

ZONING DISTRICT

ZONED: INDUSTRIAL
 USE: 3.10 WAREHOUSE, DISTRIBUTION FACILITY (EXISTING)

MINIMUM BUILDING SETBACKS

FRONT=40
 FEET SIDE=30 FEET
 REAR=30 FEET

DEED REFERENCES

ATLANTIC OLIVER 15 LIBERTY WAY, LLC
 DEED BOOK 39279 PAGE 278

PLAN REFERENCES

PLAN NO. 879 OF 1994
 PLAN NO. 878 OF 1994
 PLAN NO. 47 OF 1995



ZONING REQUIREMENTS

ZONING DISTRICT: INDUSTRIAL

	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	40,000 S.F.	653,400± S.F.	653,400± S.F.
FRONTAGE	175'	946.73'	946.73'
FRONT YARD SETBACK	40'	95.9'***	95.9'***
SIDE YARD SETBACK	30'	149.3'	149.3'
REAR YARD SETBACK	30'	259.6'	259.6'
BUILDING COVERAGE	70% MAX.	14.6%**	14.6%**
IMPERVIOUS COVERAGE	80% MAX.	46.7%***	57.4%***
MAX. BUILDING HEIGHT	3 STORIES*	1 STORY/24'	1 STORY/24'
PARKING REQUIREMENTS			
USE: EXISTING WAREHOUSE: ONE SPACE PER 1,000 SF OF GROSS FLOOR AREA.	95,475 SF /1,000 SF =96 SPACES	98	(98) EXISTING

* BUILDINGS UP TO 60' IN HEIGHT MAY BE PERMITTED BY A SPECIAL PERMIT FROM THE PLANNING BOARD.
 ** BUILDING AREA IS BASED ON FRANKLIN ASSESSORS RECORDS
 *** TAKEN FROM THE RECORD SURVEY IN ADDITION TO AERIAL IMAGERY.

PLAN NOTES:

- EXISTING CONDITIONS WERE OBTAINED FROM FIELD SURVEY PREPARED BY LEVEL DESIGN GROUP, LLC BETWEEN NOVEMBER 2, 2022 AND AUGUST 2, 2023. SOIL TESTING COMPLETED BY ADAM P. HUNT ON NOVEMBER 16, 2022 AND OCTOBER 4, 2023.
- THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN THE DESIGN PLANS PRIOR TO THE START OF CONSTRUCTION.
- ALL DISTURBED AREAS NOT RECEIVING IMPROVEMENTS SHALL BE LOAMED AND SEEDED.
- THE SITE IS NOT LOCATED WITHIN A ZONE II WATER RESOURCE DISTRICT.
- THE SITE IS NOT LOCATED WITHIN A FLOOD PLAIN DISTRICT.

CONSTRUCTION NOTES:

- THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
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- ALL EXISTING PAVEMENT, CURB, WALKS, UTILITIES, LIGHT POLES, TREES, SHRUBS, ETC., SHALL BE REMOVED FROM THE AREAS TO BE DEVELOPED. ALL SUCH ITEMS NOT WITHIN THE WORK AREA SHALL BE PROTECTED AND UNDISTURBED.
- ALL DISTURBED AREAS NOT RECEIVING IMPROVEMENTS SHALL BE LOAMED AND SEEDED.
- ALL CONSTRUCTION AND CONSTRUCTION ACTIVITIES SHALL CONFORM TO STATE AND LOCAL REQUIREMENTS. INCLUDING BUT NOT LIMITED TO THE TOWN OF FRANKLIN, THE COMMONWEALTH OF MASSACHUSETTS AND ANY OTHER AGENCIES HAVING JURISDICTION.
- MATERIAL TO BE EXPORTED FROM THE SITE WILL BE LIMITED TO TOPSOIL IN AREAS TO BE PAVED AND ANY DELETERIOUS MATERIAL ENCOUNTERED DURING EXCAVATION. MATERIAL TO BE EXPORTED WILL BE LIMITED TO GRAVEL BASE AND SEPTIC AGGREGATE.

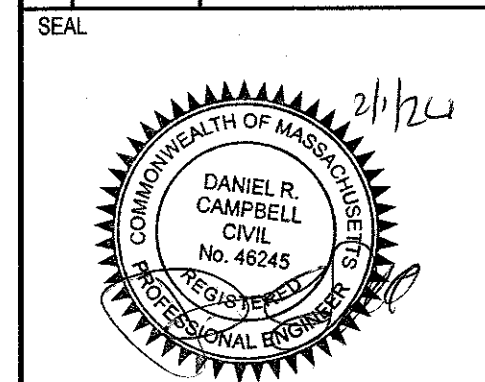
SITE PLAN NOTES:

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653,400± S.F.
 =15,000± ACRES
 PARCEL ID 320-004
 DB 39279 PG 298
 PLAN NO. 879 OF
 1994
 15 LIBERTY WAY

NO	DATE	REVISIONS
1	10/17/2023	RESOURCE AREA FLAGS
2	11/22/2023	REVIEW COMMENTS
3	02/01/2024	REVIEW COMMENTS



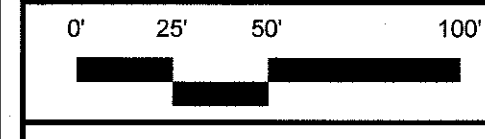
DATE: JANUARY 13, 2023
 DRAWN: AM/DRC
 SCALE: 1"=50'

LIBERTY PARKING EXPANSION
 MAP SHEET 320, PARCEL 004
 15 LIBERTY WAY
 FRANKLIN, MASSACHUSETTS

LEVEL DESIGN GROUP
 249 SOUTH STREET, UNIT 1
 PLAINVILLE, MA 02762
 TEL. (508) 696-2221 FAX. (508) 696-2219

OVERALL SITE PLAN

C-2.0
 SHEET 3 OF 9



2081.00

ZONING DISTRICT

ZONED: INDUSTRIAL
USE: 3.10 WAREHOUSE, DISTRIBUTION FACILITY (EXISTING)

MINIMUM BUILDING SETBACKS

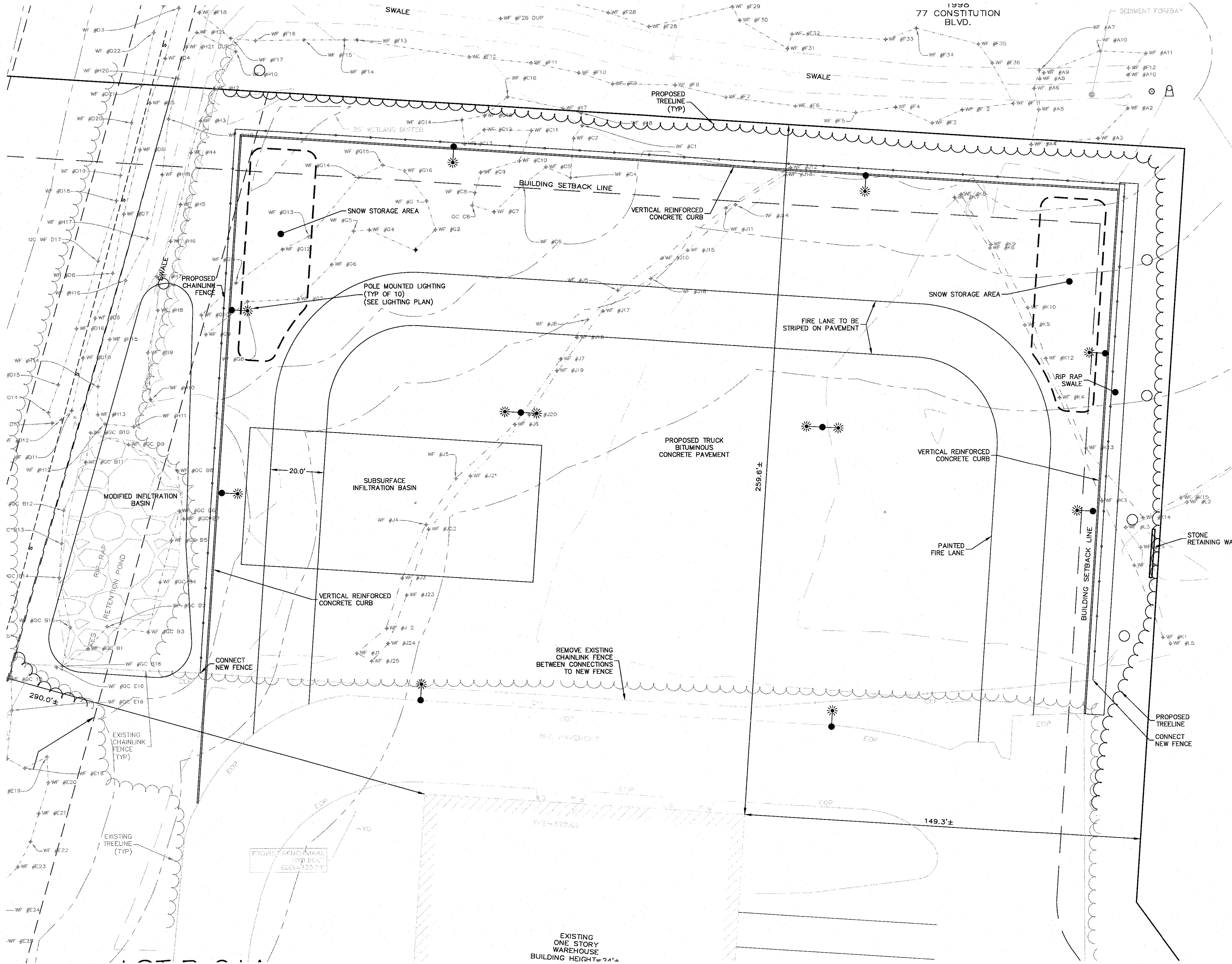
FRONT=40
FEET SIDE=30 FEET
REAR=30 FEET

DEED REFERENCES

ATLANTIC OLIVER 15 LIBERTY WAY, LLC
DEED BOOK 39279 PAGE 278

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PLAN NO. 878 OF 1994
PLAN NO. 47 OF 1995



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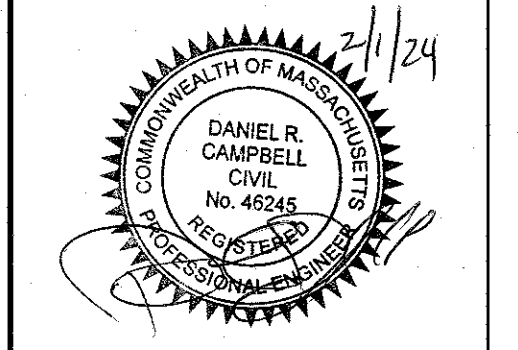
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1	10/17/2023	RESOURCE AREA FLAGS
2	11/22/2023	REVIEW COMMENTS
3	02/01/2024	REVIEW COMMENTS



DATE: JANUARY 13, 2023
DRAWN: AH / DRC
SCALE: 1"=20'

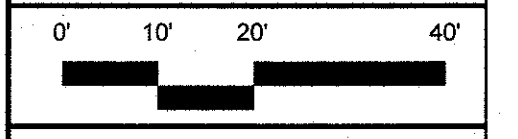
LIBERTY PARKING EXPANSION

MAP SHEET 320, PARCEL 004
15 LIBERTY WAY
FRANKLIN, MASSACHUSETTS

LEVEL
DESIGN GROUP
Civil Engineers & Land Surveyors
249 SOUTH STREET, UNIT 1
PLAINVILLE, MA 02762
TEL. (508) 895-2221 FAX. (508) 895-2219

LAYOUT & MATERIALS

C-3.0
SHEET 4 OF 9



2081.00

ZONING DISTRICT
 ZONED: INDUSTRIAL
 USE: 3.10 WAREHOUSE, DISTRIBUTION FACILITY (EXISTING)

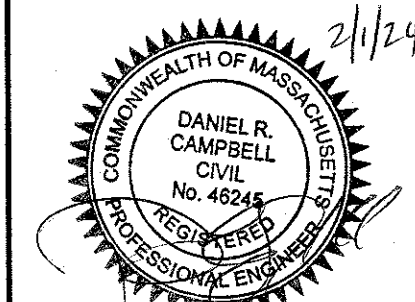
MINIMUM BUILDING SETBACKS
 FRONT=40
 FEET SIDE=30 FEET
 REAR=30 FEET

DEED REFERENCES
 ATLANTIC OLIVER 15 LIBERTY WAY, LLC
 DEED BOOK 39279 PAGE 278

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 PLAN NO. 879 OF 1994
 PLAN NO. 878 OF 1994
 PLAN NO. 47 OF 1995

LOT B-211
 N/F
 IRON MOUNTAIN
 INFORMATION
 MANAGEMENT, LLC
 PARCEL ID 320-006
 DB 32508 PG 480
 PLAN NO. 659 OF
 1998
 77 CONSTITUTION
 BLVD.

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LIBERTY PARKING EXPANSION
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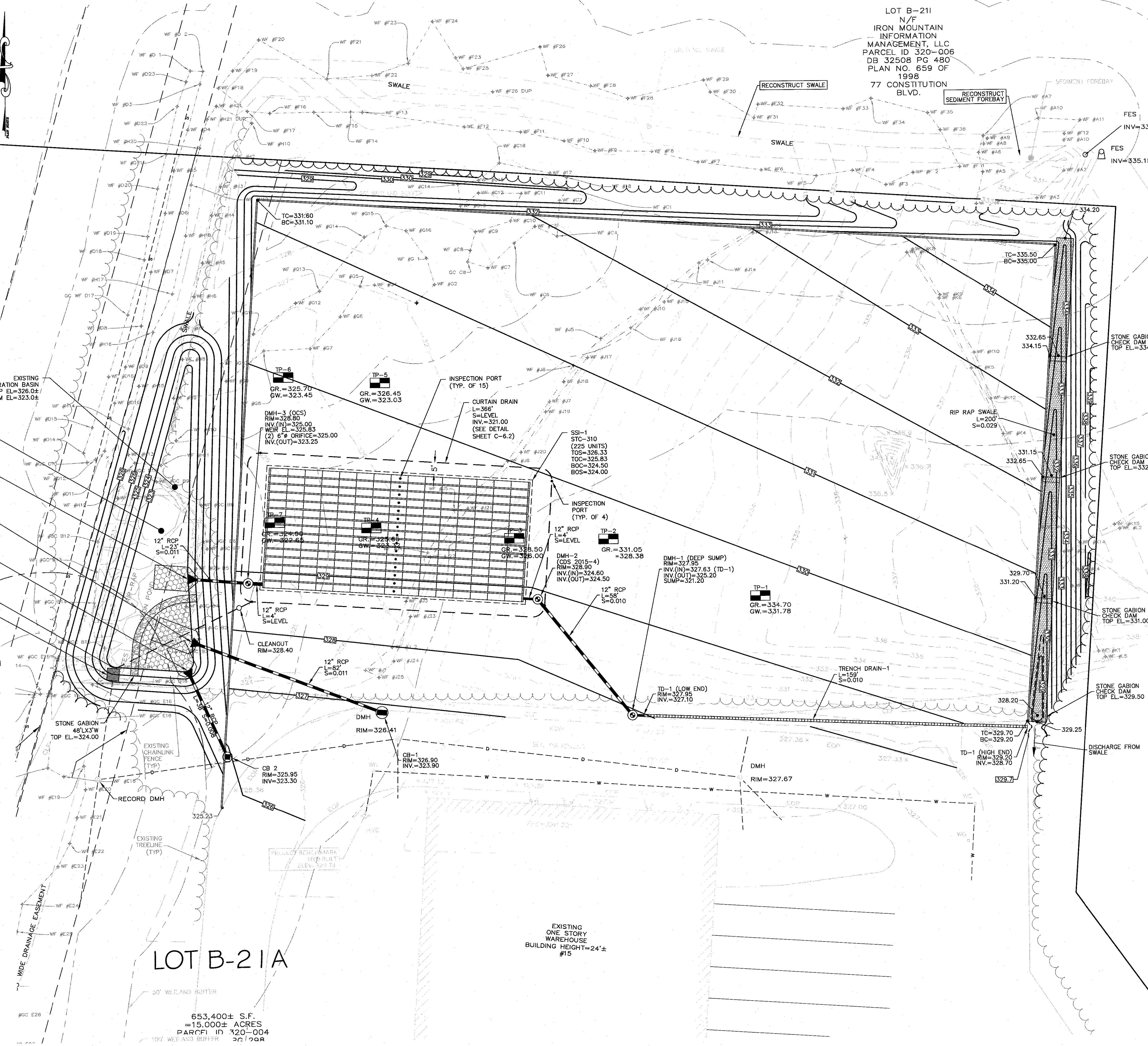
GRADING & DRAINAGE

C-4.0

SHEET 5 OF 9

0' 10' 20' 40'

2081.00



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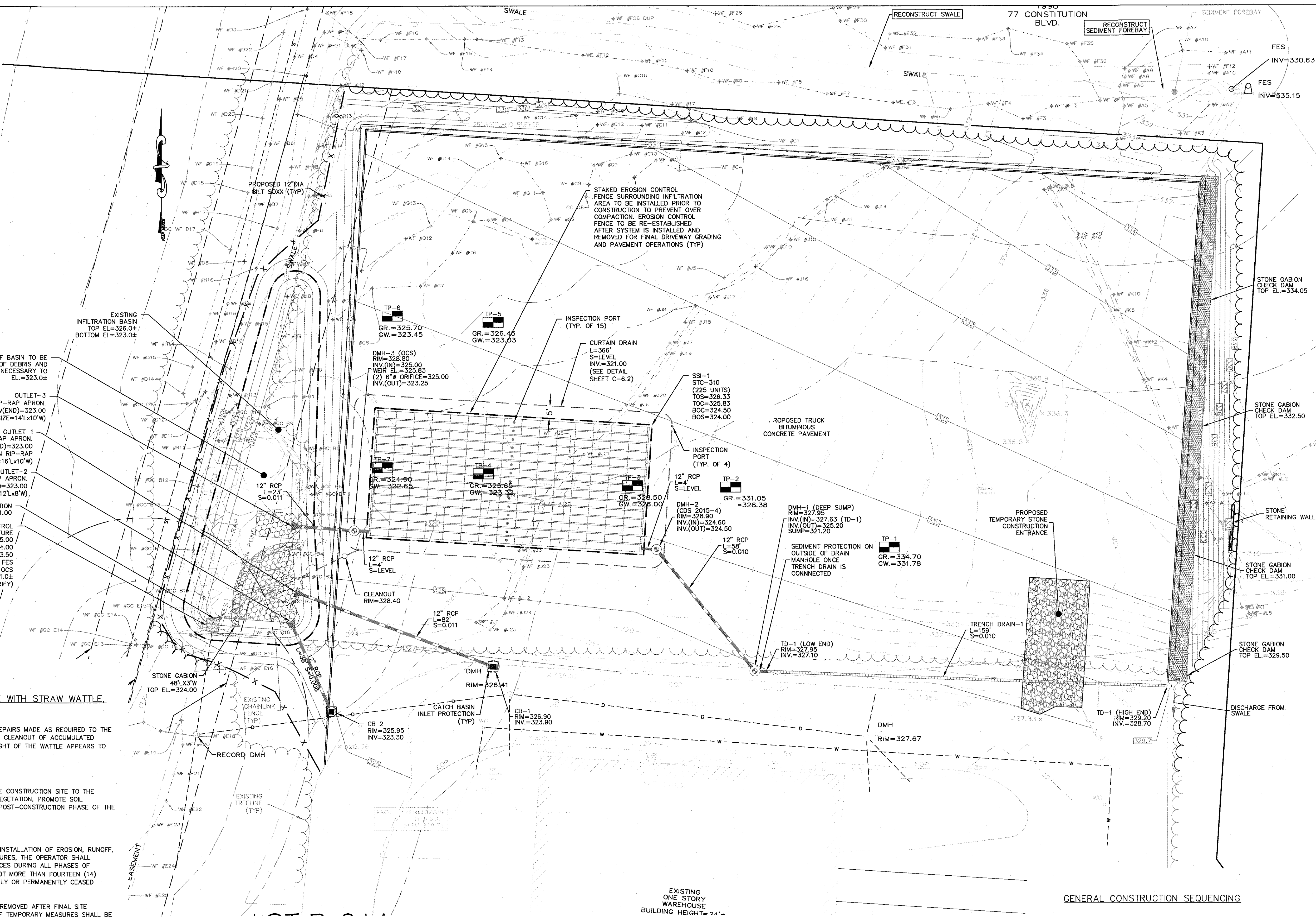
LOT B-21A
 50' WETLAND BUFFER
 653,400± S.F.
 =15,000± ACRES
 PARCEL ID 320-004
 100' WETLAND BUFFER

ZONING DISTRICT
 ZONED: INDUSTRIAL
 USE: 3.10 WAREHOUSE, DISTRIBUTION FACILITY (EXISTING)

MINIMUM BUILDING SETBACKS
 FRONT=40
 FEET SIDE=30 FEET
 REAR=30 FEET

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EROSION CONTROL PLAN NOTES:

SILTATION CONTROL USING EROSION CONTROL FENCE WITH STRAW WATTLE, OR APPROVED EQUAL
 SILT SOCKS IS TO BE VISUALLY INSPECTED AFTER EVERY RAIN FALL AND REPAIRS MADE AS REQUIRED TO THE SILTATION CONTROL FENCE AND STRAW WATTLE AFTER EACH RAIN FALL. CLEANOUT OF ACCUMULATED SEDIMENT BEHIND THE WATTLE IS NECESSARY IF 1/2 OF THE ORIGINAL HEIGHT OF THE WATTLE APPEARS TO HAVE BEEN INUNDATED WITH SEDIMENT.

PRESERVE TOPSOIL
 SITE OWNERS AND OPERATORS MUST PRESERVE EXISTING TOPSOIL ON THE CONSTRUCTION SITE TO THE MAXIMUM EXTENT FEASIBLE AND AS NECESSARY TO SUPPORT HEALTHY VEGETATION, PROMOTE SOIL STABILIZATION, AND INCREASE STORMWATER INFILTRATION RATES IN THE POST-CONSTRUCTION PHASE OF THE PROJECT.

STABILIZATION OF SOILS
 UPON COMPLETION AND ACCEPTANCE OF SITE PREPARATION AND INITIAL INSTALLATION OF EROSION, RUNOFF, AND SEDIMENT CONTROLS AND TEMPORARY POLLUTION PREVENTION MEASURES, THE OPERATOR SHALL INITIATE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION PRACTICES DURING ALL PHASES OF CONSTRUCTION ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS.

STORMWATER INLET PROTECTION
 INLET PROTECTION - WILL BE UTILIZED TO PREVENT SOIL AND DEBRIS FROM ENTERING STORM DRAIN INLETS. THESE MEASURES ARE USUALLY TEMPORARY AND ARE IMPLEMENTED BEFORE A SITE IS DISTURBED. ALL STORMWATER INLETS &/OR CATCH BASINS THAT ARE OPERATIONAL DURING CONSTRUCTION AND HAVE THE POTENTIAL TO RECEIVE SEDIMENT-LADEN STORMWATER FLOW FROM THE CONSTRUCTION SITE MUST BE PROTECTED USING CONTROL MEASURES OUTLINED IN THE STORMWATER POLLUTION PREVENTION PLAN. EROSION CONTROL FENCE WITH STRAW WATTLES ARE TO BE PLACED AT TO OPENING OF ALL ROUGH GRADED SEDIMENT FOREBAYS UNTIL THE FOREBAY AND BASIN HAS BEEN STABILIZED AND BROUGHT ON-LINE.

CONSTRUCTION ENTRANCES
 CONSTRUCTION ENTRANCES SHALL BE ESTABLISHED PRIOR TO REMOVAL OF EXISTING DRIVEWAY PAVEMENT TO BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF SEDIMENT TRACKING OFF THE PROJECT. ANY CONSTRUCTION SITE ACCESS POINT MUST EMPLOY THE CONTROL MEASURES ON THE APPROVED SITE PLANS AND IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN. CONSTRUCTION ENTRANCES SHALL BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY CONSTRUCTION VEHICLES. ALL CONSTRUCTION ACCESS ROADS SHALL BE CONSTRUCTED PRIOR TO ANY ROADWAY ACCEPTING CONSTRUCTION TRAFFIC.

STOCKPILE CONTAINMENT
 SHALL BE USED ON-SITE TO MINIMIZE OR ELIMINATE THE DISCHARGE OF SOIL, TOPSOIL, BASE MATERIAL, OR RUBBLE, FROM ENTERING DRAINAGE SYSTEMS OR SURFACE WATERS. ALL STOCKPILES MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE, PROTECTED FROM RUN-ON WITH THE USE OF TEMPORARY SEDIMENT BARRIERS AND PROVIDED WITH COVER OR STABILIZATION TO AVOID CONTACT WITH PRECIPITATION AND WIND WHERE AND WHEN PRACTICAL. STOCK PILE MANAGEMENT CONSISTS OF PROCEDURES AND PRACTICES DESIGNED TO MINIMIZE OR ELIMINATE THE DISCHARGE OF STOCKPILED MATERIAL (SOIL, TOPSOIL, BASE MATERIAL, RUBBLE) FROM ENTERING DRAINAGE SYSTEMS OR SURFACE WATERS.

GENERAL CONSTRUCTION SEQUENCING

1. INSTALL EROSION AND SEDIMENT CONTROLS;
2. CLEAR, GRUB AND ROUGH GRADE AREAS SHOWN TO BE REGRADED;
3. DEMO EXISTING FEATURES IN WORK AREA NOT SHOWN TO BE SAVED AND CUT AND CAP UTILITIES AS NEEDED;
4. INSTALL STORMWATER MANAGEMENT SYSTEM AND SITE UTILITIES;
5. INSTALL BINDER COAT PAVING;
6. INSTALL LANDSCAPING;
7. FINE GRADE SITE AND LOAM AND SEED ALL DISTURBED AREAS;
8. INSTALL TOP COAT PAVEMENT;
9. PROJECT CLOSE OUT.

PLAN NOTES:

1. EXISTING CONDITIONS WERE OBTAINED FROM FIELD SURVEY PREPARED BY LEVEL DESIGN GROUP, LLC BETWEEN NOVEMBER 2, 2022 AND NOVEMBER 15, 2022. THERE ARE NO RESOURCE AREAS, IN ACCORDANCE WITH 310 CMR 10.00 WITHIN 100' OF PROPOSED SYSTEM.
2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
3. SEE STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR CONSTRUCTION ACTIVITIES AT 15 LIBERTY WAY FRANKLIN, MA 02038, FOR ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES AND PROCEDURES.

NO	DATE	REVISIONS
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DATE: JANUARY 13, 2023
 DRAWN: AH/DRG
 SCALE: 1"=20'

LIBERTY PARKING EXPANSION

MAP SHEET 320, PARCEL 004
 15 LIBERTY WAY
 FRANKLIN, MASSACHUSETTS

21-124

DANIEL R. CAMPBELL
 CIVIL ENGINEER
 No. 48545
 REGISTERED PROFESSIONAL ENGINEER

DATE: JANUARY 13, 2023
 DRAWN: AH/DRG
 SCALE: 1"=20'

LEVEL DESIGN GROUP
 249 SOUTH STREET, UNIT 1
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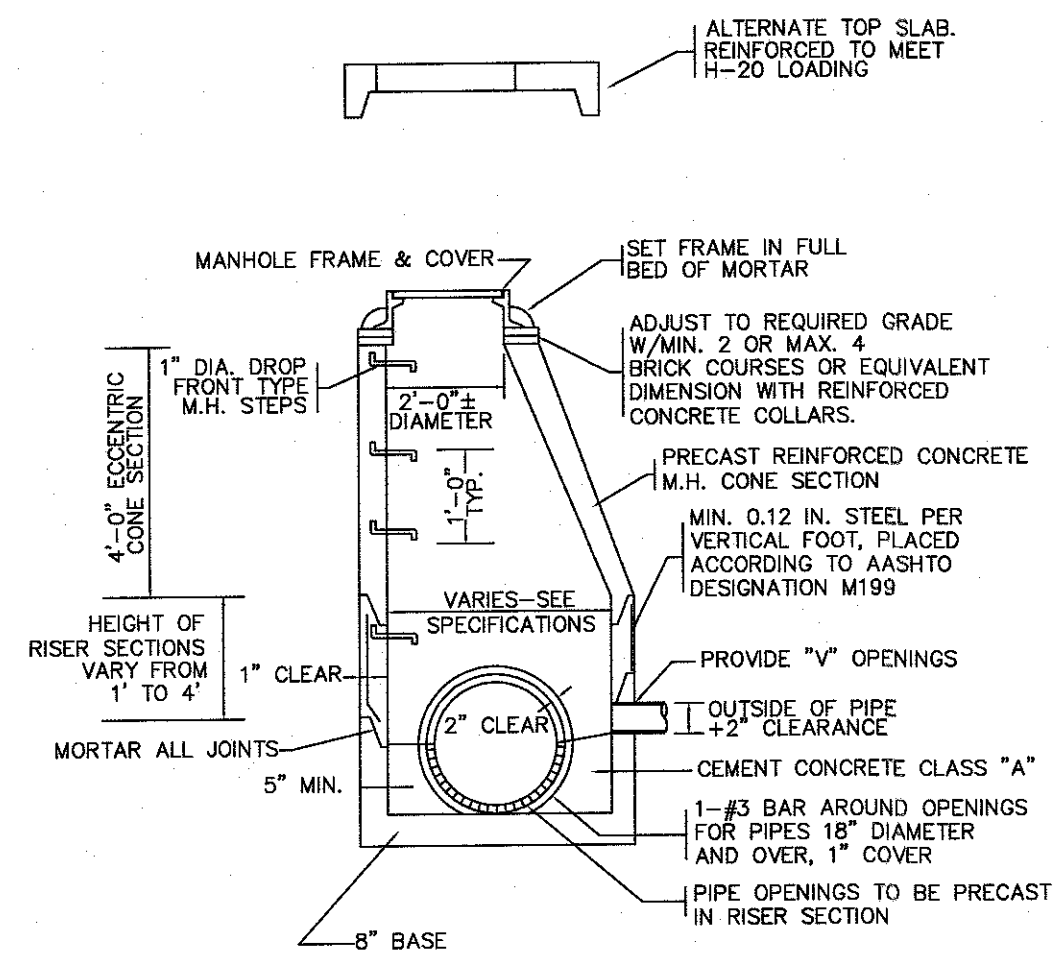
EROSION CONTROL

C-5.0

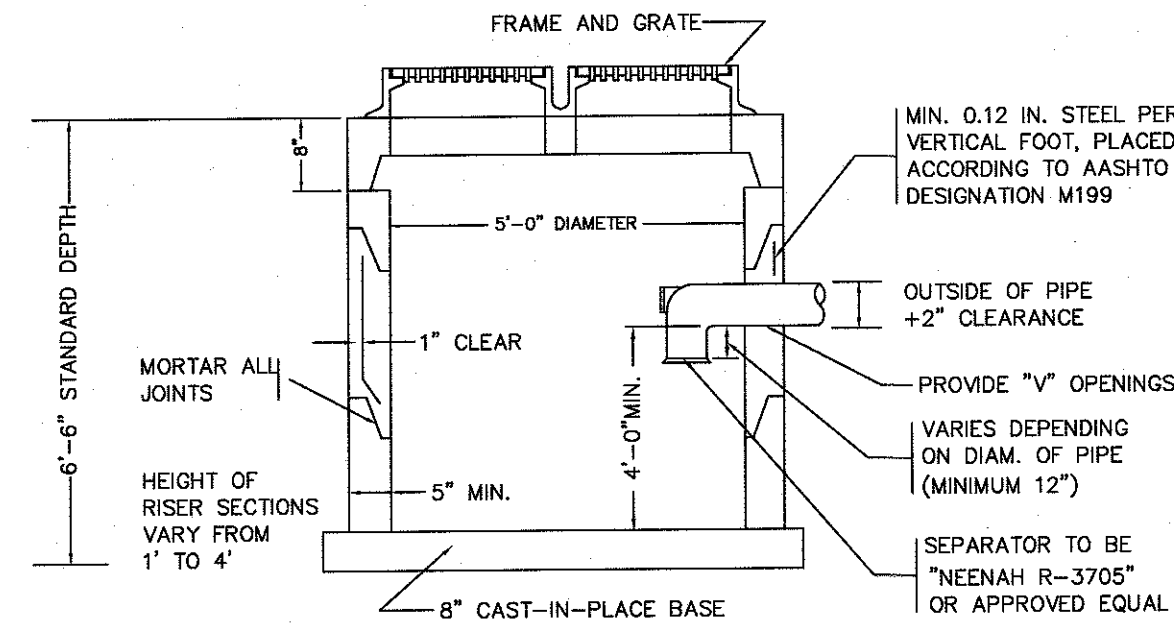
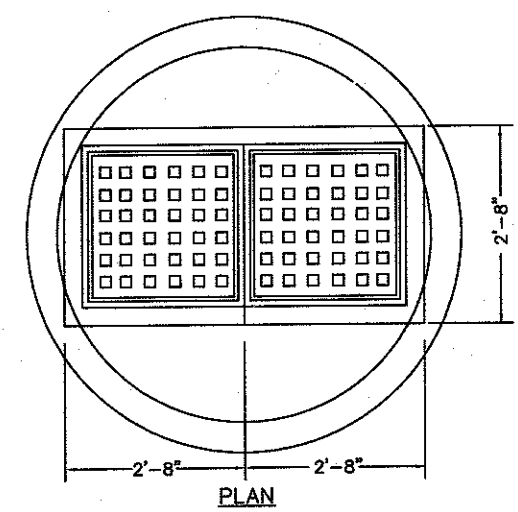
SHEET 6 OF 9

0' 10' 20' 40'

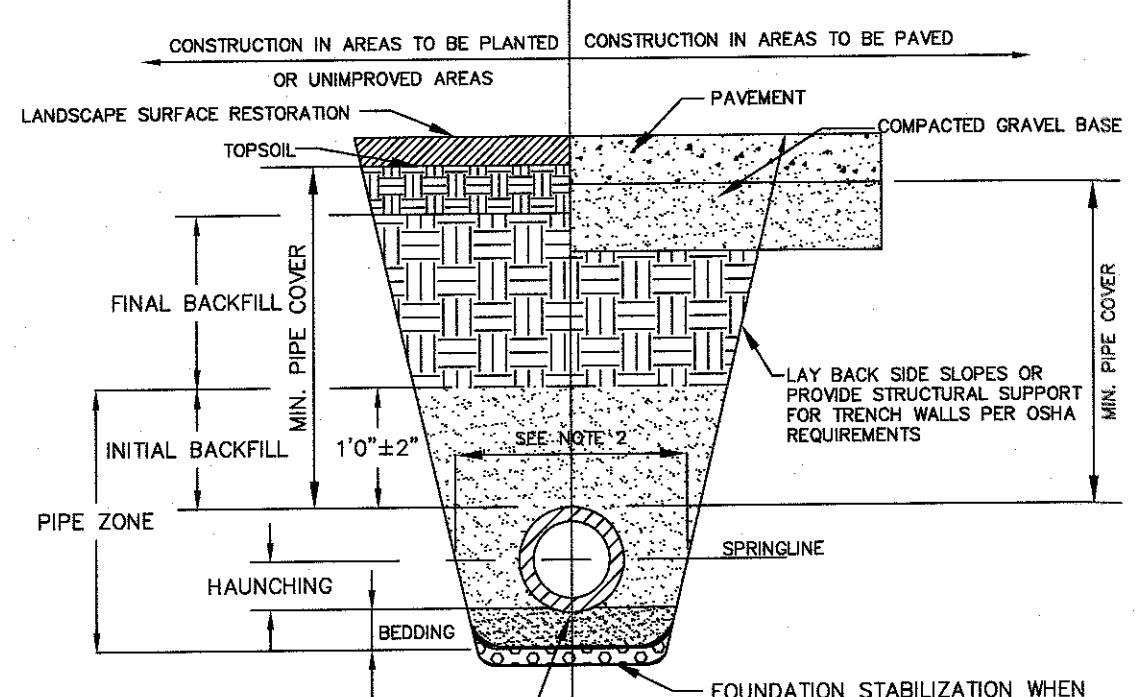
2081.00



PRECAST CONCRETE DRAIN MANHOLE
NOT TO SCALE



PRECAST CONCRETE DOUBLE CATCH BASIN WITH GAS AND OIL SEPARATOR
NOT TO SCALE



UTILITY TRENCH
NOT TO SCALE

FOUNDATION, BEDDING AND BACKFILL MATERIALS

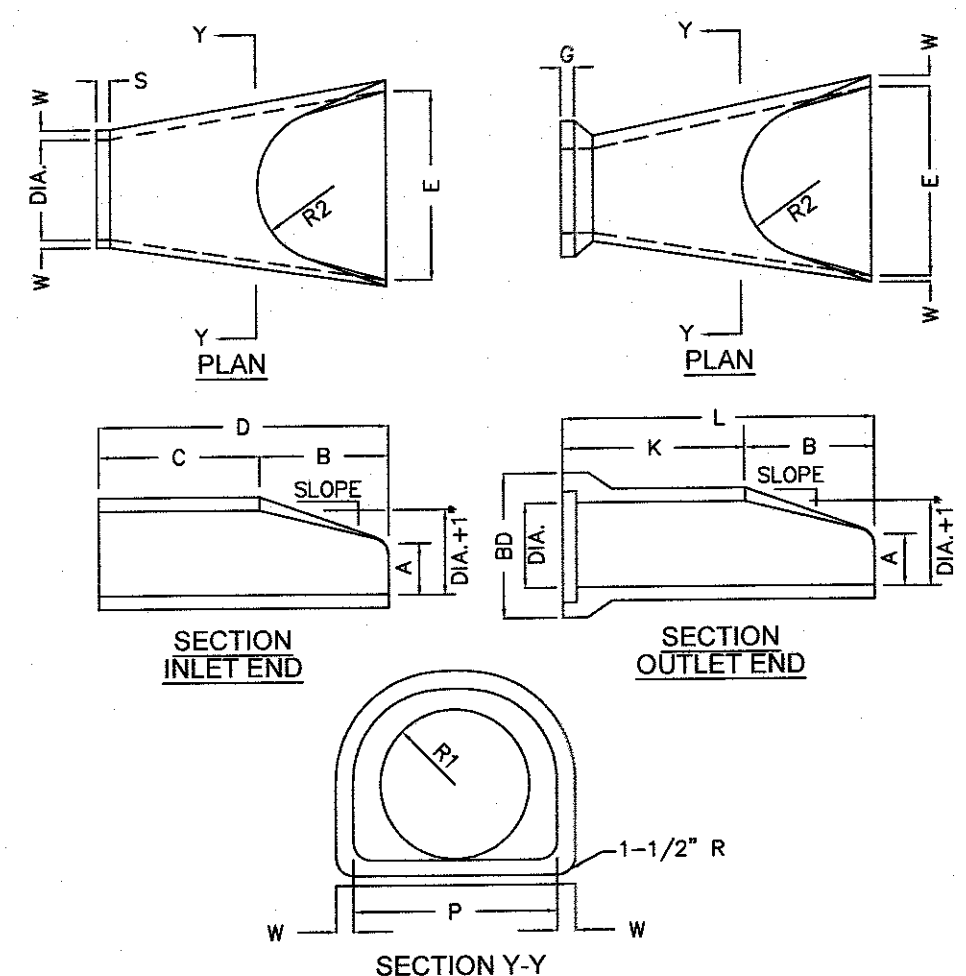
PIPE MATERIAL	HDP, PVC	RC, DI
FOUNDATION STABILIZATION	[6]	[6]
BEDDING	[1]	[1]
HAUNCHING	[1]	[1]
INITIAL BACKFILL	[4]	[4]
FINAL BACKFILL	[4]	[4]
PIPE COVER	[5]	[5]

NOTES:

- PLACE 3/4" MINUS GRADED GRANULAR BACKFILL AT OPTIMUM MOISTURE IN HORIZONTAL 8" DEEP LOOSE LAYERS, COMPACT TO 95% PER ASTM D-1557
- MINIMUM WIDTH OF TRENCH MEASURED AT SPRINGLINE OF PIPE, INCLUDING ANY NECESSARY SHEATHING
- INSTALL PIPE IN CENTER OF TRENCH.
- IN PLANTED OR UNIMPROVED AREAS, USE ON-SITE EXCAVATED MATERIAL FOR FINAL BACKFILL. COMPACT TO 95% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF ON-SITE EXCAVATED MATERIALS FOR USE AS FINAL BACKFILL.
- MINIMUM COVER OVER TOP OF PIPE

PIPE MATERIAL	HDP, PVC	RC, DI
WATER	3' - 0"	3' - 0"
SEWER	4' - 0"	4' - 0"
DRAIN	2' - 0"	1' - 6"

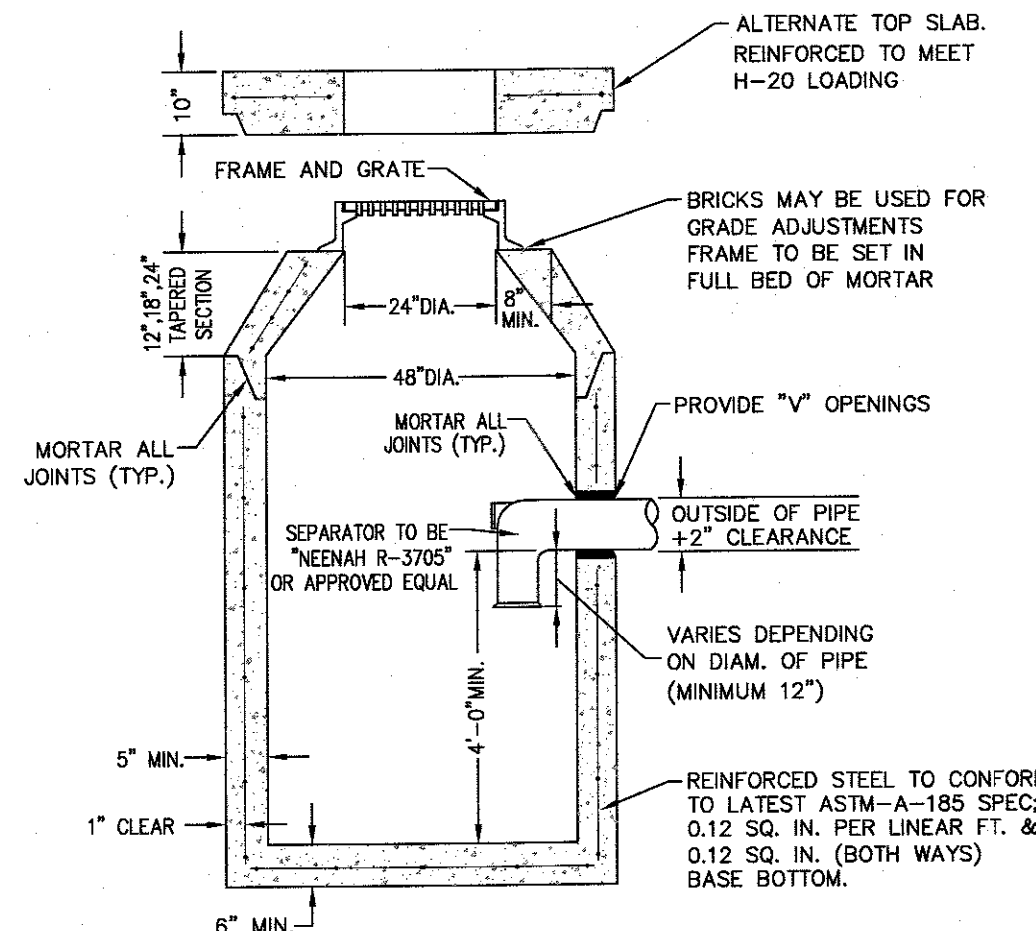
[6] FOR FOUNDATION STABILIZATION, USE 2" MINUS CRUSHED STONE



DIA.	W	A	B	C	D	E	BD
12"	2"	4"	2'-0"	4'-0 7/8"	6'-1 3/8"	2'-0"	20"
15"	2-1/4"	6"	2'-3"	3'-10"	6'-1 1/2"	2'-6"	24"
18"	2-1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	28"
21"	2-3/4"	9"	2'-11"	3'-2"	6'-1"	3'-6"	32"
24"	3"	9-1/2"	3'-7 1/2"	3'-2"	6'-1"	4'-0"	36"

DIA.	K	L	P	R1	R2	S	G	SLOPE
12"	4'-6 1/8"	6'-6 1/8"	19 5/16"	13"	10 1/8"	9"	4"	2 1/2" 3:1
15"	4'-3 11/16"	6'-6 11/16"	24 5/16"	16"	12 1/2"	11"	4"	2 1/2" 3:1
18"	4'-3 7/8"	6'-6 7/8"	29"	19"	15 1/2"	12"	4"	2 3/4" 3:1
21"	3'-8 5/16"	6'-7 5/16"	31 5/8"	22"	16 1/8"	13"	4"	2 3/4" 3:1
24"	3'-0 1/2"	6'-8"	33 3/16"	25"	16 13/16"	14"	4"	3" 3:1

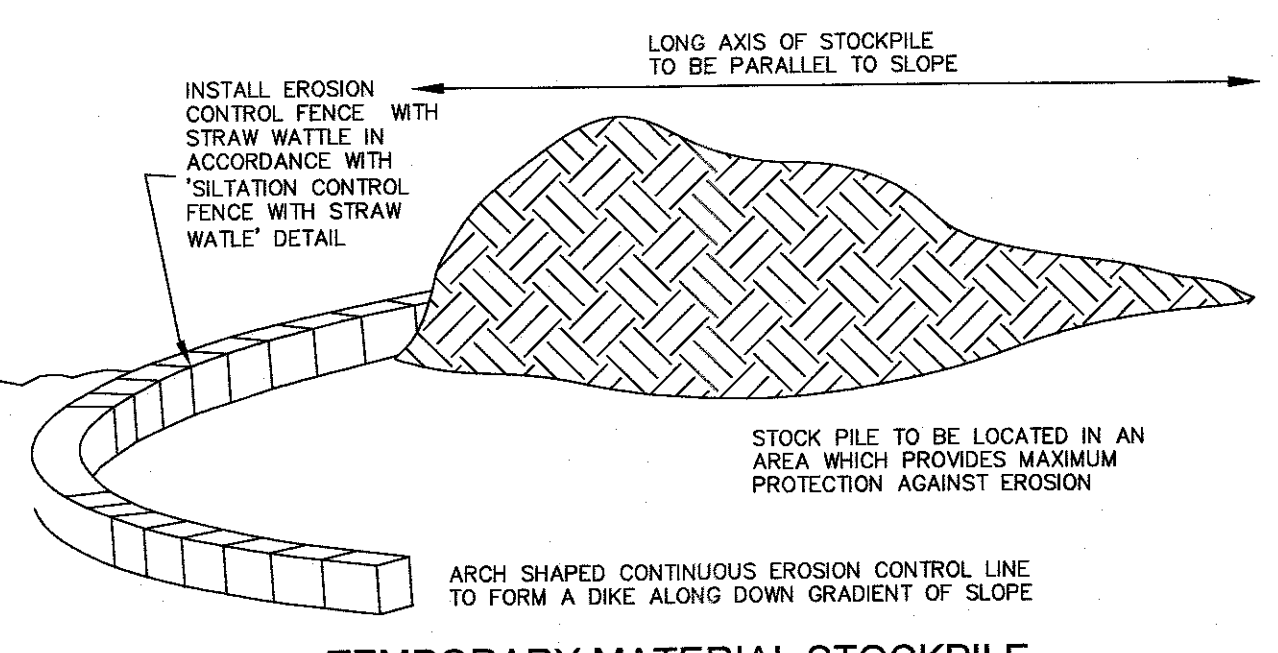
REINFORCED CONCRETE PIPE FLARED END
NOT TO SCALE



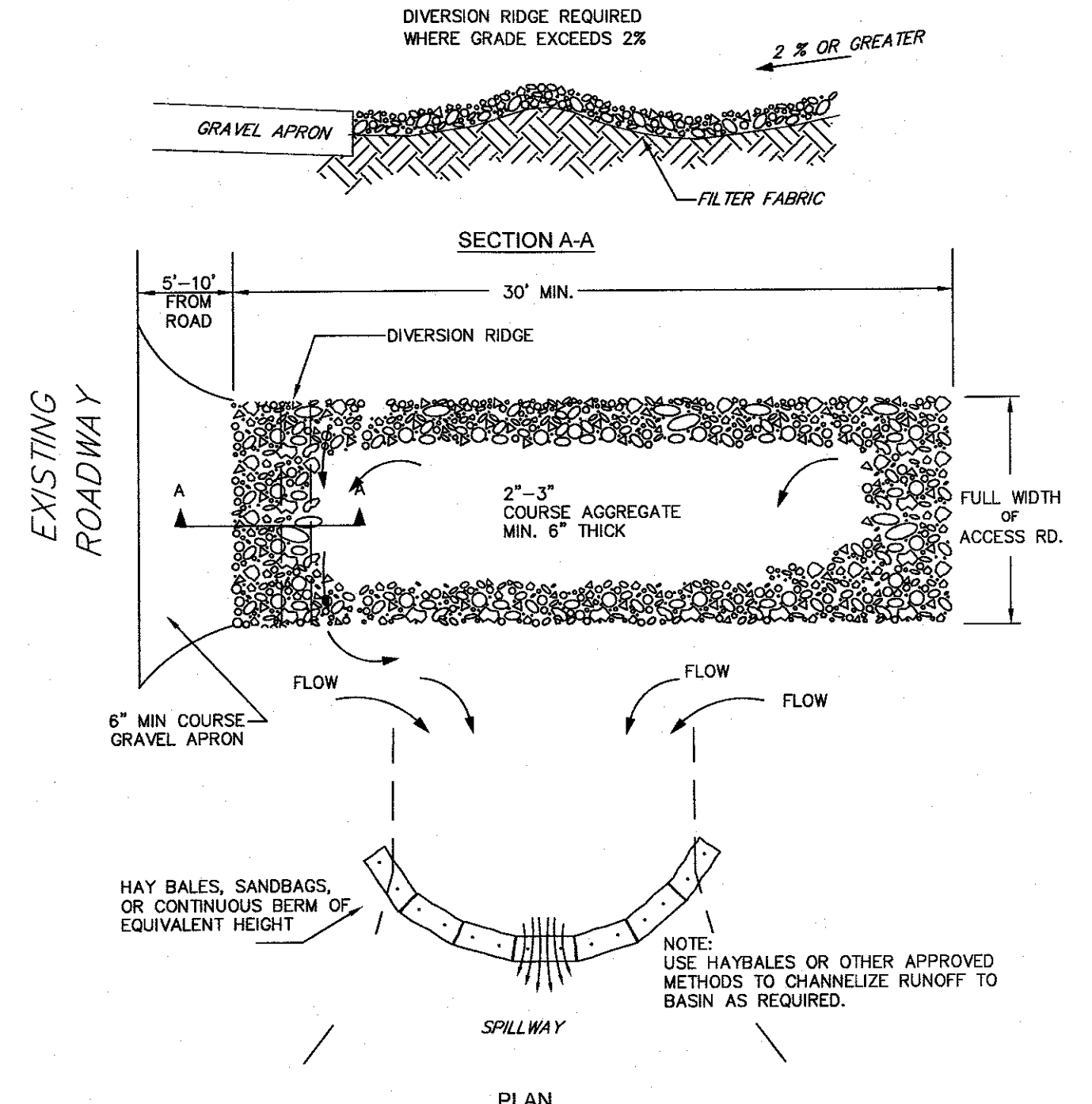
NOTES:

- CONCRETE TO BE 4,000 PSI MIN. PER ASTM C-478(6.1).
- REINFORCING TO MEET OR EXCEED H-20 LOADING REQUIREMENTS.

PRECAST CONCRETE CATCH BASIN WITH GAS AND OIL SEPARATOR
NOT TO SCALE



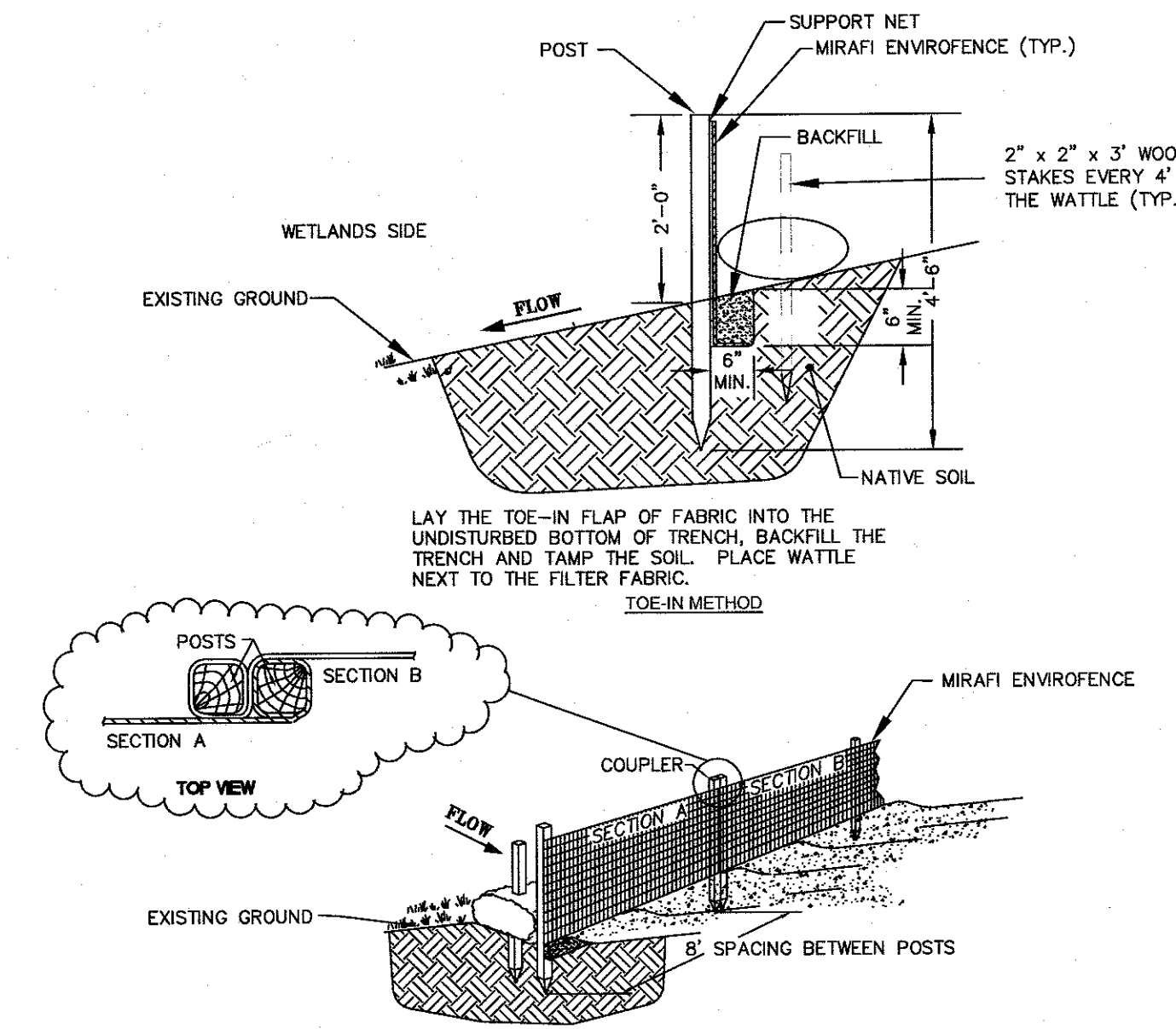
TEMPORARY MATERIAL STOCKPILE
NOT TO SCALE



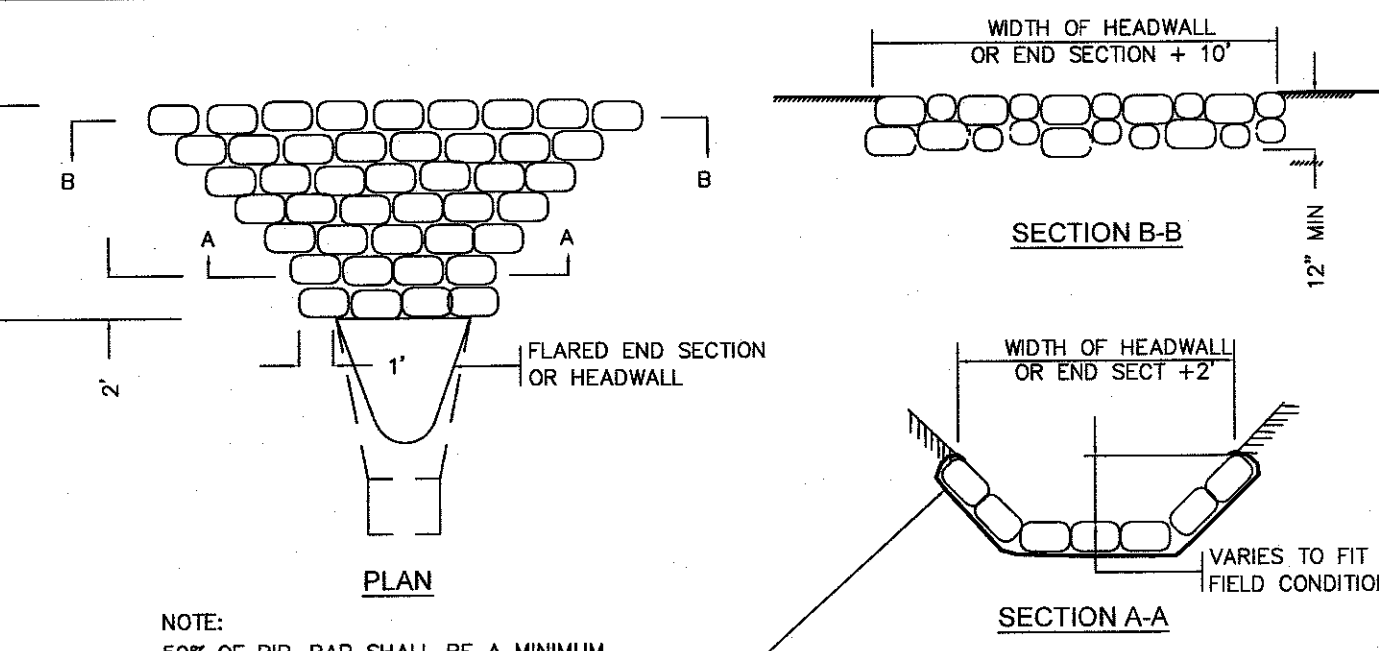
TEMPORARY CONSTRUCTION ENTRANCE/EXIT DETAIL
NOT TO SCALE

NOTES:

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITIONS THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS TO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.



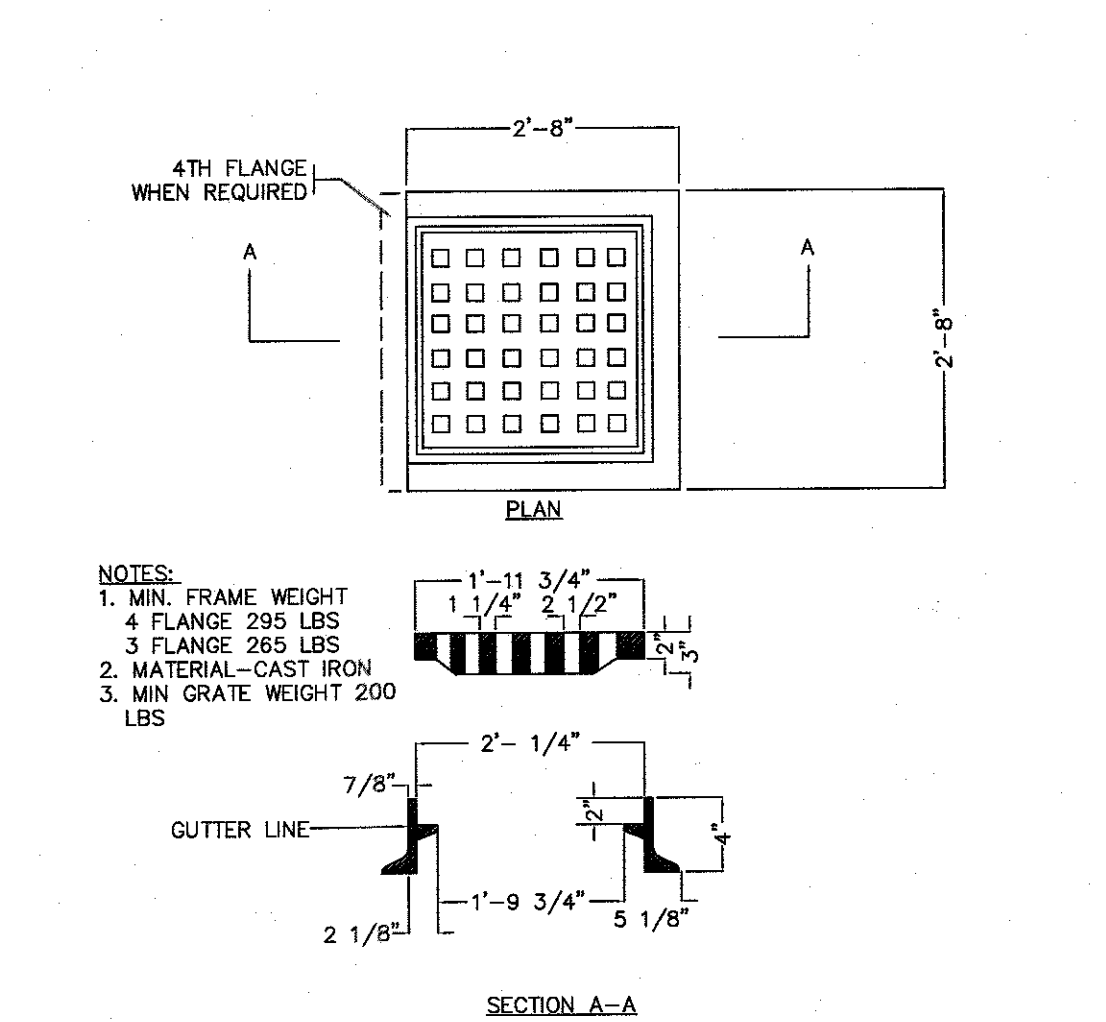
EROSION CONTROL FENCE WITH STRAW WATTLE
NOT TO SCALE



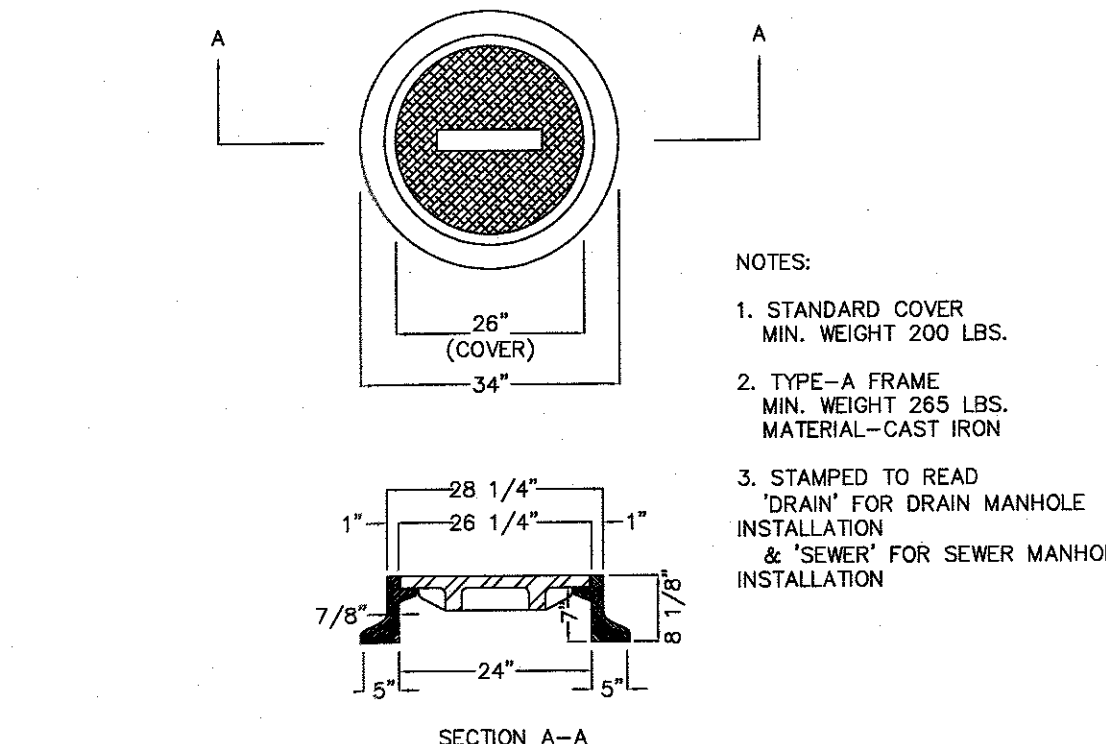
RIP RAP APRON AT PIPE ENDS
NOT TO SCALE

NOTE:

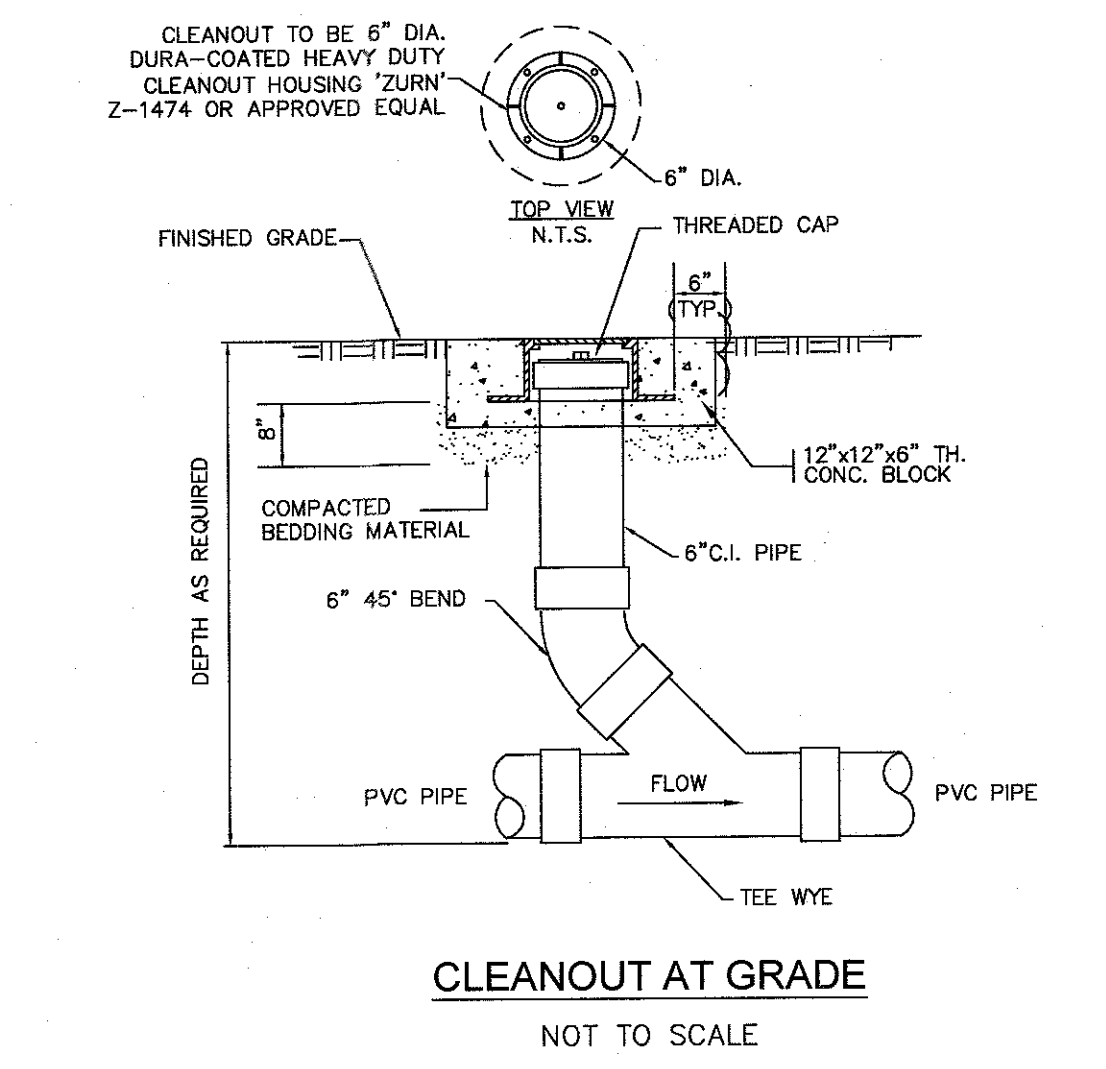
50% OF RIP-RAP SHALL BE A MINIMUM OF 15 LBS. REMAINING RIP-RAP SHALL BE OF MISC. SIZE BUT NO SMALLER THAN 3 LB.



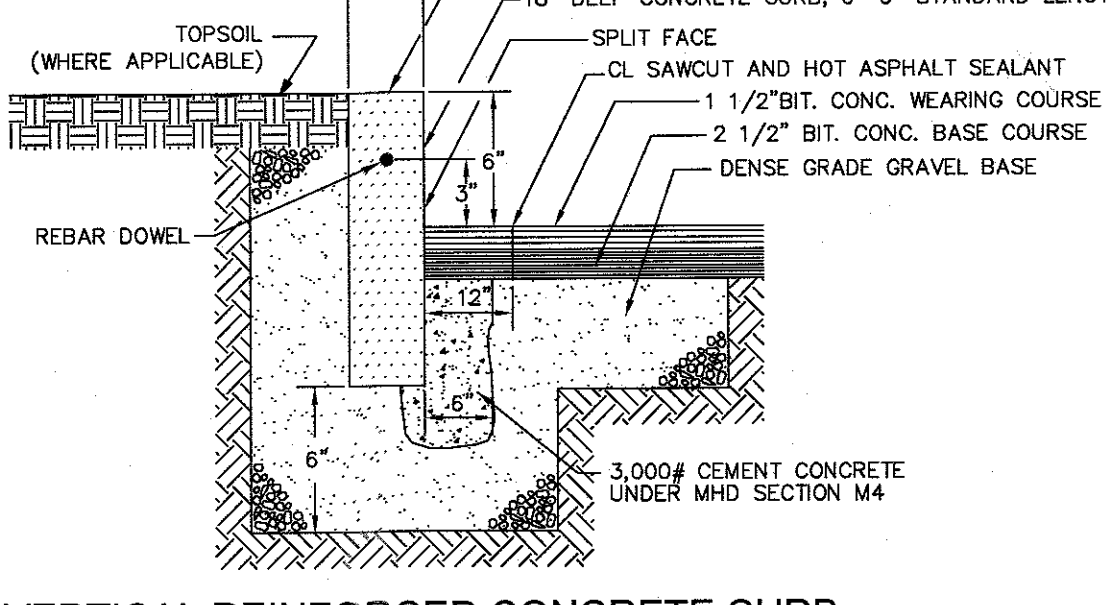
STANDARD CATCH BASIN FRAME & GRATE
NOT TO SCALE



STANDARD MANHOLE FRAME & COVER
NOT TO SCALE



CLEANOUT AT GRADE
NOT TO SCALE



VERTICAL REINFORCED CONCRETE CURB
NOT TO SCALE

NO	DATE	REVISIONS
1.	10/17/2023	RESOURCE AREA FLAGS
2.	11/22/2023	REVIEW COMMENTS
3.	02/01/2024	REVIEW COMMENTS

DATE: JANUARY 13, 2023
DRAWN: AH/DRC
SCALE: AS NOTED

LIBERTY PARKING EXPANSION

MAP SHEET 320, PARCEL 004
15 LIBERTY WAY
FRANKLIN, MASSACHUSETTS

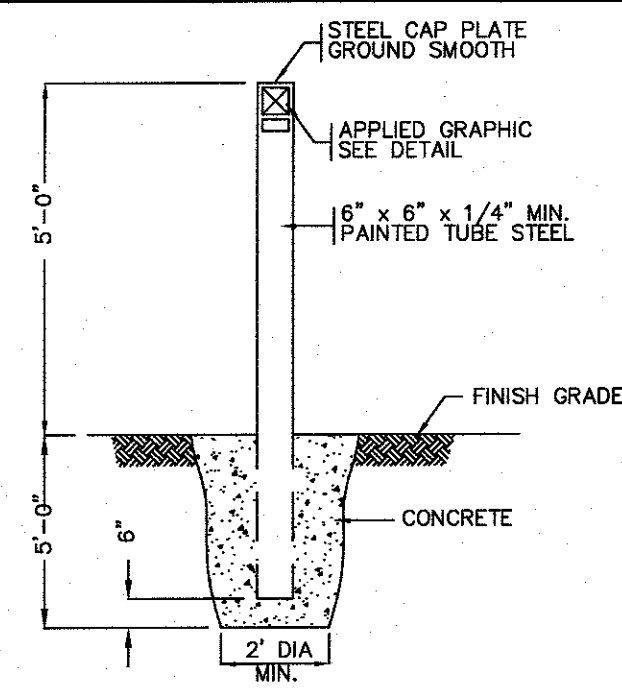
LEVEL DESIGN GROUP
Civil Engineers & Land Surveyors

249 SOUTH STREET, UNIT 1
PLAINVILLE, MA 02762
TEL. (508) 655-2221 FAX. (508) 655-2219

TYPICAL DETAILS

C-6.0
SHEET 7 OF 9

2081.00

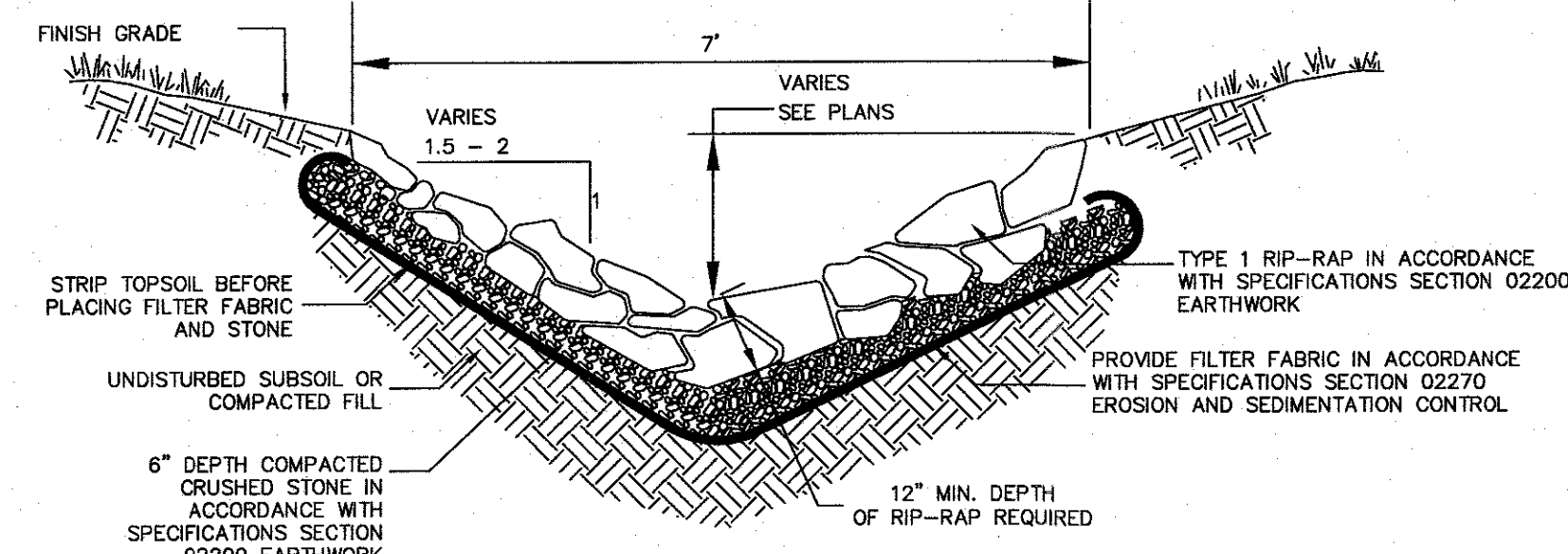


- NOTES:
1. ALL CONCRETE TO BE 2500 PSI MIN.
 2. SEE PLANS FOR LOCATIONS.
 3. WHEN PLACED IN SERIES SIGNS SHALL BE SET AT SAME ELEVATION.

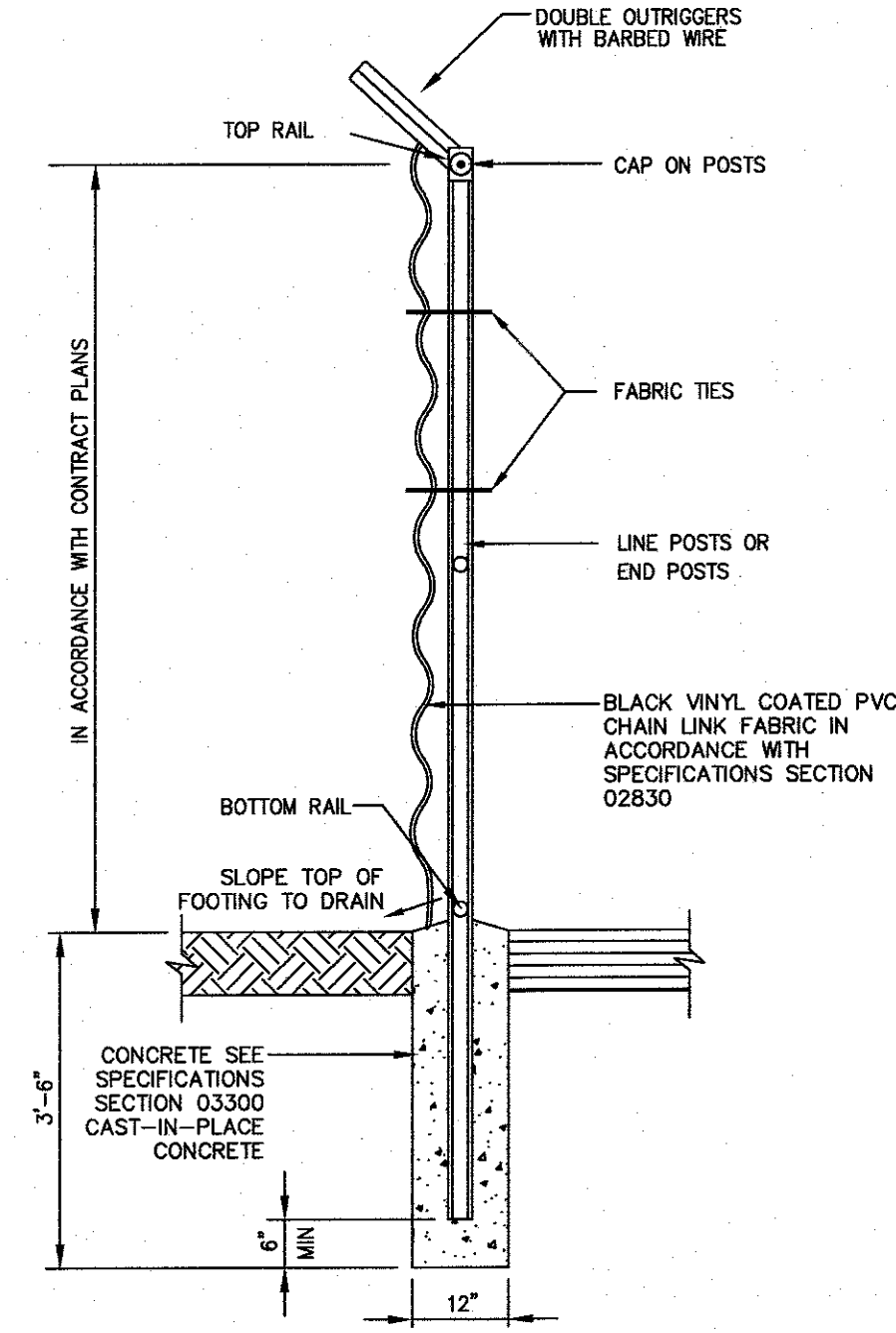
SIGNAGE BOLLARD
NOT TO SCALE



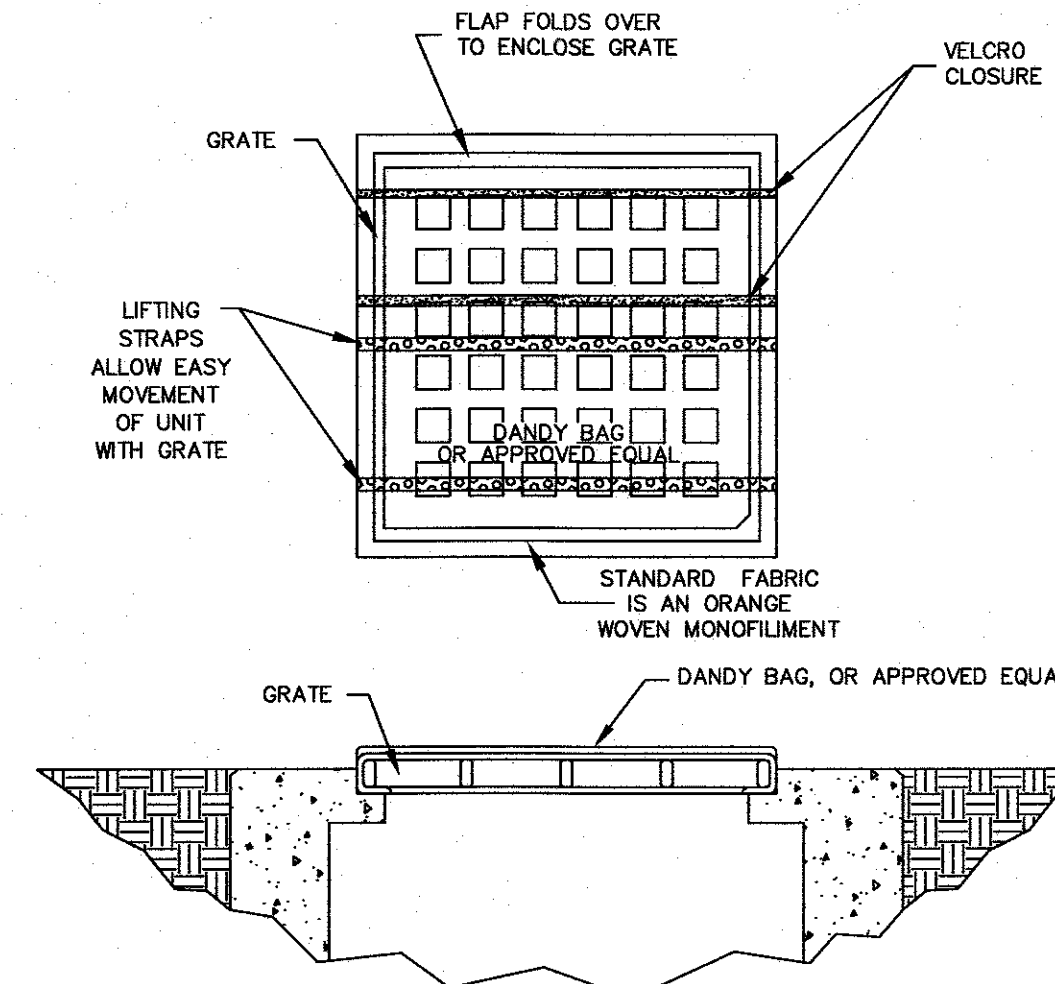
SIGNAGE GRAPHIC
NOT TO SCALE



RIPRAP SWALE
NOT TO SCALE

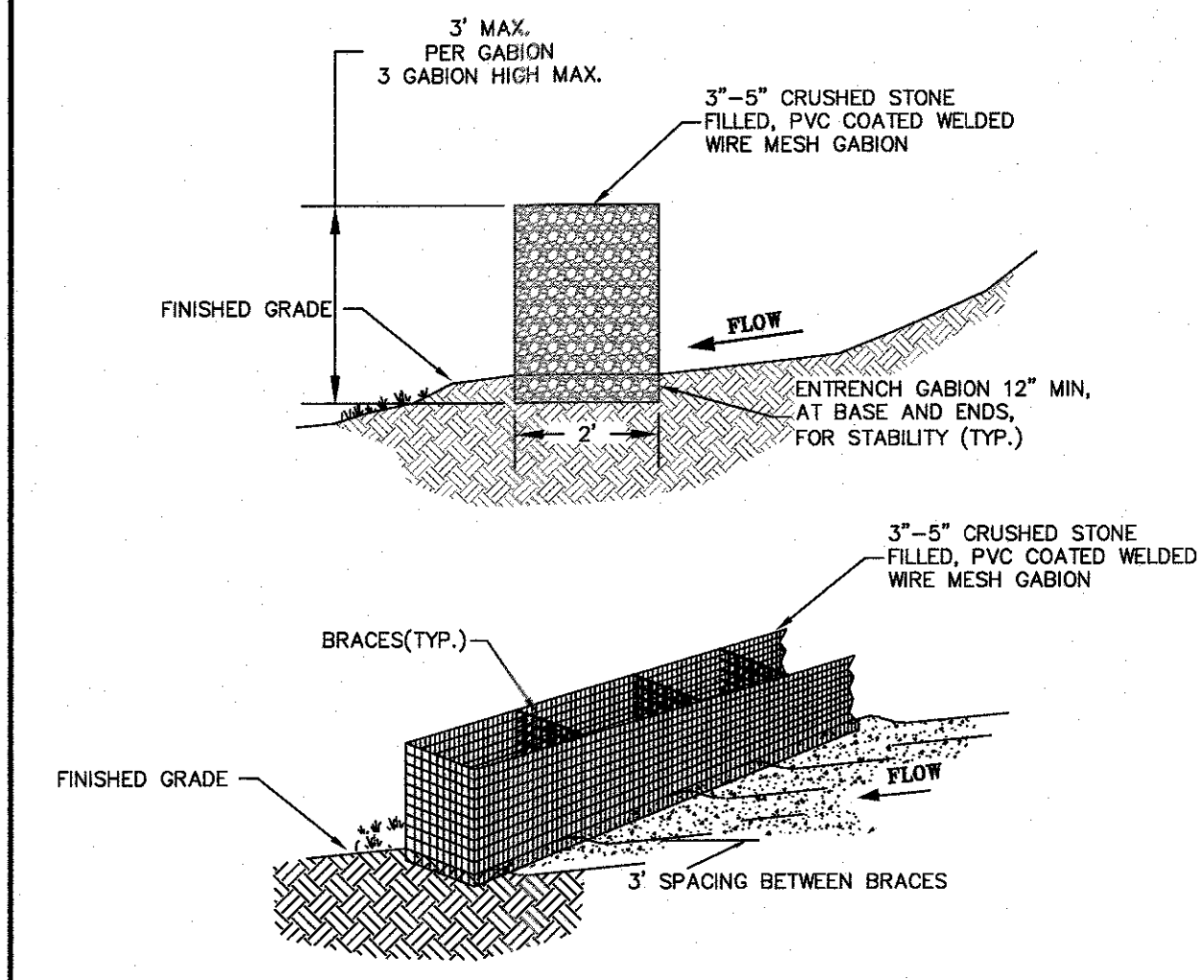


CHAIN LINK FENCE SECTION (TYPICAL)
NOT TO SCALE

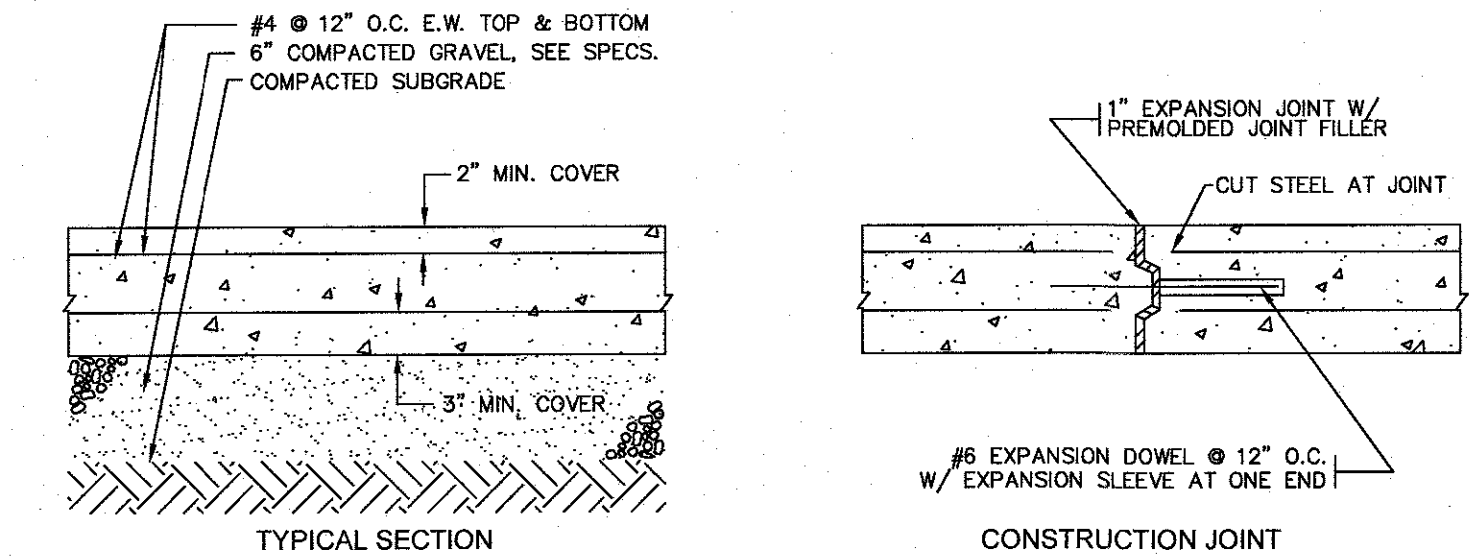


- NOTES:
- INSTALLATION:** THE EMPTY DANDY BAG, OR APPROVED EQUAL, SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS, PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.
- MAINTENANCE:** REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS, REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

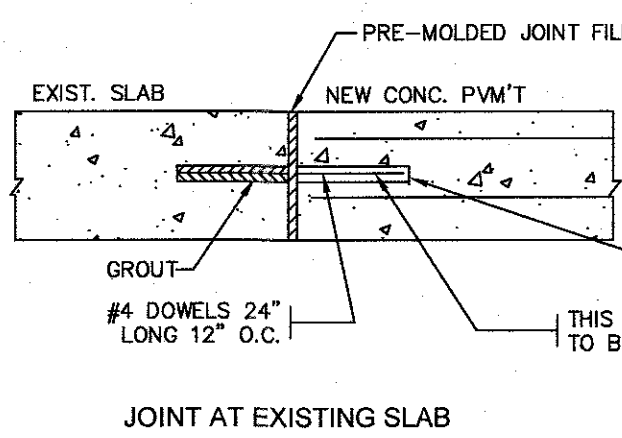
CATCH BASIN INLET PROTECTION
NOT TO SCALE



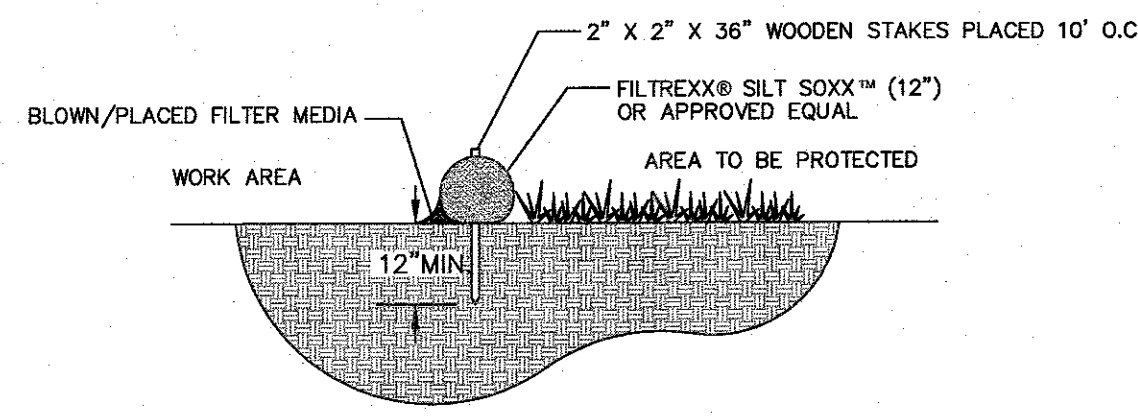
GABION SEDIMENT BAFFLE
NOT TO SCALE



8\"/>

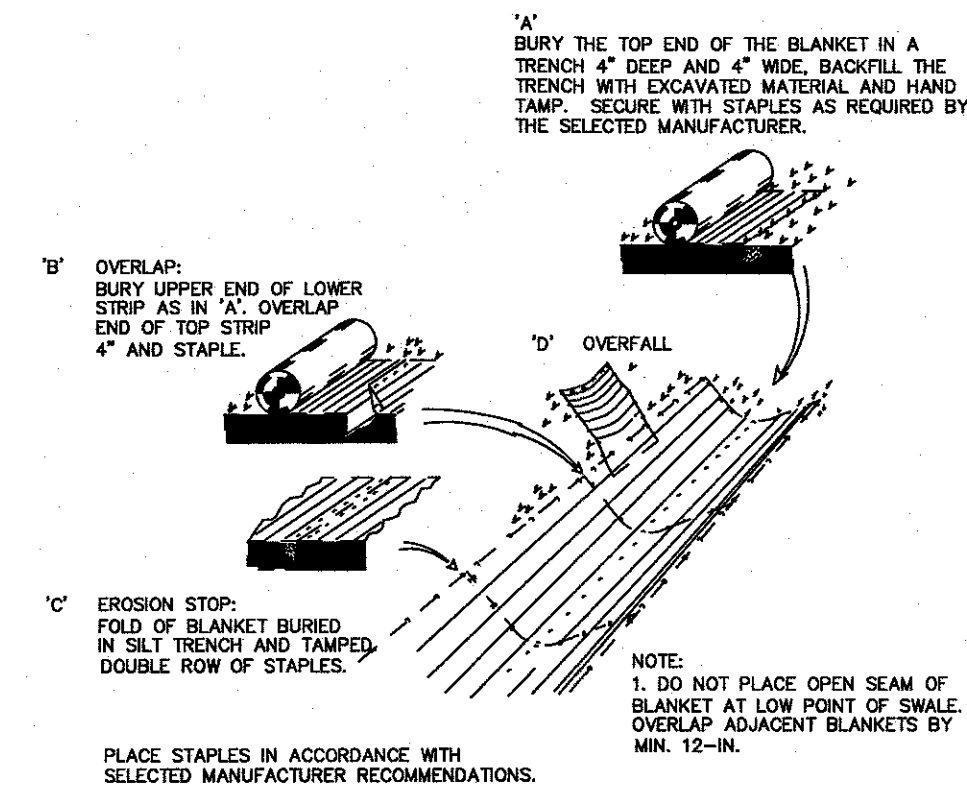


JOINT AT EXISTING SLAB

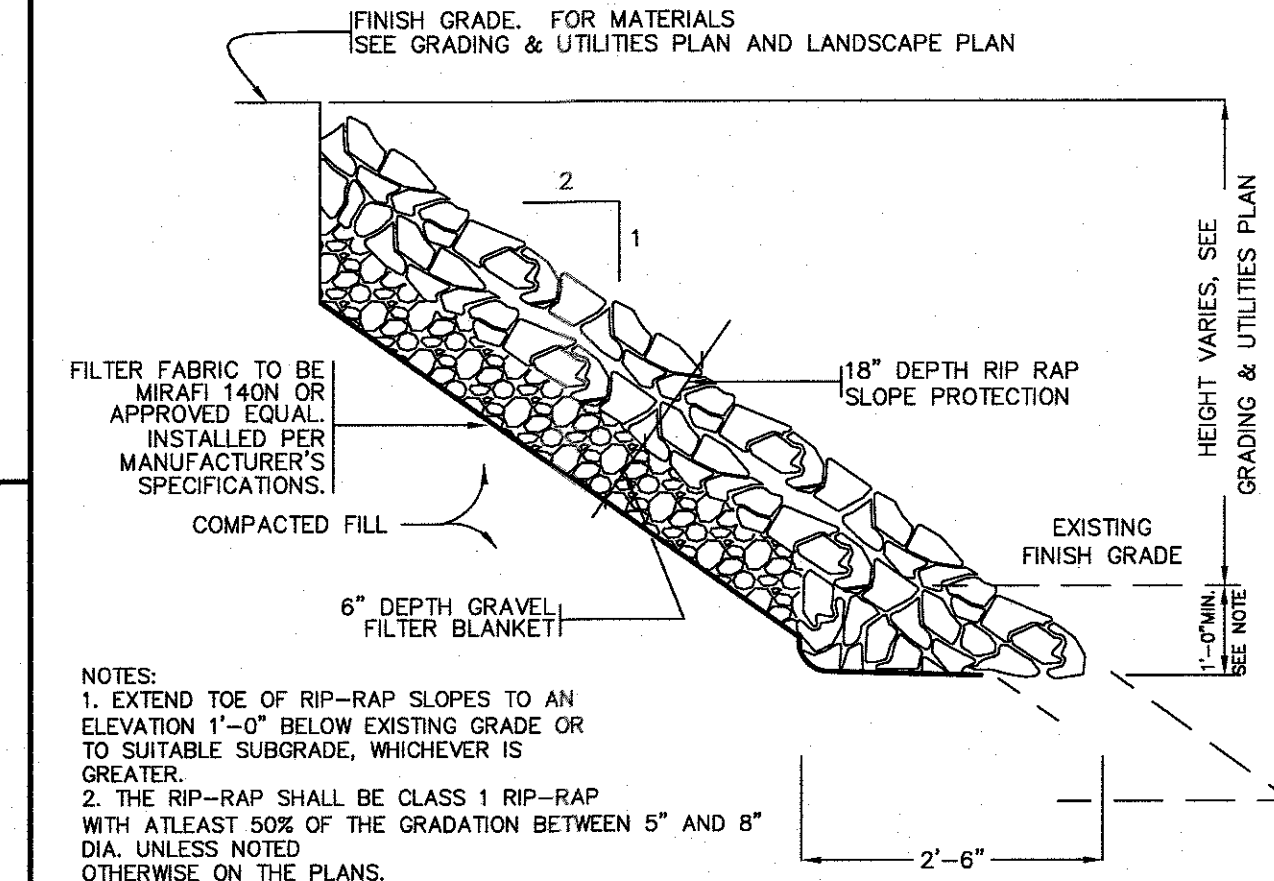


- NOTES:
1. ALL MATERIAL TO MEET FILTERXX SPECIFICATIONS.
 2. SILT SOXX FILL TO MEET APPLICATION REQUIREMENTS.
 3. COMPOST MATERIAL TO BE DISPERSED ON SITE.

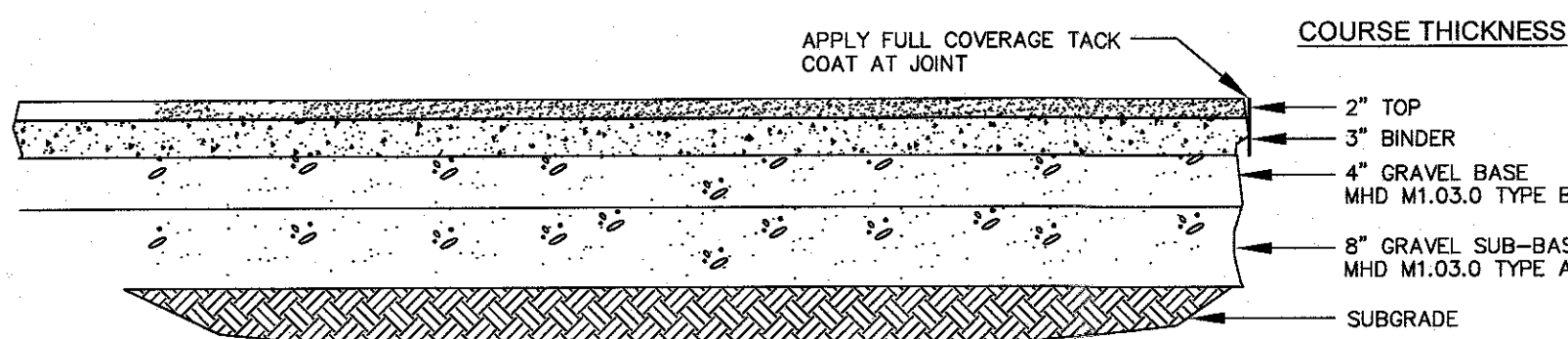
FILTERXX SILT SOXX
NOT TO SCALE



EROSION CONTROL BLANKET
NOT TO SCALE



TYPICAL SECTION FOR RIP RAP SLOPE PROTECTION
NOT TO SCALE



TRUCK AREAS - BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE

NO	DATE	REVISIONS
1	10/17/2023	RESOURCE AREA FLAGS
2	11/22/2023	REVIEW COMMENTS
3	02/01/2024	REVIEW COMMENTS

LIBERTY PARKING EXPANSION
 MAP SHEET 320, PARCEL 004
 15 LIBERTY WAY
 FRANKLIN, MASSACHUSETTS

249 SOUTH STREET, UNIT 1
 PLAINVILLE, MA 02762
 TEL. (508) 695-2221 FAX. (508) 695-2219

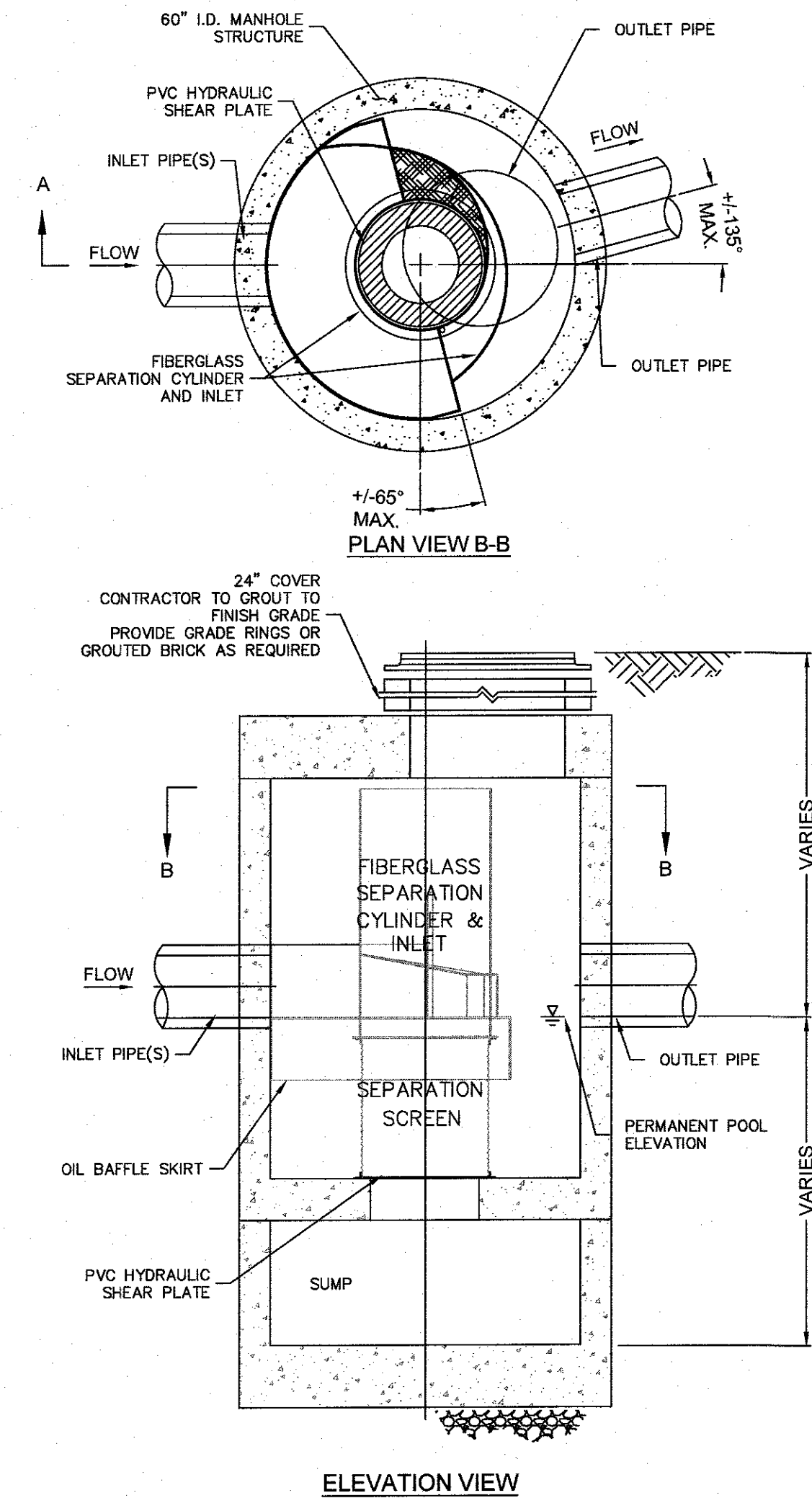
TYPICAL DETAILS
C-6.1
 SHEET 8 OF 9
2081.00

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL REQUEST SHOP DRAWINGS OF EACH INDIVIDUAL CDS STORMWATER TREATMENT UNIT AND SHALL SUBMIT THEM FOR REVIEW AND APPROVAL TO THE DESIGN ENGINEER PRIOR TO UNITS BEING ORDERED OR ENTERING PRODUCTION.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH CONSTRUCTION PRODUCTS REPRESENTATIVE. www.contech.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO H20 AND CASTINGS SHALL MEET AASHTO M300 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

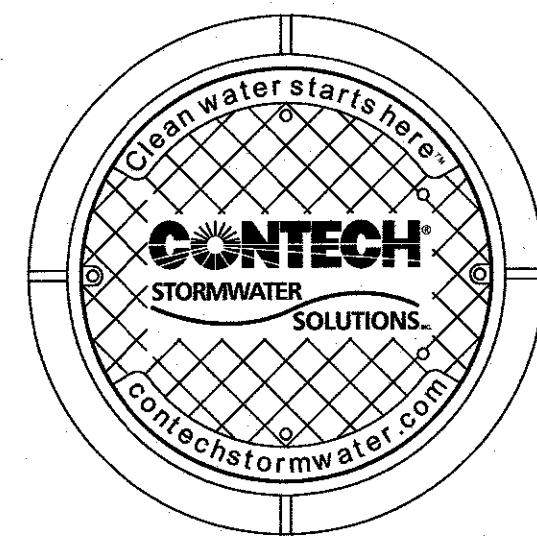
INSTALLATION NOTES

- ANY SUB-BASE BACKFILL DEPTH AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

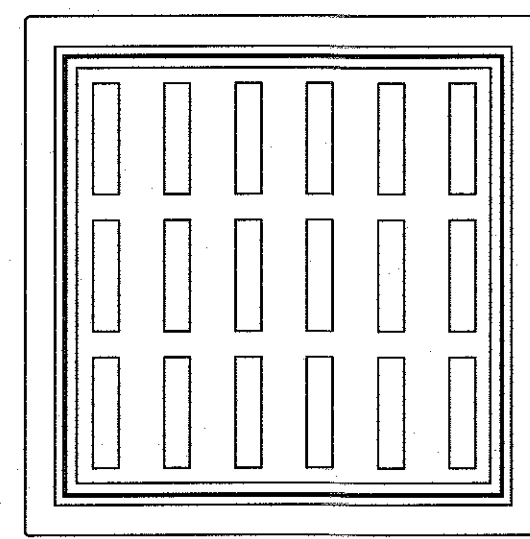


ELEVATION VIEW

STORM WATER TREATMENT UNIT



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



FRAME AND GRATE
(24" SQUARE)
N.T.S.

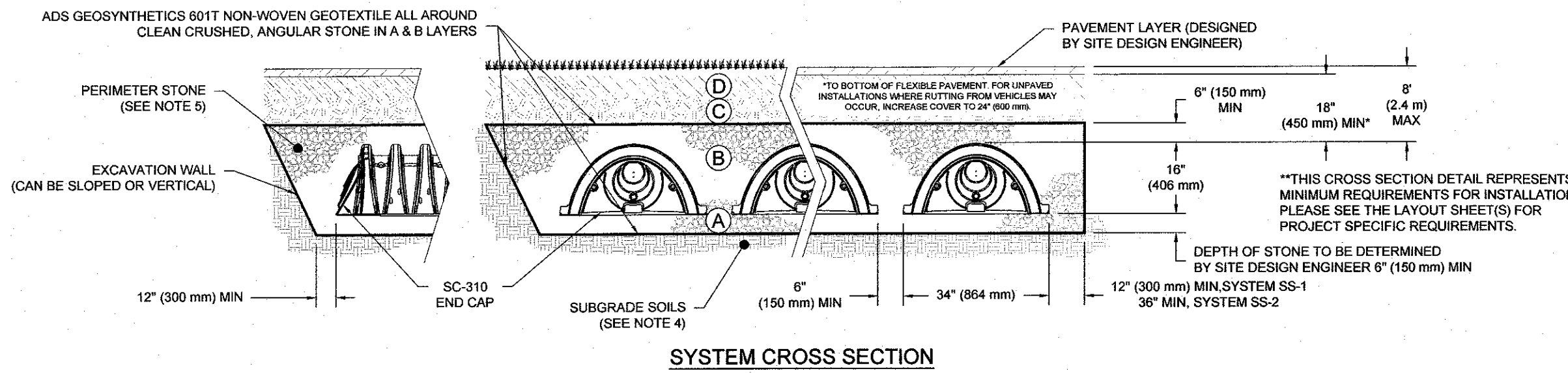
CDS STORMWATER TREATMENT UNITS
NOT TO SCALE

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 97, 6, 97, 98, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 98% PROCTOR DENSITY FOR WELL-GRADED MATERIAL AND 98% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

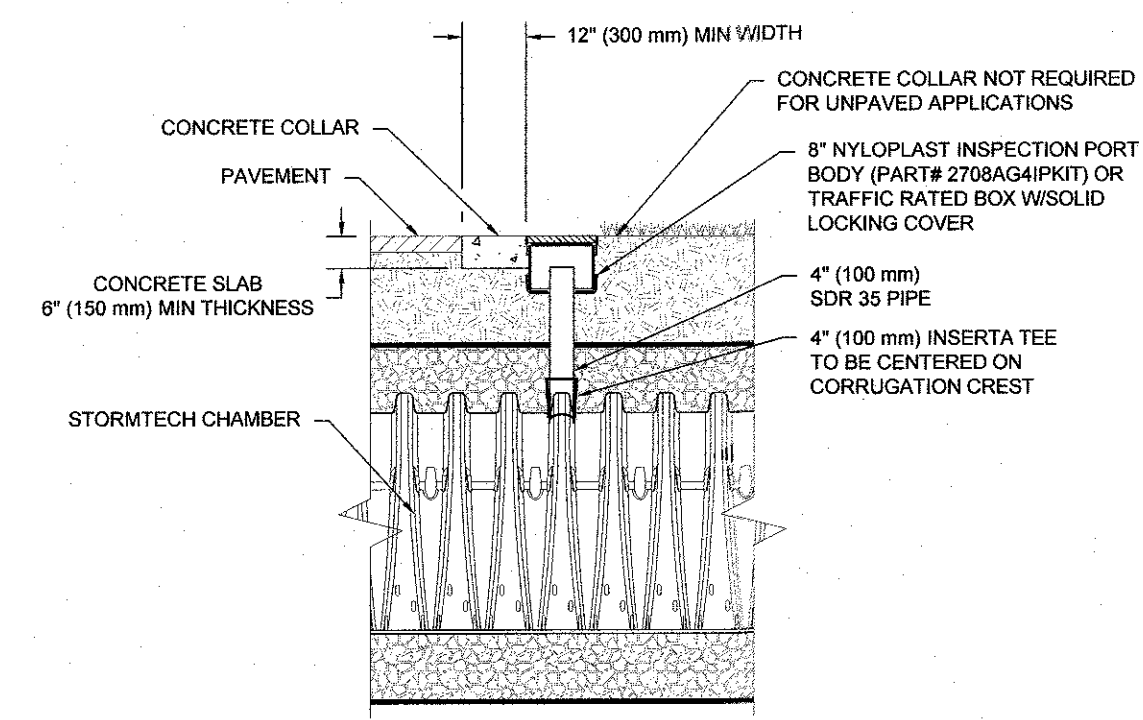
PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



SYSTEM CROSS SECTION

STORMTECH SC-310 DETAILS
NOT TO SCALE

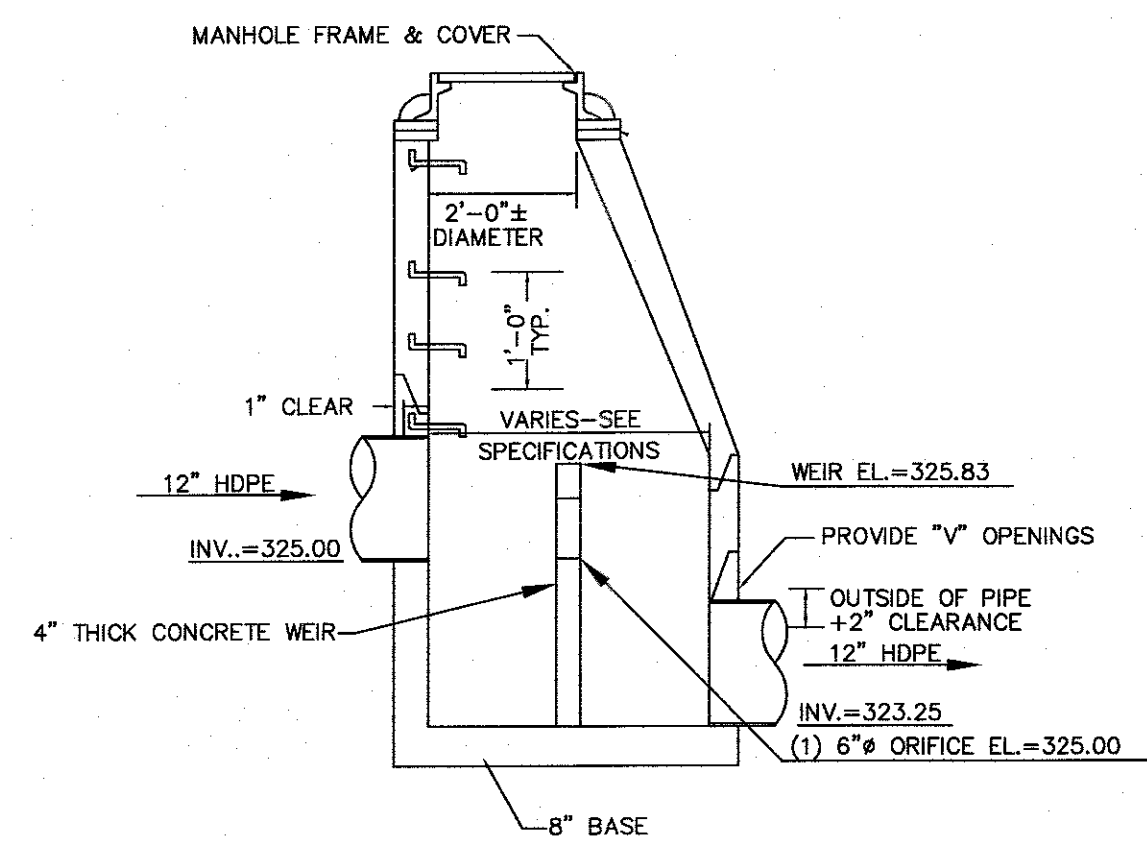


NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

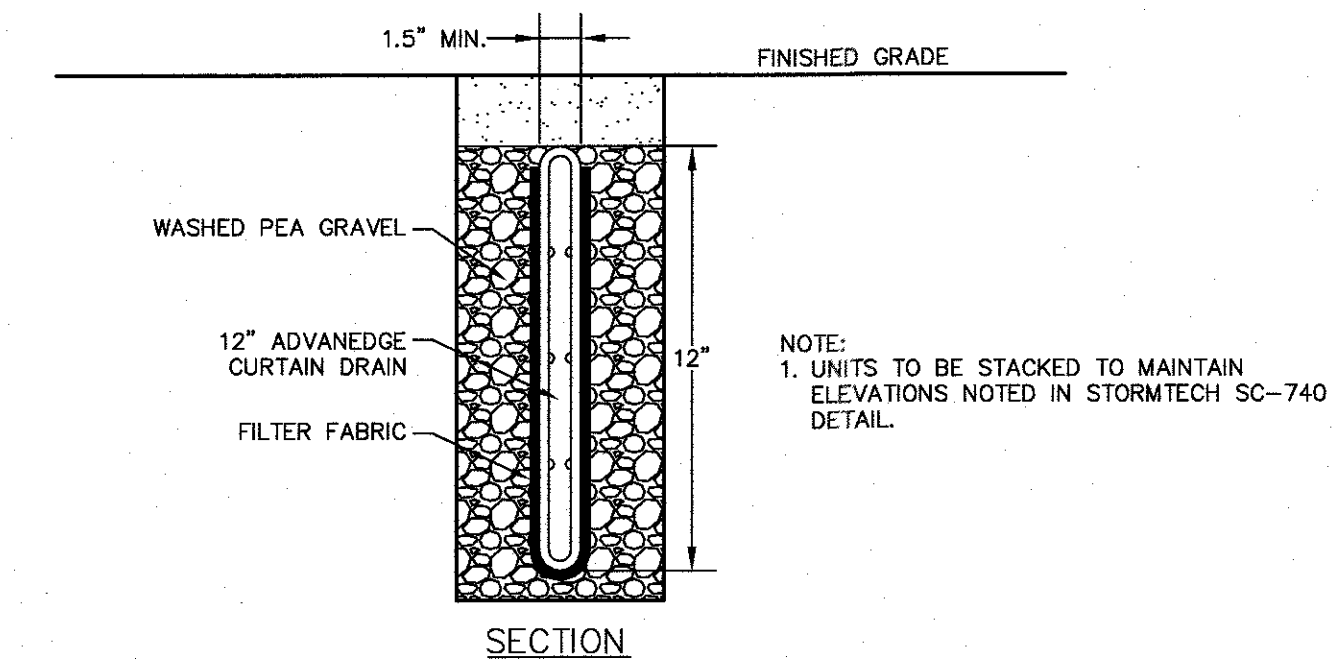
INSPECTION PORT

NOTES:

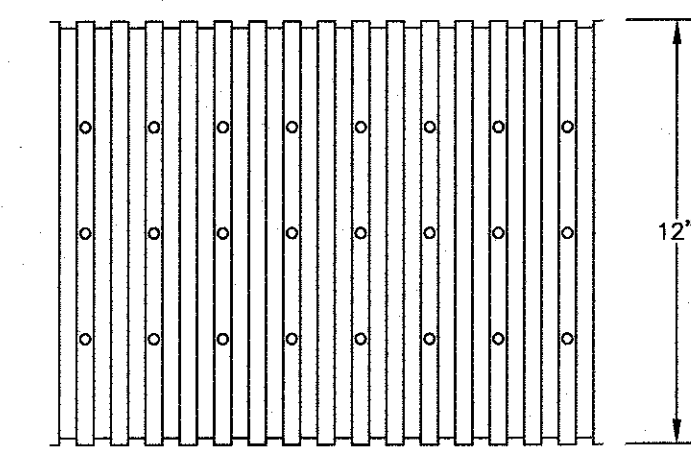
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT³. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



DRAIN MANHOLE-3 W/OUTLET STRUCTURE
NOT TO SCALE



SECTION

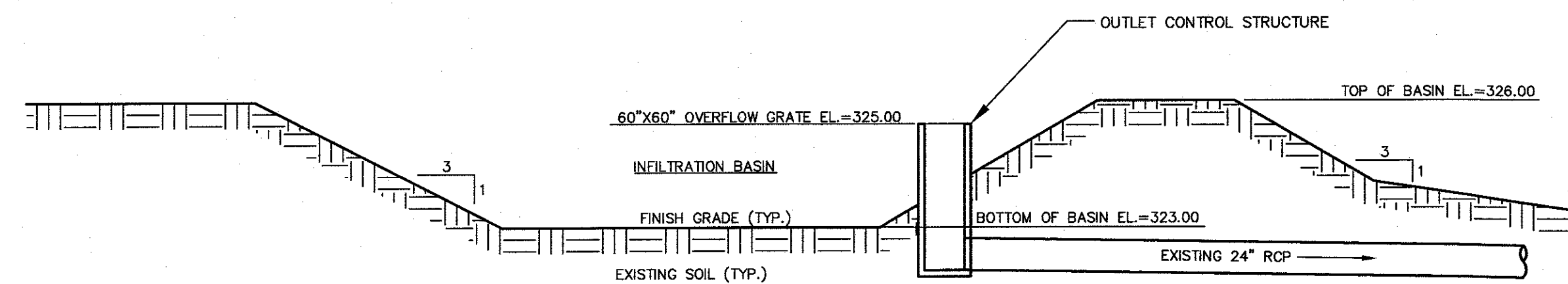


ELEVATION

ADVANCED EDGE CURTAIN DRAIN
NOT TO SCALE

NOTES:

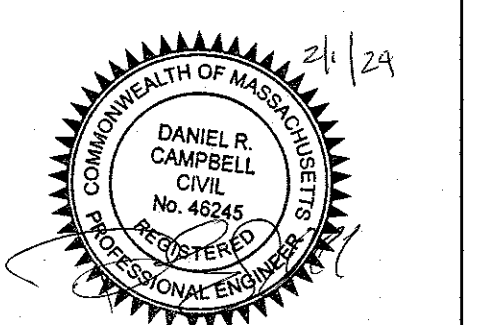
- TRENCH MUST BE NO LESS THAN 4" WIDE
- MINIMUM COVER SHALL BE NO LESS THAN 4"
- ALL PIPE FITTINGS SHALL BE MADE OF POLYETHYLENE WITH A MINIMUM CELL CLASSIFICATION OF 424420C AS DEFINED AND DESCRIBED IN ASTM D3350.
- GEOTEXTILE SHALL MEET THE REQUIREMENTS OF CLASS B GEOCOMPOSITE AS DEFINED IN ASTM D7001.



CROSS SECTION

INFILTRATION BASIN
NOT TO SCALE

NO	DATE	REVISIONS
1	10/17/2023	RESOURCE AREA FLAGS
2	11/22/2023	REVIEW COMMENTS
3	02/01/2024	REVIEW COMMENTS



DATE: JANUARY 13, 2023
DRAWN: AH / DRC
SCALE: AS NOTED

LIBERTY PARKING EXPANSION
MAP SHEET 320, PARCEL 004
15 LIBERTY WAY
FRANKLIN, MASSACHUSETTS

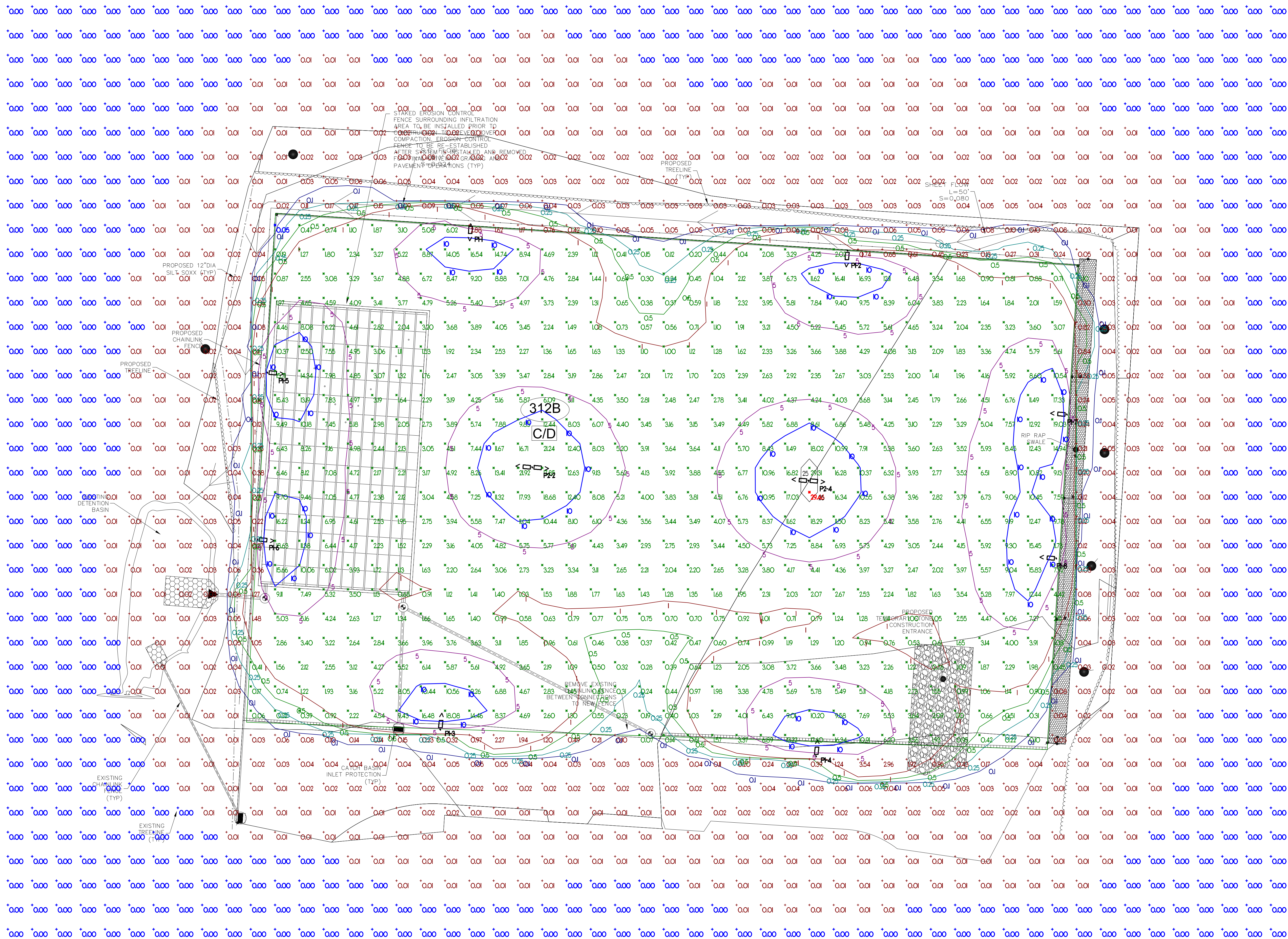
LEVEL DESIGN GROUP
Civil Engineers & Land Surveyors
249 SOUTH STREET, UNIT 1
PLAINVILLE, MA 02762
TEL. (508) 695-2221 FAX. (508) 695-2219

TYPICAL DETAILS
C-6.2
SHEET 9 OF 9
2081.00

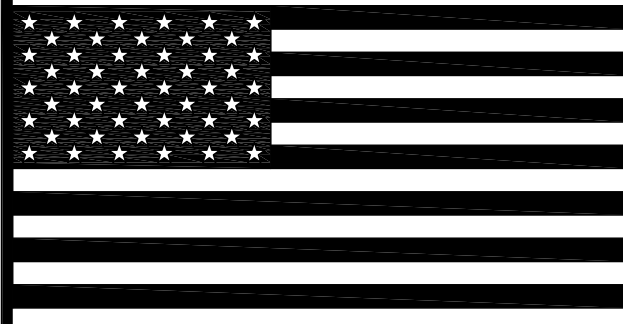
Statistics						
Description	Symbol	Avg	Max	Mn	Max/Min	Avg/Min
TRAILER PARKING	X	4.69	16.29	0.05	11.58	93.61

Schedule							
Symbol	Label	QTY	Manufacturer	Catalog	Description	Number	Lot
⬆	P1	8	PHILIPS GARDCO	ECF-L-80L-1A-NW-G2-BLC	EcoForm Area LED ECF - Large, 80 4000K CCT, TYPE BLC OPTIC.	LED's	24081
⬆	P2	2	SIGNIFY GARDCO	ECF-L-80L-1A-NW-G2-4	EcoForm Area LED ECF - Large, 80 4000K CCT, TYPE 4 OPTIC, No Shield	LED's	33656

ALL FIXTURES ARE SHOWN AT 18'-0" ABOVE FINISHED GRADE



est. 1972
VINCENT A. D'ORIO, INC.
 CONSULTING ENGINEERS
 89 Access Rd. Suite 18
 Norwood, MA 02062
 (781)255-9754 | vadjr@vadeng.com
 www.vadeng.com



REVISIONS:	
REV.	DESCRIPTION:

CLIENT:
LEVEL DESIGN GROUP
 249 SOUTH ST., UNIT 1
 PLAINVILLE, MA 02762

PROJECT:
LIBERTY PARKING EXPANSION
 15 LIBERTY WAY
 FRANKLIN, MA

DRAWING TITLE:
PHOTOMETRIC SITE LIGHTING

DRAWN: CDO
 CHECKED: VAD Jr
 SCALE: 1" = 20'-0"
 DATE: 3/13/23

PH1.1



Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 52,600 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Project: _____
Location: _____
Gd.No: _____
Type: _____
Lamps: Qty: _____
Notes: _____

Ordering guide

example: ECF-L-96L-1A-DW-AR-APR-90-120-DD-PCB-F1-SP1-T8-RPA-HIS-BK

Part	Description	Part	Description	Part	Description	Part	Description
ECF-L	ECF-L EcoForm luminaire	90L	90 LEDs (6 modules)	1A	1200mA	WW-02	Warm White 3000K, 70CRI Generation 2
		80L	80 LEDs (6 modules)	1A	1000mA	WW-02	Warm White 3000K, 70CRI Generation 2
		80L	80 LEDs (6 modules)	1A	1000mA	WW-02	Warm White 3000K, 70CRI Generation 2

Option	Description	Option	Description	Option	Description	Option	Description
DD SM	0-10V External dimming (for controls by others)	MRB SM	Integral with 40 pins	PCB SM	Photocontrol Button	Fusing	FF1 Single (100, 27V, 84V/AC)
DDA SM	Dual On/Off Control	MRP SM	Integral with 87 pins	TLRDS SM	Twist Lock Receptacle 5 Pin	FF2	Double (200, 340, 480V/AC)
FAWBA SM	Field Adjustable Wattage Selector			TLRDP SM	Twist Lock Receptacle 7 Pin	FF3	Single (100, 27V, 84V/AC)
LIQ SM	Integral wireless module			TLRDPH SM	Twist Lock Receptacle w/PhotoCell	FF4	Double (200, 340, 480V/AC)
BL SM	Bluetooth					FF5	Canadian Double Pull (200, 340, 480V/AC)
DRIVER SM	DR driver connected to Zhaga socket					FF6	Canadian Double Pull (200, 340, 480V/AC)

- BL-MRBS/7 equipped with auto-balanced sensor housing when voltage is 180V (240V/480V)
- Mounts to a 4" round pole with adapter included for square poles.
- Limited to a maximum of 45 degrees aiming above horizontal.
- Not available with other dimming control options.
- Not available with motion sensor.
- Not available with photocell sensor.
- Must specify motion sensor.
- Not available with 84V or 480V.
- Must specify input voltage.
- TLRDS, TLRDP and TLRDPH receptacle pins 4 & 5 are capped off unless ordered with any of the dimming controls DD or FAWB or LLC.
- Not available in 480V. Order photocell separately with TLRDS/7.
- Not available with 200V.
- Not available with FF and MR. RPA provided with black finish standard.
- MR not available with Type 4, 5, 6, BLC, BLD-90, or BLD-270.
- Not available with DD, DCC, and FAWB dimming control options.
- Not available with DD, DCC, FAWB and LLC dimming control options.
- When ordering BRDR, controller (by other) to be used on.



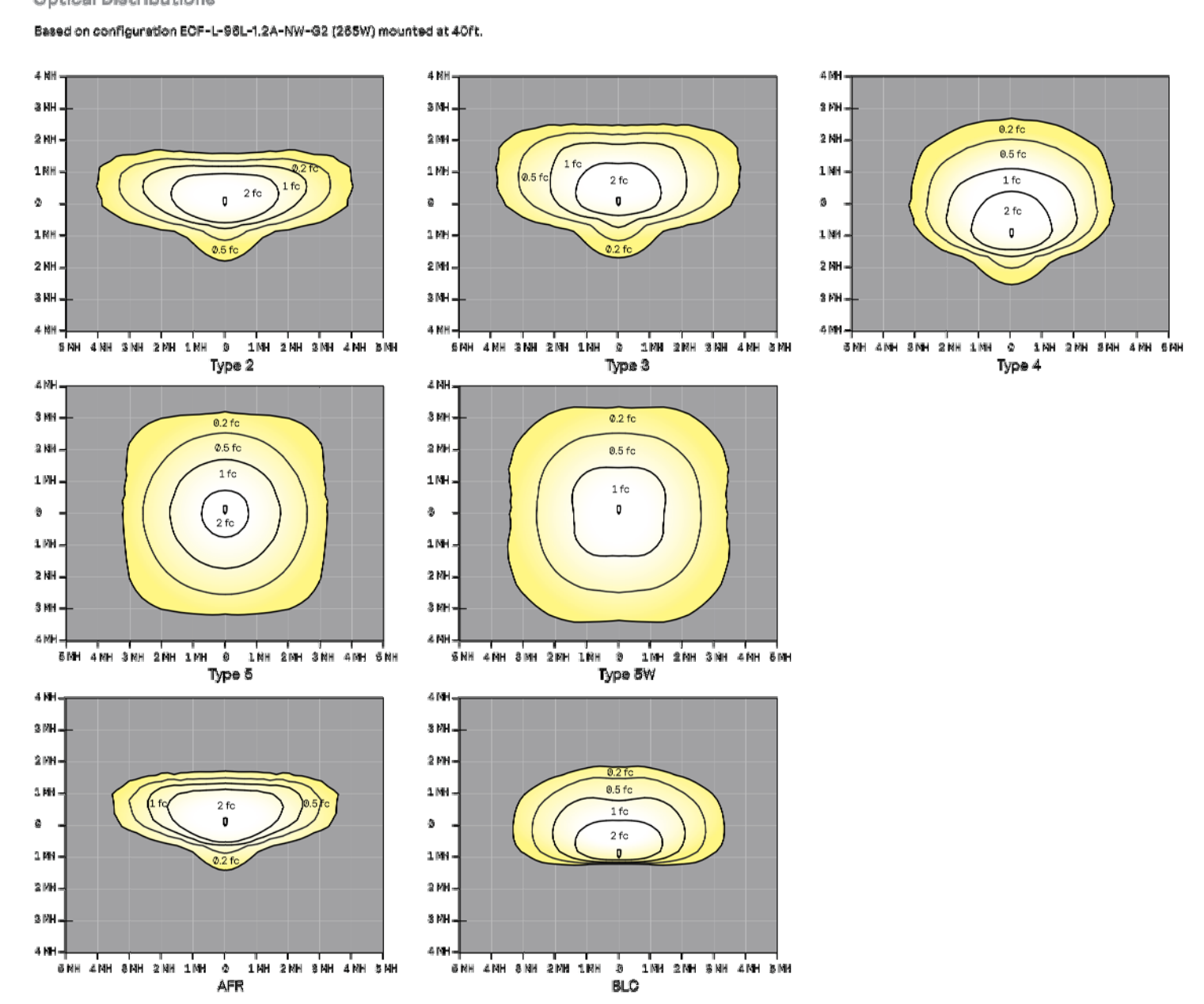
ECF-L EcoForm large
Area luminaire

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance is deprecates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 8 times actual LED test hours

Ambient Temperature - °C	Driver mA	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1400 mA	>100,000 hours	>90,000 hours	>86%

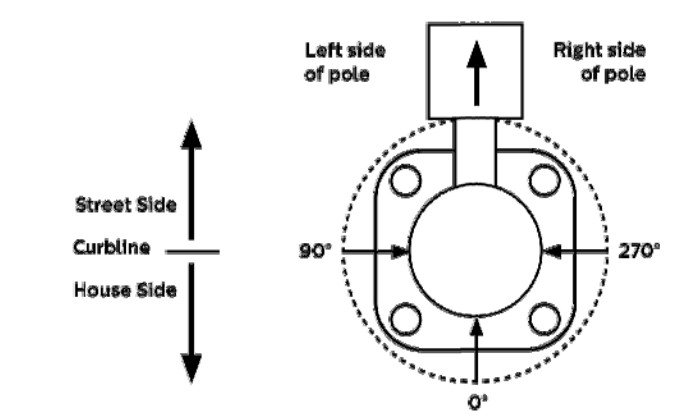
Optical Distributions



ECF-L EcoForm large
Area luminaire

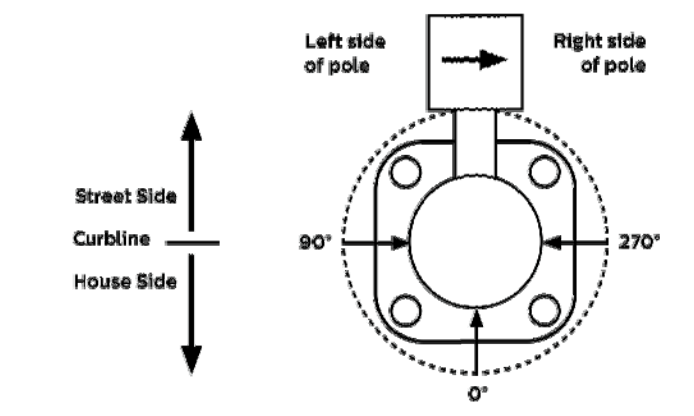
Optical Orientation Information

Standard Optic Position
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



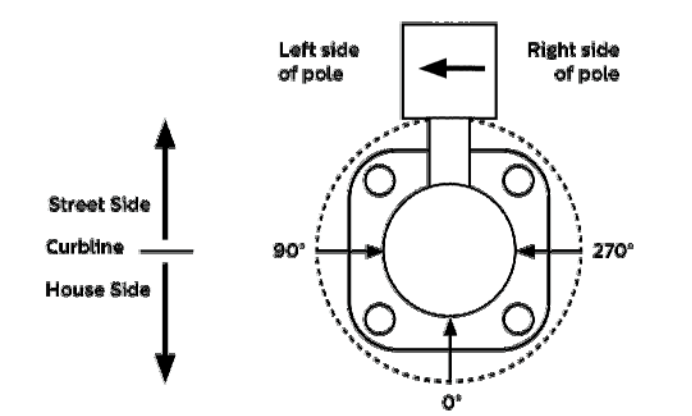
Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Right (270°) Optic Position
Luminaires ordered with optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



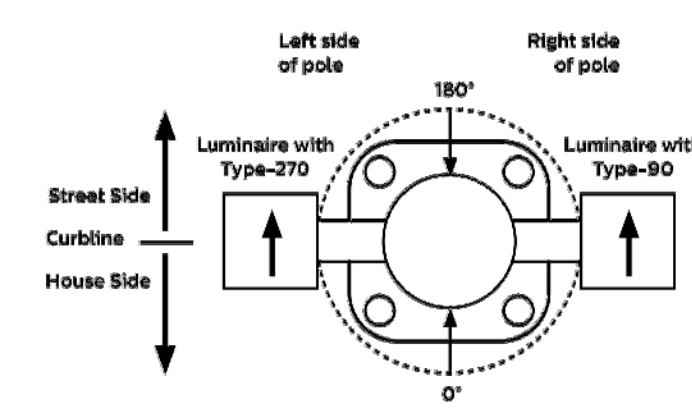
Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Left (90°) Optic Position
Luminaires ordered with optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below (Type 5 and 5W optics are not available with factory set rotatable optics):



Note: The hand hole will normally be located on the pole at the 0° point.

Two Luminaire Assemblies with Type-90/Type-270 Rotated Optics
Twin luminaire assemblies installed with rotated optical systems are an excellent way to direct light toward the interior of the site (Street Side) without additional equipment. It is important, however, that care be exercised to insure that luminaires are installed in the proper location.



Note: The hand hole location will depend on the drilling configuration ordered for the pole.

ECF-L EcoForm large
Area luminaire

3000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	Current (mA)	Color Temp. (K)	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)
ECF-L-90L-90-WW-02-x	80	800	3000	228	23,738	84-02-03	133	23,269	81-02-04	99	23,844	81-02-04	133	23,844	81-02-04	133	23,844	81-02-04	133

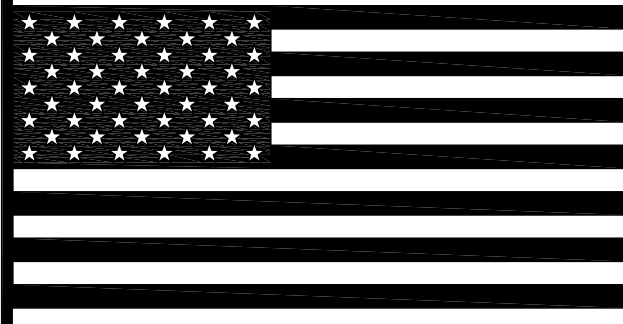
4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	Current (mA)	Color Temp. (K)	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)
ECF-L-90L-90-WW-02-x	80	800	4000	228	32,738	84-02-03	133	32,269	81-02-04	99	32,844	81-02-04	133	32,844	81-02-04	133	32,844	81-02-04	133

4000K LED Wattage and Lumen Values

Ordering Code	Total LEDs	Current (mA)	Color Temp. (K)	Average System Watts	Type 2			Type 3			Type 4			Type 5			Type 5W		
					Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)	Lumen Output	BUG Rating (LPW)	Efficacy (LPW)
ECF-L-90L-90-WW-02-x	80	800	4000	228	30,999	84-02-03	133	31,360	81-02-04	99	34,009	81-02-04	133	34,009	81-02-04	133	34,009	81-02-04	133

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. RPA highly recommended to confirm performance with photometric layout. NOTE: Some data may be based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.



REVISIONS:

REV.	DATE	DESCRIPTION

CLIENT:
LEVEL DESIGN GROUP
249 SOUTH ST., UNIT 1
PLAINVILLE, MA 02762

PROJECT:
LIBERTY PARKING EXPANSION
15 LIBERTY WAY
FRANKLIN, MA

DRAWING TITLE:
PHOTOMETRY LIGHTING SPEC'S

DRAWN: CDO
CHECKED: VAD Jr.
SCALE: NOT TO SCALE
DATE: 3/13/23

