECORDED IN PLAN BOOK 206 PAGE 531 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
- PLAN OF THE TOWN OF CASCO, MAINE FORMED FROM THE NORTHERLY PORTION OF RAYMOND IN 1841 RECORDED IN PLAN BOOK 24 PAGE 4 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
- PLAN OF RAYMOND IN THE COUNTY OF CUMBERLAND RECORDED IN PLAN BOOK 24 PAGE 11 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
- PLAN OF PROPERTY IN CASCO, MAINE FOR RICHARD A. CRAM DATED FEBRUARY 1979 BY SURVEY INC RECORDED IN PLAN BOOK 123 PAGE 8 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.



LEGEND	
EXISTING	PROPOSED
---	PROPERTY LINE/R.O.W.
---	ABUTTER PROPERTY LINE
---	SETBACK
---	EASEMENT LINE
□	GRANITE MONUMENT
○	IRON PIN/DRILL HOLE
---	BUILDING
---	EDGE OF PAVEMENT/CURB
---	EDGE OF GRAVEL
---	SIGN
---	EDGE OF WETLANDS
---	CONTOUR LINE
---	TREELINE
⊙	SEWER MANHOLE
---	SANITARY SEWER PIPE
⊙	WELL
---	UTILITY POLE
---	OVERHEAD UTILITIES

GENERAL NOTES:

- THE OWNER OF RECORD OF THE PROPERTY IS 960 MEADOW ROAD HOLDING, LLC BY DEED RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 34762 PAGE 137.
- TOTAL AREA OF THE PARCEL IS APPROXIMATELY 8.39 ACRES.
- PARCEL TAX MAP REFERENCE: TOWN OF CASCO ASSESSORS MAP 42, LOT 19.
- PLAN REFERENCES:
 - BOUNDARY SURVEY OF 960 MEADOW ROAD, CASCO, MAINE FOR 960 MEADOW ROAD HOLDING, LLC AS PREPARED BY SURVEY, INC. DATED FEBRUARY 2020 AND REVISED THROUGH OCTOBER 2023.
- HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
- BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4A.
- TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON PLAN REFERENCE 4A AND SUPPLEMENTED WITH 2 FOOT CONTOURS OBTAINED FROM THE MAINE OFFICE OF GIS.
- THE PROPERTY IS LOCATED IN THE VILLAGE DISTRICT AND STREAM PROTECTION DISTRICT.
- SPACE AND BULK REQUIREMENTS: V DISTRICT
 - MIN LOT SIZE: 60.00 SF
 - MAX BUILDING COVERAGE: 20%
 - MIN STREET FRONTAGE: 150 FT
 - MIN FRONT YARD: 40 FT
 - MIN SIDE/REAR YARD: 15 FT
 - MAX BUILDING HEIGHT: 35 FT
- WETLAND DELINEATION PERFORMED BY ALBERT FRICK ASSOCIATES, INC. IN FEBRUARY 2020 AND FIELD LOCATED BY SURVEY, INC.
- PARKING SUMMARY
 - NUMBER OF TOTAL BEDS = 45 BEDS
 - AVERAGE EMPLOYEE OCCUPANCY=8 EMPLOYEESREQUIRED NUMBER OF SPACES FOR NURSING HOME USE = 1 SPACE/3 BEDS AND 1 SPACE PER EMPLOYEE BASED ON EXPECTED AVERAGE EMPLOYEE OCCUPANCY.
REQUIRED NUMBER OF SPACES = 1/3 SPACE X 45 BEDS + 1 SPACE X 8 EMPLOYEES = 23 SPACES
PROPOSED NUMBER OF SPACES=25 SPACES
- THE PROJECT IS SUBJECT TO AN APPROVED VARIANCE FROM THE TOWN OF CASCO ZONING BOARD OF APPEALS FOR THE EXPANSION OF THE NONCONFORMITY RELATED TO THE REQUIRED NET RESIDENTIAL AREA FOR THE PROPOSED NUMBER OF BEDS WITHIN THE FACILITY. THE VARIANCE WAS APPROVED ON APRIL 21, 2026 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 42215 PAGE 18.

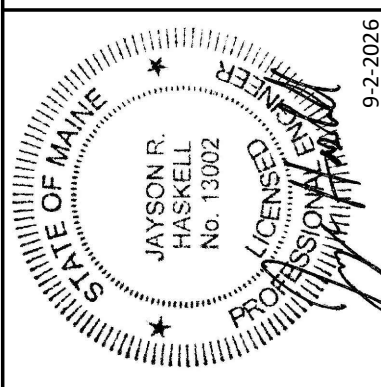
NET RESIDENTIAL DENSITY CALCULATIONS:

GROSS LAND AREA:	365,277 S.F. (8.39 ACRES ±)
DEDUCTIONS:	
1. STEEP SLOPES (>25%)	12,809 S.F.
2. ISOLATED LAND	0 S.F.
3. WATERBODIES OR WETLANDS	165,820 S.F.
4. FLOODPLAIN OR FLOODWAY	0 S.F.
5. REMOVED TOPSOIL	0 S.F.
6. RESOURCE PROTECTION	0 S.F.
7. CREATED LAND	0 S.F.
8. RIGHT OF WAYS	0 S.F.
9. UNCLAIMED GRAVEL PITS	0 S.F.
10. CLEAR CUT LAND	0 S.F.
11. VERY POORLY DRAINED SOILS	0 S.F.
SUBTOTAL	186,648 S.F.
C. 15% OF REMAINING AREA FOR PARKING	27,997 S.F.
TOTAL NET RESIDENTIAL AREA:	158,651 S.F. (3.64 ACRES)
REQUIRED NET RESIDENTIAL AREA FOR PROPOSED EXPANSION	45 BEDS
PROPOSED NUMBER OF BEDS:	285,000 S.F. (6.54 ACRES)
REQUIRED NET RESIDENTIAL AREA FOR 45 BEDS:	(60,000 S.F. + 45 BEDS x 5,000 S.F.)
	*SEE GENERAL NOTE 13 FOR APPROVED VARIANCE INFORMATION

APPROVED - CASCO PLANNING BOARD:

CHAIRPERSON	DATE

NOT FOR
CONSTRUCTION



DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310-0506

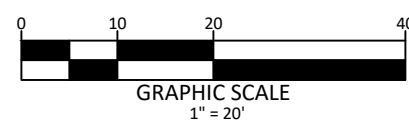
REV	DATE	BY	DESCRIPTION
A	5/26/26	JRH	ISSUED FOR PERMITTING
B	6/12/26	JRH	CONSULTANT COORDINATION SET
C	6/26/26	JRH	CONSULTANT COORDINATION SET
D	9/2/26	JRH	REVISED PER TOWN REVIEW

OVERALL SITE PLAN
COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION
MEADOW ROAD
CASCO, MAINE
FOR: 960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

19063 JOB NUMBER:
1" = 50' SCALE:
9-2-2026 DATE:
SHEET 3 OF 8
OS-1

ABBREVIATIONS
QTY. = QUANTITY
B&B = BALL AND BURLAP
GAL. = GALLON

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING PLANT PITS.
2. ALL MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. IN THE CASE OF ANY DISCREPANCIES BETWEEN SPECIES AND QUANTITIES CALLED OUT IN THE PLANTING KEY AND THOSE SHOWN ON THE PLAN, QUANTITIES AND SPECIES SHOWN ON THE PLAN SHALL OVER-RIDE.
4. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES.
5. ALL PLANTS SUBJECT TO APPROVAL BY THE LANDSCAPE DESIGNER. ALL SUBSTITUTIONS MUST BE SUBMITTED FOR APPROVAL BY LANDSCAPE DESIGNER PRIOR TO ORDERING OR DELIVERY OF PLANT MATERIAL ON SITE. LANDSCAPE DESIGNER RESERVES THE RIGHT TO REJECT ANY PLANTINGS THAT DO NOT CONFORM TO THE DRAWINGS OR SPECIFICATIONS OUTLINED HEREIN.
6. EXISTING TREES TO REMAIN SHALL BE PROTECTED BY PVC FENCING PLACED AT THE DRIP-LINE OR SHOWN ON THE PLANS TO PREVENT DAMAGE AND COMPACTION OF THE ROOT SYSTEM. NO GRADING, SOIL DISTURBANCE, OR STORAGE OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN THE DRIP-LINE UNLESS OTHERWISE SHOWN ON PLANS. ANY EXCAVATION WITHIN SUCH AREA SHALL BE PERFORMED BY HAND TO AVOID DAMAGE TO THE ROOT SYSTEM.
7. CONTRACTOR SHALL REFER TO GRADING AND UTILITY PLAN FOR SLOPE STABILIZATION AREAS.
8. FINISH GRADE OF PLANTINGS SHALL MATCH ADJACENT FINISH GRADES UNLESS OTHERWISE NOTED ON DRAWINGS OR DIRECTED AND/OR APPROVED BY THE LANDSCAPE DESIGNER.
9. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE DESIGNER OR OWNER'S REPRESENTATIVE.
10. ALL PLANTS SHALL BE SET PLUMB UNLESS OTHERWISE SPECIFIED.
11. ALL PLANTINGS SHALL BE TOPPED WITH A MINIMUM OF 3" OF WELL COMPOSTED, DARK PINE BARK MULCH.
12. ALL DISTURBED AREAS SHALL BE SEEDED WITH PINK MIX AS SPECIFIED BY MDOT SPECIFICATION 717.03 METHOD 1 OR AS APPROVED. SEEDING AREAS SHALL BE LIGHTLY MULCHED WITH A LAYER OF CLEAN, WEED-FREE STRAW.
13. ALL PLANTS SHALL BE WATERED TWENTY-TWO TIMES DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED AS REQUIRED THEREAFTER TO ENSURE SURVIVAL AND OPTIMAL GROWTH THROUGHOUT THE FIRST GROWING SEASON.
14. THE LANDSCAPE CONTRACTOR SHALL PROVIDE A 6" MINIMUM DEPTH OF TOPSOIL FOR ALL LAWN AREAS.
15. ALL PLANTING BEDS SHALL HAVE 18" MINIMUM DEPTH OF TOPSOIL.
16. ALL PLANTING BEDS ARE TO REMAIN FREE OF WEEDS DURING THE 1 YEAR GUARANTEE PERIOD.
17. ALL PLANT MATERIAL IS SUBJECT TO INSPECTION AND APPROVAL BY THE LANDSCAPE DESIGNER PRIOR TO AND AFTER PLANTING.
18. PLANT SPECIES MAY BE ADJUSTED BASED ON AVAILABILITY AT TIME OF PLANTING. ALL PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE LANDSCAPE DESIGNER.
19. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. MAINTENANCE SHALL INCLUDE WATERING, RESEEDING, TIGHTENING & REPLACING OF GUYS, REPLACEMENT OF SICK OR DEAD PLANTS, SELECTING PLANTS TO PROPER GRADE OR UPRIGHT (PLUMB) POSITION, RESTORATION OF SAUCERS, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH OF THE PLANTS.
20. PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE, THE CONTRACTOR SHALL REPLACE, IN KIND, ANY DEAD, DISEASED, OR SUBSTANDARD PLANT MATERIAL AT NO COST TO THE OWNER. THE CONTRACTOR SHALL RECEIVE FINAL ACCEPTANCE FROM THE OWNER FOLLOWING THE ONE YEAR GUARANTEE, PROVIDED THE PROVISIONS OF THE PLANT GUARANTEE HAVE BEEN SATISFACTORILY MET.



EXISTING		PROPOSED
---	PROPERTY LINE/R.O.W.	
- - - -	ABUTTER PROPERTY LINE	
	SETBACK	— — — —
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF CONCRETE	
	SIGN	
--200-- --201--	CONTOUR LINE	
	STONE WALL	
	WELL	
	UTILITY POLE	
	OVERHEAD UTILITIES	

1. THE OWNER OF RECORD OF THE PROPERTY IS 960 MEADOW ROAD HOLDING, LLC BY DEED RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 34762 PAGE 137.
2. TOTAL AREA OF THE PARCEL IS APPROXIMATELY 8.4 ACRES.
3. PARCEL TAX MAP REFERENCE: TOWN OF CASCO ASSESSORS MAP 42, LOT 19.
4. PLAN REFERENCES:
 - A) DRAINAGE SURVEY OF 960 MEADOW ROAD, CASCO, MAINE FOR 960 MEADOW ROAD HOLDING, LLC AS PREPARED BY SURVEY, INC. DATED FEBRUARY 2020.
5. HORIZONTAL DATUM: MAINE STATE PLANE, WEST ZONE, NAD83, U.S. FEET.
6. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88S)
7. BOUNDARY SHOWN HEREON IS BASED ON PLAN REFERENCE 4A.
8. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON PLAN REFERENCE 4A AND SUPPLEMENTED WITH 2 FT CONTOURS OBTAINED FROM THE MAINE OFFICE OF GIS.
9. THE PROPERTY IS LOCATED IN THE VILLAGE DISTRICT AND STREAM PROTECTION DISTRICT.
10. SPACE AND BULK REQUIREMENTS: V DISTRICT

MIN LOT SIZE:	60,00 SF
MIN BUILDING COVERAGE:	20%
MIN STREET FRONTAGE:	150 FT
MIN FRONT YARD:	40 FT
MIN SIDE/REAR YARD:	15 FT
MIN BUILDING HEIGHT:	35 FT
11. WETLAND DELINEATION PERFORMED BY ALBERT FRICK ASSOCIATES, INC. IN FEBRUARY 2020 AND FIELD LOCATED BY SURVEY, INC.
12. PARKING SUMMARY

NUMBER OF TOTAL BEDS = 45 BEDS
AVERAGE EMPLOYEE OCCUPANCY=8 EMPLOYEES

REQUIRED NUMBER OF SPACES FOR NURSING HOME USE = 1 SPACE/3 BEDS AND 1 SPACE PER EMPLOYEE BASED ON EXPECTED AVERAGE EMPLOYEE OCCUPANCY.
REQUIRED NUMBER OF SPACES = 1/3 SPACE X 45 BEDS + 1 SPACE X 8 EMPLOYEES = 23 SPACES
PROPOSED NUMBER OF SPACES=25 SPACES
13. THE PROJECT IS SUBJECT TO AN APPROVED VARIATION FROM THE TOWN OF CASCO ZONING BOARD OF APPEALS FOR THE EXPANSION OF THE NONCONFORMITY RELATED TO THE REQUIRED NET RESIDENTIAL AREA FOR THE PROPOSED NUMBER OF BEDS WITHIN THE FACILITY. THE VARIANCE WAS APPROVED ON APRIL 21, 2026 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 42215 PAGE 18.

GROSS LAND AREA:	365,277 S.F. (8.39 ACRES ±)
DEDUCTIONS:	
1. STEEP SLOPES (>25%)	12,809 S.F.
2. ISOLATED LAND	0 S.F.
3. WATERBODIES OR WETLANDS	165,820 S.F.
4. FLOODPLAIN OR FLOODWAY	0 S.F.
5. REMOVED TOPSOIL	0 S.F.
6. RESOURCE PROTECTION	0 S.F.
7. CREATED LAND	0 S.F.
8. RIGHT OF WAYS	0 S.F.
9. UNCLAIMED GRAVEL PITS	0 S.F.
10. CLEAR CUT LAND	0 S.F.
11. VERY POORLY DRAINED SOILS	0 S.F.
SUBTOTAL	186,648 S.F.
C. 15% OF REMAINING AREA FOR PARKING	27,997 S.F.
TOTAL NET RESIDENTIAL AREA:	<u>158,651 S.F. (3.64 ACRES)</u>
REQUIRED NET RESIDENTIAL AREA FOR PROPOSED EXPANSION	45 BEDS
PROPOSED NUMBER OF BEDS:	285,000 S.F. (6.54 ACRES)
REQUIRED NET RESIDENTIAL AREA FOR 45 BEDS:	160,000 S.F. ± 45 BEDS ± 5,000 S.F.)
	*SEE GENERAL NOTE 13 FOR APPROVED VARIANCE INFORMATION

[illegible]

P.O. BOX 11116
WINDHAM, ME 04062

REV	DATE	BY	DESCRIPTION
A	5/26/26	JRH	ISSUED FOR PERMITTING
B	6-12-26	JRH	CONSULTANT COORDINATION SET
C	6/25/26	JRH	CONSULTANT COORDINATION SET
D	9/2/26	JRH	REVISED PER TOWN REVIEW

960 MEADOW ROAD
CASCO, MAINE 04015

S-1

LEGEND

EXISTING	PROPOSED
	PROPERTY LINE/R.O.W.
	ABUTTER PROPERTY LINE
	BUILDING
	EDGE OF PAVEMENT/CURB
	EDGE OF CONCRETE
	SIGN
	CONTOUR LINE
	ODD CONTOUR LINE
	STONE WALL
	CULVERT/STORMDRAIN
	UNDERDRAIN
	SEWER MANHOLE
	SANITARY SEWER PIPE
	FORCE MAIN
	WELL
	UTILITY POLE
	OVERHEAD UTILITIES
	UNDERGROUND UTILITIES
	RIPRAP
	SILT FENCE

PROPOSED

EROSION AND SEDIMENTATION CONTROL NOTES:

EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY.

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) SHALL BE EMPLOYED:

1. POLLUTION PREVENTION

MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OF THE PROJECT SITE.

WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

2. TEMPORARY SOIL STABILIZATION BMPs

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED. ANY DISTURBED SOIL WITHIN 75' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 48 HOURS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. ALL OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 7 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEEDED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE. EROSION CONTROL MIX CAN BE USED AS A STAND-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:

- ORGANIC MATTER CONTENT SHALL BE BETWEEN 80-100%, DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6 IN. SCREEN AND BETWEEN 70-85% PASSING 0.75 IN. SCREEN
- ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX

WHEN USED AS MULCH, THE THICKNESS OF THE EROSION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

CHEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. EROSION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED BY PERMANENT VEGETATION. WHEN MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY MULCH IS ESTABLISHED PRIOR TO OCTOBER 15, TEMPORARY MULCH SHALL BE APPLIED THROUGH THE WINTER AND TEMPORARY VEGETATION SHALL BE PLANTED AT THE BEGINNING OF THE GROWING SEASON OF THE FOLLOWING YEAR. TO PREPARE THE SEEDED AREA, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P205-K20) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSEN SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING TABLE:

SEED	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	40	4/1 - 7/1 8/15 - 9/15
ANNUAL REYGRASS	80	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

3. SEDIMENT BARRIER BMPs

PRIOR TO CONSTRUCTION TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS INCLUDE ANY OF THE FOLLOWING:

FILTER BARRIER FENCE, ALSO CALLED SILT FENCE, SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE FILTER FABRIC SHALL BE A PREVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND POST SPACING SHALL NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPLICED USING POSTS WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO BURIAL.

EROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE A LARGER WIDTH BERM. EROSION CONTROL MIX BERMS SHALL BE PROHIBITED AT THE BASE OF A LONG OR STEEP SLOPE (8% OR GREATER) WITHOUT THE ADDITIONAL SUPPORT OF A FILTER FENCE INSTALLED ON THE DOWNHILL SIDE OF THE BERM.

SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED RUNNING ONTO THE STOCKPILE. SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR EDGES OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT WILL BE NECESSARY TO INSTALL A SEDIMENT BASIN UPGRADEMENT OF THE SEDIMENT BARRIER. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL EITHER BE REMOVED OR GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

TEMPORARY EROSION CONTROL MEASURES ARE REMOVED ONCE THE SITE IS PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

4. STORM DRAIN INLET PROTECTION

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPs ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON WHICH TYPE OF PARTIALLY PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

5. STABILIZED CONSTRUCTION ENTRANCE/EXIT

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH 2:1 SLOPE AND BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 10 FEET TO THE PAD SIDE, EXTEND 10 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 10 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MUD-TRACKING PRIOR TO THE NEXT STORM EVENT. MAINTAIN THE PAD UNTIL ALL DISTURBED AREAS ARE STABILIZED.

6. DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

7. LAND GRADING AND SLOPE PREPARATION

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 7 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, RUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

8. TOPSOIL

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUCE COMPACTION IS TO BE AVOIDED.

9. PERMANENT SOIL STABILIZATION

IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AVOID AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

SEEDED AREAS: TO PREPARE THE SEEDED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES, ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED MIXTURES. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS. FOR SEEDED AREAS TO BE PERMANENTLY STABILIZED, 90% OF THE DISTURBED SOIL SHALL BE COVERED WITH MATURE HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRE OR PINS. IRRIGATE SODDED AREA IMMEDIATELY AFTER INSTALLATION. FOR SODDED AREAS TO BE PERMANENTLY STABILIZED, THE ROOTS OF THE SOD MUST BE COMPLETELY UNDO TO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AROUND DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH.

RIRAPR STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNEVEN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE DEPTH OF STONE SHALL BE A MINIMUM OF 2.2 TIMES THE MAXIMUM STONE DIAMETER. A GRAVEL OR GEOTEXTILE FILTER BLANKET SHALL BE PLACED BETWEEN THE RIPRAP AND UNDERLYING SOIL SURFACE. GRAVEL FILTER BLANKETS SHALL MEET MDOT TYPE-C UNDERDRAIN MATERIAL SPECIFICATIONS AND BE AT LEAST 6 INCHES THICK. GEOTEXTILE FILTER BLANKETS SHALL BE SPECIFIED BASED ON SITE CONDITIONS. RIPRAP SLOPES SHALL BE TIED INTO THE BASE OF THE EMBANKMENT BY EXCAVATING A TRENCH AT THE BOTTOM OF THE SLOPE AND INSTALLING A STABLE BASE OF RIPRAP TO GRADE.

DITCHES, CHANNELS AND SWALES ARE CONSIDERED PERMANENTLY STABILIZED WHEN THE CHANNEL HAS 90% COVER OF HEALTHY VEGETATION WITH A WELL-GRADED RIPRAP LININGS, EROSION CONTROL BLANKET, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE BANKS, OR DOWNCUTTING OF THE CHANNEL.

10. STORMWATER CHANNELS

EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL. PROPERLY DESIGNED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

INSPECTION & MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ALL CONSTRUCTION OPERATIONS COMPLY WITH THE INSPECTION AND MAINTENANCE PROCEDURES FOR THE PROJECT, INCLUDING, BUT NOT LIMITED TO THOSE INCLUDED IN THIS PLAN SET, THE "INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN," AND THE "MANAGING EROSION AND SEDIMENTATION CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS". INSPECTION SHALL OCCUR ON ALL DISTURBED AND IMPEVIOUS AREAS, EROSION CONTROL MEASURES, MATERIAL STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE AREAS SHALL BE ONCE A WEEK AT LEAST ONCE A WEEK AS WELL AS 24 HOURS BEFORE AND AFTER A STORM EVENT GENERATING MORE THAN 0.5 INCH OF RAINFALL OVER A 24-HOUR PERIOD AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.

2. EROSION CONTROLS SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF BMPs NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPs ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS NEEDED, IMPLEMENTATION MUST BE COMPLETED WITHIN SEVEN CALENDAR DAYS AND PRIOR TO ANY RAINFALL EVENT.

3. A REPORT SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN MUST BE MAINTAINED ON SITE. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS; THE DATE(S) OF THE INSPECTIONS; AND THE MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPs, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO MDP AND TOWN STAFF, AND A COPY MUST BE PROVIDED UPON REQUEST. THE OWNER SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

WINTER EROSION AND SEDIMENTATION CONTROL NOTES:

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENIED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED, SEEDED AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

1. NATURAL RESOURCE PROTECTION

ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

2. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

3. MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENIED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL APPLICATION RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 15T, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4. SOIL STOCKPIILING

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE FOR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

5. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOOSED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.

6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS

ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY NOVEMBER 1. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A GRASS-LINED DITCH OR CHANNEL IS NOT STABILIZED BY SEPTEMBER 1, THEN EITHER A SOD LINING SHALL BE INSTALLED PRIOR TO OCTOBER 1 OR THE DITCH MUST BE LINED WITH STONE RIPRAP BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE PRIOR TO NOVEMBER 1.

7. OVER-WINTER STABILIZATION OF DISTURBED SLOPES

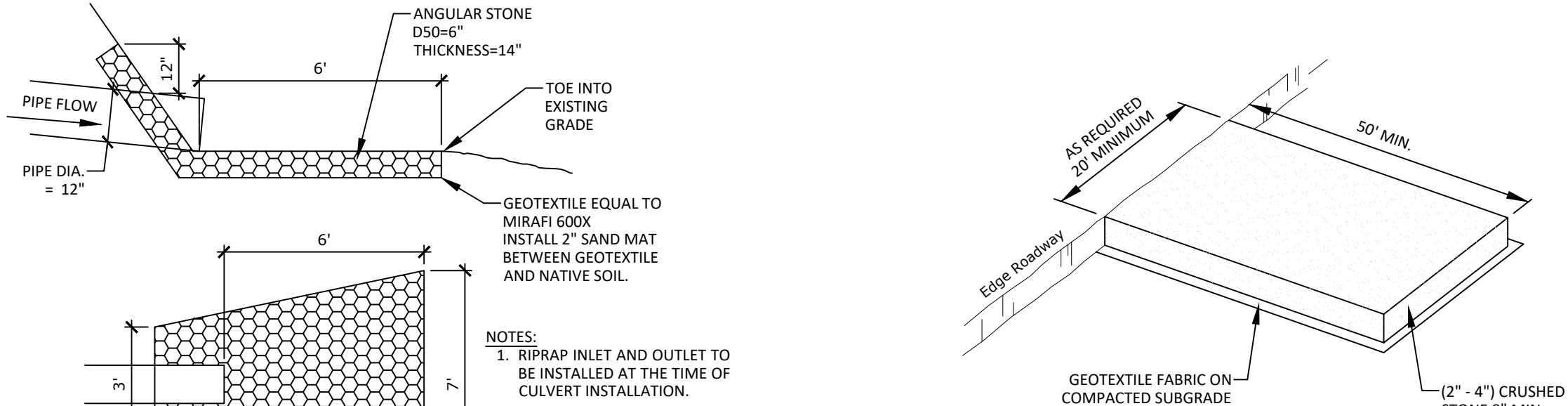
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. ALL AREAS HAVING A GRADE STEEPER THAN 8% SHALL BE CONSIDERED A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN THE SLOPE SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1, SOD BY OCTOBER 1, EROSION CONTROL MIX BY NOVEMBER 1 OR STONE RIPRAP BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

8. OVER-WINTER STABILIZATION OF DISTURBED SLOPES

BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN THE AREA SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION BY OCTOBER 1, SOD BY OCTOBER 1, OR MULCH BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

9. MAINTENANCE

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM, PERIOD OF THAWING AND RUNOFF AND AT LAST ONCE A WEEK, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE WINTERIZATION AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.



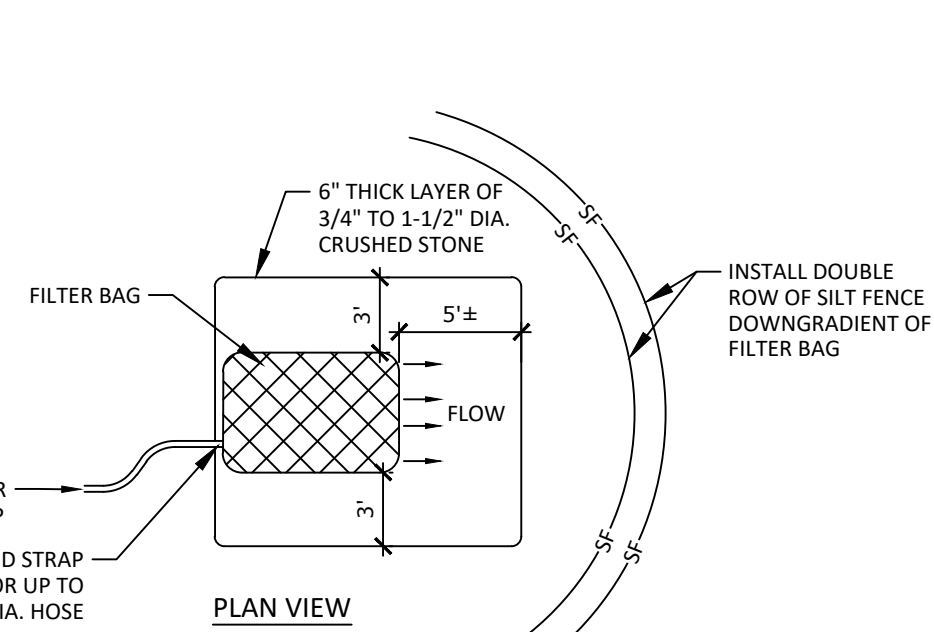
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



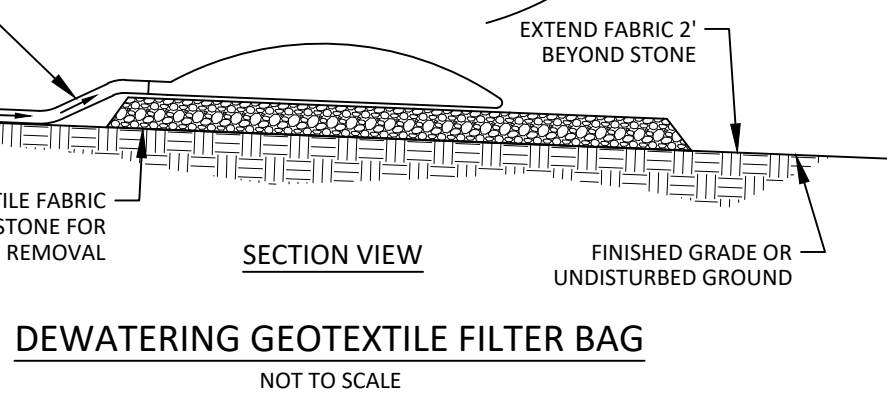
RIRAPR APRON AT PIPE

NOT TO SCALE



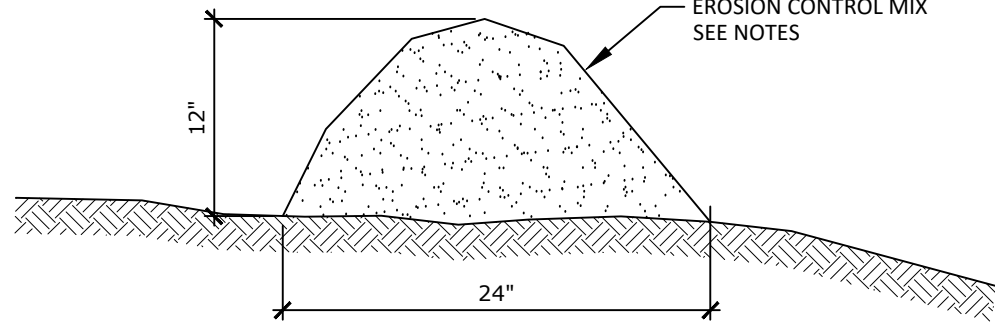
SEDIMENT FILTER FENCE

NOT TO SCALE



DEWATERING GEOTEXTILE FILTER BAG

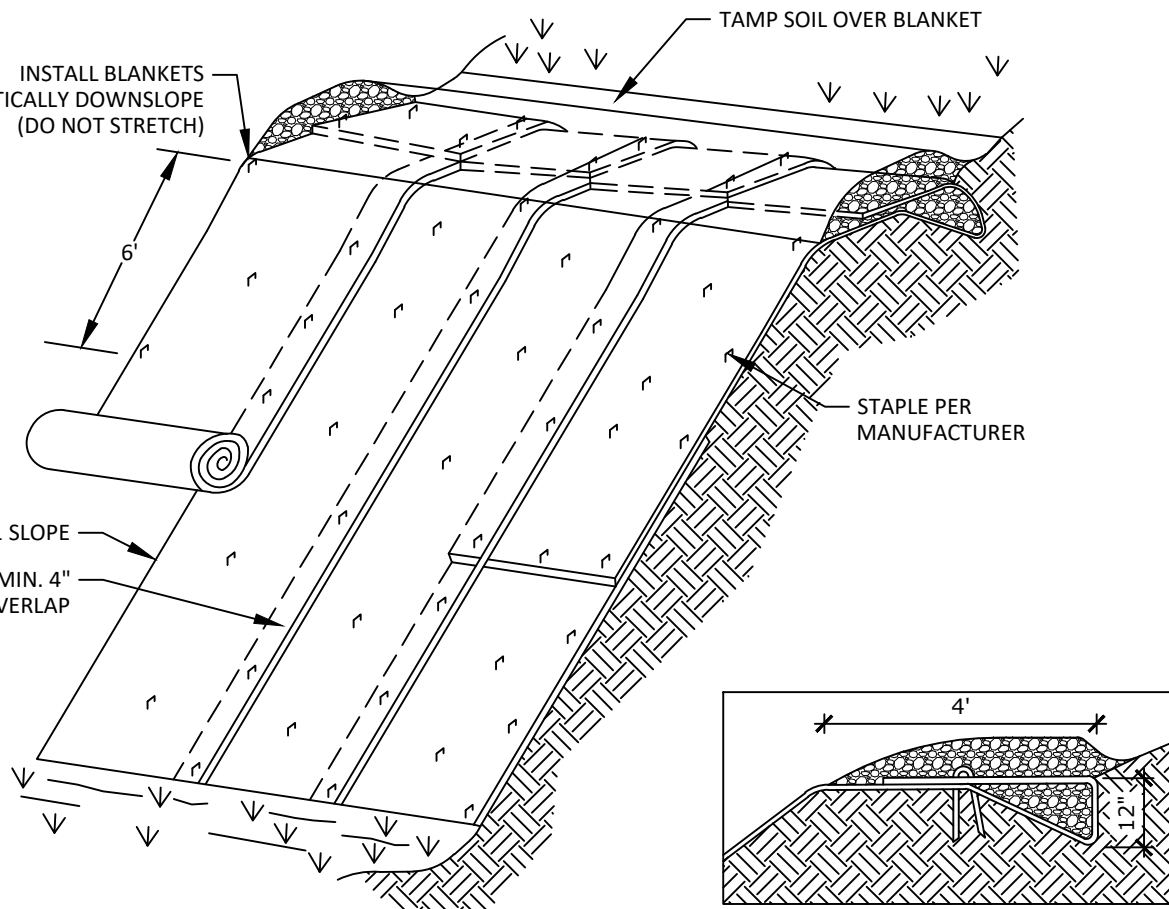
NOT TO SCALE



- NOTES:
1. EROSION CONTROL MIX BERM INSTALLED 12" HIGH AND 24" WIDE CONSISTING OF STUMP GRINDINGS WITH NO ROCKS GREATER THAN 4 INCHES OR LARGE AMOUNTS OF FINES.
 2. SEE SECTION 3 OF THE EROSION AND SEDIMENTATION CONTROL NOTES, THIS SHEET, FOR INSTALLATION LOCATION REQUIREMENTS AND ADDITIONAL DETAIL.

EROSION CONTROL MIX BERM

NOT TO SCALE

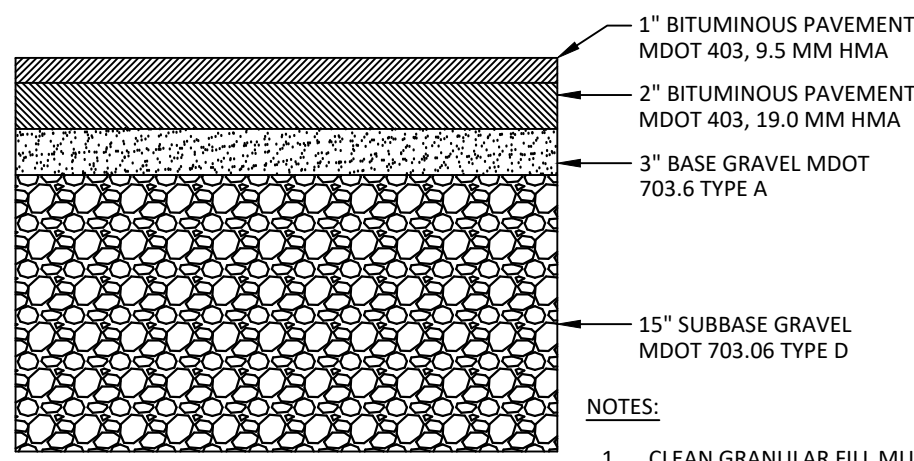


EROSION CONTROL BLANKET

NOT TO SCALE

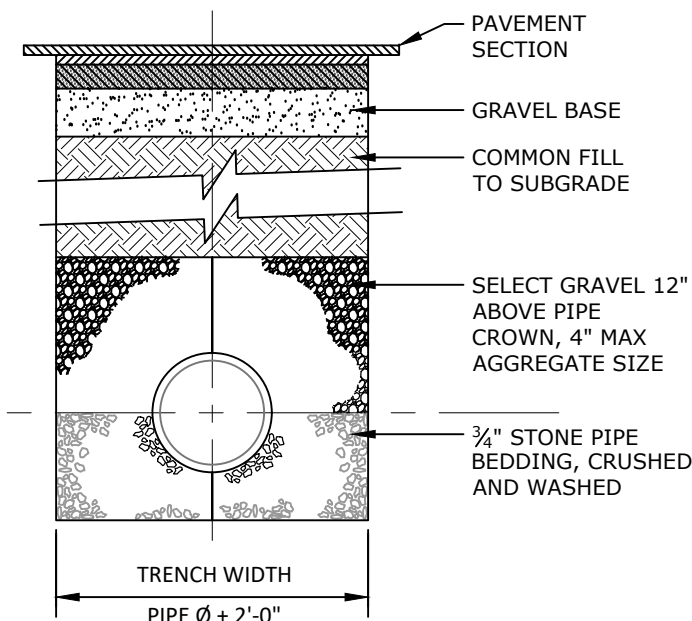
HOUSEKEEPING NOTES

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE ENTER CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.
2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.
3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE USED AS NECESSARY. A STABILIZED CONSTRUCTION ENTRANCE (SEE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.
4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. EXCAVATION DE-WATERING: EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. CONTRACTOR'S NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES, WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
 - (a) DISCHARGES FROM FIREFIGHTING ACTIVITY;
 - (b) FIRE HYDRANT FLUSHINGS;
 - (c) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF

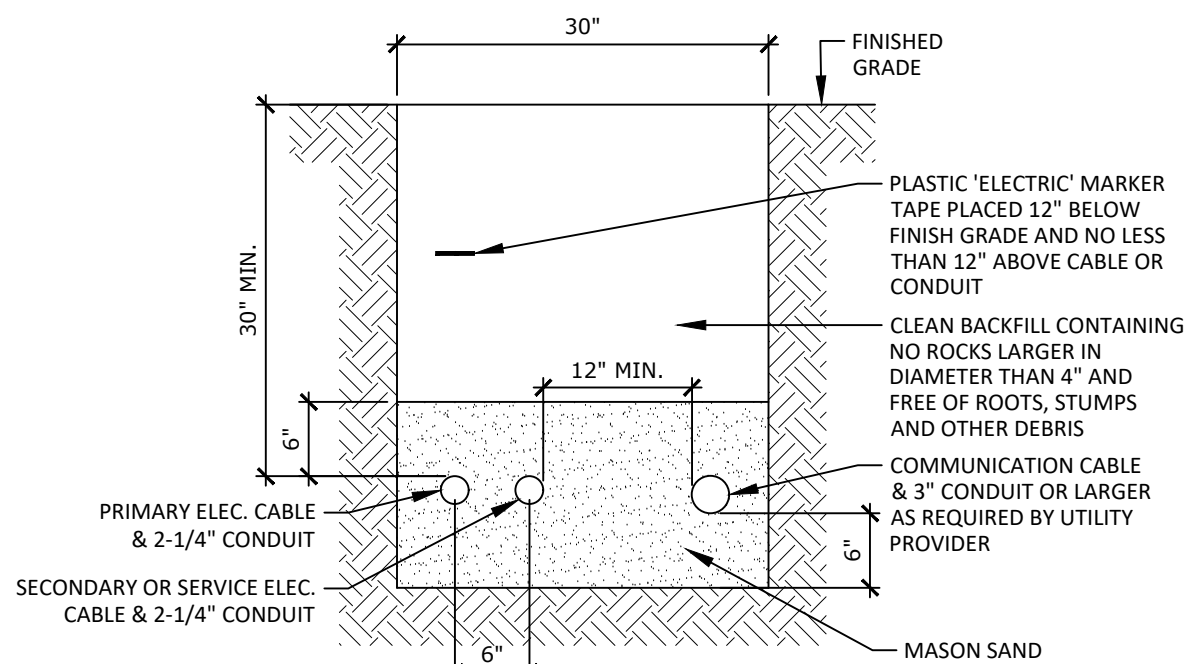


TYPICAL PAVEMENT SECTION
NOT TO SCALE

- NOTES:
- CLEAN GRANULAR FILL MUST BE FREE OF ROCKS LARGER THAN 12 INCHES, STUMPS, DEBRIS, ORGANIC MATERIAL AND FROZEN MATERIAL.

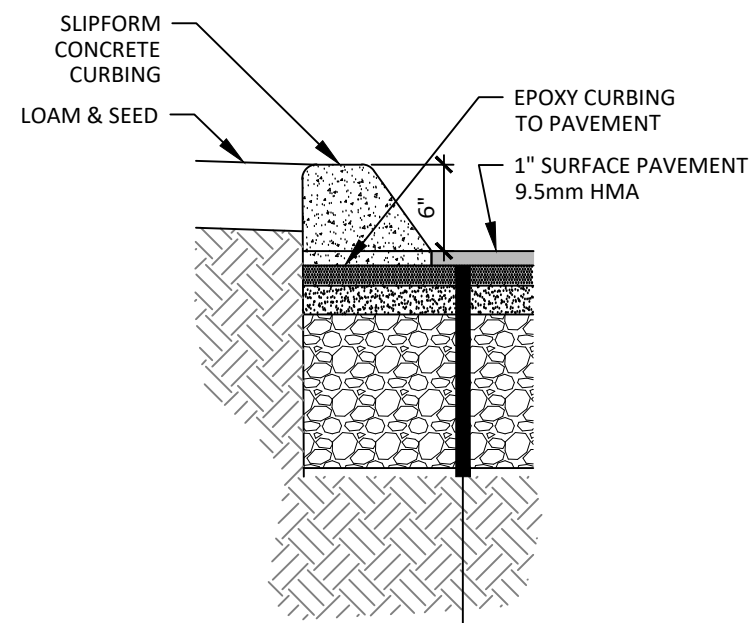


TYPICAL TRENCH SECTION
NOT TO SCALE



- NOTES:
- CONDUIT SIZE AND MATERIAL AS SPECIFIED BY THE UTILITY PROVIDER.
 - INSTALLATION SHOULD NOT ALLOW THE INTER-TWINGING OF CABLES.
 - BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
 - COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.

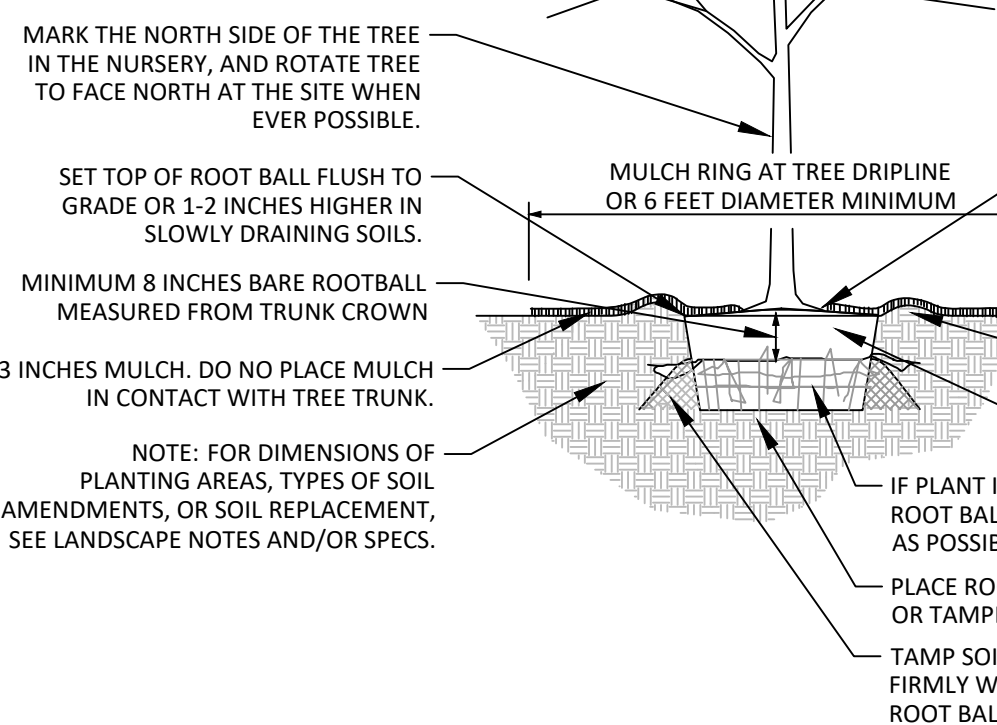
UTILITY TRENCH DETAIL
NOT TO SCALE



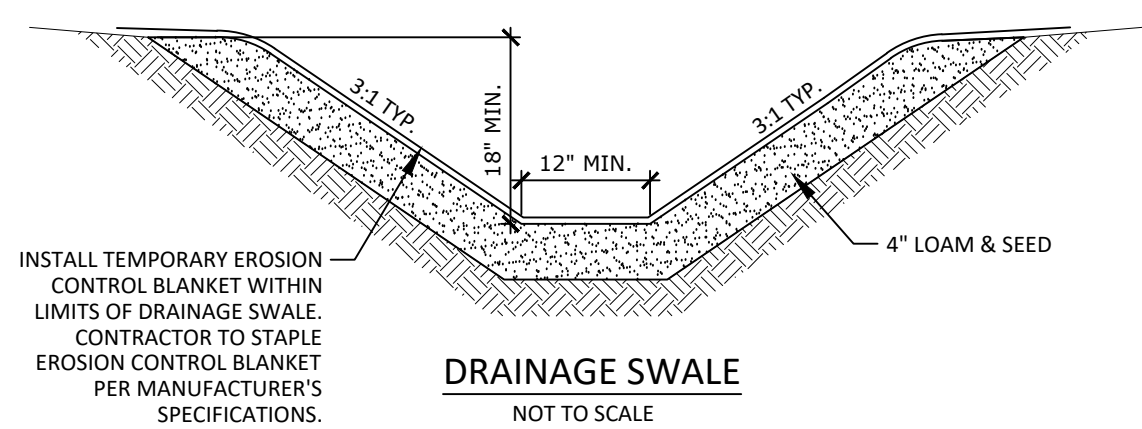
TYPICAL CURB SECTION
NOT TO SCALE

INSTALLATION NOTES:

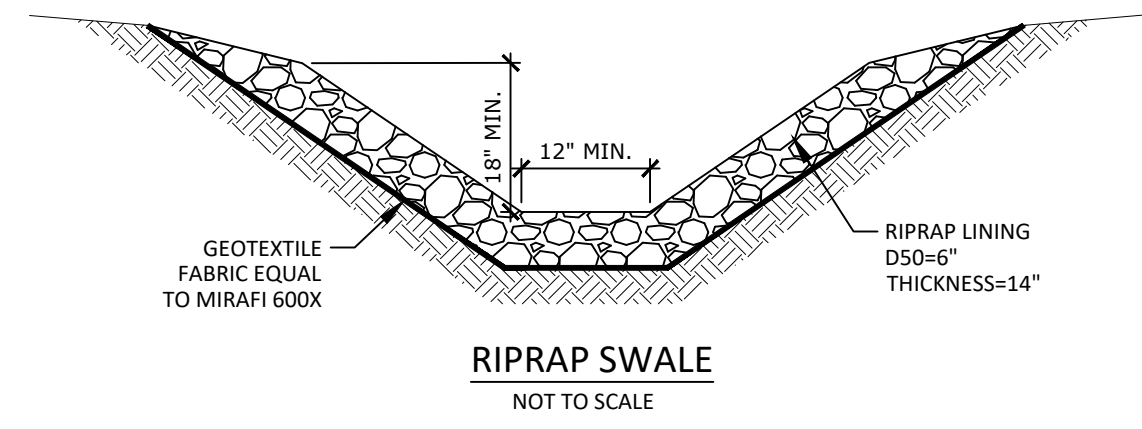
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE DESIGNER.
- WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE DESIGNER.



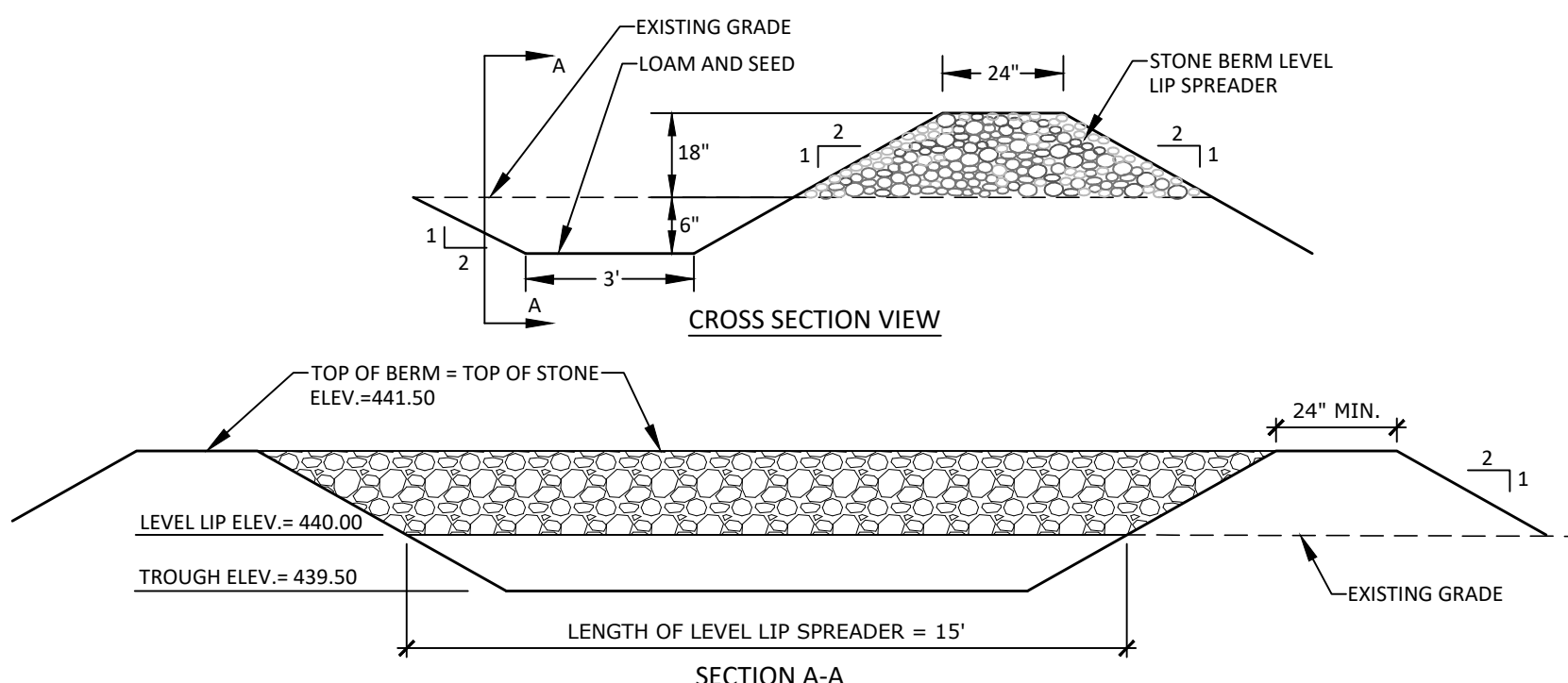
TREE INSTALLATION DETAIL - BALL & BURLAP
NOT TO SCALE



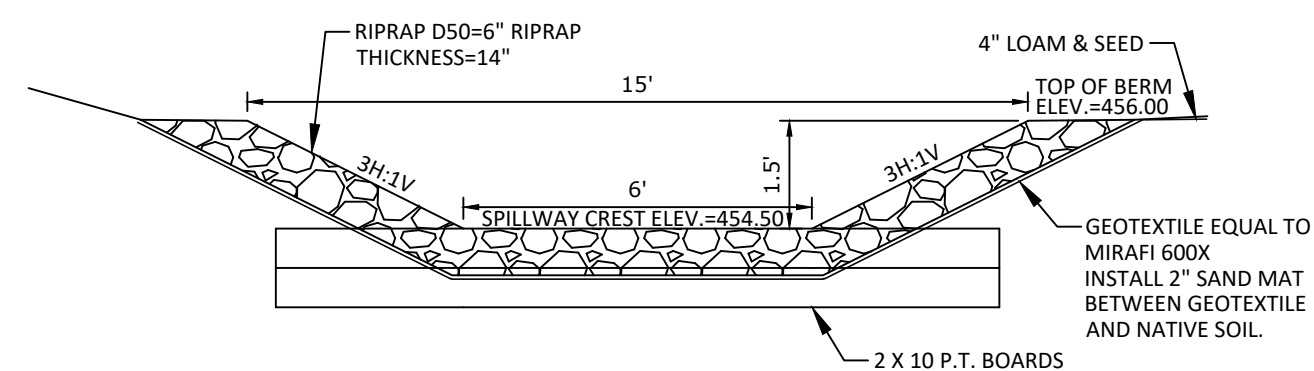
DRAINAGE SWALE
NOT TO SCALE



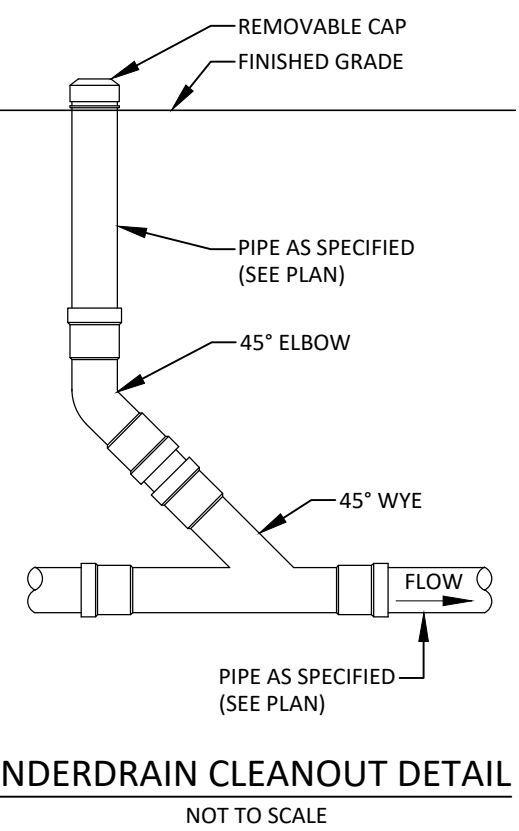
RIPRAP SWALE
NOT TO SCALE



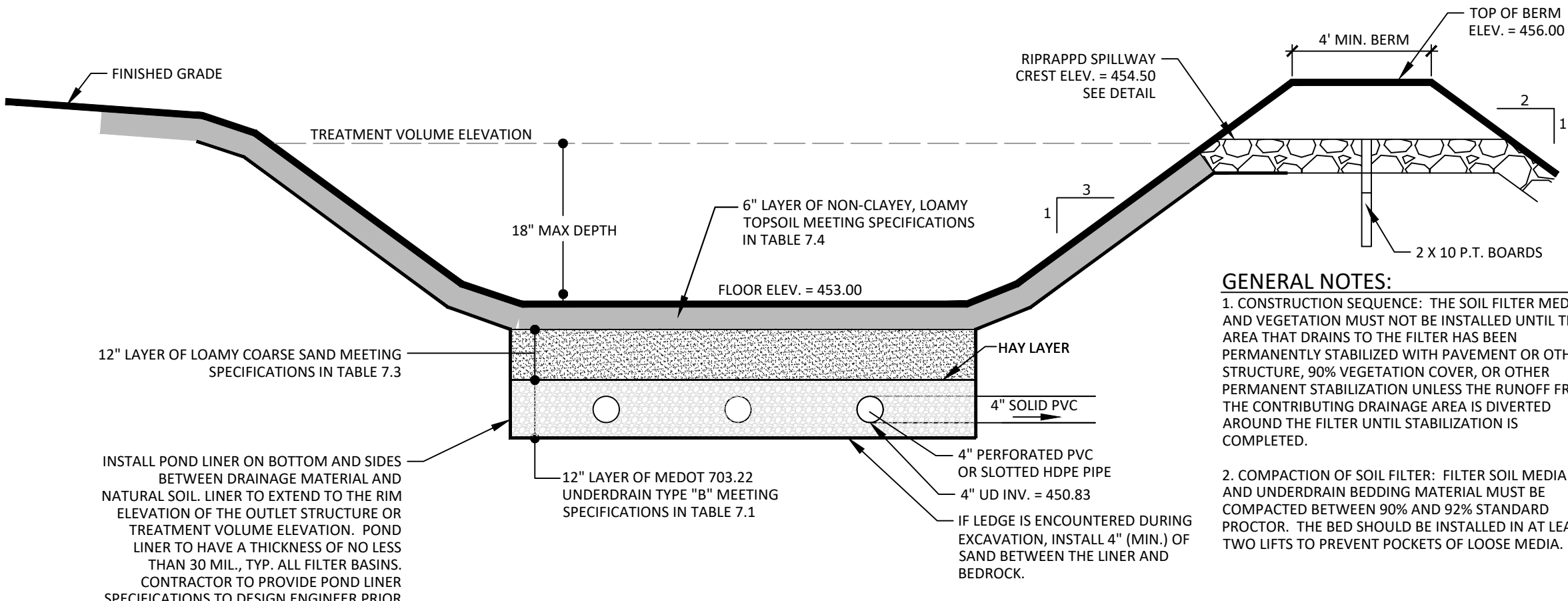
STORMWATER LEVEL LIP SPREADER
NOT TO SCALE



RIPRAPPED SPILLWAY CROSS-SECTION
NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE



- GENERAL NOTES:
- CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
 - COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS TO PREVENT POCKETS OF LOOSE MEDIA.

TABLE 7.1 UNDERDRAIN 703.22 TYPE "B"		
SIEVE SIZE	% PASSING BY WEIGHT	
1"	90-100	
1/2"	75-100	
#4	50-100	
#20	15-80	
#50	0-15	
#200	0-5	

TABLE 7.4 SANDY LOAM		
SIEVE SIZE	% PASSING BY WEIGHT	
#4	75-95	
#10	60-90	
#40	35-85	
#200	20-70	
200 CLAY	<2.0	

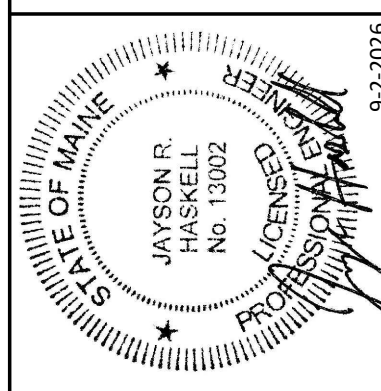
TABLE 7.3 LOAMY COARSE SAND		
SIEVE SIZE	% PASSING BY WEIGHT	
#10	85-100	
#20	70-100	
#60	15-40	
#200	8-15	
200 CLAY	<2.0	

GRASSED UNDERDRAINED
SOIL FILTER BASIN SECTION
NOT TO SCALE

FILTRATION BMPs CONSTRUCTION OVERSIGHT NOTES:

- INSPECTION BY THE DESIGN ENGINEER OR SUITABLE THIRD PARTY WILL OCCUR AT A MINIMUM:
 - AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
 - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
 - AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
 - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
 - EALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING MDEP SPECIFICATIONS.
- TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
 - SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
 - PERFORM A SIEVE ANALYSIS CONFORMING TO STM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
 - PERFORM A PERMIABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698
- WITHIN 30 DAYS OF COMPLETION OF THE FILTRATION BMP, THE APPLICANT SHALL SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE MAINE DEP BUREAU OF LAND RESOURCES FOR REVIEW.

NOT FOR
CONSTRUCTION



DM ROMA
CONSULTING ENGINEERS

P.O. BOX 1116
WINDHAM, ME 04092
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5/26/26	JRH	ISSUED FOR PERMITTING
B	6-12-26	JRH	CONSULTANT COORDINATION SET
C	6-25-26	JRH	CONSULTANT COORDINATION SET
D	9-2-26	JRH	REVISED PER TOWN REVIEW

DETAILS

COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION

960 MEADOW ROAD
CASCO, MAINE

FOR: 960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

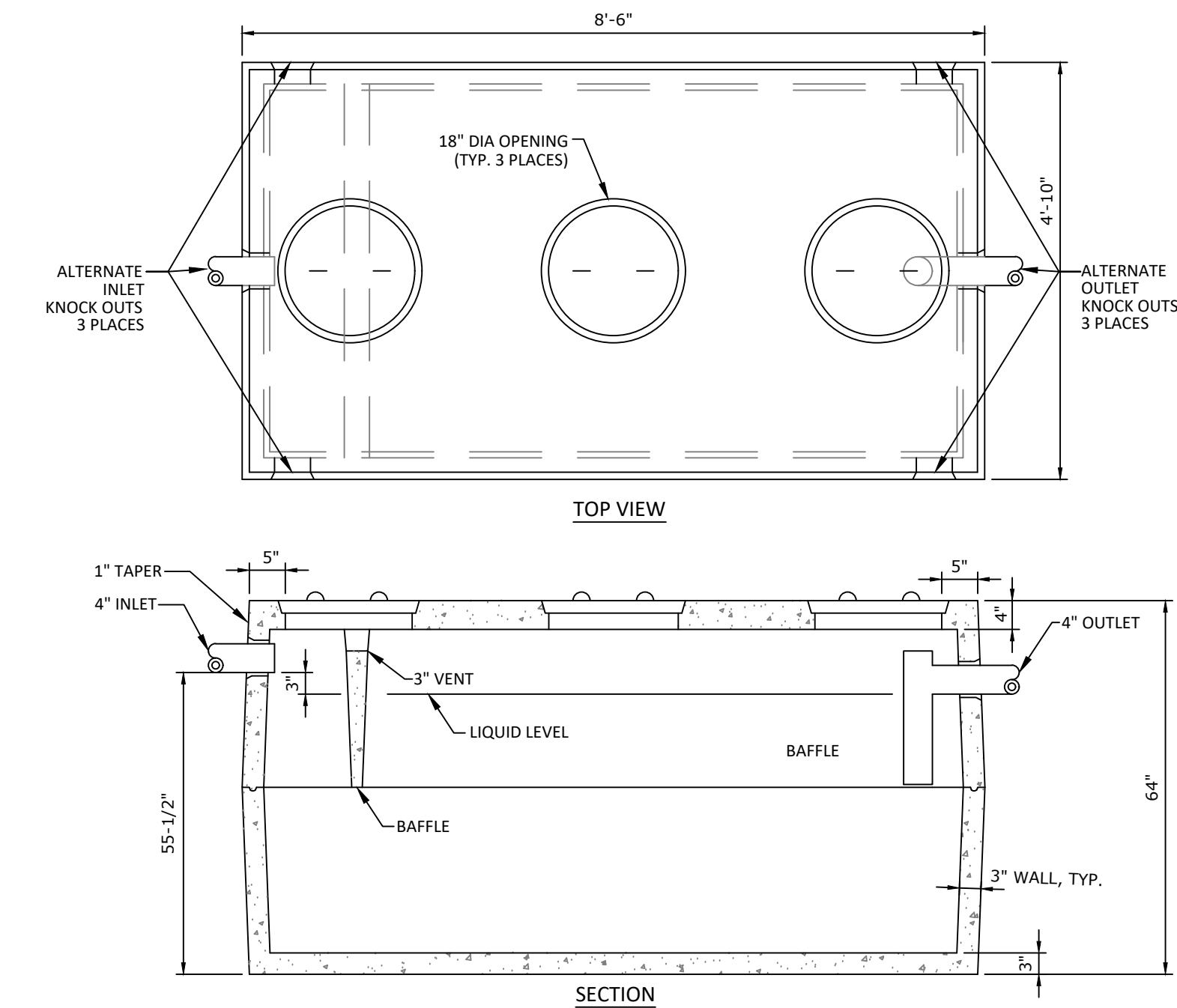
19063
JOB NUMBER:

AS NOTED
SCALE:

9-2-2026
DATE:

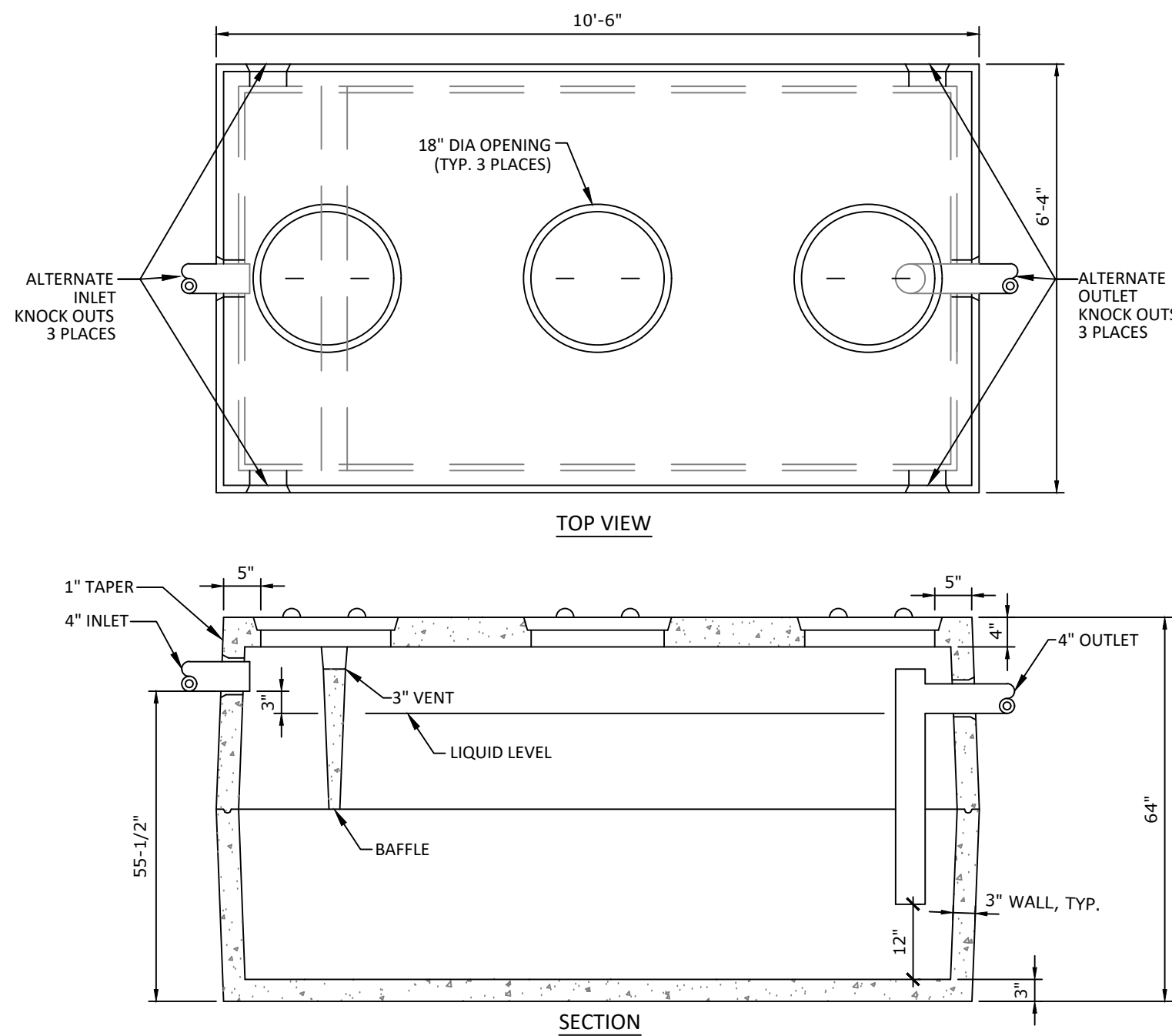
SHEET 7 OF 8

D-2



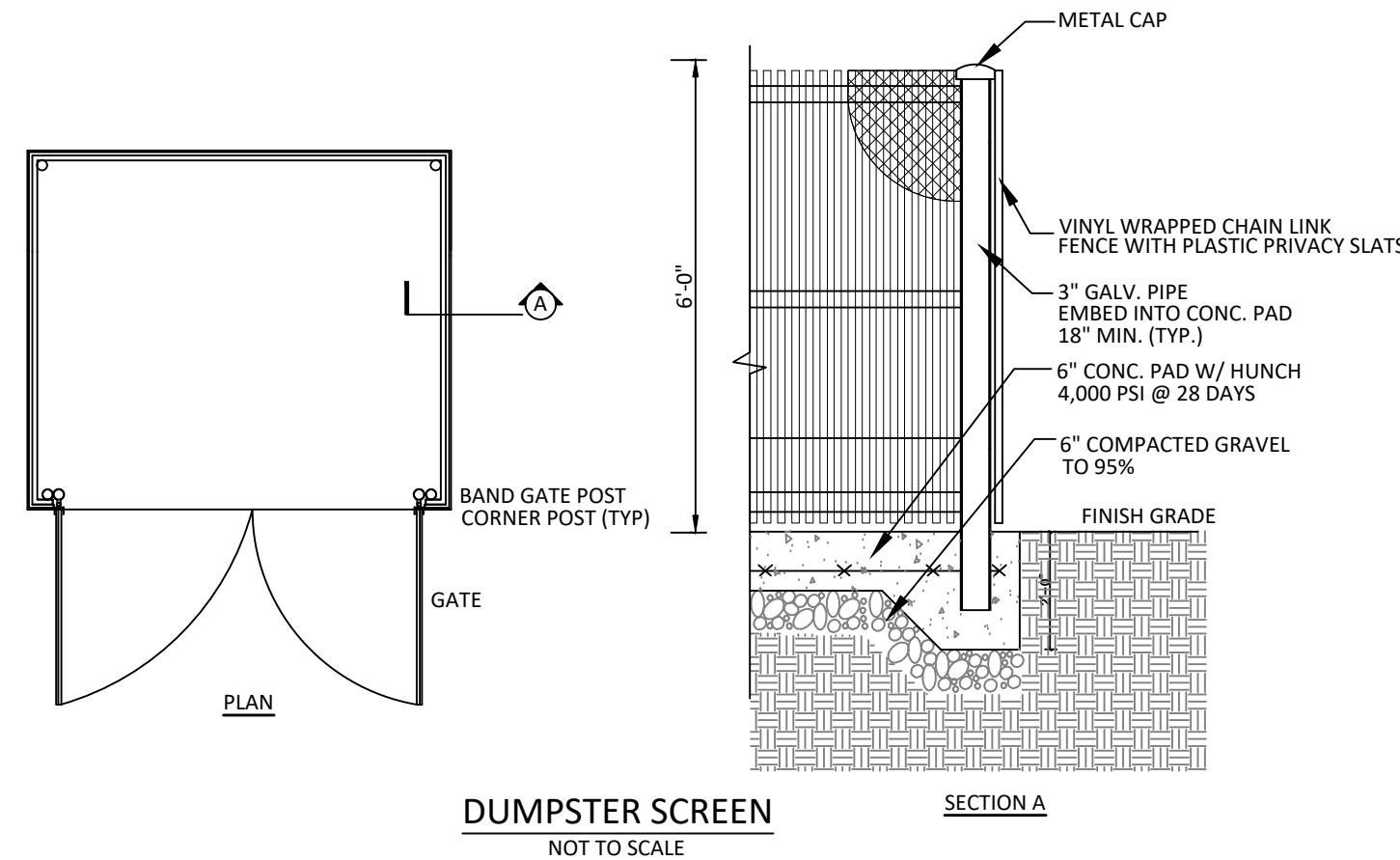
- TANK NOTES:
1. CONCRETE TO BE 4,000 PSI AT 28 DAYS.
 2. THE INLET BAFFLE IS PRECAST AS ONE UNIT WITH THE TOP SECTION.
 3. TANKS REINFORCED WITH 6X6X10 G.A. WIRE.
 4. KEYED JOINTS SEALED WITH ASPHALT SEALANT.
 5. TANKS IN PAVED AREAS TO BE REINFORCED WITH 1/2" REBAR SPACED 6" O.C. EACH WAY.
 6. TANK TO BE A 1,000 GALLON RESIDENTIAL SEPTIC TANK AS MANUFACTURED BY PRECAST CONCRETE PRODUCTS OF MAINE, INC. OR APPROVED EQUAL

1,000 GAL. RESIDENTIAL SEPTIC TANK
NOT TO SCALE

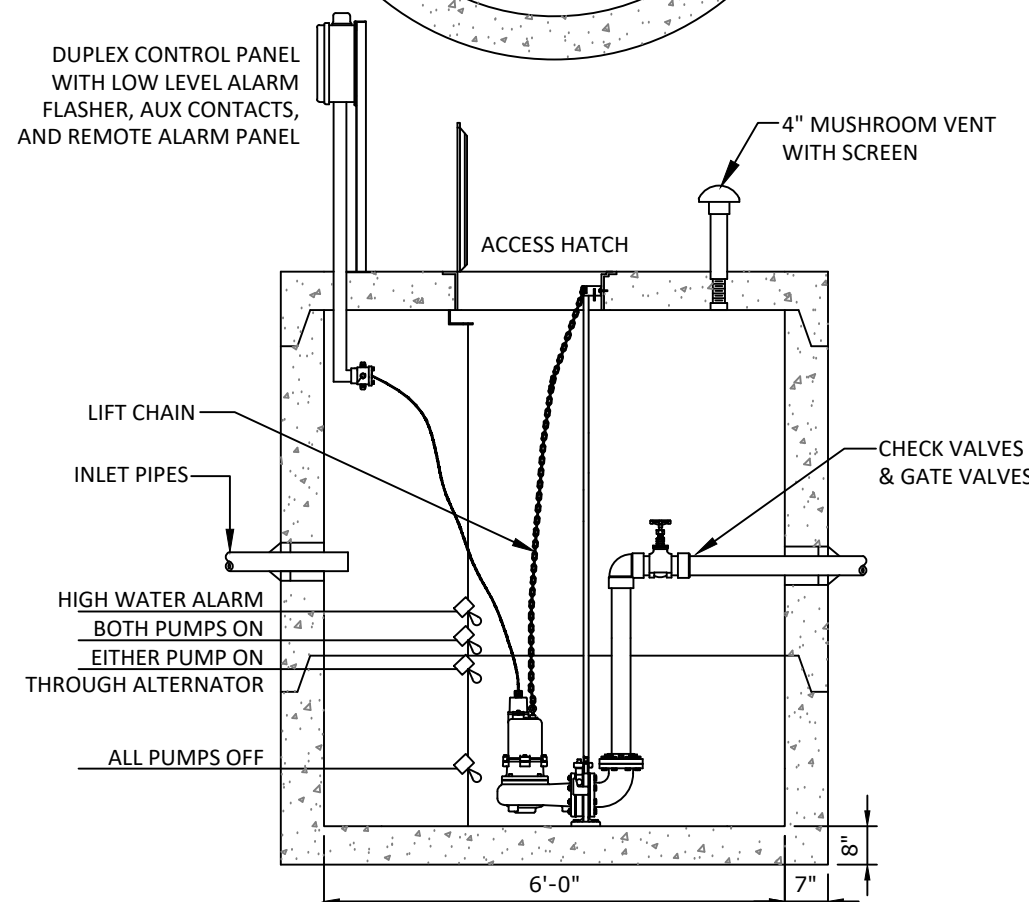
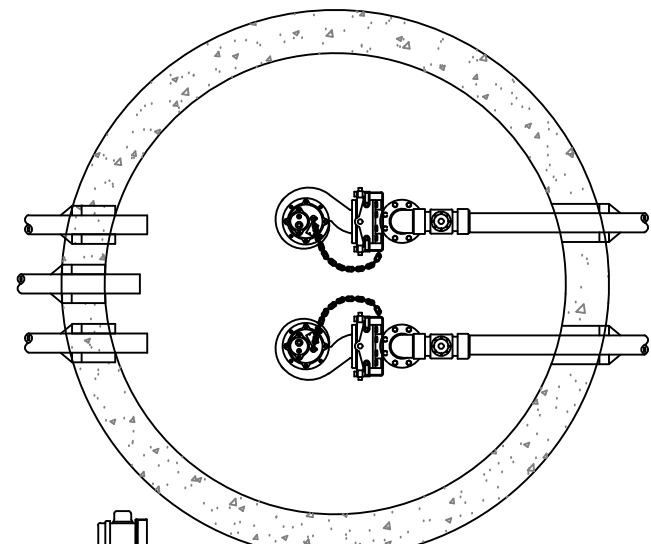


- TANK NOTES:
1. CONCRETE TO BE 4,000 PSI AT 28 DAYS.
 2. THE INLET BAFFLE IS PRECAST AS ONE UNIT WITH THE TOP SECTION.
 3. TANKS REINFORCED WITH 6X6X10 G.A. WIRE.
 4. KEYED JOINTS SEALED WITH ASPHALT SEALANT.
 5. TANKS IN PAVED AREAS TO BE REINFORCED WITH 1/2" REBAR SPACED 6" O.C. EACH WAY.
 6. TANK TO BE A 1,500 GALLON GREASE TRAP AS MANUFACTURED BY PRECAST CONCRETE PRODUCTS OF MAINE, INC. OR APPROVED EQUAL

1,500 GAL. PRECAST GREASE TRAP
NOT TO SCALE

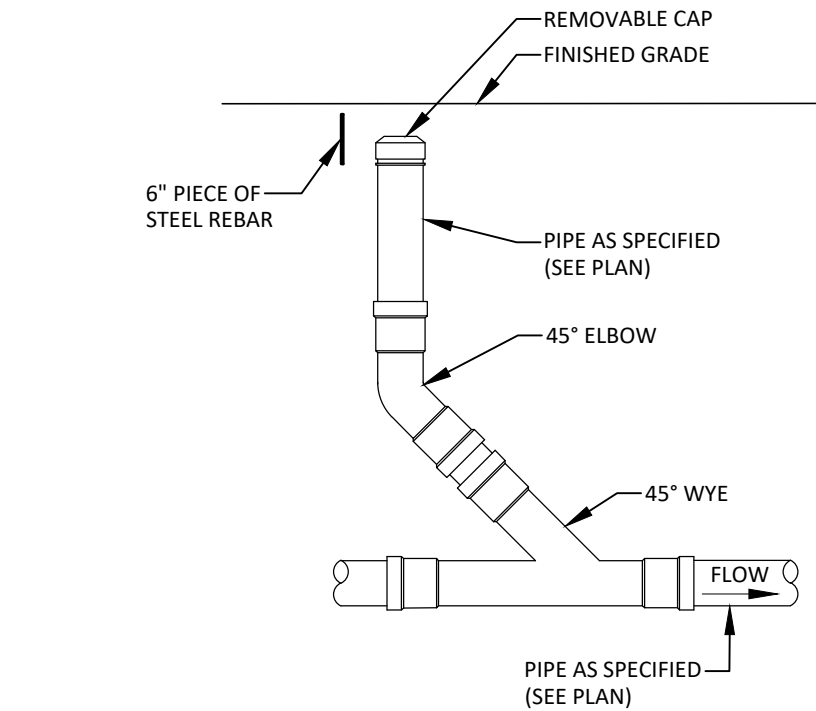


DUMPSTER SCREEN
NOT TO SCALE



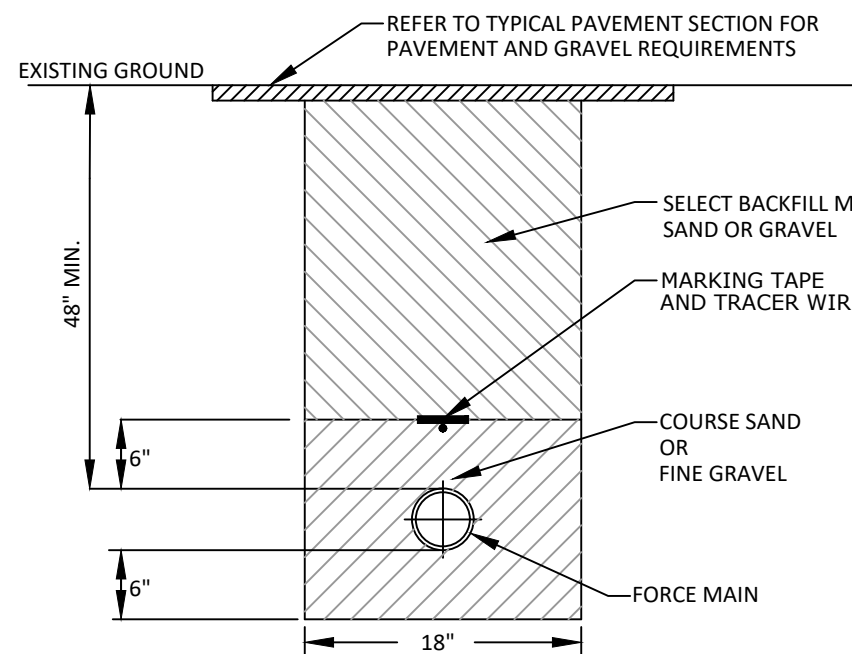
- NOTES:
1. PUMP STATION DETAIL IS FOR PRICING ONLY. FINAL DESIGN TO BE PROVIDED BY DESIGN ENGINEER PRIOR TO ISSUANCE OF DRAWINGS FOR CONSTRUCTION.

PUMP STATION DETAIL
NOT TO SCALE

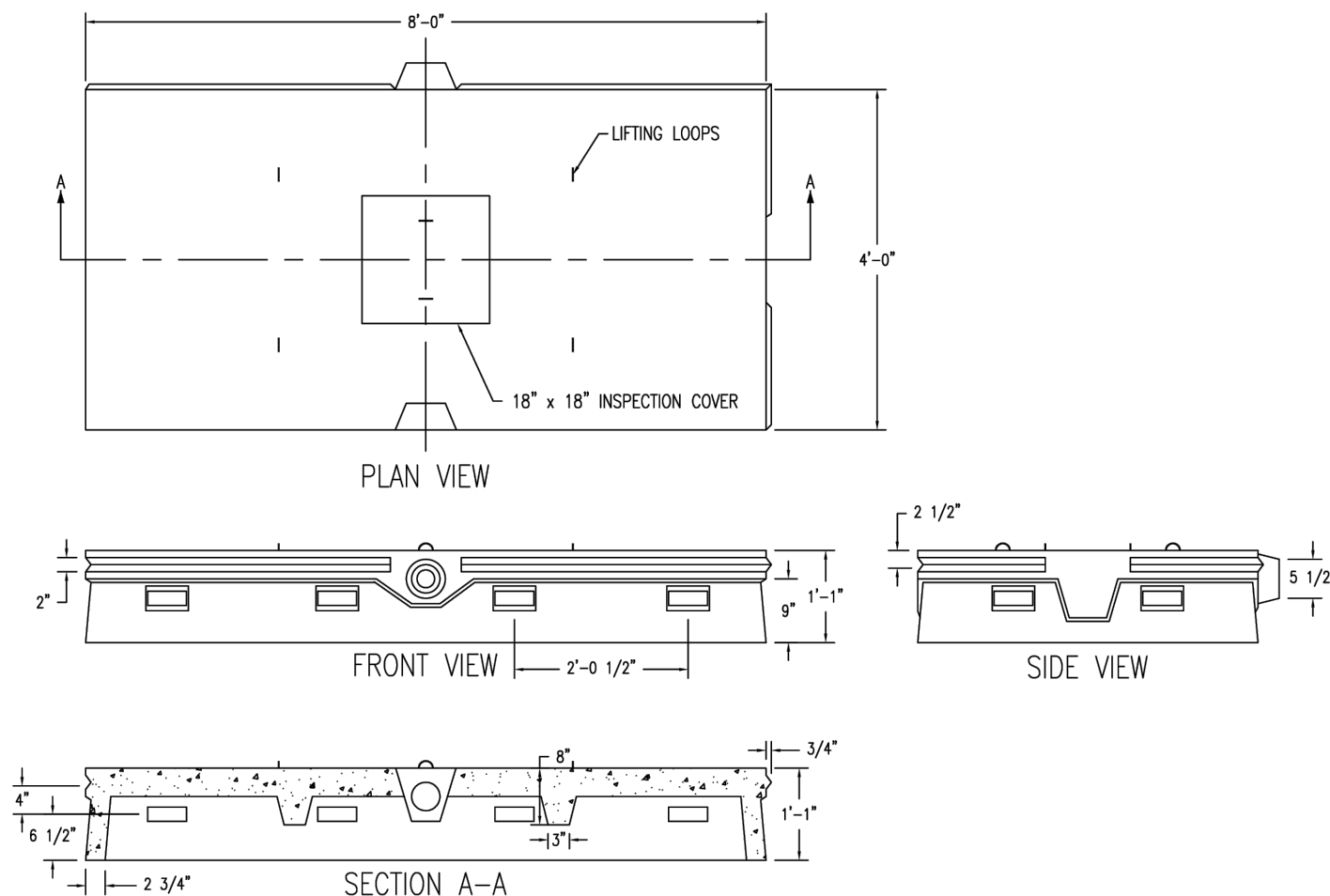


- NOTES:
1. IF CLEANOUT IS LOCATED IN PAVEMENT, INSTALL CLEANOUT BOX ASSEMBLY OVER CLEANOUT AND SET AT FINISHED PAVEMENT GRADE. BOX ASSEMBLY TO BE PRODUCT NO. 00156452W01 AS MANUFACTURED BY EAST JORDAN IRON WORKS, INC. OR APPROVED EQUAL.

SANITARY/FOUNDATION DRAIN CLEANOUT DETAIL
NOT TO SCALE

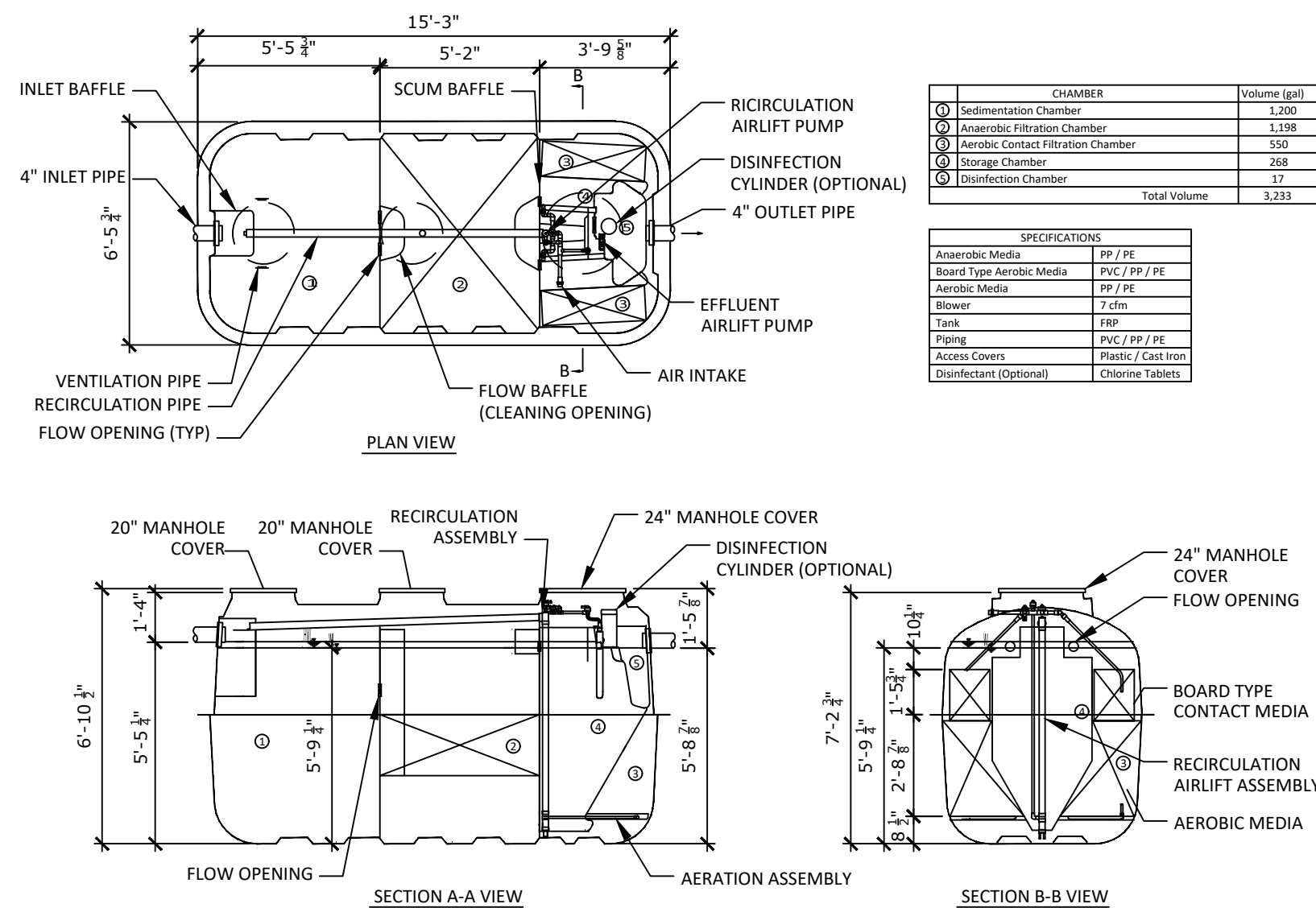


FORCE MAIN TYPICAL TRENCH CROSS-SECTION
NOT TO SCALE



- NOTES:
1. CONCRETE TO BE 4,000 PSI AT 28 DAYS.
 2. LEACHING CHAMBERS SHALL BE FLOODPUSOR LEACHING CHAMBERS AS MANUFACTURED BY PRECAST CONCRETE PRODUCTS OF MAINE, INC. OR APPROVED EQUAL.

PRECAST CONCRETE LEACHING CHAMBER
NOT TO SCALE

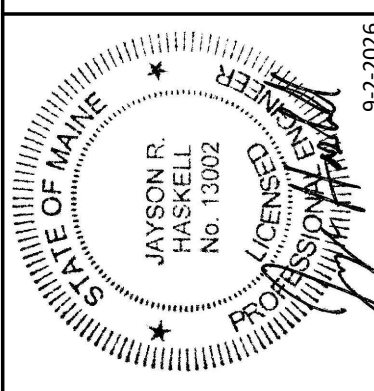


CHAMBER	Volume (gal)
① Sedimentation Chamber	1,100
② Anaerobic Filtration Chamber	1,100
③ Aerobic Contact Filtration Chamber	550
④ Storage Chamber	208
⑤ Disinfection Chamber	17
Total Volume	3,233

SPECIFICATIONS	
Anaerobic Media	PP / PE
Board Type Aerobic Media	PVC / PP / PE
Aerobic Media	PP / PE
Blower	7 cfm
Tank	FRP
Piping	PVC / PP / PE
Access Covers	Plastic / Cast Iron
Disinfectant (Optional)	Chlorine Tablets

FujiClean USA
Toward Clean Water...
FUJI CLEAN CEN21 TREATMENT DEVICE
NOT TO SCALE

NOT FOR
CONSTRUCTION

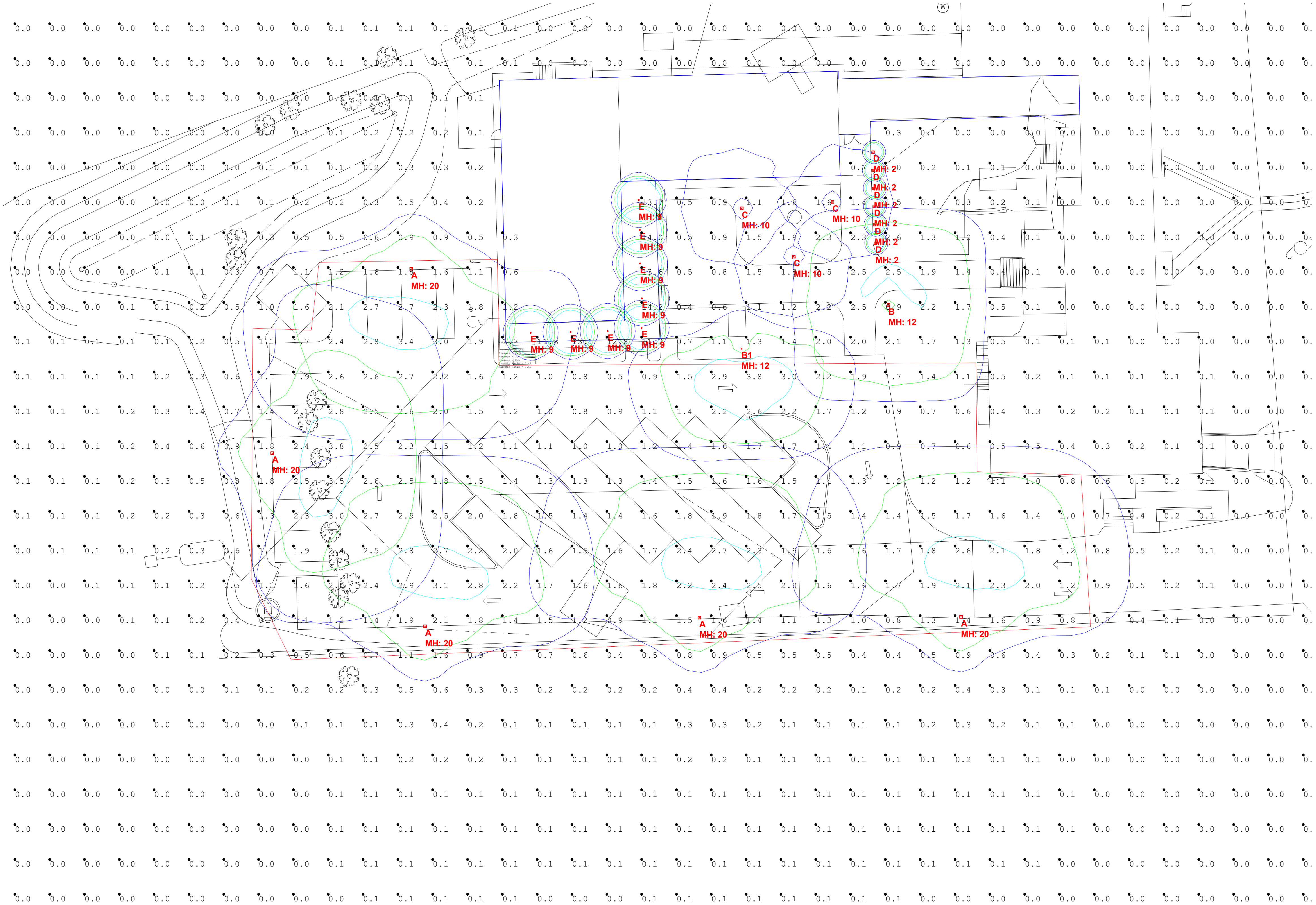


DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5/26/26	JRH	ISSUED FOR PERMITTING
B	6-12-26	JRH	CONSULTANT COORDINATION SET
C	6-25-26	JRH	CONSULTANT COORDINATION SET
D	9-2-26	JRH	REVISED PER TOWN REVIEW

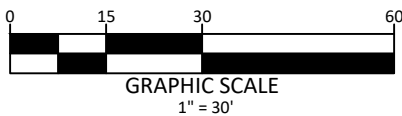
DETAILS
COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION
960 MEADOW ROAD
CASCO, MAINE
FOR: 960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

19063 JOB NUMBER:
AS NOTED SCALE:
9-2-2026 DATE:
SHEET 8 OF 8
D-3



Luminaire Schedule				LLF	Luminaire Lumens	Luminaire Watts	Total Watts
Symbol	Qty	Label	Description				
⊕	5	A	PEMCO LIGHTING: PMBOW1-XX-80W-3K-U-4-SM-XX-XX	0.900	9233	77.6	388
⊕	1	B	PEMCO LIGHTING: PORT-NL-40W-3K-U-5-XX-XX-XX-XX	0.900	4842	40.8	40.8
⊕	1	B1	PEMCO LIGHTING: PORT-NL-40W-3K-U-4-XX-XX-XX-XX	0.900	4562	40.8	40.8
⊕	3	C	PEMCO LIGHTING: CAVRD-SG-10W-3K-U-5-XX-XX	0.900	1210	10.2	30.6
⊕	6	D	WAC LIGHTING: 6041-30-XX	0.900	230	7.00991	42.059
⊕	8	E	ALPHABET: NUE4-RD-SW-10LM-30K-90-60D-CL-WH-WH	0.900	999	10.4	83.2

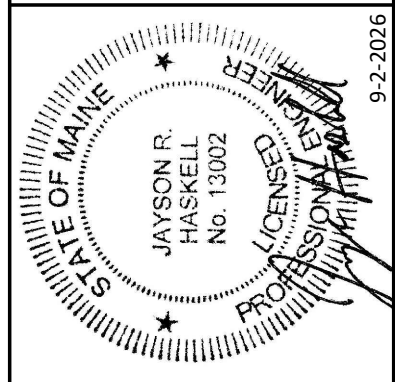
Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	
CalcPts_1	Illuminance	Fc	0.46	14.2	0.0	N.A.	N.A.	
PARKING AREA	Illuminance	Fc	1.71	3.8	0.5	3.42	7.60	



WATERSHED MAP LEGEND

	WATERSHED NO.
	REACH/STUDY POINT
	POND
	WATERSHED BOUNDARY
	TIME OF CONCENTRATION
	REACH PATH
	SOIL BOUNDARY

NOT FOR
CONSTRUCTION

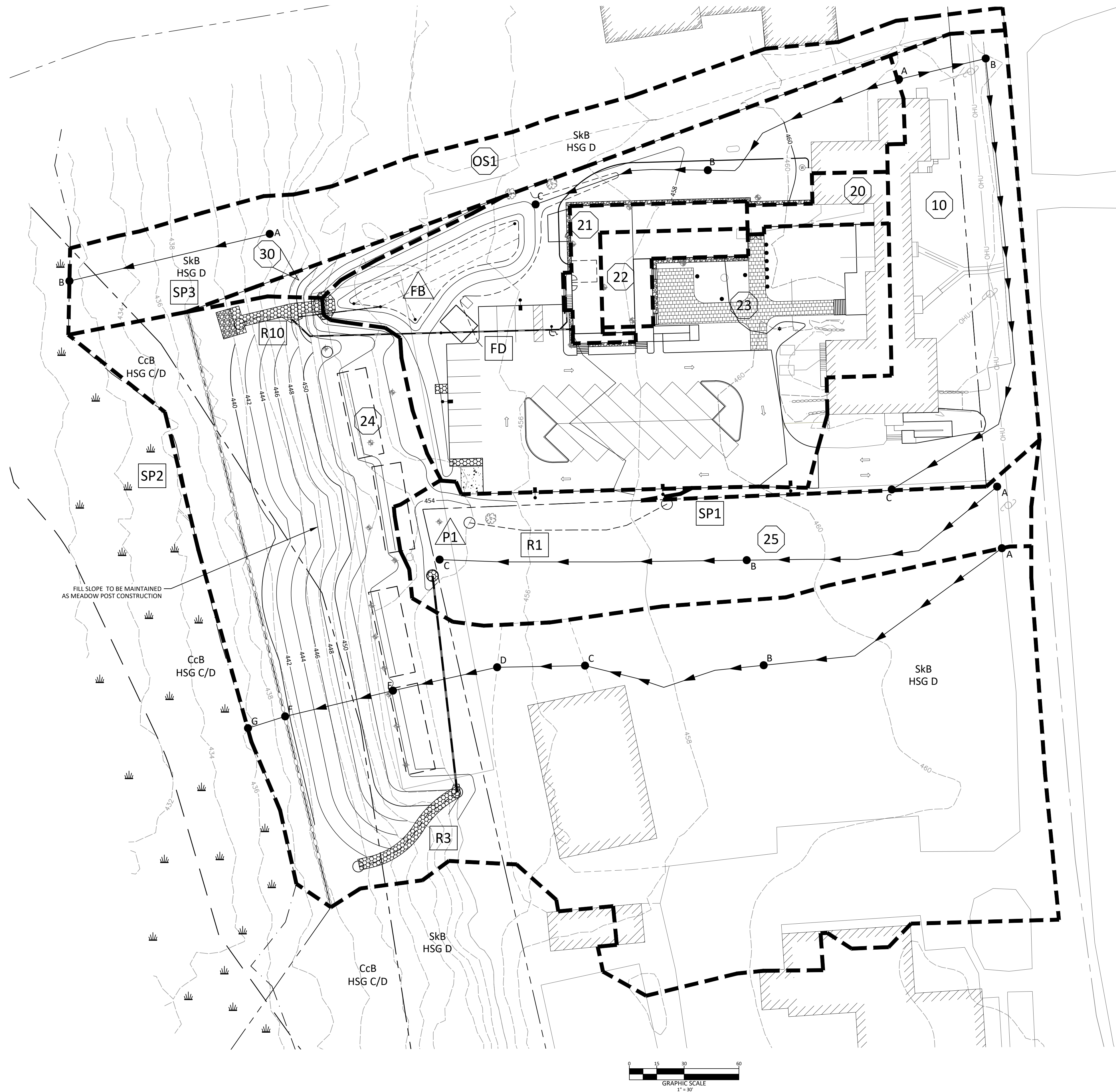


DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-26-26	JRH	ISSUED FOR PERMITTING
B	9-2-26	JRH	REVISED PER TOWN REVIEW

PRE-DEVELOPMENT WATERSHED MAP
COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION
960 MEADOW ROAD
CASCO, MAINE
FOR: 960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

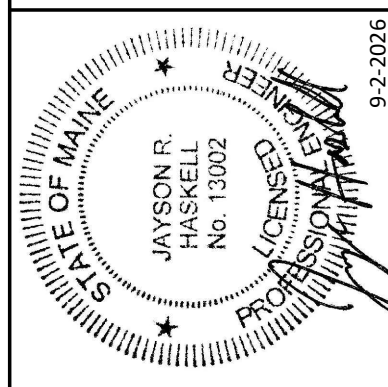
19063 JOB NUMBER:
1" = 30' SCALE:
9-2-2026 DATE:
SHEET 1 OF 2
SWP-1



WATERSHED MAP LEGEND

- WATERSHED NO.
- REACH/STUDY POINT
- POND
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- REACH PATH
- SOIL BOUNDARY

NOT FOR
CONSTRUCTION



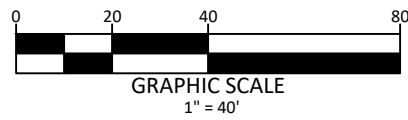
DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

REV	DATE	BY	DESCRIPTION
A	5-26-26	JRH	ISSUED FOR PERMITTING
B	9-2-26	JRH	REVISED PER TOWN REVIEW

POST DEVELOPMENT WATERSHED MAP
COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION
960 MEADOW ROAD
CASCO, MAINE
FOR: 960 MEADOW ROAD HOLDING, LLC
960 MEADOW ROAD
CASCO, MAINE 04015

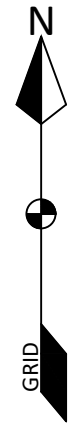
19063 JOB NUMBER:
1" = 30' SCALE:
9-2-2026 DATE:
SHEET 2 OF 2
SWP-2

-  POLLUTANT RANK 5
HIGH USE PARKING LOTS AND ROADS
-  POLLUTANT RANK 4
OTHER ROAD & MEDIUM USE PARKING LOTS
-  POLLUTANT RANK 3
OTHER PARKING LOTS, DRIVEWAYS & FLAT ROOFS
-  POLLUTANT RANK 2
OTHER ROOF, BIKEWAYS, WALKWAYS, LAWN
-  POLLUTANT RANK 1
NON GRASS LANDSCAPE & STORMWATER SYSTEM
-  POLLUTANT RANK 0
UNDEVELOPED FOREST OR MEADOW



PRE-DEVELOPMENT CONDITION

POST-DEVELOPMENT CONDITION



REV	DATE	BY	DESCRIPTION
A	5-26-26	JRH	ISSUED FOR PERMITTING
B	9-2-26	JRH	REVISED PER TOWN REVIEW

STORMWATER REDEVELOPMENT PLAN

COUNTRY VILLAGE ASSISTED LIVING FACILITY EXPANSION

960 MEADOW ROAD
CASCO, MAINE

FOR:

960 MEADOW ROAD HOLDING, LLC

960 MEADOW ROAD
CASCO, MAINE 04015

19063
JOB NUMBER:

1" = 40'
SCALE:

9-2-2026
DATE:

SHEET 1 OF 1

RED-1

DM ROMA
CONSULTING ENGINEERS

P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

NOT FOR
CONSTRUCTION

