

# NOTICE OF INTENT AND SPECIAL PERMIT MODIFICATION

## 140 R MAIN STREET, NEWBURY MA 01922

THIS DOCUMENT IS PROVIDED BY BORREGO SOLAR SYSTEMS, INC. TO FACILITATE THE SALE AND INSTALLATION OF A SOLAR POWER SYSTEM FROM NEW LEAF ENERGY, INC. REPRODUCTION, RELEASE OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.



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### GENERAL NOTES

- AS CONTAINED HEREIN, "CONTRACTOR" IS ASSUMED TO BE NEW LEAF ENERGY, INC AND "SUBCONTRACTOR" IS NEW LEAF'S INSTALLATION SUBCONTRACTOR.
- THESE NOTES SET MINIMUM STANDARDS FOR CONSTRUCTION. THE DRAWINGS GOVERN OVER THESE NOTES TO THE EXTENT SHOWN.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING: LOCAL BUILDING CODE, LOCAL ELECTRICAL CODE, ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK AND THOSE CODES AND STANDARDS LISTED IN THESE DRAWINGS AND IN THE SUBCONTRACTOR AGREEMENT.
- EXCEPTIONS TO THE CONTRACT DOCUMENTS ARE PERMITTED ONLY WITH THE APPROVAL OF BORREGO.
- COORDINATE THESE DRAWINGS WITH SPECIFICATIONS AND MANUFACTURER INSTALLATION AND OPERATION MANUALS AND NOTIFY BORREGO OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
- DRAWINGS HAVE BEEN DETAILED IN COMPLIANCE WITH U.L. LISTING REQUIREMENTS AND THE BUILDING CODE FOR THE MATERIALS SPECIFIED. IF AN ALTERNATE OR SUBSTITUTED MATERIAL IS ACCEPTED AS AN EQUAL BY BORREGO, THE SUBCONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR WHATEVER CONSTRUCTION MODIFICATION AND/OR ADDITIONAL COST THAT IS REQUIRED BY REASON OF THIS ACCEPTANCE.
- PRIOR TO THE COMMENCEMENT OF ANY WORK, EACH TRADE SHALL VERIFY EXISTING CONDITIONS AND NOTIFY BORREGO OF ANY DISCREPANCIES TO THAT WHICH IS SHOWN IN THESE DRAWINGS, INCLUDING BUT NOT LIMITED TO DIMENSIONS OF THE WORK AREA, STRUCTURE, EXISTING ELECTRICAL SERVICE, CONDUIT PATHS, OBSTRUCTIONS, ACCESSIBILITY ISSUES, AND WORKING CLEARANCES. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE SUBCONTRACTOR AT HIS OWN EXPENSE.
- SUBCONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO BORREGO FOR APPROVAL PRIOR TO MAKING ANY CHANGES. APPROVED CHANGES REQUIRE A DRAWING REVISION TO MAINTAIN CONTROL OVER THE APPROVED DESIGN. DEVIATION FROM THESE PLANS PRIOR TO BORREGO APPROVAL PLACES ALL LIABILITY ON THE SUBCONTRACTOR.
- UNLESS INDICATED AS EXISTING (E), ALL PROPOSED MATERIALS AND EQUIPMENT ARE NEW.
- ALL ITEMS TO BE REMOVED AND RELOCATED OR REPLACED SHALL BE HANDLED WITH PROPER CARE AND STORED IN A SAFE PLACE TO PREVENT DAMAGE; OR BE REPLACED AT THE SUBCONTRACTOR'S EXPENSE.
- ALL EQUIPMENT SHALL BE MOUNTED AS SHOWN. WHERE DETAILS ARE NOT PROVIDED, THE SUBCONTRACTOR SHALL USE DILIGENT EFFORTS TO MOUNT EQUIPMENT SUCH THAT IT WILL BE CLEAN, LEVEL AND SOLID.
- ALL SURFACES SHALL BE PATCHED AND PAINTED AROUND NEW DEVICES AND EQUIPMENT TO MATCH EXISTING FINISHES.
- ANY METAL SHAVINGS RESULTING FROM SITE WORK SHALL BE CLEANED FROM ROOF SURFACES, ENCLOSURES AND ANY ADDITIONAL AREAS WHERE OXIDIZED OR CONDUCTIVE METAL SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT CIRCUITS OR OTHER DAMAGE.
- NO STRUCTURAL MEMBER SHALL BE DRILLED UNLESS SPECIFICALLY AUTHORIZED BY BORREGO.
- SUBCONTRACTOR ACKNOWLEDGES THAT THE SYSTEM AS INDICATED ON THE PLANS REQUIRES ALL COMPONENTS TO BE INSTALLED TO PROPERLY RESIST WIND LOADS, SUCH AS BALLAST, WIND DEFLECTORS, ETC. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE TEMPORARY MEANS TO RESIST WIND LOADS FOR ALL COMPONENTS NOT YET INSTALLED DURING AND AFTER REGULAR WORKING HOURS. THIS MAY INCLUDE TEMPORARY TIE DOWNS, COVERING, BALLAST OR ANY OTHER MEANS. DAMAGE TO ANY INSTALLED SYSTEM COMPONENT OR THE EXISTING FACILITY AS A RESULT OF THE UNFINISHED CONDITION NOT ADEQUATELY RESISTING WIND SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR TO REPAIR OR REPLACE AT THE SUBCONTRACTOR'S COST.
- TREES MAY GROW DURING THE LIFE OF THE SYSTEM AND IMPACT THE PRODUCTION.

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### PROJECT SCOPE

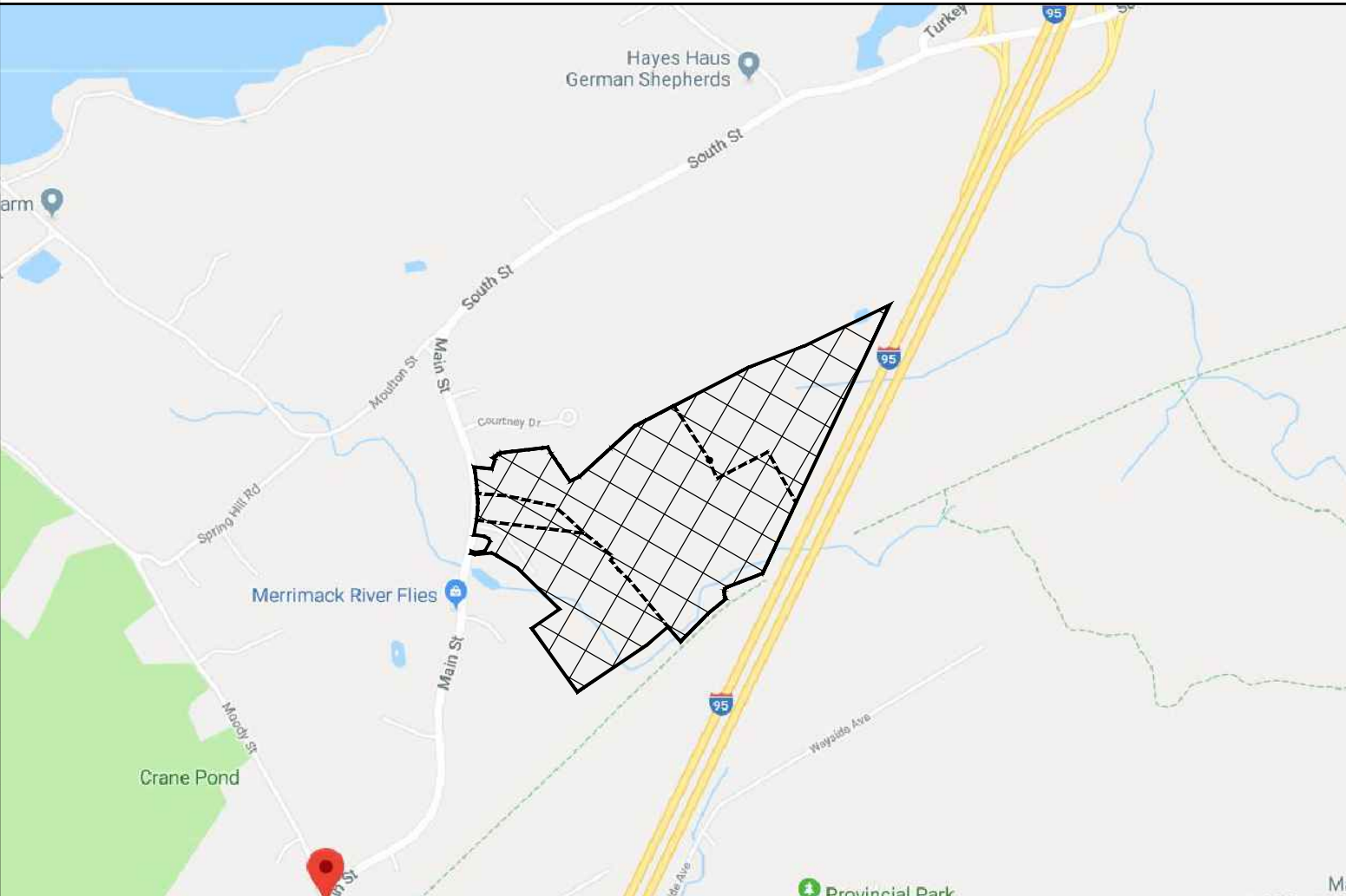
THIS PROJECT CONSISTS OF CONSTRUCTION OF AN ACCESS ROAD ALONG AN EXISTING FARM ROAD, REMOVAL OF AN EXISTING WETLAND CROSSING, AND REPLACEMENT WITH A BRIDGE TO SPAN THE OPEN WATER WETLANDS. THIS WILL SATISFY NATIONAL GRID (NGRID) REQUIREMENT FOR MAINTENANCE ACCESS TO THE INTERCONNECTION VIA THE SOLAR FACILITY. THE SINGLE LANE ROAD LENGTH IS 1,037 FT. THIS IS FOR AN EXISTING 2.795 MEGAWATT (MW) GROUND MOUNTED SOLAR FACILITY COMPLETED IN 2021 AT 136 NORTH MAIN STREET IN NEWBURY, ESSEX COUNTY, MASSACHUSETTS, MADEP AMENDED FINAL ORDER OF CONDITIONS # 050-1163. THE COMPLETED PROJECT WAS APPROVED BY THE TOWN OF NEWBURY BY SPECIAL PERMIT ON MAY 16, 2018.

THIS PROJECT COMPLETES THE INSTALLATION OF SOLAR MODULES PER THE SYSTEM DESCRIPTION, BELOW. THE MODULES WILL BE INSTALLED ON A GROUND MOUNTED RACKING SYSTEM. THE MODULES WILL BE WIRED IN SERIES STRINGS AND CONNECTED IN PARALLEL TO THE INVERTER(S), WHICH CONVERT THE PHOTOVOLTAIC OUTPUT POWER FROM DC TO AC. THE SOLAR ELECTRIC SYSTEM WILL BE INTERCONNECTED WITH THE EXISTING SITE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE APPLICABLE ELECTRICAL CODE AND NGRID REQUIREMENTS.

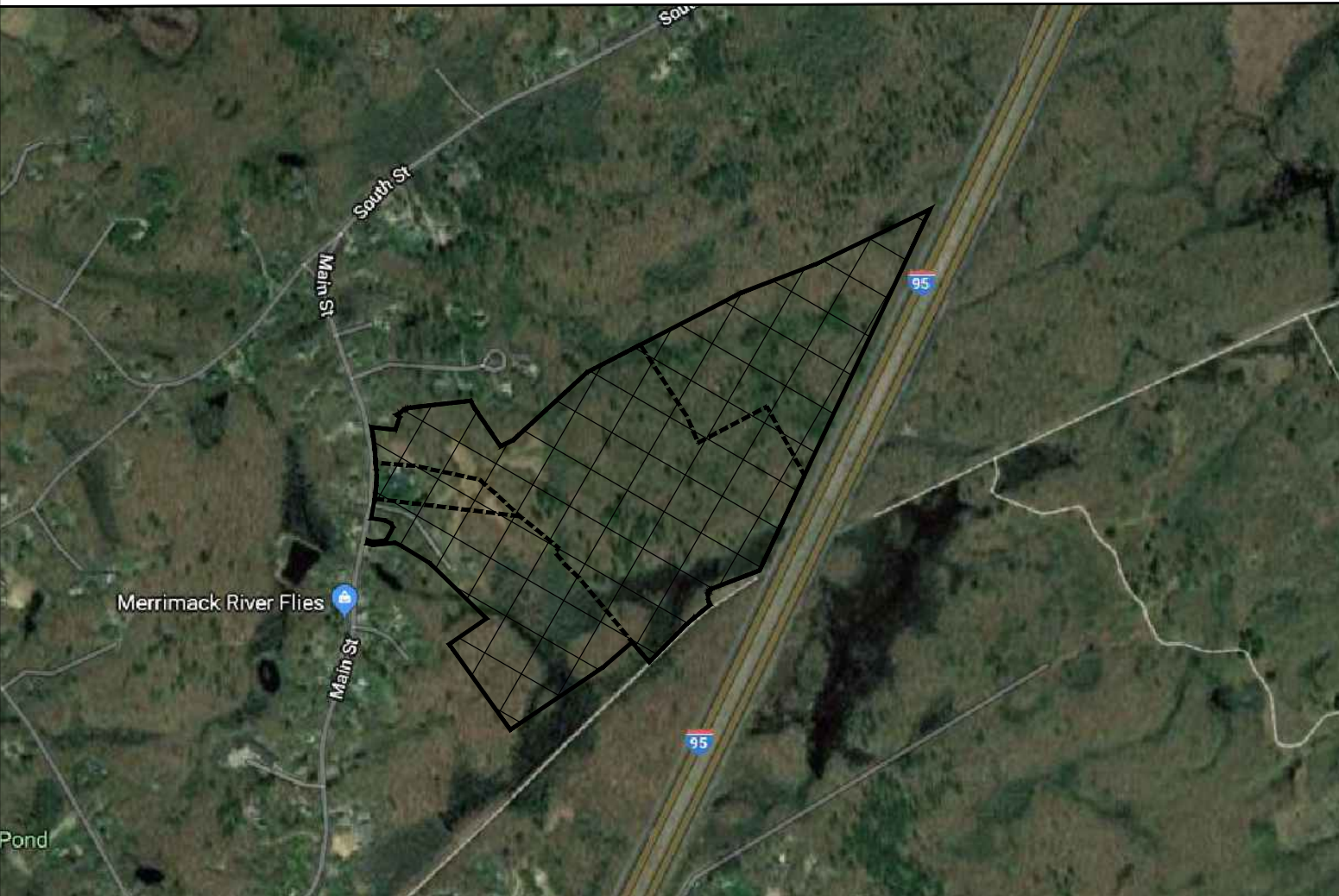
### SYSTEM DESCRIPTION

DC SYSTEM		AC SYSTEM	
SYSTEM SIZE (DC STC)	2818.920 kWDC	SYSTEM SIZE (AC)	1,980 kWAC
MODULES	(7228) TRINA TSM-DE15H(I) 390	INVERTERS(S)	(1) POWER ELECTRONICS HEMK FS2125K
STC RATING (W)	390 WDC	CEC EFFICIENCY	98 %
MODULES PER STRING	26		
# OF STRINGS	278		
RACKING	TERRASmart TF3L 4X6 / 4X5		
AZIMUTH	180		
TILT ANGLE	20		

### LOCATION MAP



### AERIAL VIEW



REV 1.0

### GENERAL ABBREVIATIONS

(E)	EXISTING	NS	NORTH-SOUTH
AHJ	AUTHORITY HAVING JURISDICTION	NTS	NOT TO SCALE
AL	ALUMINUM	OAE	OR APPROVED EQUAL
APPROX	APPROXIMATE	OC	ON CENTER
ARY	ARRAY	OD	OUTSIDE DIAMETER
BLDG	BUILDING	OFCL	OWNER FURNISHED CONTRACTOR
BSS	BORREGO SOLAR SYSTEM		INSTALLED
CL	CENTERLINE	PV	PHOTOVOLTAIC
DAS	DATA ACQUISITION SYSTEM	PVC	POLY VINYL CHLORIDE
DIA	DIAMETER	SCH	SCHEDULE
DO	DITTO	SS	STAINLESS STEEL
EW	EAST-WEST	SSS	SOLAR SUPPORT STRUCTURE
FBO	FURNISHED BY OTHERS	STC	STANDARD TEST CONDITIONS
FF	FORWARD FACING	TBD	TO BE DETERMINED
GALV	GALVANIZED	TP	TAMPER PROOF
HDC	HOT DIP GALVANIZED	TYP	TYPICAL
HVAC	HEATING VENTILATION AND AIR	UON	UNLESS OTHERWISE NOTED
	CONDITIONING	VIF	VERIFY IN FIELD
ID	INSIDE DIAMETER	WP	WEATHER PROOF
MFR	MANUFACTURER		
MOD	SOLAR MODULE		

### WETLAND IMPACT TABLE

WETLAND ID	DIRECT IMPACT(FILL)
WETLAND IMPACT	PERMANENT 120 SF
WETLAND IMPACT	TEMPORARY 470 SF
WETLAND RESTORATION	1,485 SF
NET WETLAND IMPACT	(1,365) SF
WETLAND CREATION*	800 SF

\* NOTE: WETLAND CREATION IS TO BE DETERMINED

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### APPLICABLE CODES AND STANDARDS

2017 MASSACHUSETTS ELECTRICAL CODE 527 CMR12.00  
MASSACHUSETTS BUILDING CODE 9TH EDITION  
UL-1703 -- SOLAR MODULES  
UL-1741 -- INVERTERS, COMBINER BOXES  
UL-2703 -- RACKING MOUNTING SYSTEMS AND CLAMPING DEVICES FOR PV MODULES  
UL-1642 -- STANDARD FOR LITHIUM BATTERIES  
UL-1973 -- STANDARD FOR BATTERIES FOR USE IN LIGHT ELECTRIC RAIL (LER) APPLICATIONS AND STATIONARY APPLICATION  
UL-9540 -- STANDARD FOR ENERGY STORAGE SYSTEM AND EQUIPMENT

### ZONING SUMMARY TABLE

ZONING DISTRICT: R-AG AGRICULTURAL RESIDENTIAL

MINIMUM LOT SIZE	REQ'D	PROVIDED
MINIMUM LOT SIZE:	40,000 SQ.FT.	4,058,049 SQ.FT. (93.16 ACRES)
MINIMUM FRONTAGE:	125 FT	205 FT

MINIMUM SETBACKS	REQ'D	PROVIDED
FRONT:	50 FT	>1,000 FT
SIDE:	50 FT	131 FT
REAR:	50 FT	455 FT

### PRIOR PERMITS AND APPROVALS

- APPROVAL BY ORDER OF CONDITIONS, CONSERVATION COMMISSION, TOWN OF NEWBURY, SEPTEMBER 30, 2015
- APPROVAL BY SUPERSEDING ORDER OF CONDITIONS, MADEP, APRIL 26, 2017
- APPROVAL BY AMENDED SUPERSEDING ORDER OF CONDITIONS, MADEP, APRIL 2, 2020.
- APPROVAL BY AMENDED FINAL ORDER OF CONDITIONS, MADEP FILE #050-1163, MAY 5, 2022.

### PROJECT DIRECTORY

**SYSTEM / PROJECT OWNER**  
MAIN STREET NEWBURY SOLAR1, LLC  
55 TECHNOLOGY  
DRIVE, SUITE 102  
LOWELL, MA 01851

**PROJECT DEVELOPER**  
NEW LEAF ENERGY  
55 TECHNOLOGY DRIVE, SUITE 102  
LOWELL, MA, 01851

**LAND OWNER / HOST**  
KAREN E. YESAIR THIEL AND KAVY N. YESAIR  
SUCCESSOR TRUSTEES OF THE RUTH A.  
YESAIR TRUST  
P.O. BOX 128  
PLATTEVILLE, CO 80651  
617-874-0266

**AUTHORITY HAVING JURISDICTION**  
TOWN OF NEWBURY  
25 HIGH ROAD  
NEWBURY, MA 01951

**UTILITY**  
NGRID

**PROJECT MANAGER**  
FIRM: BORREGO SOLAR SYSTEMS, INC.  
CONTACT: JOHN REAVEY  
PHONE: (413) 427-2118

**CIVIL ENGINEER OF RECORD (CEOR)**  
FIRM: WATERSTONE ENGINEERING  
CONTACT: ROBERT ROSEEN, P.E., PHD  
PHONE: (603)-686-2488

**STRUCTURAL ENGINEER**  
FIRM: BORREGO SOLAR SYSTEMS, INC.  
CONTACT: RYAN SALUCCI  
PHONE: (978) 513-2601

**ELECTRICAL ENGINEER**  
FIRM: NEO VIRTUS ENGINEERING, INC.  
CONTACT: JAMES BING, P.E.  
PHONE: (978)-952-2444

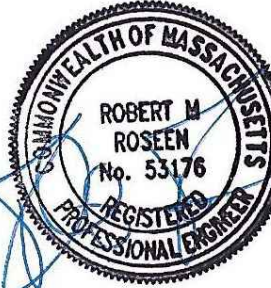
**DESIGN ENGINEER**  
FIRM: BORREGO SOLAR SYSTEM, INC.  
CONTACT: DANIEL LABBE  
PHONE: (978)-483-8879

### SURVEY NOTES

- BOUNDARY, ALTA/NSPS SURVEY WAS CONDUCTED BY NORTHEAST SURVEY CONSULTANTS, EASTHAMPTON, MA.
- FIELD SURVEY BY EDM TOTAL STATION & RTK GPS.
- THE VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). THE HORIZONTAL DATUM OF THIS PLAN IS THE MASSACHUSETTS COORDINATE SYSTEM NORTH AMERICAN DATUM 1983 BASED ON AN RTK GPS SURVEY.
- ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE PROPOSED FACILITIES ARE LOCATED IN AREAS DESIGNATED AS "ZONE X" (AREAS OF MINIMAL FLOODING, NO SHADING). COMMUNITY PANEL NO. 25009 00114 F -- EFFECTIVE DATE: 7/3/2012 & COMMUNITY PANEL NO. 25009C0118G -- EFFECTIVE DATE: 7/16/2014.
- THE LOCUS PARCELS AND ALL ABUTTING PARCELS ARE LOCATED WITHIN THE TOWN OF NEWBURY'S AGRICULTURAL --RESIDENTIAL ZONING DISTRICT.
- THE LOCATION OF UTILITY STRUCTURES SHOWN HEREON ARE FROM OBSERVED FIELD EVIDENCE ONLY, THIS PLAN MAY NOT DEPICT THE EXACT LOCATION OF UNDERGROUND UTILITIES & MAY NOT SHOW ALL OF THE UTILITIES WHICH EXIST WITHIN THE PREMISES SURVEYED. PLEASE CONTACT DIG --SAFE AT 1-888-344-7233 BEFORE EXCAVATION.
- AT THE TIME OF THE ALTA SURVEY NO ACTIVE EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WAS OBSERVED. AT THE TIME OF THE ALTA SURVEY THERE WAS NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS. NO PROPOSED CHANGES TO STREET RIGHT OF WAY LINES WERE FOUND OR PROVIDED TO THE SURVEYOR.
- AS ALLOWED UNDER SECTION 3.EV AND 6.8 OF THE 2016 ALTA/NSPS MINIMUM STANDARD DETAIL REQUIREMENTS, THIS SURVEY EXCEEDS THE MAXIMUM ALLOWABLE RELATIVE POSITIONAL PRECISION DUE TO THE SIZE AND CONFIGURATION OF THE SURVEYED PROPERTY, AND THE RELIEF, VEGETATION AND IMPROVEMENTS ON THE SURVEYED PROPERTY.
- WETLAND FLAG SYMBOLS INDICATE WETLAND FLAGS FOUND & LOCATED BY THIS SURVEY -- AT OTHER WETLAND LINES ORE SHOWN PER DIGITAL DATA PROVIDED BY BORREGO SOLAR.

NOT FOR  
CONSTRUCTION

PERMIT DRAWINGS, NOT TO BE  
USED FOR CONSTRUCTIONS



07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE	LEVEL
3	08/25/20	HR	RR	CO-IFC	RR
4	09/17/20	HR	RR	CO-IFC REV 1	RR
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD	RR
6	03/24/22	PS	RR	RECORD DRAWINGS	RR
7	06/08/22	PS	RR	NOTICE OF INTENT	RR
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1	RR
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2	RR

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

T-1  
TITLE PAGE



## GENERAL CIVIL NOTES

## ABBREVIATIONS

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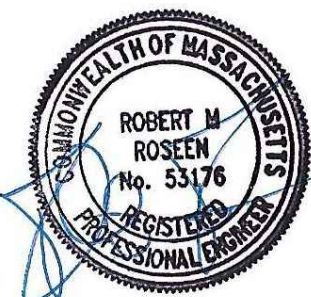
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C-0.0

## CIVIL NOTES

1. AS CONTAINED HEREIN, "CONTRACTOR" IS ASSUMED TO BE BORREGO SOLAR SYSTEMS, INC., "SUBCONTRACTOR" IS BORREGO'S INSTALLATION SUBCONTRACTORS (INCLUDING SITE WORK SUBCONTRACTOR) AND CIVIL ENGINEER OF RECORD (CEOR) IS ROBERT ROSEEN, WATERSTONE ENGINEERING. 2. EXISTING CONDITIONS INFORMATION WAS PROVIDED BY DOUCET SURVEYING, INC., NEWMARKET, NH. SURVEY IS BASED ON GEOGRAPHIC INFORMATION SYSTEMS DATA LAYERS SUPPLIED BY THE COMMONWEALTH OF MASSACHUSETTS AS WELL AS INFORMATION GATHERED FROM GOOGLE EARTH.
3. THE WETLANDS ON THE SITE WERE DELINEATED BY CHRIS LUCAS OF LUCAS ENVIRONMENTAL IN MARCH AND APRIL 2014.
4. A COPY OF THE TOWN OF NEWBURY APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES.
5. THE SITE CONTRACTOR SHALL ALLOW THE TOWN OF NEWBURY ON SITE DURING CONSTRUCTION HOURS ONLY AS LONG AS ALL SAFETY MEASURES ARE IN PLACE.
6. THE SUBCONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
7. THE SITE SUBCONTRACTOR SHALL FIELD SURVEY THE AREA OF CLEARED TREES PRIOR TO ANY GRADING OR SOLAR EQUIPMENT INSTALLATIONS. THE CONTRACTOR SHALL REVIEW STORM WATER MANAGEMENT AND ELECTRICAL EQUIPMENT DESIGN ELEVATIONS TO CONFIRM DESIGN INTENT IS MET AND NOTE ABOUT TREE CLEARING AND DCR BEETLE PROGRAM.
8. THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE SURVEY REFERENCED ABOVE. THE CONTRACTOR SHALL CONTACT DIGSAFE (1-888-DIG-SAFE) (1-888-344-7233) AND THE PROPER LOCAL AUTHORITIES OR RESPECTIVE UTILITY COMPANIES TO CONFIRM THE LOCATION OF ALL EXISTING UTILITIES AT LEAST 72 HOURS PRIOR TO COMMENCING WORK. ANY DAMAGE DUE TO FAILURE OF THE CONTRACTOR TO CONTACT THE PROPER AUTHORITIES SHALL BE BORNE BY THE CONTRACTOR.
9. SUBCONTRACTOR(S) SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND SITE CONDITIONS PRIOR TO BIDDING AND PRIOR TO CONSTRUCTION.
10. ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE CONTRACTOR/CEOR FOR CLARIFICATION AND RESOLUTION PRIOR TO BIDDING OR CONSTRUCTION.
11. PARKING AREA(S), CONSTRUCTION TRAILERS AND LAYDOWN AREAS SHALL BE AS DESIGNATED ON THESE PLANS UNLESS OTHER AREAS APPROVED BY BORREGO SOLAR SITE SUPERINTENDENT. PARKING AREAS SHALL BE CONSTRUCTED USING A MINIMUM OF 12-INCHES OF 6" MINUS STONE UNDERLAIN BY MIRAFI 500X ROAD STABILIZATION FABRIC AND SURROUNDED BY AN ORANGE SNOW FENCE. POST-CONSTRUCTION THE PARKING AREA(S) SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, INCLUDING, BUT NOT LIMITED TO RE-GRADING, LOAMING AND SEEDING.
12. DIMENSIONS SHOWN ARE FROM PROPERTY LINES, WETLANDS LIMITS AND FROM FACE OF CHAIN LINK FENCE AND FACE OF SOLAR MODULES. DIMENSIONS ARE IN FEET AND DECIMALS.
13. UPON THE COMPLETION OF THE PROJECT, THE APPLICANT SHALL SUBMIT AN AS-BUILT (RECORD) PLAN PREPARED BY A PROFESSIONAL LAND SURVEYOR TO THE PLANNING BOARD AND REQUEST A FINAL INSPECTION AND CERTIFICATION OF COMPLETION TO MEET RELEVANT PERMIT CONDITIONS.
14. UTILITY-OWNED EQUIPMENT ON ELECTRIC POLES TO BE INSTALLED WILL CONSIST OF LOAD-BREAK DISCONNECT, RECLOSER, AND METERING EQUIPMENT. UTILITY SHALL OVERSEE THE PERMITTING OF THIS EQUIPMENT. SEE ELECTRICAL PLANS FOR INSTALLATION AND LAYOUT DETAILS OF CUSTOMER-OWNED ELECTRIC POLES.

## II-SITE PREPARATION NOTES

1. AREAS DESIGNATED FOR CLEARING SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. TOPSOIL SHALL BE STOCKPILED. ALL TREES, VEGETATION, ROOTS AND OTHER UNACCEPTABLE MATERIAL SHALL BE REMOVED.
2. SUBCONTRACTOR SHALL DEFINE AREAS DESIGNATED FOR ONLY CLEARING AND NO GRUBBING AND AREAS TO BE CLEARED AND GRUBBED. PRIOR TO WORK COMMENCING IN THESE AREAS THE CONTRACTOR SHALL APPROVE METHOD OF TREE REMOVAL AND LIMITS. SUBCONTRACTOR(S) IS/ARE RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS TO REMAIN THAT ARE DUE TO SUBCONTRACTOR(S) OPERATIONS.
3. ALL ITEMS TO BE REMOVED THAT ARE NOT STOCKPILED FOR LATER REUSE ON THE PROJECT OR DELIVERED TO THE OWNER SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE SUBCONTRACTOR(S).
4. THE SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR COORDINATING HIS EFFORTS OF THE DEMOLITION WITH ALL TRADES.
5. THE CONTRACTOR SHALL COORDINATE ALL ADJUSTMENT OR ABANDONMENT OF UTILITIES WITH THE RESPECTIVE UTILITY COMPANY.
6. THE SUBCONTRACTOR(S) SHALL MAINTAIN OR ADJUST TO NEW FINISH GRADE AS NECESSARY ALL UTILITY AND SITE STRUCTURES SUCH AS LIGHT POLES, SIGN POLES, MAN HOLES, CATCH BASINS HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC., FROM MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTED OR DIRECTED BY THE CONTRACTOR/CEOR.
7. TEMPORARY CONSTRUCTION HAUL ROADS (IF REQUIRED) SHALL BE EXCAVATED AND THE SUB-BASE COMPACTED TO 95% SPMD. THE USE OF SEPARATION FABRICS MAY BE USED TO FACILITATE FUTURE REMOVAL AND RECOVERY OF GRANULAR MATERIALS. HAUL ROAD SHALL HAVE AT LEAST 12" OF 6" MINUS STONE AND SHALL BE MAINTAINED DURING CONSTRUCTION.

### III-EROSION AND SEDIMENT CONTROL MEASURES

1. EROSION CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE SEQUENCE OF STAGED CONSTRUCTION. THE CONTRACTOR HAS SUBMITTED A DETAILED EROSION CONTROL PLAN. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE.
2. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR DISTURBANCE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
3. SEDIMENT TRAPS SHALL BE INSTALLED AT DRAINAGE STRUCTURES NOTED IN PAUL X. TIVAN DRIVE. SILTATION FENCES ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE BEEN STABILIZED.
4. SEDIMENT BARRIERS SHALL BE INSPECTED AND APPROVED BY THE CONTRACTOR/CEOR BEFORE CONSTRUCTION CAN START.
5. STRAW BALES AND MULCH SHALL BE MOVINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE OF NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY WHEN INSTALLED.
6. THE UNDERSIDE OF STRAW BALES SHALL BE TRENCHED A MINIMUM OF 4" INTO THE EARTH AND RESET AS NECESSARY.
7. ALL DISTURBED AREAS SHALL BE BLANKETED OR SEEDDED AND MULCHED AS SOON AS PRACTICAL AFTER CONSTRUCTION ACTIVITIES IN THAT AREA HAVE CONCLUDED. ALL ERODABLE/BARE AREAS SHALL BE BLANKETED OR SEEDDED AND MULCHED WITHIN 7 DAYS WITH TEMPORARY EROSION CONTROL SEEDING.
8. STABILIZE SLOPES GREATER THAN 3:1 (HORIZONTAL:VERTICAL) WITH SEED, SECURED GEOTEXTILE FABRIC, SPRAYED COMPOST BLANKET, OR RIP-RAP AS REQUIRED TO PREVENT EROSION DURING CONSTRUCTION.
9. SEDIMENT BARRIERS SHALL BE CONSTRUCTED AROUND ALL SOIL STOCKPILE AREAS.
10. CLEAN OUT DRAINAGE FEATURES AND STRUCTURES AFTER COMPLETION OF CONSTRUCTION.
11. SEDIMENT COLLECTED DURING CONSTRUCTION BY THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM EROSION CONTROL SYSTEMS WHEN THE HEIGHT OF THE SEDIMENT EXCEEDS ONE-HALF OF THE HEIGHT OF THE FILTER DEVICE.
12. THE BOTTOM OF TEMPORARY SEDIMENTATION BASINS SHALL BE PERIODICALLY CLEANED PER THE DIRECTION OF THE CONTRACTOR/CEOR. THE SUBCONTRACTOR(S) SHALL DISPOSE OF SEDIMENT PROPERLY.
13. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE SUBCONTRACTOR(S) SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AT THE CONTRACTOR/CEOR DIRECTION.

14. AFTER THE REMOVAL OF TEMPORARY EROSION CONTROL MEASURES, THE SUBCONTRACTOR(S) SHALL GRADE AND SEED AREA OF TEMPORARY EROSION CONTROL MEASURE.
15. DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION OR AS DIRECTED BY THE CONTRACTOR, SITE SUPERINTENDENT/CEOR.
16. THE CONTRACTOR, SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR DAILY INSPECTIONS, MAINTENANCE, AND REPAIR ACTIVITIES. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES EVERY TWO (2) WEEKS AND WITHIN 24 HOURS OF ANY STORM EXCEEDING 1/2 INCH PRECIPITATION OR EVERY SEVEN (7) CALENDAR DAYS. DAMAGED AND INEFFECTIVE EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS.
17. ALL PIPE OUTLETS SHALL BE STABILIZED WITH STONE.
18. TEMPORARY SEEDING SHALL BE AT A RATE OF 45 LBS PER ACRE. ERODABLE AREAS OUTSIDE AND DOWN SLOPE FROM THE CONSTRUCTION LIMITS SHALL BE SIMILARLY SEED.
19. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE FILTERED. DEWATERING PLAN SHALL BE SUBMITTED FOR APPROVAL BY THE CEOR.
20. WHEN TEMPORARY DRAINAGE IS ESTABLISHED, EROSION CONTROL MEASURES MAY BE REQUIRED BY CONTRACTOR/CEOR.
21. GRAVEL ROADS, ACCESS DRIVES, PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH, AND VEHICLE WASH DOWN FACILITIES, SHALL BE PROVIDED TO PREVENT SOIL FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY AND AS NEEDED.
22. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTION RUNOFF. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
23. THE COST OF REPAIRING OR REMOVING SEDIMENT FROM EROSION CONTROL SYSTEMS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE APPLICABLE EROSION CONTROL ITEM.
24. ALL EROSION CONTROL MEASURES SHALL BE KEPT OPERATIONAL AND MAINTAINED CONTINUOUSLY THROUGHOUT THE PERIOD OF LAND DISTURBANCE UNTIL PERMANENT SEDIMENT AND EROSION CONTROL MEASURES ARE OPERATIONAL.
25. SUBCONTRACTOR SHALL SPRAY WATER FROM A WATER TRUCK ON DRY AND WINDY DAYS TO PREVENT DUST FROM FORMING.
26. EROSION CONTROL MEASURES AS SHOWN ON THESE DRAWINGS ARE INTENDED TO CONVEY MINIMUM REQUIREMENTS. THE SUBCONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO PREVENT SOIL EROSION AND TO COMPLY WITH THE PROJECT'S STORMWATER POLLUTION PREVENTION PLAN.
27. SOILS ON SLOPES THAT ARE 3:1 OR STEEPER SHOULD BE ROUGHENED PER THE EPA'S NPDES SOIL ROUGHENING FACT SHEET IF THEY ARE TO BE SEED WITHIN 2 WEEKS OF DISTURBANCE. IF NOT, EROSION CONTROL BLANKETS SHOULD BE INSTALLED ON THESE SLOPES.

#### IV-LAYOUT AND MATERIAL NOTES

1. THE FOLLOWING LAYOUT CRITERIA SHALL CONTROL UNLESS OTHERWISE NOTED ON THE PLAN: ALL TIES TO PROPERTY LINES ARE PERPENDICULAR TO THE PROPERTY LINE UNLESS OTHERWISE NOTED, ALL PRODUCTS AND MATERIALS SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO NORTH..
2. SCREENED IMAGES SHOW EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPINGED UPON BY PROPOSED STRUCTURES AND/OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND/OR CAPPED OR DEMOLISHED AS REQUIRED.
3. THE CONTRACTOR SHALL HAVE ELECTRICAL TRENCHES AND RACKING STAKED OUT BY A LICENSED LAND SURVEYOR AFTER EARTHWORK IS COMPLETED AND PRIOR TO ANY INSTALLATION OF RACKING OR EXCAVATION OF TRENCHES.

### V-GRADING AND UTILITY NOTES

1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT, BOTH ON AND OFF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONTRACTOR. THE SUBCONTRACTOR(S) SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE SUBCONTRACTOR(S), AND THE INFORMATION FURNISHED TO THE CONTRACTOR/CEOR FOR RESOLUTION OF THE CONFLICT.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ALL GAS, ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
5. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE SUBCONTRACTOR(S) OPERATIONS SHALL BE RESTORED BY THE SUBCONTRACTOR(S) TO THEIR ORIGINAL CONDITION, AT THE SUBCONTRACTOR(S) EXPENSE.
6. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE ELECTRIC UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE UTILITY CONNECTIONS WITH THE RESPECTIVE COMPANIES PRIOR TO ANY UTILITY CONSTRUCTION.
7. WHERE PROPOSED GRADES MEET EXISTING GRADES, SUBCONTRACTOR(S) SHALL BLEND GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW WORK. PONDING AT TRANSITION AREAS WILL NOT BE ALLOWED.
8. SUBCONTRACTOR(S) SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
9. MAXIMUM SLOPES SHALL NOT EXCEED 10:1 ALONG GRAVEL ROADS AND WITHIN FENCED SOLAR ARRAY AREAS, AND 3:1 IN ALL OTHER DISTURBED AREAS, UNLESS OTHERWISE NOTED.
10. SUBCONTRACTOR(S) SHALL VERIFY EXISTING GRADES AND NOTIFY THE CONTRACTOR/CEOR OF ANY DISCREPANCIES.

## VI-PLANTING NOTES

1.SUBCONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND WILL CONTINUE UNTIL FINAL WRITTEN ACCEPTANCE OF PLANT MATERIAL.

2.MAXIMUM SLOPE WITHIN DISTURBED AREAS SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.

3.THE SITE SUBCONTRACTOR/LANDSCAPE SUBCONTRACTOR SHALL COLLECT A MINIMUM OF ONE SOIL SAMPLE PER ACRE FOR TOPSOIL ANALYSIS. SOIL SAMPLES LOCATIONS SHALL BE EVENLY DISTRIBUTED WITHIN THE LIMIT OF WORK, AND EACH SAMPLE SHALL BE TESTED SEPARATELY. THE SOIL ANALYSES SHALL BE PERFORMED BY A QUALIFIED SOIL-TESTING LABORATORY OR A RECOGNIZED COMMERCIAL OR GOVERNMENTAL AGENCY SUCH AS UNIVERSITY OF MASSACHUSETTS EXTENSION SERVICES. THE ANALYSIS REPORTS SHALL STATE PERCENTAGES OF ORGANIC MATTER; GRADATION OF SAND, SILT, AND CLAY CONTENT; CATION EXCHANGE CAPACITY; DELETERIOUS MATERIAL; PH; AND MINERAL AND PLANT-NUTRIENT CONTENT OF TOPSOIL. THE ANALYSIS REPORT SHALL ALSO INCLUDE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY TOPSOIL FOR LAWN GROWTH.

4.TOPSOIL FOR AREAS SEED WITH "ERNST SOLAR FARM SEED MIX #186" OR EQUAL SHALL HAVE THE FOLLOWING MINIMUM CHARACTERISTICS:

DEPTH: 3" MIN.

PH: 5.5 TO 7

ORGANIC MATTER: 3.5% MINIMUM

SAND: 40-70%

SILT: 20-40%

CLAY: 5-20%

5.TOPSOIL ANALYSIS REPORTS THAT DO NOT MEET THESE MINIMUM REQUIREMENTS SHALL BE SUBMITTED TO THE CEOR/OWNER REPRESENTATIVE FOR REVIEW AND SHALL BE ACCOMPANIED BY A SOLUTION TO MEET THESE REQUIREMENTS.

## VII SIGNAGE NOTES

SIGNAGE WILL BE INSTALLED AT THE ENTRANCE TO THE SOLAR ARRAY INDICATING ALLOWABLE ACTIVITIES AND DETAILING ENVIRONMENTAL SIGNIFICANCE. CRITTER CROSSING SIGNAGE WILL BE MAINTAINED AT LOW POINT LOCATIONS WHERE AMPHIBIANS AND TURTLES WOULD BE EXPECTED TO CROSS DURING MIGRATION (MID TO LATE MARCH NEAR VERNAL POOLS, MID TO LATE JUNE AND AGAIN AROUND OCTOBER). SIGNAGE DETAILS SHOULD INCLUDE NO MOWING OR MAINTENANCE ACTIVITIES SHALL BE CONDUCTED DURING CRITTER MIGRATION NEAR VERNAL POOLS AND UPLANDS WHICH COULD BE EXPECTED TO LAST SEVERAL WEEKS OCCURRING IN MID TO LATE MARCH, MID TO LATE JUNE, AND AGAIN AROUND OCTOBER.

## CIVIL SUBMITTALS

SUBMITTALS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- EROSION CONTROL MATERIALS
- STRAW BALES (CERTIFIED AS WEED-FREE)
- SILT FENCE
- EROSION CONTROL BLANKETS
- GEOTEXTILE FABRIC
- CHAIN LINK FENCE AND GATES
- CRUSHED STONE FOR GRAVEL ACCESS ROADS
- SEED MIX
- AS-BUILT SURVEY OF SITE TOPOGRAPHY

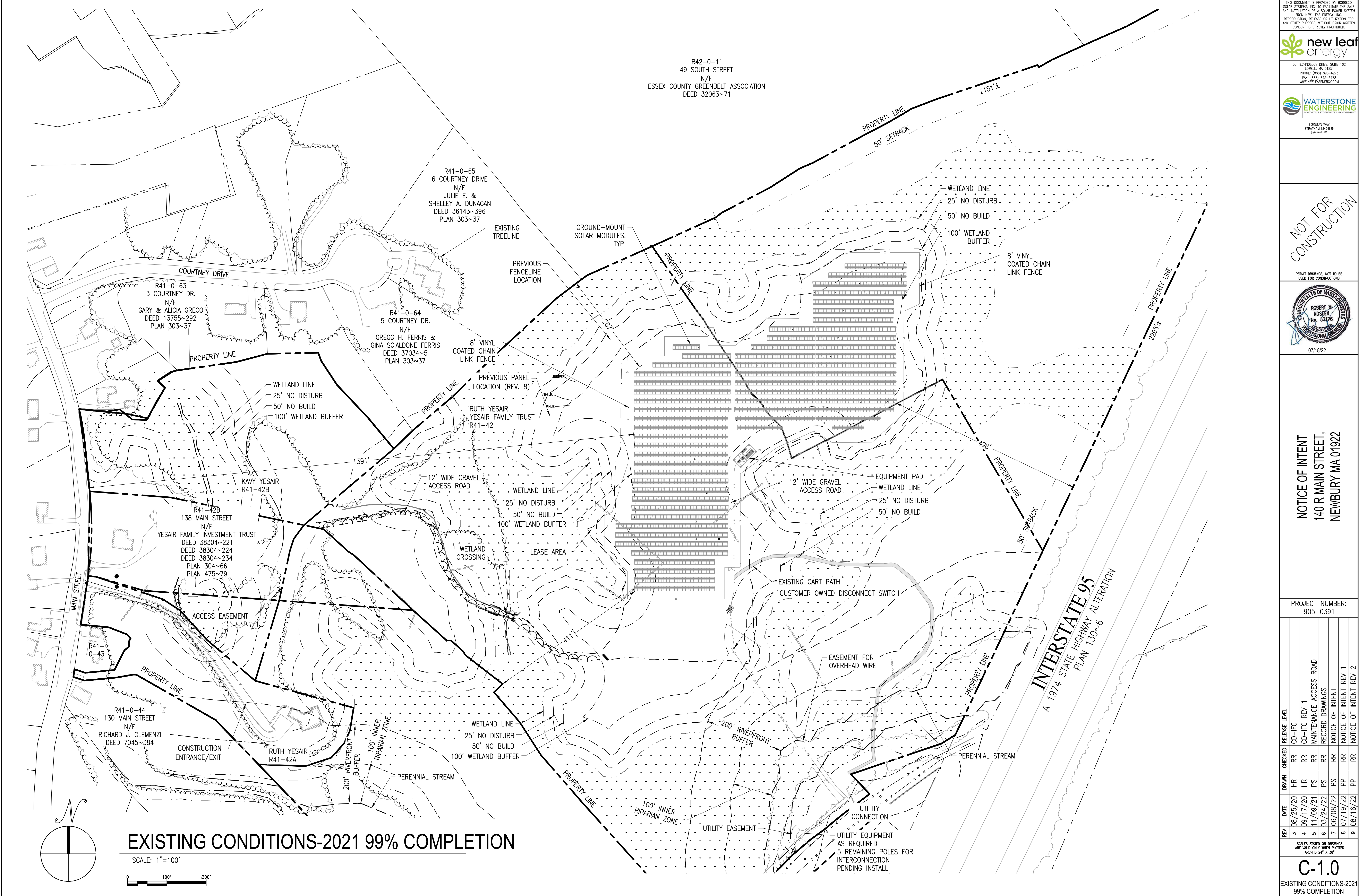
BC	BOTTOM OF CURB
BVW	BORDERING VEGETATED WETLANDS
CB	CATCH BASIN
CLF	CHAIN LINK FENCE
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
ECB	EROSION CONTROL BARRIER
FES	FLARED END SECTION
FH	FIRE HYDRANT
FOC	FACE OF CURB
GG	GAS GATE
HW	HEADWALL
ILSF	ISOLATED LANDS SUBJECT TO FLOODING
ISW	ISOLATED WETLANDS (FEDERAL JURISDICTION)
LA	LANDSCAPED AREA
LOW	LIMIT OF WORK
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
PCC	PRECAST CONCRETE CURB
RCP	REINFORCED CONCRETE PIPE
SLC	STREET LIGHT CIRCUIT
SMH	SEWER MANHOLE
TC	TOP OF CURB
TEL	TELEPHONE CABLE
VGC	VERTICAL GRANITE CURB
WG	WATER GATE

REV 1.0

## LEGEND

	SOLAR MODULES
	ROAD (GRAVEL)
	FENCE LINE
	PROPERTY LINE
	FLOW DIRECTION
	BANK LINE/FLAG
	WETLAND LINE/FLAG
	(EXISTING) MAJOR CONTOUR
	(EXISTING) MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	100' WETLAND BUFFER ZONE
	200' RIVERFRONT AREA
	100-YEAR FLOOD LINE
	WATER RESOURCE OVERLAY DISTRICT
	EDGE OF WATER
	TREELINE
	STONE WALL
	SILT FENCE
	LIMIT OF WORK
	DRAIN PIPE
	ELECTRICAL TRENCH
	OVERHEAD ELECTRIC
	SEWER LINE
	WATER LINE
	GAS MAIN
	EDGE OF STREAM
	OMITTED MODULE
	ASSESSORS MAP-LOT
	CONCRETE BOUNDRILL/HOLE
	DRILLHOLE
	FOUND
	CORRUGATED METAL PIPE
	BIT CONC
	BITUMINOUS CONCRETE
	RETAINING WALL





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**new leaf energy**

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**WATERSTONE ENGINEERING**  
INNOVATIVE HYDROLOGICAL MANAGEMENT

9 GREYS WAY  
STRATHAM, NH 03886  
603-890-0488

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STATE OF MASSACHUSETTS  
ROBERT M. ROSEN  
No. 53176  
PROFESSIONAL ENGINEER  
07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
3	08/25/20	HR	RR	CD-IFC
4	09/17/20	HR	RR	CD-IFC REV 1
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

**C-1.0**

EXISTING CONDITIONS-2021  
99% COMPLETION



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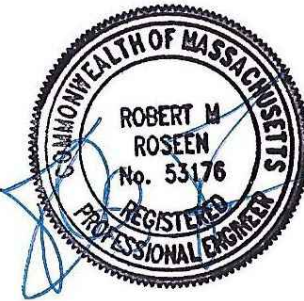
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978-980-0488

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NEWBURY MA 01922

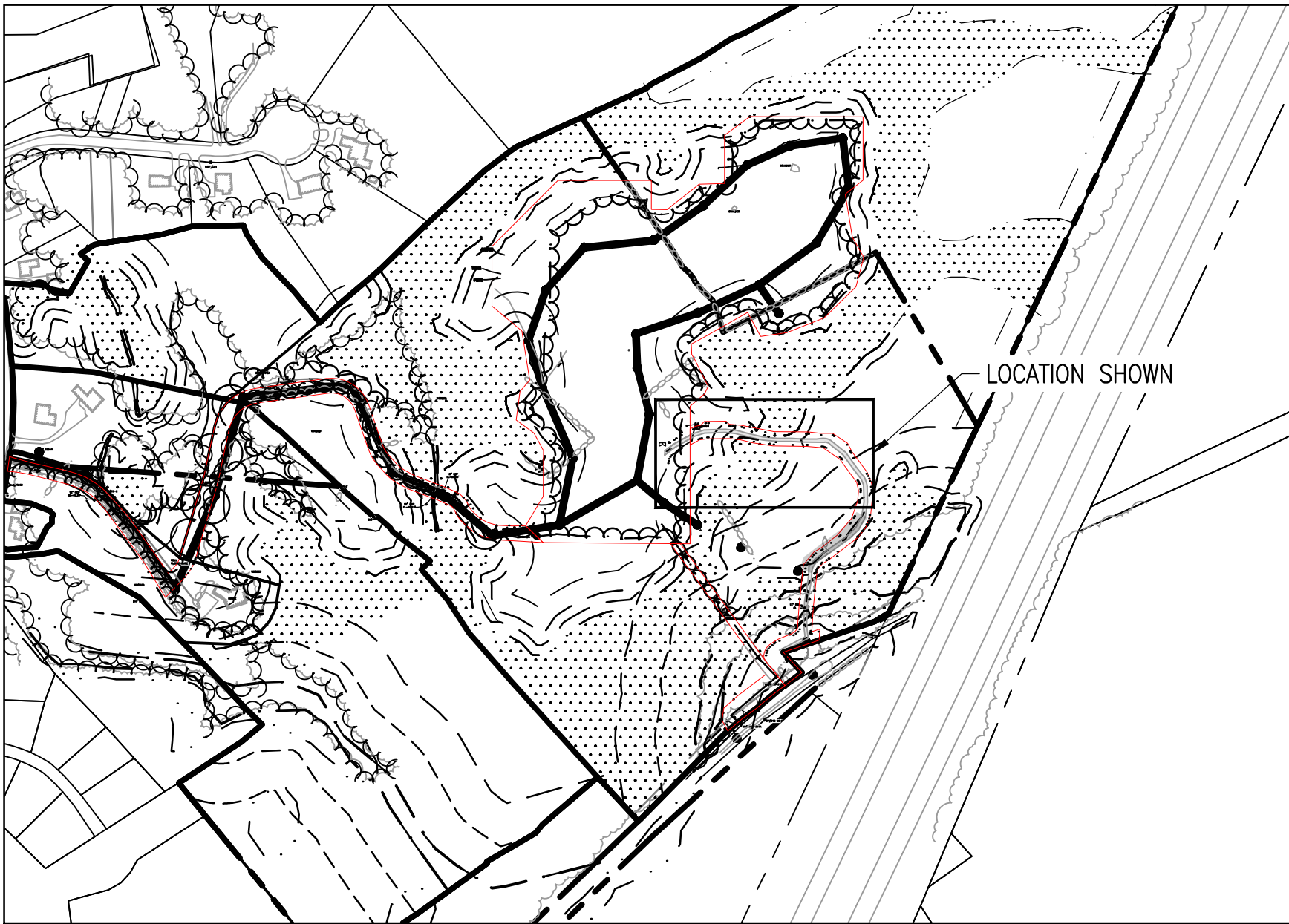
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9	08/16/22	PP	RR	RR	NOTICE OF INTENT REV 2

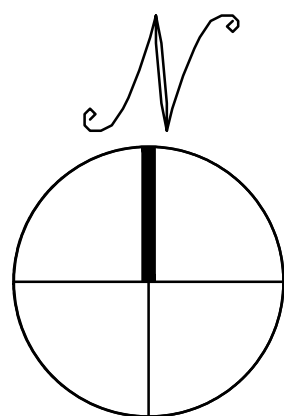
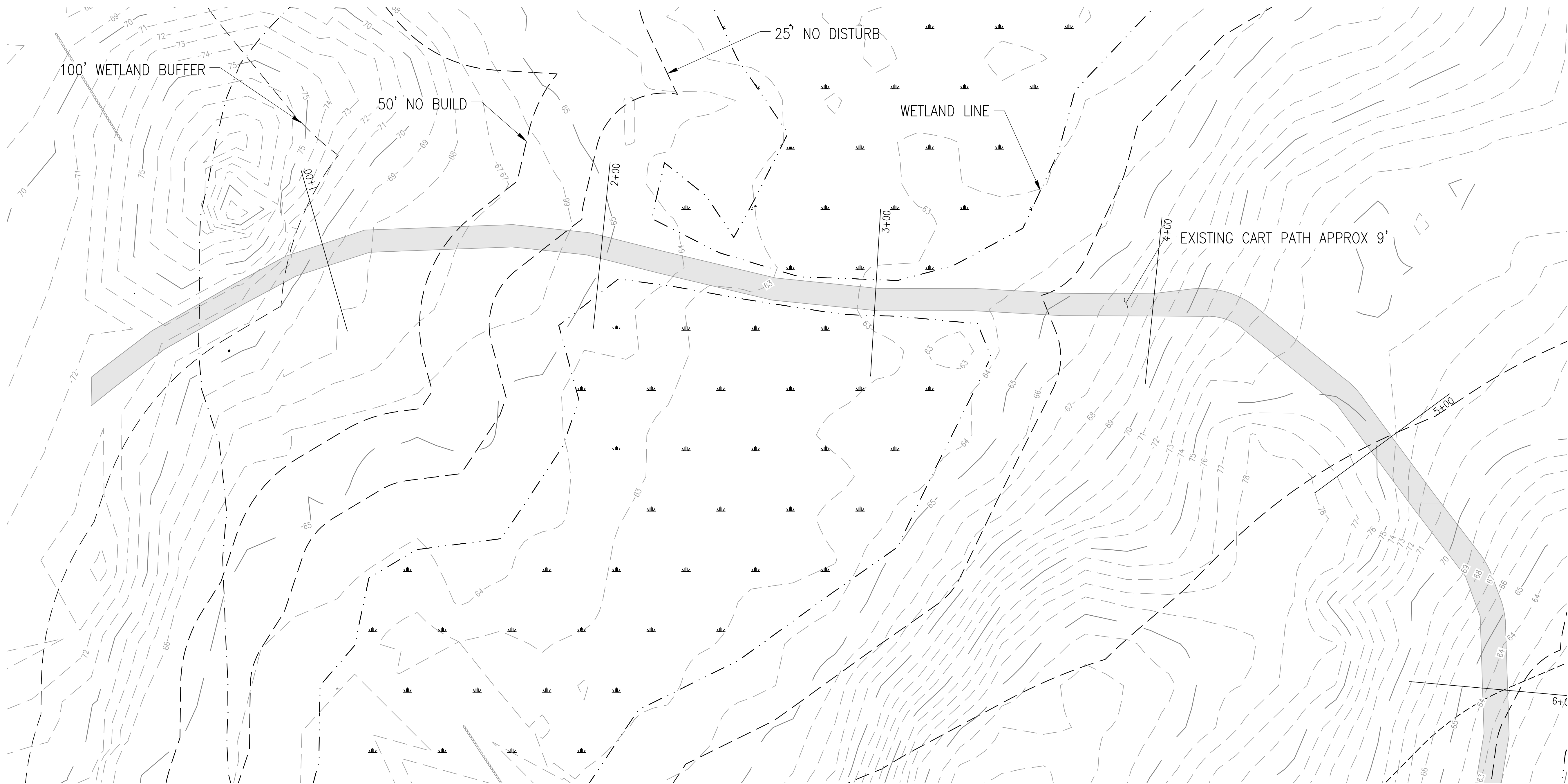
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ARE VALID ONLY WHEN PLOTTED  
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C-1.1

EXISTING CONDITIONS PLAN  
- NORTH WETLAND



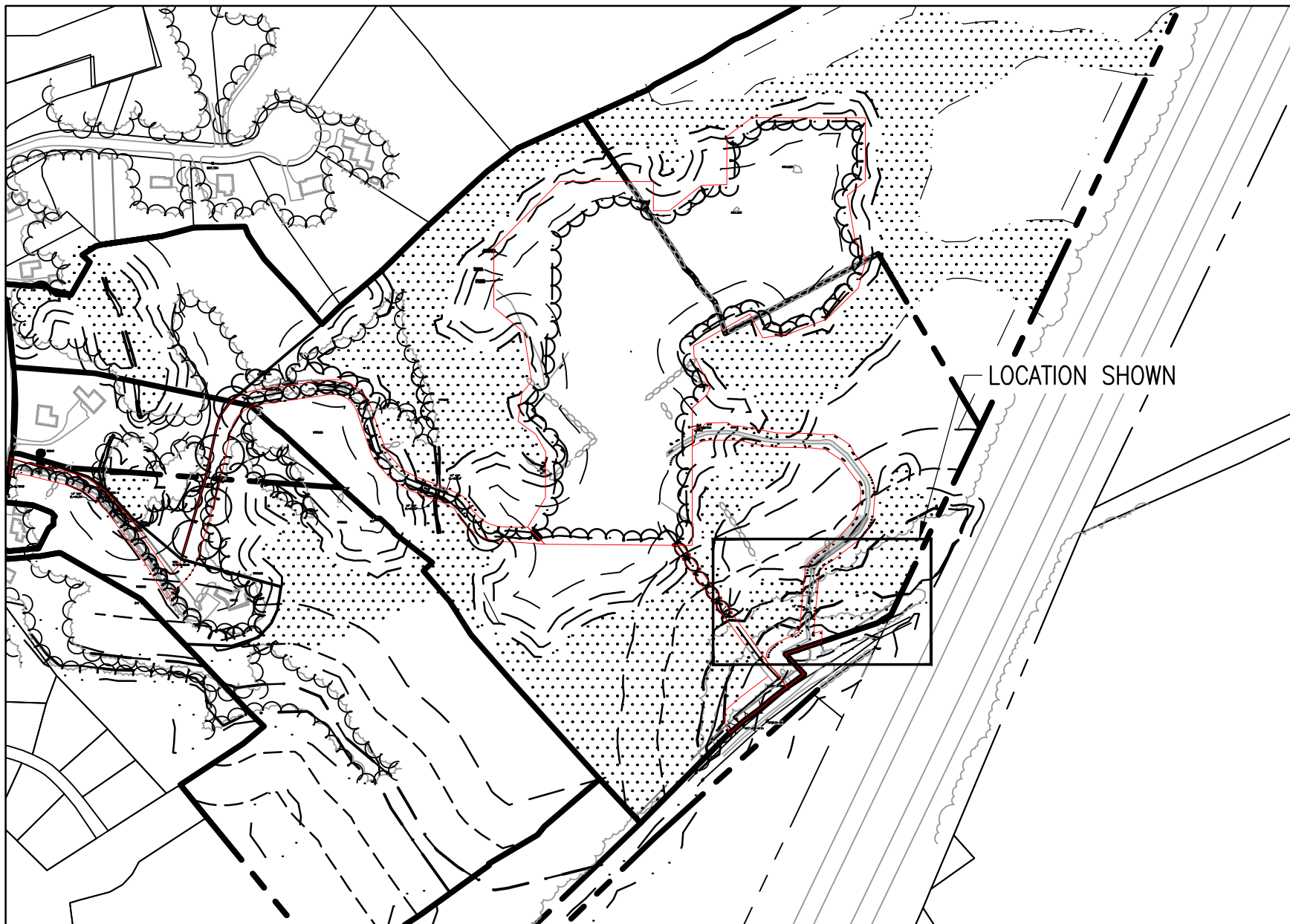
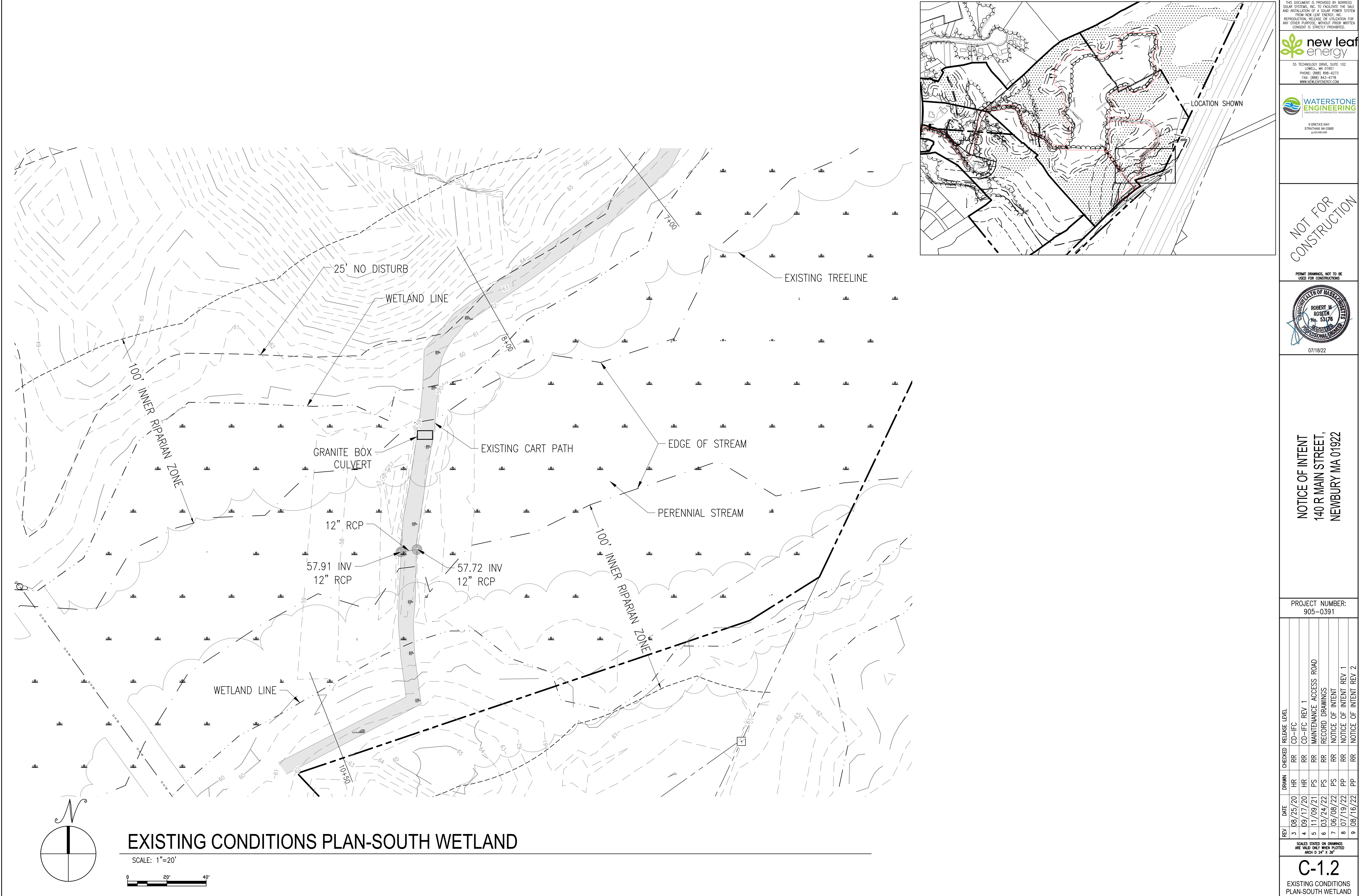
LOCATION SHOWN



## EXISTING CONDITIONS PLAN - NORTH WETLAND

SCALE: 1"=20'





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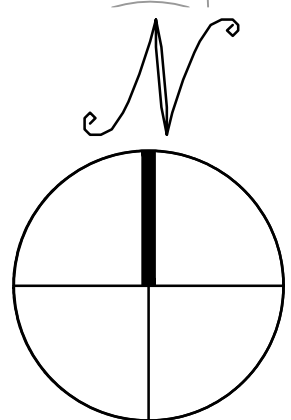
NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

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9	08/16/22	PP	RR	RR	NOTICE OF INTENT REV 2

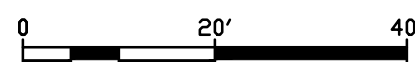
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**C-1.2**  
EXISTING CONDITIONS  
PLAN-SOUTH WETLAND



# EXISTING CONDITIONS PLAN-SOUTH WETLAND

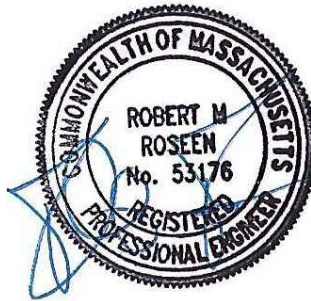
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NOTICE OF INTENT  
140 R MAIN STREET,  
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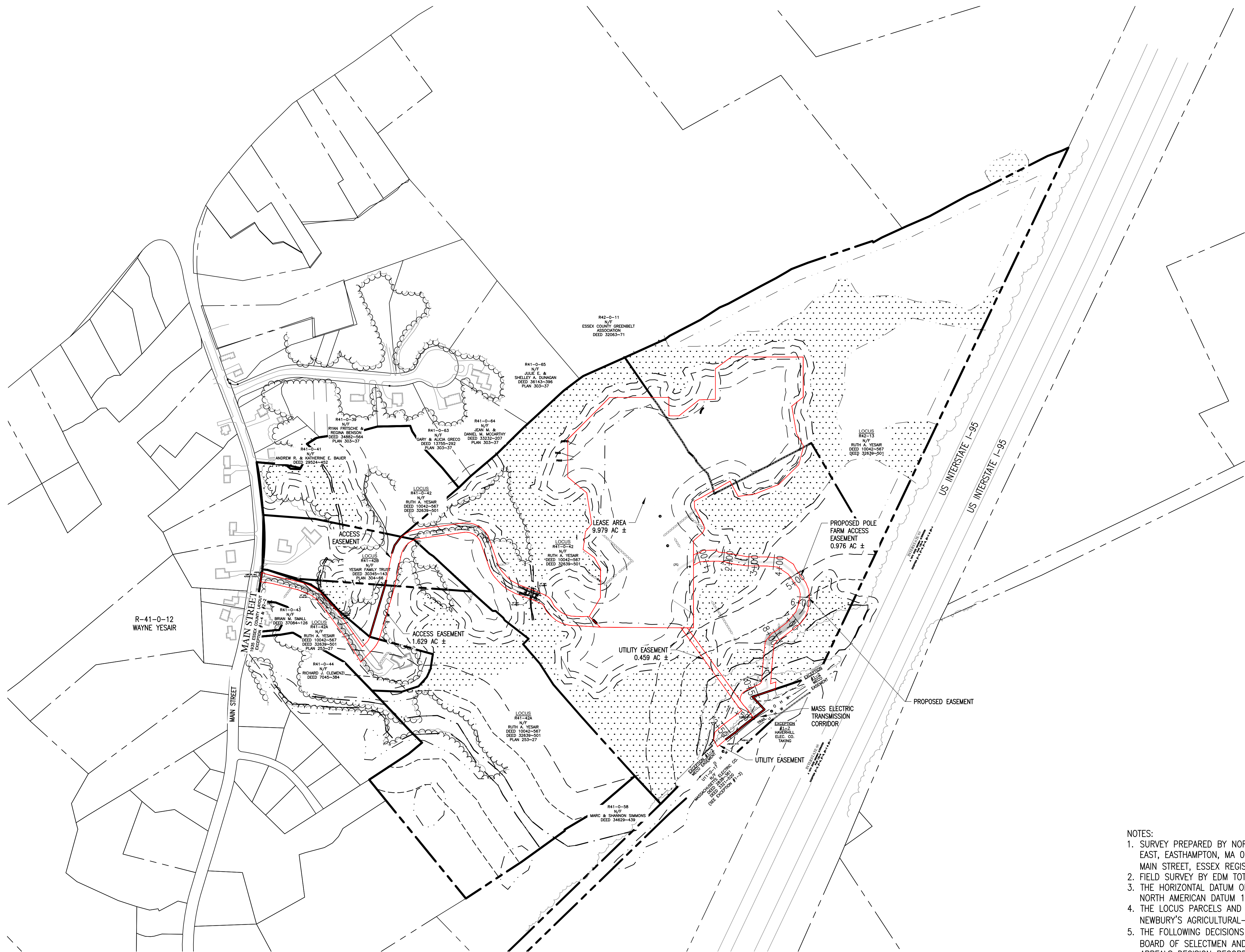
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8	07/19/22	PP	RR	NOTICE OF INTENT REV 1	
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2	

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
INCH @ 24" X 36"

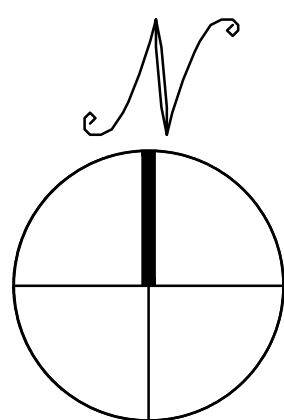
**C-1.3**

CONSERVATION LAND AND  
EASEMENT



NOTES:

1. SURVEY PREPARED BY NORTHEAST SURVEY CONSULTANTS 3 FERRY STREET, STUDIO 1 EAST, EASTHAMPTON, MA 01027. TITLED PLAN OF LAND IN NEWBURY, MA, 136 & 140R MAIN STREET, ESSEX REGISTRY, 12/9/2021, PREPARED FOR, BORREGO SOLAR, LLC
2. FIELD SURVEY BY EDM TOTAL STATION & RTK GPS.
3. THE HORIZONTAL DATUM OF THIS PLAN IS THE MASSACHUSETTS COORDINATE SYSTEM NORTH AMERICAN DATUM 1983 BASED ON AN RTK GPS SURVEY.
4. THE LOCUS PARCELS AND ALL ABUTTING PARCELS ARE LOCATED WITHIN THE TOWN OF NEWBURY'S AGRICULTURAL-RESIDENTIAL ZONING DISTRICT.
5. THE FOLLOWING DECISIONS AND/OR CONDITIONS BY THE ZONING BOARD OF APPEALS, BOARD OF SELECTMEN AND/OR PLANNING BOARD WERE FOUND: \*ZONING BOARD OF APPEALS DECISION RECORDED IN DEED BOOK 36230 PAGE 218 \*PLANNING BOARD SPECIAL PERMIT RECORDED IN DEED BOOK 37982 PAGE 87
6. A BOUNDARIES OF PARCEL R41-42 DIMENSIONED ON SHEET 2 ARE THE RESULT OF A COMPILATION/PARTIAL FIELD SURVEY, UTILIZING PLAN BOOK 253 PAGE 27, PLAN BOOK 130 PAGE 6, PLAN BOOK 303 PAGE 37, AND STONEWALLS VISIBLE IN AERIAL PHOTOGRAPHY.



CONSERVATION LAND AND EASEMENTS

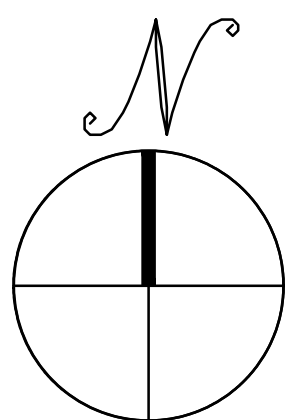
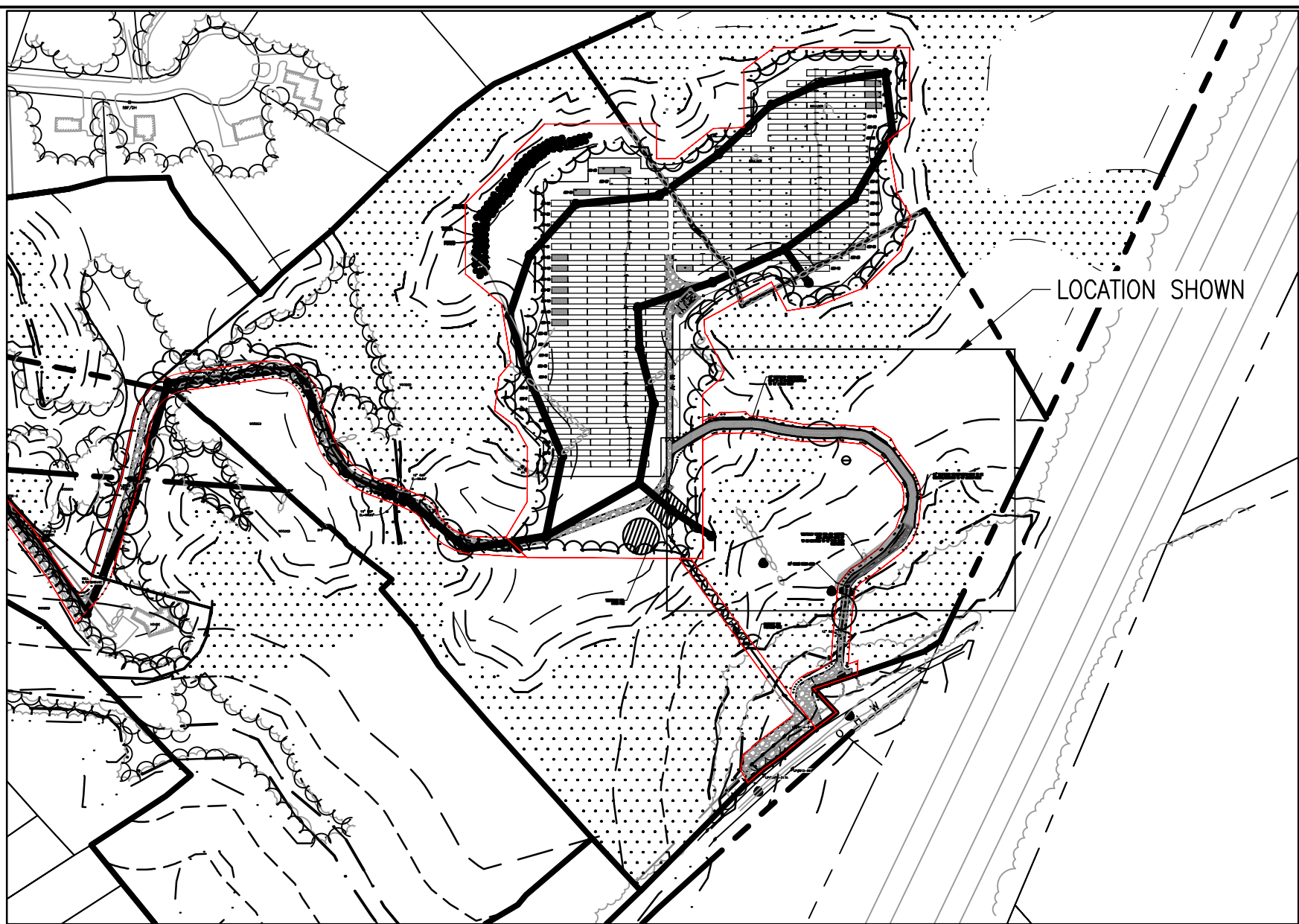
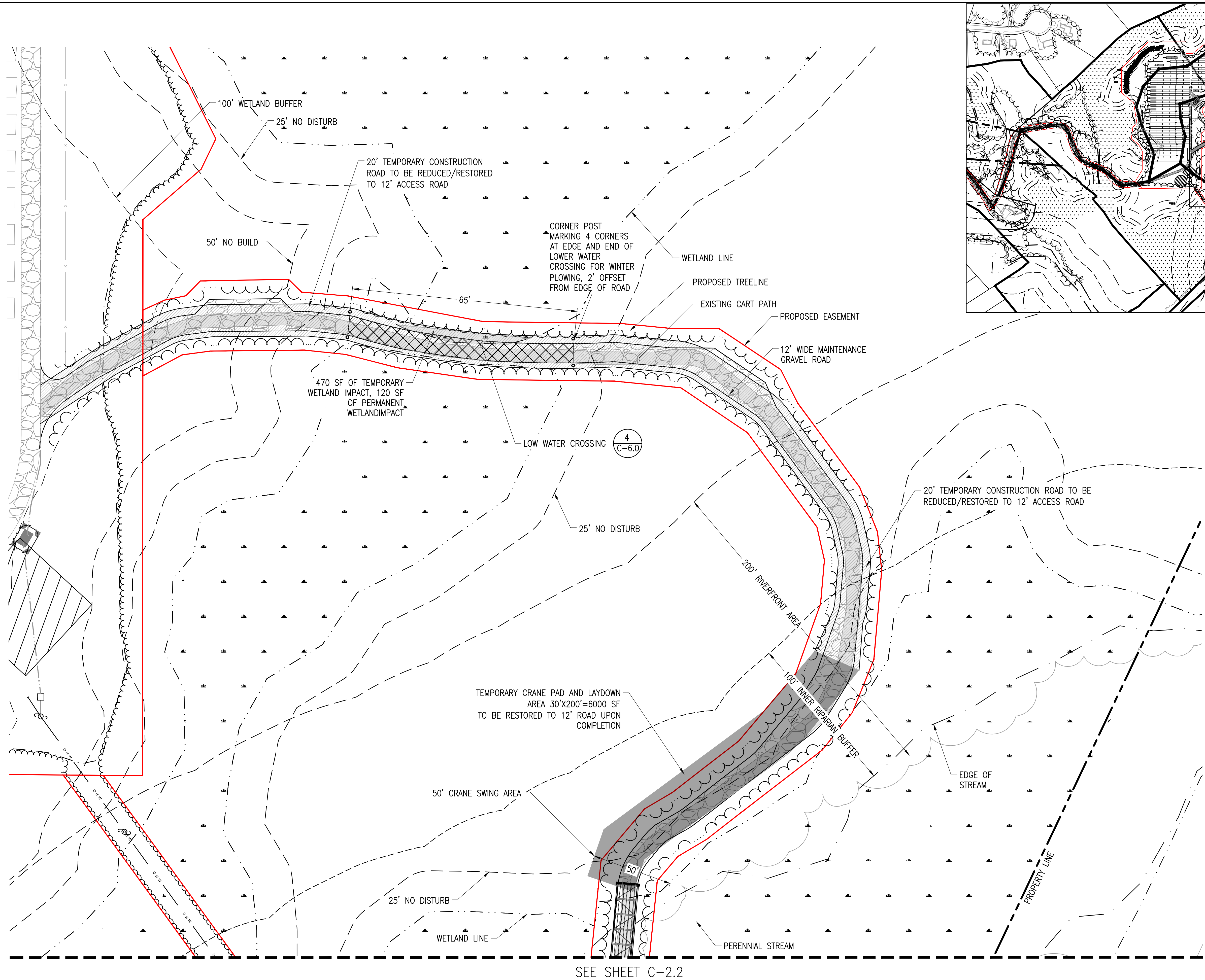
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0 150' 300'



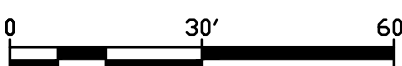






LAYOUT AND MATERIALS PLAN - NORTH

SCALE: 1"=30'



SEE SHEET C-2.2

NOTE: CONTOUR ELEVATIONS BASED ON NGVD 1929 VERTICAL DATUM.

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MANAGEMENT & CONSULTING

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STRATHAM, NH 03885  
(603) 886-0488

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**COMMONWEALTH OF MASSACHUSETTS**  
ROBERT M. ROSEEN  
No. 53176  
REGISTERED PROFESSIONAL ENGINEER

07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

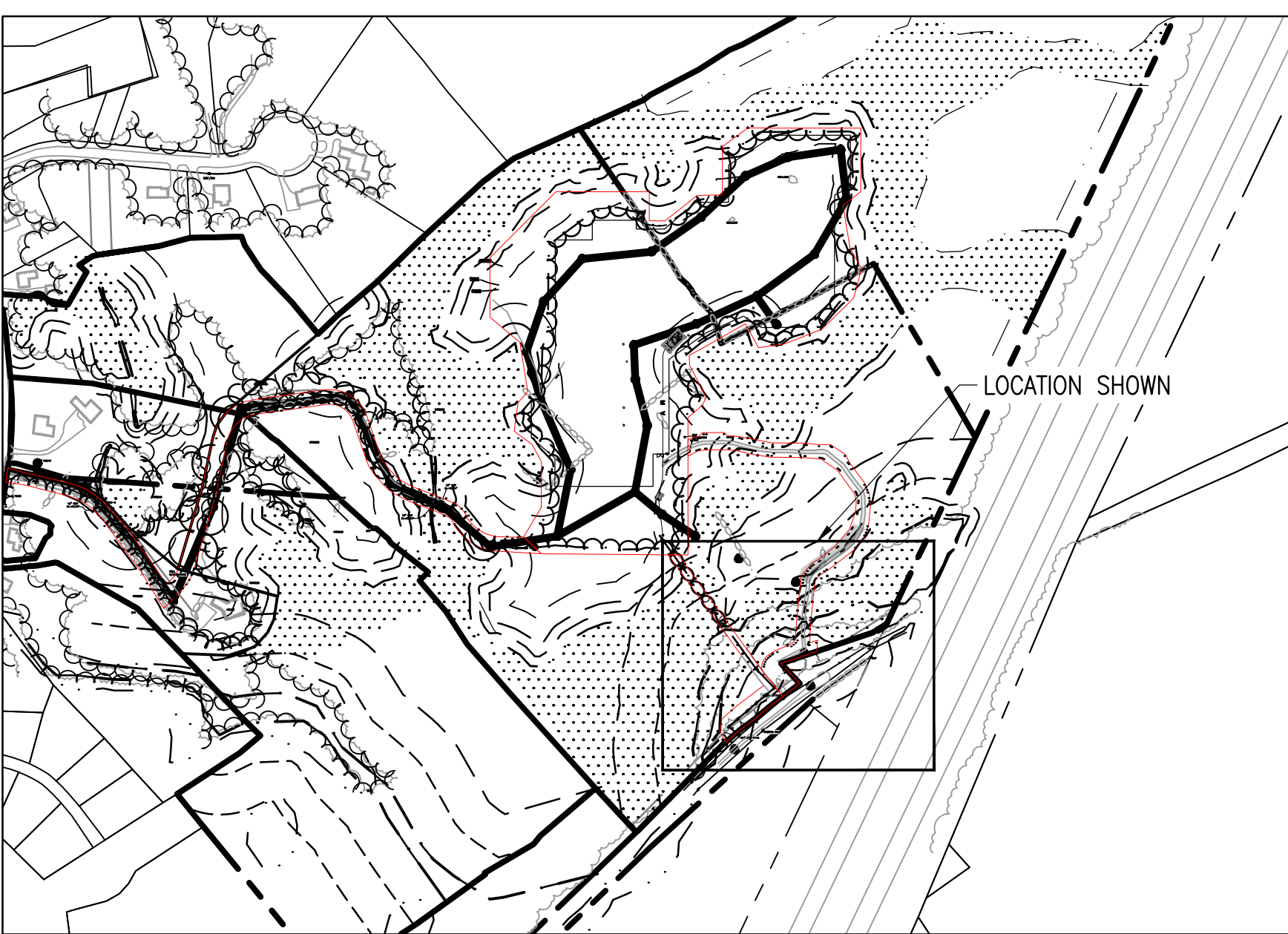
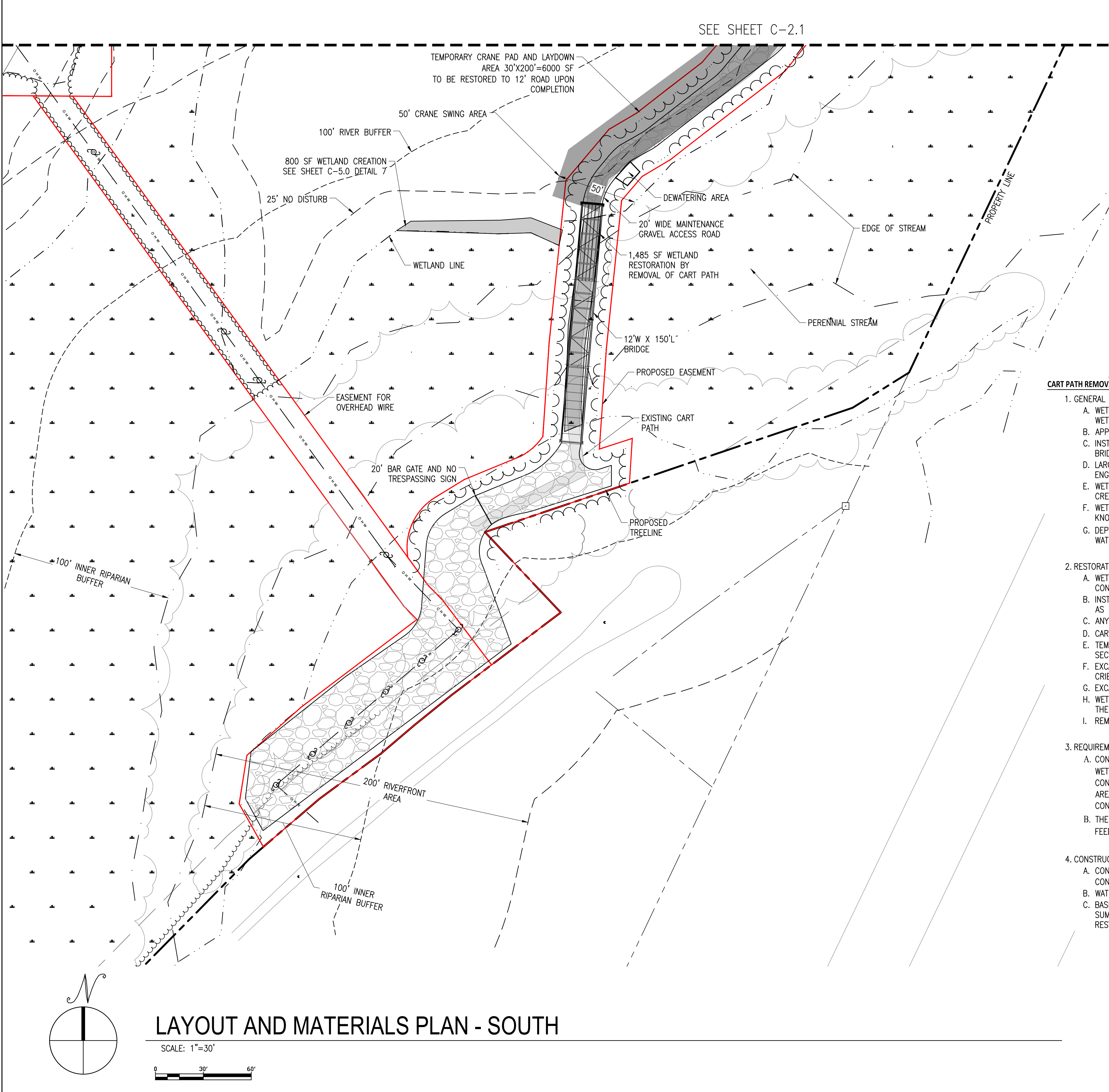
PROJECT NUMBER:  
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REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
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4	09/17/20	HR	RR	CD-IFC REV 1
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6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

**C-2.1**  
LAYOUT AND MATERIALS PLAN - NORTH





**CART PATH REMOVAL – WETLAND RESTORATION NOTES**

1. GENERAL
  - A. WETLAND RESTORATION OF 1,450 SF TO OCCUR BY REMOVAL OF EXISTING CART PATH CREATING BOTTOM LAND WETLAND IN COMBINATION WITH RIVER FRONT.
  - B. APPROXIMATELY 135 FT LONG X 11 FT WIDE CART PATH TO BE REMOVED AND RESTORED AS WETLAND.
  - C. INSTALLATION OF A 150 FT LONG X 12 FT WIDE TRUSS BRIDGE WILL OCCUR OVER THE PRIOR CART PATH LOCATION. BRIDGE IS TO BE SHIPPED IN 6 SECTIONS 25 FT LONG.
  - D. LARGE MATURE TREES WILL BE AVOIDED AND REMOVED ONLY AS NEEDED IN CONSULTATION WITH SUPERVISING ENGINEER.
  - E. WETLAND PLANTS AND SOIL TO BE TRANSPLANTED FROM CART PATH DISTURBED AREAS FOR 800 SF WETLAND CREATION. THIS INCLUDES SHRUBS AND OTHER OBLIGATE AND FACULTATIVE WETLAND SPECIES.
  - F. WETLAND PLANT TRANSPLANTATION AND EXCAVATION TO BE COORDINATED WITH SITE CONTRACTOR AND LANDSCAPER KNOWLEDGEABLE OF WETLAND PLANTINGS.
  - G. DEPTH OF EXCAVATION FOR CART PATH REMOVAL TO BE APPROXIMATELY 36" OR MORE TO WETLAND/POND BOTTOM. WATER DEPTH ESTIMATED TO BE 24" AND PATH IS APPROXIMATELY 12" ABOVE THE WATER SURFACE.
2. RESTORATION ELEMENTS
  - A. WETLAND RESTORATION BOUNDARIES WILL BE CLEARLY MARKED PRIOR TO THE START OF RESTORATION WORK AND CONFIRMED BY THE SUPERVISING ENGINEER.
  - B. INSTALL TURBIDITY CURTAIN IN OPEN WATER SECTION AND SILT FENCE AND STRAW WATTLE AT LIMIT OF DISTURBANCE AS PER SHEET C-3.0.
  - C. ANY EQUIPMENT USED IN THE RESTORATION AREA SHOULD NOT ENTER THE UNDISTURBED WETLAND AREA.
  - D. CART PATH SHALL BE REMOVED/EXCAVATED BETWEEN TEMPORARY BRIDGE SUPPORTS.
  - E. TEMPORARY BRIDGE SUPPORTS SHALL BE PLACED UPON TIMBER MATS AT EACH OF THE 6 JOINTS BETWEEN TRUSS SECTIONS. THE USE OF HELICAL PILES WILL BE CONSIDERED AS AN ALTERNATE TO CRIBBING.
  - F. EXCAVATION BELOW TEMPORARY BRIDGE SUPPORTS SHALL BE SUFFICIENT TO ALLOW REMOVAL OF TIMBER MATS AND CRIBBING FROM THE SHORE WITHOUT ACCESS BY HEAVY EQUIPMENT, POST BRIDGE ASSEMBLY.
  - G. EXCAVATED MATERIALS SHOULD BE PLACED WITHIN THE UPLAND AREAS AS FILL MATERIAL OR HAULED OFF SITE.
  - H. WETLAND PLANTS AND SOILS SHALL BE TRANSPLANTED FROM THE CART PATH RESTORATION AREAS AND INSTALLED IN THE 800 SF WETLAND CREATION AREA.
  - I. REMOVE THE EROSION CONTROL ONCE THE CREATION HAS BEEN PROPERLY STABILIZED.
3. REQUIREMENTS FOR CONSTRUCTION PHASING
  - A. CONSTRUCTION PHASING, SEQUENCING AND ENGINEERING OVERSIGHT IS REQUIRED TO ENSURE THE SUCCESSFUL WETLAND RESTORATION AND BRIDGE INSTALLATION. TEMPORARY CONSTRUCTION METHODS AND PHASING CONSIDERATIONS ACCOUNT FOR THE NECESSARY USE OF LARGE CONSTRUCTION EQUIPMENT WITHIN THE WETLAND AREA WHILE BOTH REMOVING AND EXCAVATING THE CART PATH AND INSTALLING THE BRIDGE AND TEMPORARY CONSTRUCTION MEASURES.
  - B. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING PLAN. THE PHASING PLAN WILL BE ADAPTED BASED ON FEEDBACK WITH THE BRIDGE DESIGNER, THE CRANE OPERATOR, THE SUPERVISING ENGINEER, AND THE CONTRACTOR.
4. CONSTRUCTION DEWATERING
  - A. CONSTRUCTION DEWATERING MAY BE REQUIRED TO HELP CONTROL SURFACE WATER AND GROUNDWATER AND TO CONDUCT WORK "IN THE DRY".
  - B. WATER LEVEL IS ANTICIPATED TO BE HIGH AS EXCAVATION WILL BE BELOW STANDING WATER.
  - C. BASED ON OUR REVIEW EXISTING SOIL CONDITIONS, CONSTRUCTION DEWATERING MAY BE ACHIEVED WITH LOCALIZED SUMP PUMPS AND DISCHARGED TO NEARBY EXCAVATED PITS LOCATED WELL OUTSIDE OF THE PROPOSED RESTORATION.

NOTE: CONTOUR ELEVATIONS BASED ON NGVD 1929 VERTICAL DATUM.

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**WATERSTONE ENGINEERING**  
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603-890-0808

NOT FOR CONSTRUCTION

PERMIT DRAWINGS, NOT TO BE USED FOR CONSTRUCTIONS  
**ROBERT M. ROSEN**  
No. 63176  
PROFESSIONAL ENGINEER  
07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

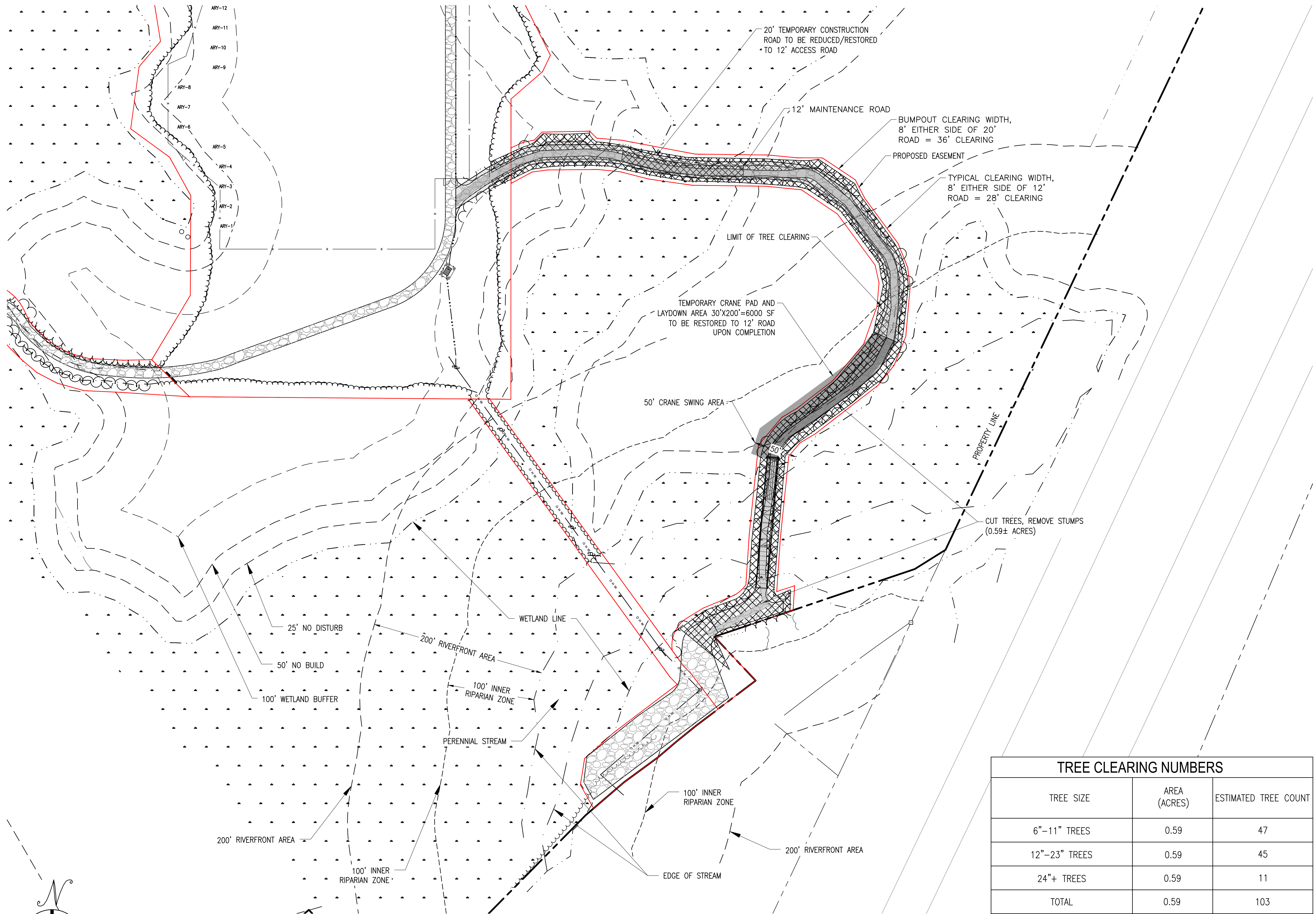
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905-0391

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4	09/17/20	HR	RR	CO-IFC REV 1
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

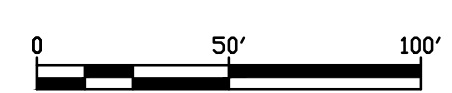
**C-2.2**  
LAYOUT AND MATERIALS  
PLAN - SOUTH





# TREE CLEARING PLAN

SCALE: 1"=50'



TREE CLEARING NUMBERS		
TREE SIZE	AREA (ACRES)	ESTIMATED TREE COUNT
6"-11" TREES	0.59	47
12"-23" TREES	0.59	45
24"+ TREES	0.59	11
TOTAL	0.59	103

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No. 53176  
REGISTERED PROFESSIONAL ENGINEER  
07/18/22

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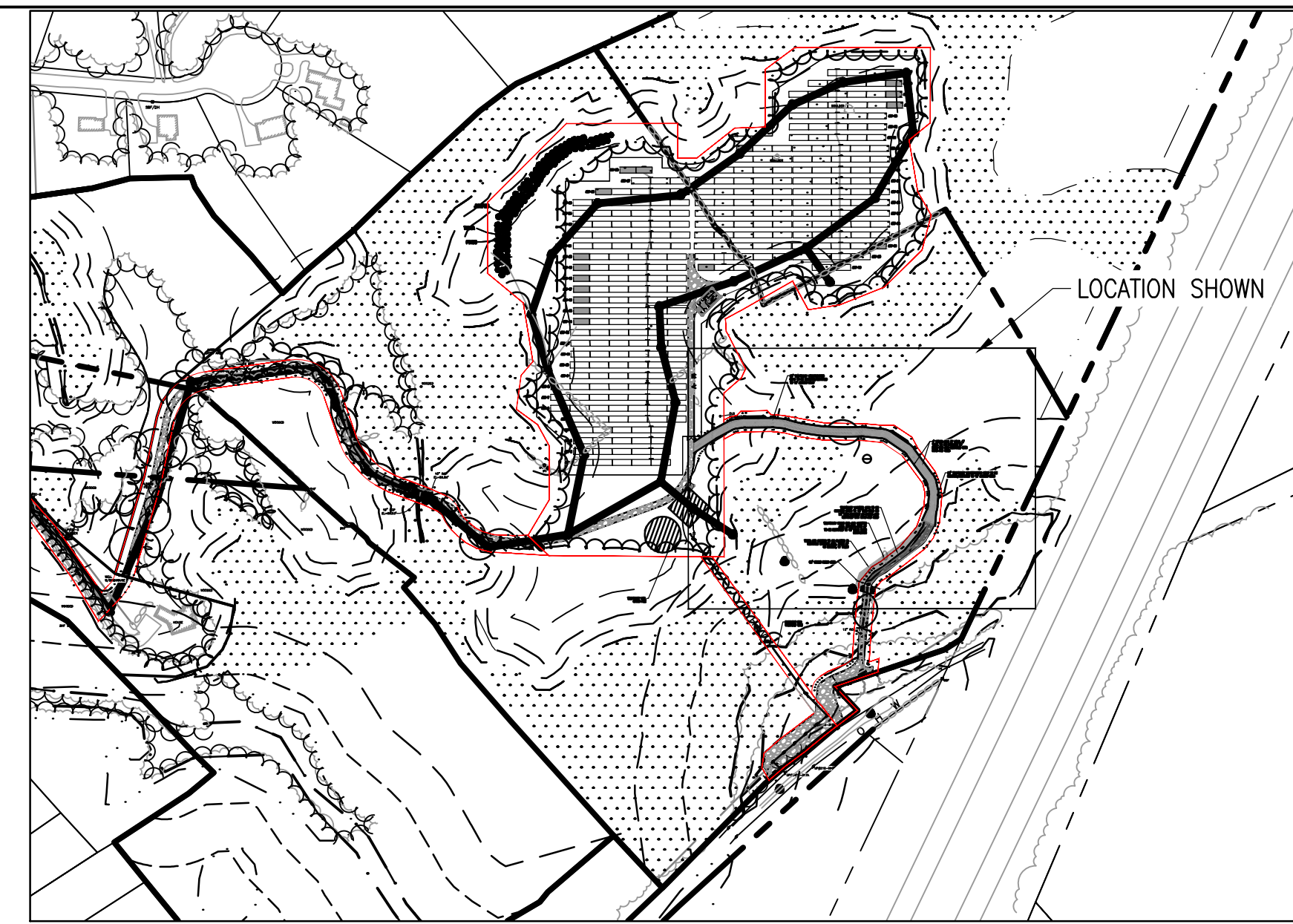
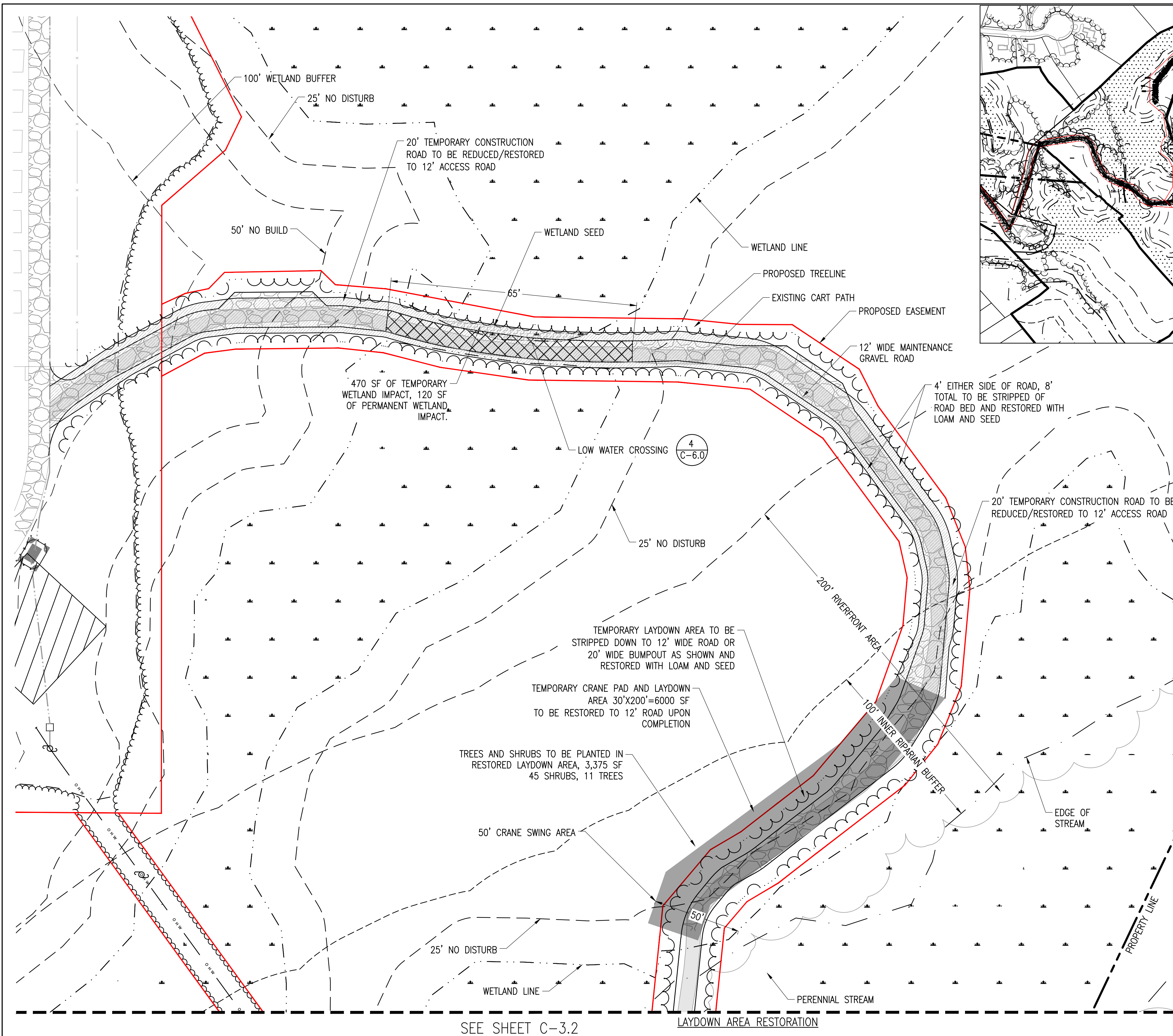
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9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

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**C-3.0**  
TREE CLEARING PLAN



REVEGETATION PLAN NOTES

1. 20' TEMPORARY CONSTRUCTION ROAD TO BE REDUCED TO 12' PERMANENT ACCESS ROAD AFTER BRIDGE INSTALLATION EXCEPT AT BUMPOUTS.
2. 8' OF ROAD BED TO BE STRIPPED AND REMOVED, 4' EITHER SIDE, AND RESTORED WITH LOAM AND SEED.
3. TEMPORARY CRANE PAD AND LAYDOWN AREA OF 6,000 SF (30' X 200') TO BE REDUCED TO 12' ACCESS ROAD, AND RESTORED WITH LOAM AND SEED.
4. ANY ADDITIONAL DISTURBED AREAS TO BE RESTORED AND LOAMED AND SEEDED AS NECESSARY.
5. SEE SHEET C-5.0 AND EROSION CONTROL PLAN NOTES FOR FULL SPECIFICATIONS REGARDING EROSION CONTROL AND SITE STABILIZATION.

RESTORATION SEED MIX

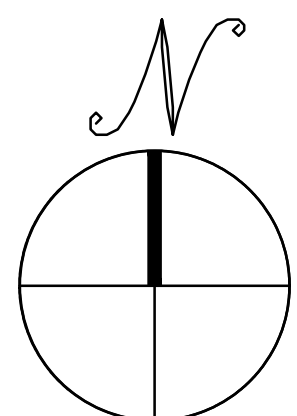
1. ERNST SEED MIX 156 OR ACCEPTABLE ALTERNATE WILL BE USED. A LOW-GROWING WILDFLOWER & GRASS MIX FOR UPLANDS & MEADOWS, HEIGHT: 0.5 - 5.0 FT, SEEDING RATE: 20-40 LB PER ACRE.
2. DESIGNED TO PROVIDE EROSION AND SEDIMENT CONTROL AND COLOR ON LOW-FERTILITY SITES. AFTER THE ESTABLISHMENT YEAR, THIS MEADOW MIX MAY BE MOWED ANNUALLY. THIS WOULD PREFERABLY BE IN THE SPRING PRIOR TO ONSET OF NEW GROWTH, BUT IT MAY BE AFTER THE MEADOW CEASES BLOOMING IN THE FALL.
3. MIX COMPOSITION APPROXIMATELY 50.0% FESTUCA OVINA, 21.5% BOUTELOUA CURTIPENDULA, BUTTE (SIDEOTS GRAMA, BUTTE), 17.0% LOLIUM MULTIFLORUM (ANNUAL RYEGRASS), 4.0% LINUM PERENNE (PERENNIAL BLUE FLAX), 1.5% COREOPSIS LANCEolata (LANCEALED COREOPSIS), 1.5% RUDEBECKIA HIRTA (BLACKEYED SUSAN), 1.2% CHRYSANTHEMUM MAXIMUM (SHASTA DAISY), 1.0% CHAMAECRISTA FASCICULATA, PA ECOTYPE (PARTRIDGE PEA, PA ECOTYPE), 1.0% PAPAVER RHOEAS, RED (CORN POPPY, RED), 0.3% ASCLEPIAS TUBEROSA (BUTTERFLY MILKWEED), 0.3% ASTER OBLONGIFOLIUS, PA ECOTYPE (AROMATIC ASTER, PA ECOTYPE), 0.2% ACHILLEA, ILLETERFOLIUM (COMMON YARROW), 0.2% PYCNANTHEMUM TENUIFOLIUM (NARROWLEAF MOUNTAINMINT), 0.1% OENOTHERA FRUTICOSA VAR. FRUTICOSA (SUNDROPS), 0.1% PENSTEMON HIRSUTUS (HAIRY BEARDTONGUE), 0.1% ZIZIA AUREA, PA ECOTYPE (GOLDEN ALEXANDERS).

WETLAND SEED MIX

1. NEW ENGLAND WETMIX (WETLAND SEED MIX) OR ACCEPTABLE ALTERNATE WILL BE USED. WETMIX CONTAINS A WIDE VARIETY OF NATIVE SEEDS THAT ARE SUITABLE FOR MOST WETLAND RESTORATION SITES THAT ARE NOT PERMANENTLY FLOODED. ALL SPECIES ARE BEST SUITED TO MOIST GROUND AS FOUND IN MOST WET MEADOWS, SCRUB SHRUB, OR FORESTED WETLAND RESTORATION AREAS. THE MIX IS WELL SUITED FOR DETENTION BASIN BORDERS.
2. APPLICATION RATE: 1 LB./2500 SQ. FT. 18 LBS./ACRE
3. THE WETLAND SEEDS IN THIS MIX CAN BE SOWN BY HAND, WITH A HAND HELD SPREADER, OR HYDRO-SEEDED ON LARGE OR HARD TO REACH SITES. LIGHTLY RAKE TO INSURE GOOD SEED TO SOIL CONTACT. SEEDING CAN TAKE PLACE ON FROZEN SOIL, AS THE FREEZING AND THAWING WEATHER OF LATE FALL AND LATE WINTER WILL WORK THE SEED INTO THE SOIL. IF SPRING CONDITIONS ARE DRIER THAN USUAL WATERING MAY BE REQUIRED. IF SOWING DURING THE SUMMER MONTHS SUPPLEMENTAL WATERING WILL LIKELY BE REQUIRED UNTIL GERMINATION. A LIGHT MULCH OF CLEAN, WEED FREE STRAW IS RECOMMENDED.
4. DURING THE FIRST SEASON OF GROWTH, SEVERAL SPECIES WILL PRODUCE SEEDS WHILE OTHER SPECIES WILL PRODUCE SEEDS AFTER THE SECOND GROWING SEASON. NOT ALL SPECIES WILL GROW IN ALL WETLAND SITUATIONS. THIS MIX IS COMPRISED OF THE WETLAND SPECIES MOST LIKELY TO GROW IN CREATED/RESTORED WETLANDS AND SHOULD PRODUCE MORE THAN 75% GROUND COVER IN TWO FULL GROWING SEASONS.
5. MIX COMPOSITION APPROXIMATELY : FOX SEDGE (CAREX VULPINOIDEA), LURID SEDGE (CAREX LURIDA), BLUNT BROOM SEDGE (CAREX SCOPARIA), BLUE VERVAIN (VERBENA HASTATA), FOWL BLUEGRASS (POA PALUSTRIS), HOP SEDGE (CAREX LUPULINA), GREEN BULRUSH (SCIRPUS ATROVIRENS), CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS), FRINGED SEDGE (CAREX CRINITA), SOFT RUSH (JUNCUS EFFUSUS), SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM), RATTLESNAKE GRASS (GLYCERIA CANADENSIS), SWAMP ASTER (ASTER PUNICEUS), BLUEFLAG (IRIS VERSICOLOR), SWAMP MILKWEED (ASCLEPIAS INCARNATA), SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS).

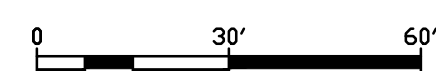
STREAM BANK RESTORATION NOTES

1. APPROXIMATELY 20' (10' EACH SIDE) OF STREAM BANK WILL BE RESTORED AFTER REMOVAL OF CART PATH.
2. STREAM BANK RESTORATION TO OCCUR BY REGRADING OF NEWLY CREATED STREAM BANK TO MATCH GRADE ON EITHER SIDE OF WETLAND FLOODPLAIN AND STREAM CHANNEL.
3. THIS RESTORED AREA WILL BE BETWEEN BRIDGE FOUNDATION (BIN WALL) AND WETLAND.
4. WETLAND PLANTINGS AND SOIL TO BE TRANSPLANTED FROM CART PATH DISTURBED AREAS TO RESTORED STREAM BANK AREAS. THIS INCLUDES SHRUBS AND OTHER OBLIGATE AND FACULTATIVE WETLAND SPECIES.
5. WETLAND PLANT TRANSPLANTATION AND EXCAVATION TO BE COORDINATED WITH SUPERVISING ENGINEER, SITE CONTRACTOR, LANDSCAPER KNOWLEDGEABLE OF WETLAND PLANTINGS.



## REVEGETATION PLAN - NORTH

SCALE: 1"=30'



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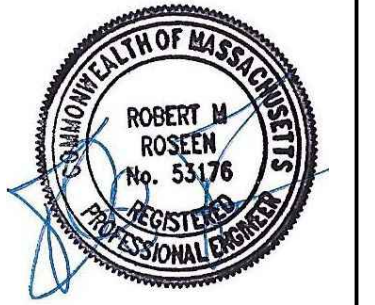


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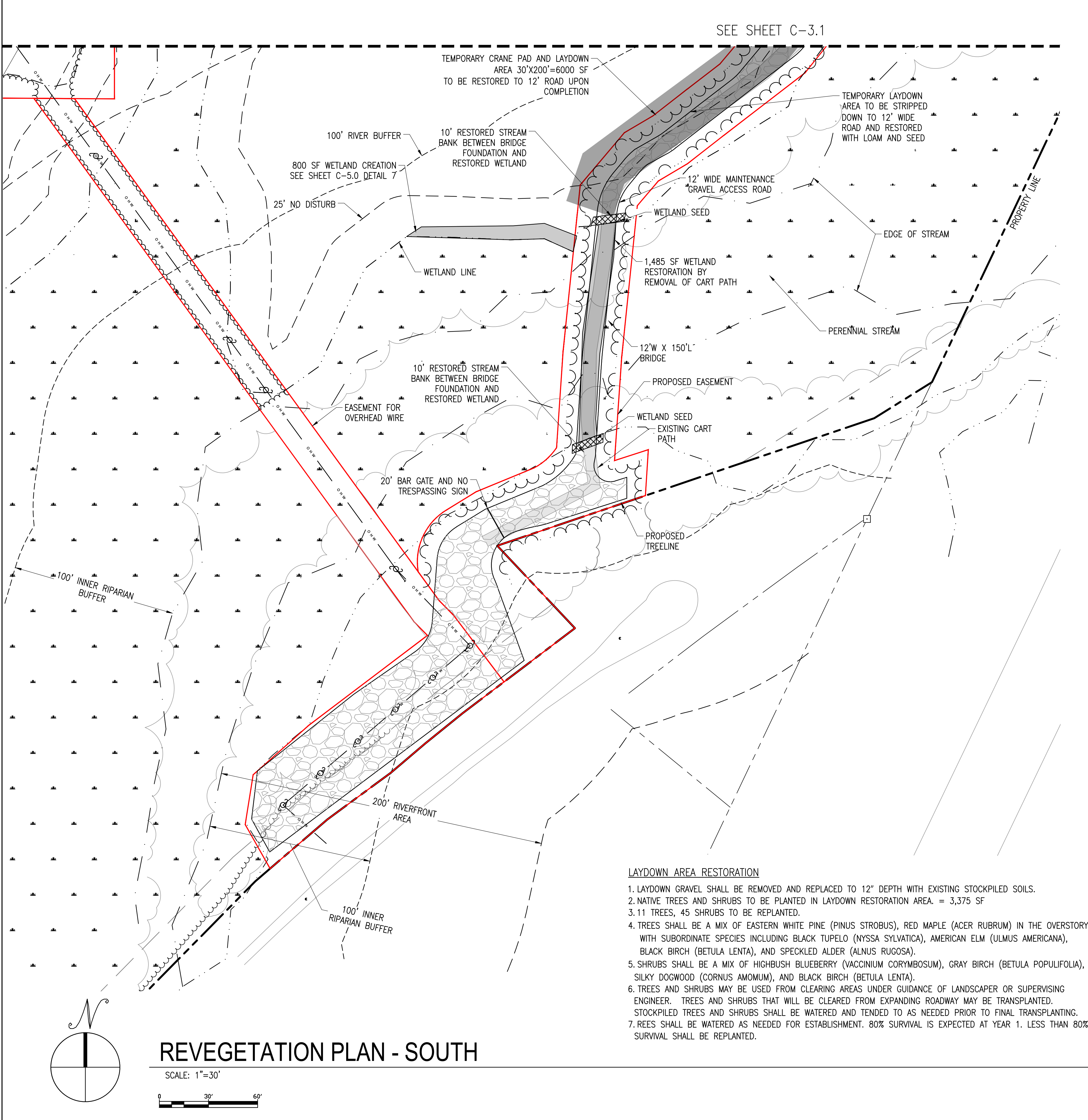
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MAINTENANCE ACCESS ROAD	RR	PS	5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
RECORD DRAWINGS	RR	PS	6	03/24/22	PS	RR	RECORD DRAWINGS
NOTICE OF INTENT	RR	PS	7	06/08/22	PS	RR	NOTICE OF INTENT
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# C-3.1

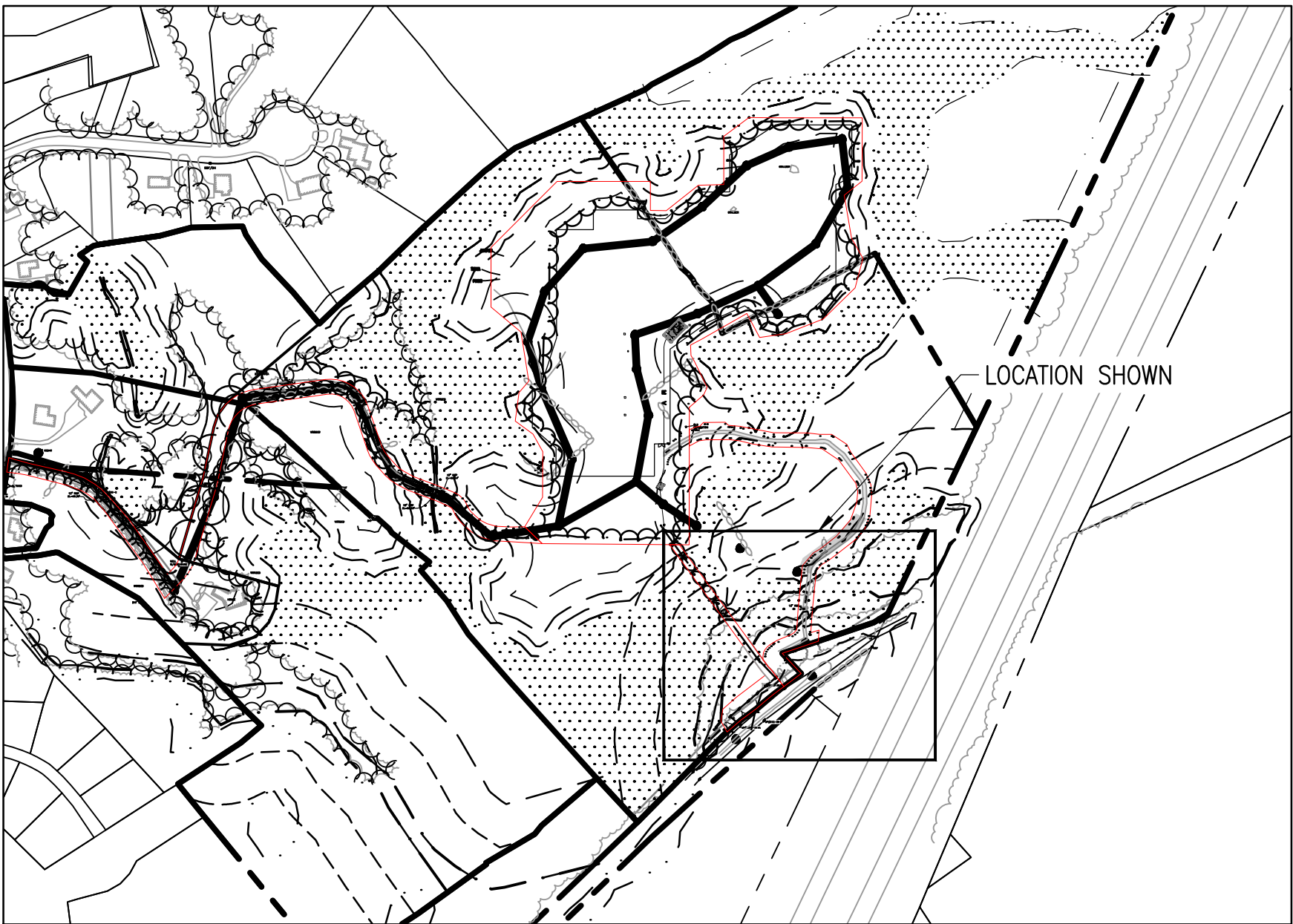
REVEGETATION PLAN -  
NORTH





LAYDOWN AREA RESTORATION

1. LAYDOWN GRAVEL SHALL BE REMOVED AND REPLACED TO 12" DEPTH WITH EXISTING STOCKPILED SOILS.
2. NATIVE TREES AND SHRUBS TO BE PLANTED IN LAYDOWN RESTORATION AREA. = 3,375 SF
3. 11 TREES, 45 SHRUBS TO BE REPLANTED.
4. TREES SHALL BE A MIX OF Highbush Blueberry (Vaccinium corymbosum), Gray Birch (Betula populifolia), Silky Dogwood (Cornus amomum), and Black Birch (Betula lenta).
5. SHRUBS SHALL BE A MIX OF Eastern White Pine (Pinus strobus), Red Maple (Acer rubrum) in the overstory with subordinate species including Black Tupelo (Nyssa sylvatica), American Elm (Ulmus americana), Black Birch (Betula lenta), and Speckled Alder (Alnus rugosa).
6. TREES AND SHRUBS MAY BE USED FROM CLEARING AREAS UNDER GUIDANCE OF LANDSCAPER OR SUPERVISING ENGINEER. TREES AND SHRUBS THAT WILL BE CLEARED FROM EXPANDING ROADWAY MAY BE TRANSPLANTED. STOCKPILED TREES AND SHRUBS SHALL BE WATERED AND TENDED TO AS NEEDED PRIOR TO FINAL TRANSPLANTING.
7. REES SHALL BE WATERED AS NEEDED FOR ESTABLISHMENT. 80% SURVIVAL IS EXPECTED AT YEAR 1. LESS THAN 80% SURVIVAL SHALL BE REPLANTED.



REVEGETATION PLAN NOTES

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5. SEE SHEET C-5.0 AND EROSION CONTROL PLAN NOTES FOR FULL SPECIFICATIONS REGARDING EROSION CONTROL AND SITE STABILIZATION.

RESTORATION SEED MIX

1. ERNST SEED MIX 156 OR ACCEPTABLE ALTERNATE WILL BE USED. A LOW-GROWING WILDFLOWER & GRASS MIX FOR UPLANDS & MEADOWS, HEIGHT: 0.5 - 5.0 FT, SEEDING RATE: 20-40 LB PER ACRE.
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STREAM BANK RESTORATION NOTES

1. APPROXIMATELY 20' (10' EACH SIDE) OF STREAM BANK WILL BE RESTORED AFTER REMOVAL OF CART PATH.
2. STREAM BANK RESTORATION TO OCCUR BY REGRADING OF NEWLY CREATED STREAM BANK TO MATCH GRADE ON EITHER SIDE OF WETLAND FLOODPLAIN AND STREAM CHANNEL.
3. THIS RESTORED AREA WILL BE BETWEEN BRIDGE FOUNDATION (BIN WALL) AND WETLAND.
4. WETLAND PLANTINGS AND SOIL TO BE TRANSPLANTED FROM CART PATH DISTURBED AREAS TO RESTORED STREAM BANK AREAS. THIS INCLUDES SHRUBS AND OTHER OBLIGATE AND FACULTATIVE WETLAND SPECIES.
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**WATERSTONE ENGINEERING**  
MANAGITIVE EROSION CONTROL MANAGEMENT

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910-990-0800

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SEAL OF THE STATE OF MASSACHUSETTS  
ROBERT M. ROSEN  
No. 53176  
PROFESSIONAL ENGINEER

07/18/22

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PROJECT NUMBER: 905-0391		REV		DATE	DRAWN	CHECKED	RELEASE LEVEL
		3	08/25/20	HR	RR	RR	CD-IFC
		4	09/17/20	HR	RR	RR	CD-IFC REV 1
		5	11/09/21	PS	RR	RR	MAINTENANCE ACCESS ROAD
		6	03/24/22	PS	RR	RR	RECORD DRAWINGS
		7	06/08/22	PS	RR	RR	NOTICE OF INTENT
		8	07/19/22	PP	RR	RR	NOTICE OF INTENT REV 1
		9	08/16/22	PP	RR	RR	NOTICE OF INTENT REV 2
SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"							
<b>C-3.2</b> REVEGETATION PLAN - SOUTH							



NOTE : FINAL DESIGN AND SPECIFICATIONS TO BE PROVIDED WITH CONSTRUCTION DRAWINGS

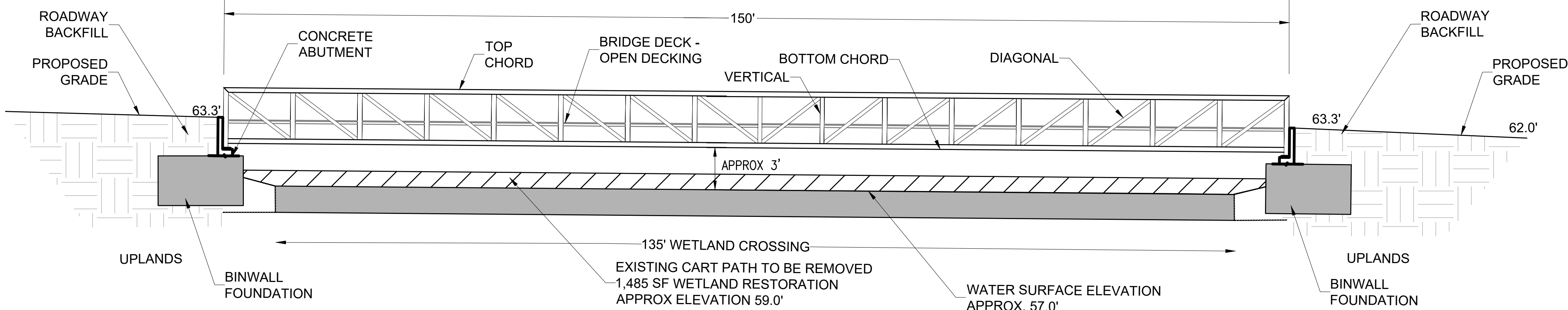
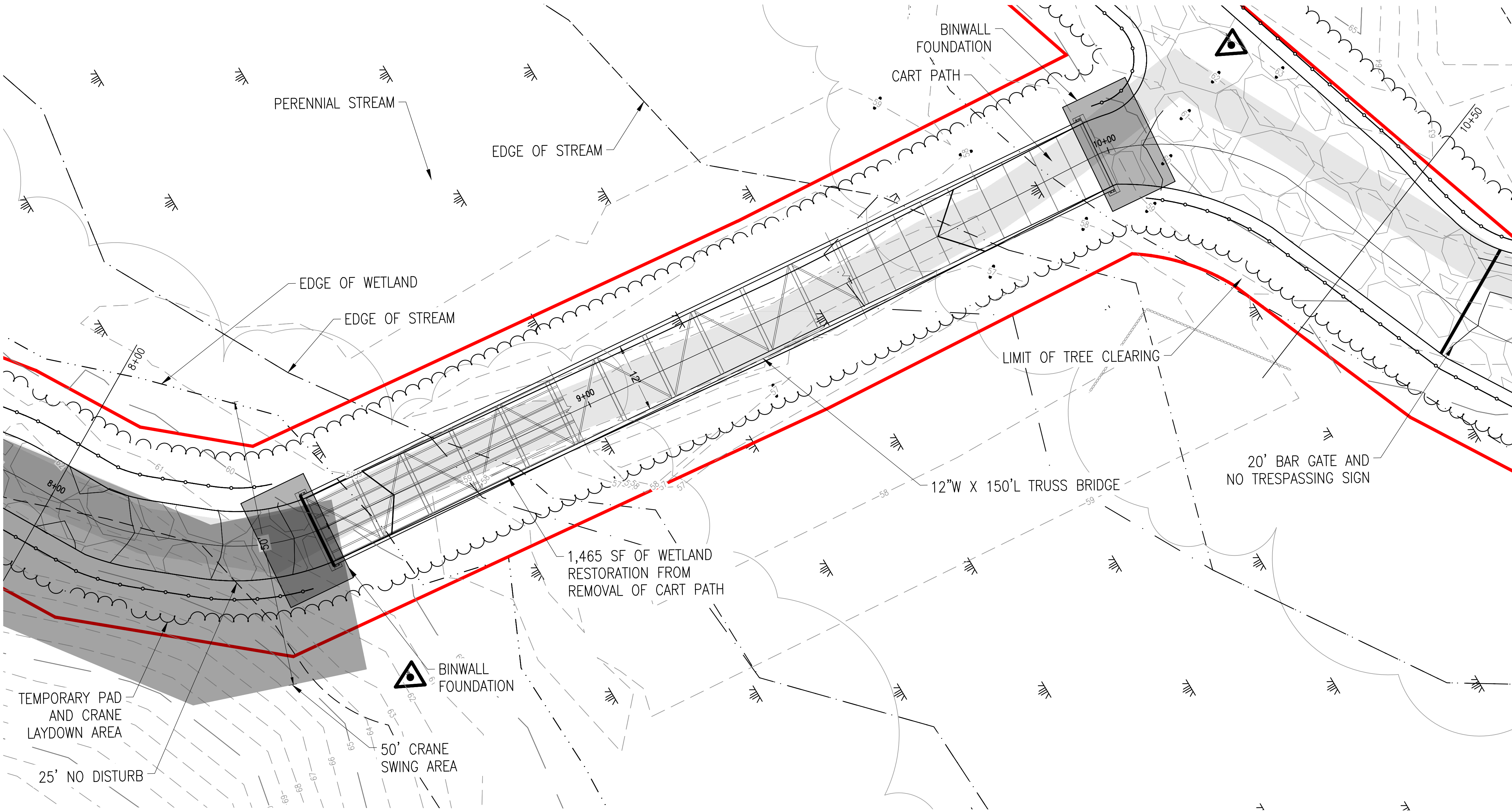
1. FOUNDATION SUBGRADE PREPARATION
- a. EXCERPTED FROM BRIDGE FOUNDATION RECOMMENDATIONS BY GZA GEOWIRVIRONMENTAL INC. JUNE 30, 2020, FILE NO. 01.0174688.00
- b. WHERE PRACTICAL, FINAL EXCAVATION SHOULD BE UNDERTAKEN USING A SMOOTH- EDGED BUCKET TO LIMIT DISTURBANCE OF THE SUBGRADE.
- c. ALL EXCAVATIONS SHOULD BE PERFORMED "IN THE DRY".
- d. FINE-GRAINED SOILS ARE SENSITIVE TO MOISTURE AND SHOULD BE SUITABLY PROTECTED IF EXPOSED. IF FINE-GRAINED SOILS DEGRADE DUE TO EXPOSURE, THE WET/ DISTURBED SOIL SHOULD BE UNDERCUT TO SUITABLE, STABLE SOIL AND EITHER THE FOUNDATION EXTENDED TO A SUITABLE BEARING GRADE, OR THE EXPOSED SUITABLE SOIL SUBGRADE RAISED WITH COMPACTED DENSE GRADED CRUSHED STONE, OR 3/4-INCH CRUSHED STONE. IF 3/4-INCH CRUSHED STONE IS USED, FILTER GEOTEXTILE SHOULD ENVELOP THE CRUSHED STONE WHEN THE OVERALL THICKNESS EXCEEDS 6 INCHES.
- e. IF DISTURBED, PROOF-COMPACT THE EXPOSED SUBGRADE WITH SEVERAL PASSES OF WALK BEHIND ROLLER WITHOUT THE VIBRATOR TURNED ON. WEAK OR SOFT SPOTS IDENTIFIED DURING PROOF-COMPACTION SHOULD BE EXCAVATED AND REPLACED WITH COMPACTED DENSELY GRADED CRUSHED STONE FILL.
- f. FILL SHOULD BE PLACED IN LIFTS AND COMPACTED TO 95 PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR TEST (ASTM D 1557, METHOD 1). 3/4-INCH CRUSHED STONE SHOULD BE COMPACTED TO AN UNYIELDING SURFACE. SUBGRADES SHOULD BE PROTECTED FROM FROST AT ALL TIMES DURING CONSTRUCTIONS AND FILL SHOULD NOT BE PLACED OVER FROZEN SOIL.
9. TO PROTECT THE FINAL SUBGRADES, LIMIT THE AMOUNT OF TIME BETWEEN FINAL SUBGRADE PREPARATION AND CONCRETE POURING. PRE-FABRICATION OF REBAR CAGES COULD HELP TO REDUCE TIMELINES.
2. GRADATION CRITERIA FOR FILL MATERIAL
- a. BASED ON OUR OBSERVATIONS AND A REVIEW OF THE GRADATION ANALYSES PERFORMED ON SOILS FROM THE TEST PITS EXCAVATED AT THE SITE, NO ON-SITE MATERIAL ENCOUNTERED IN THE TEST PITS APPEARS TO MEET THESE GRADATIONS.
- b. DENSE- GRADED CRUSHED STONE: SHOULD CONSIST OF ANGULAR FRAGMENTS OF HARD, DURABLE CRUSHED ROCK (NOT CRUSHED CONCRETE), FREE FROM A DETRIMENTAL QUANTITY OF THIN, FLAT, ELONGATED PIECES OR BE DURABLE CRUSHED GRAVEL STONE OBTAINED BY ARTIFICIAL CRUSHING OF GRAVEL, COBBLES, BOULDERS OR FIELDSTONE. THE CRUSHED STONE SHOULD BE FREE FROM TRASH, ICE, SNOW, TREE STUMPS, ROOTS, ORGANIC MATERIALS, AND OTHER DELETERIOUS MATTER. DENSE-GRADED CRUSHED STONE SHOULD CONFORM TO THE FOLLOWING GRADATION:

SIEVE SIZE (ASTM D422)	PERCENT PASSING BY WEIGHT
2-INCH	100
1-1/2-INCH	70-100
3/4-INCH	50-85
NO.4	30-55
NO.50	8-24
NO.200	3-10

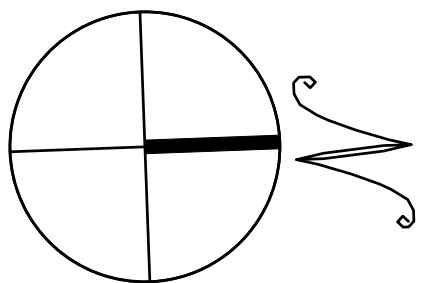
- c. 3/4-INCH CRUSHED STONE: SHOULD CONSIST OF ANGULAR FRAGMENTS OF HARD, DURABLE CRUSHED ROCK (NOT CRUSHED CONCRETE), FREE FROM A DETRIMENTAL QUANTITY OF THIN, FLAT, ELONGATED PICES OR SHOULD BE DURABLE CRUSHED GRAVEL STONE OBTAINED BY ARTIFICIAL CRUSHING OF GRAVEL, BOULDERS OR FIELDSTONE. THE CRUSHED STONE SHOULD BE FREE FROM TRASH, ICE, SNOW, TREE STUMPS, ROOTS, ORGANIC MATERIALS, AND OTHER DELETERIOUS MATTER. CRUSHED STONE SHOULD CONFORM TO THE FOLLOWING GRADATION:

SIEVE SIZE (ASTM D422)	PERCENT PASSING BY WEIGHT
1-INCH	100
3/4-INCH	90-100
1/2-INCH	10-50
3/8-INCH	0-20
NO.4	0-5

3. CONSTRUCTION DEWATERING
- a. GROUNDWATER IS ANTICIPATED TO BE AS HIGH AS THE GROUND SURFACE AND THUS GROUNDWATER WILL LIKELY BE ENCOUNTERED DURING FOUNDATION CONSTRUCTION. IN ADDITION, WATER MAY COLLECT IN EXCAVATIONS OR BE HIGHER FOLLOWING PRECIPITATION EVENTS. THUS, CONSTRUCTION DEWATERING MAY BE REQUIRED TO HELP CONTROL GROUNDWATER AND TO CONDUCT WORK "IN THE DRY".
- b. BASED ON OUR REVIEW EXISTING SOIL CONDITIONS, CONSTRUCTION DEWATERING MAY BE ACHIEVED WITH LOCALIZED SUMP PUMPS EXCAVATED OUTSIDE OF THE INFLUENCE ZONE OF THE FOOTINGS AND DISCHARGED TO NEARBY EXCAVATED PITS LOCATED WELL OUTSIDE OF THE PROPOSED BRIDGE AREA IN ACCORDANCE WITH LOCAL CONSERVATION COMMISSION OR STATE REQUIREMENTS. ADDITIONAL PRECAUTIONS SHOULD BE TAKEN TO PREVENT RUNOFF INTO THE WETLAND AREAS.
- c. IN ADDITION, IT IS RECOMMENDED THAT TEMPORARY CONTROL MEASURES BE IMPLEMENTED TO REDUCE THE AMOUNT OF SURFACE WATER (FROM RAINFALL RUNOFF) FROM POTENTIALLY ENTERING AND PONDING IN THE EXCAVATIONS. TEMPORARY MEASURES SHOULD INCLUDE, BUT NOT BE TO: CONSTRUCTION OF DRAINAGE DITCHES OR SOIL BERMS TO DIVERT AND/OR REDUCE THE AMOUNT OF SURFACE WATER FLOWING OVER EXPOSED SUBGRADES DURING CONSTRUCTION.
4. TEMPORARY SLOPES AND EXCAVATION SUPPORT
- a. IT IS ANTICIPATED THAT TEMPORARY LATERAL SUPPORT SYSTEMS SUCH AS CANTILEVERED SHEET PILING MAY BE REQUIRED TO ALLOW EXCAVATION OF THE PROPOSED FOUNDATIONS WHILE AT THE SAME TIME LIMITING THE LIMITS OF IMPACT ON THE NEARBY WETLANDS. IF SUFFICIENT SPACE IS AVAILABLE, THE EXCAVATIONS MAY BE COMPLETED USING SLOPED OPEN-CUT TECHNIQUES WITH A MAXIMUM SLOPE ANGLE OF 1.5H:1V OR FLATTER.
- b. THE OWNER AND THE CONTRACTOR SHOULD MAKE THEMSELVES AWARE OF AND BECOME FAMILIER WITH APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS, INCLUDING THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) EXCAVATION AND TRENCH SAFETY STANDARDS. CONSTRUCTION SITE SAFETY GENERALLY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL ALSO BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF THE CONSTRUCTION OPERATIONS. IF REQUIRED, TEMPORARY EARTH SUPPORT SYSTEMS SHOULD BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.
- c. THE CONTRACTOR SHOULD BE AWARE THAT SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTHS (INCLUDING UTILITY TRENCH EXCAVATIONS) SHOULD IN NO CASE EXCEED THOSE SPECIFIED IN LOCAL, STATE, OR FEDERAL SAFETY REGULATIONS. E.G., OSHA HEALTH AND SAFETY STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926, OR SUCCESSOR REGULATIONS. SUCH REGULATIONS ARE STRICTLY ENFORCED AND, IF THEY ARE NOT FOLLOWED, THE OWNER, CONTRACTOR, AND AND/OR EARTHWORK AND UTILITY SUBCONTRACTORS COULD E LIABLE FOR SUBSTANTIAL PENALTIES.
- d. AS A SAFETY MEASURE, IT IS RECOMMENDED THAT ALL VEHICLES AND SOIL PILES BE KEPT A MINIMUM LATERAL DISTANCE FROM THE CREST OF THE SLOPE EQUAL TO NO LESS THAT THE SLOPE HEIGHT. EXPOSED SLOPE FACES SHOULD ALSO BE PROTECTED AGAINST THE ELEMENTS.

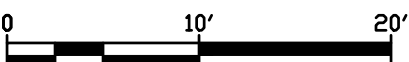


BRIDGE CROSSING DETAIL



WETLAND CROSSING PLAN AND DETAIL

SCALE: 1" = 10'



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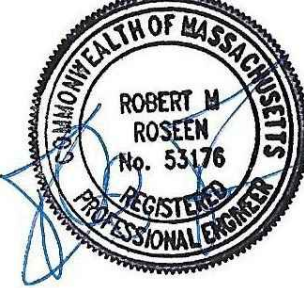
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07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
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9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ON A 24" X 36"

C-4.0

WETLAND CROSSING PLAN  
AND DETAIL



EROSION AND SEDIMENTATION NOTES:

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:

EROSION/SEDIMENT CONTROL DEVICES:

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1. SEDIMENT BARRIER: EROSION CONTROL BERM OR APPROVED EQUAL WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTILL THE SILT IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SEDIMENT BARRIER WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SEDIMENT BARRIER AND TO PROVIDE ADDITIONAL TREATMENT.
2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALE AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.
3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.
4. LOAMS, SEEDS, AND MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE VEGETATED WITH IN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.
5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREAS UNTILL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY.
6. IN LIEU OF MULCH, USE EROSION CONTROL BLANKET (EQUAL TO NORTH AMERICAN GREEN SC150) TO STABILIZE AREAS OF CONCENTRATED FLOW AND DRAINAGE WAYS.
7. USE EROSION CONTROL BLANKETS AS NEEDED ON SLOPES 15% OR GREATER FOR VEGETATIVE STABILIZATION.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:

PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

1. SEDIMENT BARRIER ALONG THE DOWNGRADING SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SEDIMENT BARRIER WILL REMAIN IN PLACE UNTILL THE SITE IS 90% REVEGETATED.
2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE KEY BARRIER.
3. PROTECT TEMPORARY STOCK PILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:
  - a. SOIL STOCK PILES SIDE SLOPES SHALL NOT EXCEED 2:1.
  - b. AVOID PLACING TEMPORARY STOCK PILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWELLS. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
  - c. STABILIZE STOCK PILES WITHIN 7 DAYS BY TEMPORARILY SEEDING WITH HYDROSEED METHOD CONTAINING AND EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCK PILE WITH MULCH.
  - d. SURROUND STOCK PILE SOIL WITH SEDIMENT BARRIER AT BASE OF PILE.
4. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITH IN THE BUILDING PAD, OR PARKING SUBBASE AREAS SHALL RECEIVE MULCH WITHIN IN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 7 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT SUBCONTRACTOR COMPLETES THE FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIOD PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE IS NOT REQUIRED.
5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THESE ARE STABILIZED IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
7. EXCEPT WHERE PERMITTED FOR THE ACCESS ROAD NO WETLAND DISTURBANCE SHOULD OCCUR. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY WETLAND. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 50 FEET AND 100 FEET OF ANY WETLAND, PERIMETER EROSION CONTROLS MUST BE DOUBLED IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESSOURCE, AND STORM WATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROL MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
8. AREAS WITHIN 75 FEET OF A WETLAND WILL BE STABILIZED WITHIN 48 HOURS OF INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
9. ALL AREAS WITHIN 75 FEET OF A WETLAND MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION (NOVEMBER 1 THROUGH APRIL 15).
10. TEMPORARY SEDIMENT BASINS MAY BE INSTALLED DOWNGRADIENT OF THE DISTURBED AREAS. THESE BASINS MUST BE DESIGNED TO PROVIDE THE CALCULATED RUNOFF FROM A 1 YEAR, 24-HOUR STORM OR PROVIDE FOR 3,600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE BASIN. OUTLET STRUCTURES MUST DISCHARGE WATER FROM THE SURFACE OF THE BASIN WHENEVER POSSIBLE. EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES MUST BE USED IF THE DISCHARGING WATERS ARE LIKELY TO CREATE EROSION. ACCUMULATED SEDIMENT MUST BE REMOVED AS NEEDED FROM THE BASIN TO MAINTAIN ATLEAST 1/2 OF THE DESIGN CAPACITY OF THE BASIN.

PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION OR SEDIMENT CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMP, FERTILIZED AND SEEDED. NATIVE TOP SOIL SHALL STOCK PILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
2. SLOPE GREATER THAN 2:1 WILL RECEIVE RIPRAP. (NONE ANTICIPATED)

POST CONSTRUCTION REVEGETATION:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.
2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/ 15 TO 9/ 15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW :
  - A. ERNST SEED MIX 156 OR ACCEPTABLE ALTERNATE WILL BE USED. A LOW-GROWING WILDFLOWER & GRASS MIX FOR UPLANDS & MEADOWS, HEIGHT: 0.5 - 5.0 FT, SEEDING RATE: 20-40 LB PER ACRE.
  - B. DESIGNED TO PROVIDE EROSION AND SEDIMENT CONTROL, AND COLOR ON LOW-FERTILITY SITES. AFTER THE ESTABLISHMENT YEAR, THIS MEADOW MIX MAY BE MOWED ANNUALLY. THIS WOULD PREFERABLY BE IN THE SPRING PRIOR TO ONSET OF NEW GROWTH, BUT IT MAY BE AFTER THE MEADOW CEASES BLOOMING IN THE FALL.
  - C. MIX COMPOSITION APPROXIMATELY 50.0% FESTUCA OVINA, 21.5% BUTELOEUA CURTIPENDULA, BUTTE (SIDEQATS GRAMA, BUTTE), 17.0% LILIUM MULTIFLORUM (ANNUAL RYEGRASS), 4.0% LINUM PERENNE (PERENNIAL BLUE FLAX), 1.5% COREOPSIS LANCOGLATA (LANCILEAF COREOPSIS), 1.5% RUBICEKIA HIRTA (BLACKEYED SUSAN), 1.2% CHRYSANTHEMUM MAXIMUM (SHASTA DAISY), 1.0% CHAMAECRISTA FASCICULATA, PA ECOTYPE (PARTRIDGE PEA, PA ECOTYPE), 1.0% PAPAVEA RHOEAS, RED CORN POPPY, RED), 0.3% ASCLEPIAS TUBEROSA (BUTTERFLY MILKWEED), 0.3% ASTER ORBICULIFOLIUS, PA ECOTYPE (AROMATIC ASTER, PA ECOTYPE), 0.2% ACHILLEA, ILLEFOLIUM (COMMON YARROW), 0.2% PYCNANTHEMUM TENUIFOLIUM (NARROWLEAF MOUNTAINMINT), 0.1% OENOTHERA FRUITICOSA VAR. FRUITICOSA (SUNDRIPS), 0.1% PENSTEMON HIRSUTUS (HAIRY BEARDTONGUE), 0.1% ZIZIA AUREA, PA ECOTYPE (GOLDEN ALEXANDERS).

3. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
  - A. ONLY UNFROZEN LOAM SHALL BE USED.
  - B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SHOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED
  - C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.
  - D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ.FT) SHALL BE SOWN INSTEAD OF PREVIOUSLY NOTED SEEDING RATE.
  - E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
  - F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.
  - G. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE SUBCONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE:

THE SUBCONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, REPLACING, AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BAY BARRIERS, SEDIMENT BARRIER, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE SUBCONTRACTOR SHALL INSTALL SEDIMENT BARRIER BEHIND THE HAY BALES.
2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.

HOUSEKEEPING:

SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE SUBCONTRACTOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

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 FORMS OF SECONDARY CONTAMINANT 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 FORTREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

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 CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHALL BE INSTALLED OCCURS, END OF THE EXIST PAVED ACCESS TO THE SITE TO MINIMIZE THE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN 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.

DEBRIS AND OTHER MATERIALS MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIES, 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.

EXCAVATIONS 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. NO EXCAVATION DEWATERING IS ANTICIPATED FOR THIS PROJECT. SHOULD IT BE NECESSARY, THE COLLECTED WATER REMOVED FROM THE POUNDED 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. A DEWATERING PLAN SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES, WHERE ALLOWED NON-STORMWATER DISCHARGES ARE NECESSARY, 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) PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- (c) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- (d) FOUNDATION OR FOOTE DRAIN- WATER WHERE FLOWS ARE NOT CONTAMINATED;
- (e) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C (5));
- (f) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
- (g) LANDSCAPE IRRIGATION.

UNAUTHORIZED NON- STORMWATER DISCHARGES. THE SUBCONTRACTOR IS NOT AUTHORIZED A DISCHARGE THAT IS MIXED WITH A SPOURCE OF NON STORMWATER. SPECIFICALLY, THE DEPARTMENTS APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- (a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FROM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- (b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- (c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
- (d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

CONSTRUCTION PHASE:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

- (a) INSTALL STABILIZED CONSTRUCTION ENTRANCE AND MAINTAIN UNTIL SITE IS STABILIZED.
  - (b) ONLY THOSE AREAS NECESSARY FOR CONSTRUCTION WILL BE DISTURBED.
  - (c) PRIOR TO THE START OF CONSTRUCTION, SEDIMENT BARRIERS SHALL BE INSTALLED ACROSS THE SLOPES(S), ON THE CONTOUR, AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT TRAVELLED WAY TO PROTECT IT FROM CONSTRUCTION-RELATED EROSION.
  - (d) CLEAR AND GRUB WORK SITE AS NEEDED TO EXECUTE PLANS USING CAUTION NOT TO OVER EXPOSE THE SITE.
  - (e) STORMWATER MANAGEMENT SYSTEM WILL BE INSTALLED PRIOR TO CONSTRUCTION OF SITE ELEMENTS, THAT DISCHARGE TO THESE SYSTEMS. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED IN ALL NEW AND EXISTING CATCH BASINS THAT WILL RECEIVE RUNOFF FROM THE PROJECT. NO STORMWATER SHOULD BE DIRECTED TO ANY STORMWATER BASINS UNTIL THE SITE IS COMPLETELY STABILIZED.
  - (f) DISTURBED AREAS WILL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF THE INITIAL DISTURBANCES OF SOILS. DISTURBED AREAS WILL BE STABILIZED BEFORE STORMS. LOAM WILL BE SAVED FOR LATER USE WHERE POSSIBLE. EXCESS SOIL MATERIALS WILL BE USED AS FILL OR REMOVED FROM SITE TO AN APPROVED LOCATION.
  - (g) AT A MINIMUM, THE EROSION CONTROL MEASURES SHALL BE REVIEWED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOWFALL. WHEN THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6 INCHES AND BE DISCARDED ON THE SITE. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS.
  - (h) CONSTRUCT PAVEMENT AREAS AND BUILDINGS.
  - (i) LOAM, LIME, FERTILIZER, SEED, AND MULCH LANDSCAPED AND OTHER DISTURBED AREAS.
  - (j) ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
  - (k) TOUCH UP LOAM AND SEED.
- NOTE: ALL DENUDED AREAS NOT SUBJECT TO FINAL PAVING, RIPRAP OR GRAVEL SHALL BE REVEGETATED.

EROSION CONTROL DURING WINTER CONSTRUCTION:

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH THAT NO ONGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 S. F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY 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 LOAMED, FINAL GRADING 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 CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SEDIMENT BARRIER OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.
7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS, SLOPES GREATER THAN 30% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH STRAW-COCONUT EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC150 OR APPROVED EQUAL).
8. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOY EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.
9. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

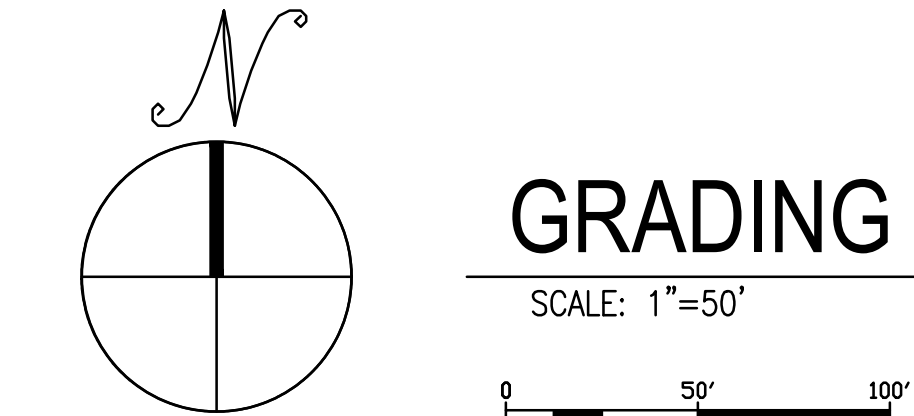
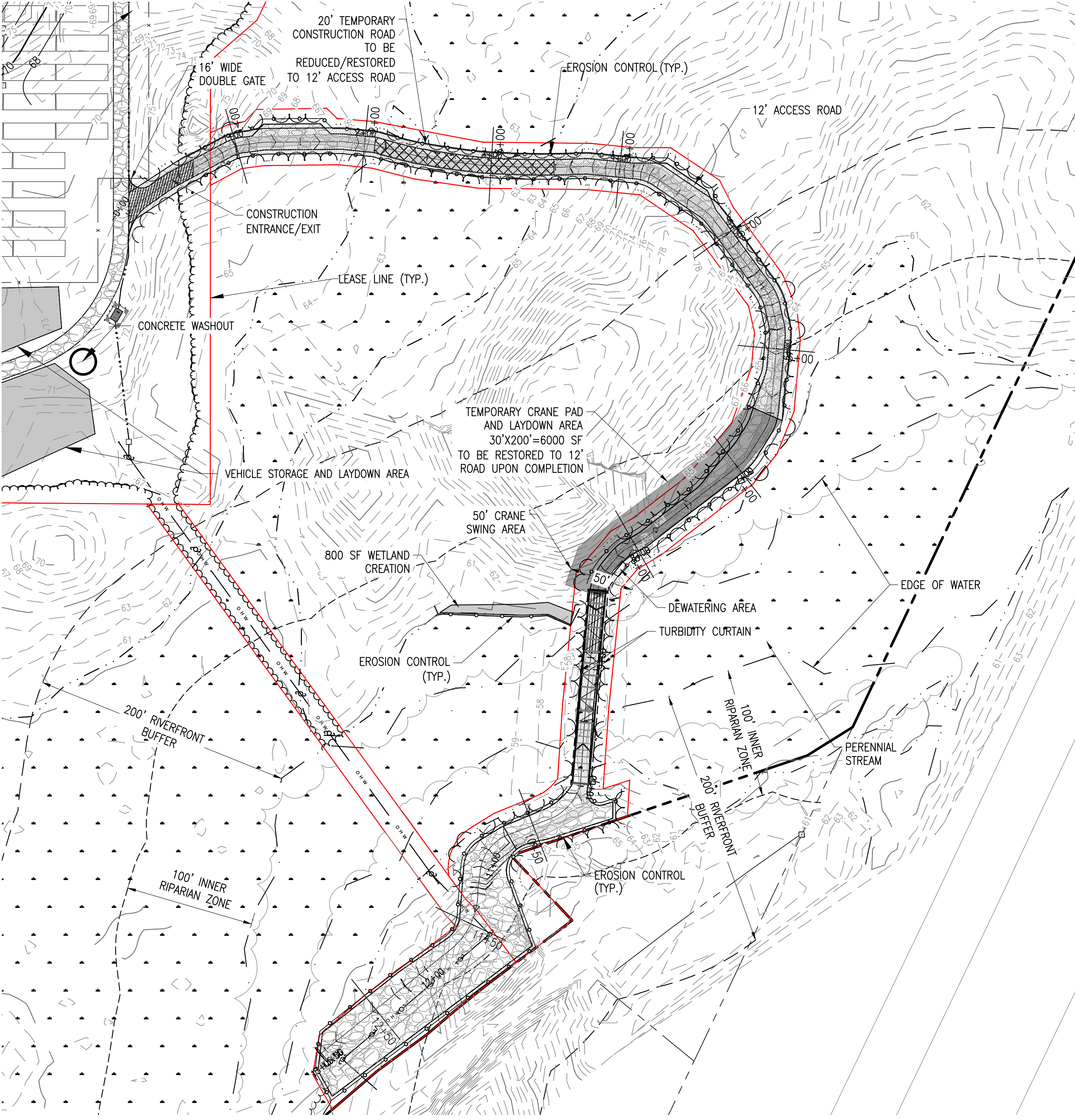
SITE INSPECTION AND MAINTENANCE:

1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (90% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE RO CORRECT UNDERMINING OT DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO A ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.

2. SHORT- TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER.

3. LONG- TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER.



GRADING AND EROSION CONTROL PLAN

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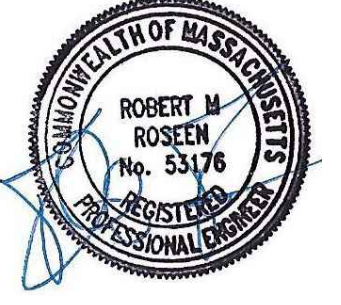
55 TECHNOLOGY DRIVE, SUITE 102  
CONWELL, MA 01061  
PHONE: (800) 898-6273  
FAX: (800) 843-6778  
WWW.NEWLEAFENERGY.COM



9 GREGORY WAY  
STRATHAM, NH 03086  
603-890-0800

NOT FOR CONSTRUCTION

PERMIT DRAWINGS, NOT TO BE USED FOR CONSTRUCTIONS



07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
3	08/25/20	HR	RR	CO-IFC
4	09/17/20	HR	RR	CO-IFC REV 1
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED AT 11" X 17"

C-5.0  
GRADING AND EROSION CONTROL PLAN



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LOWELL, MA 01851  
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WWW.NEWLEAFENERGY.COM



9 GRETA'S WAY  
STRATHAM, NH 03885  
93 NEWBURY

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CONSTRUCTION

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USED FOR CONSTRUCTIONS



07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

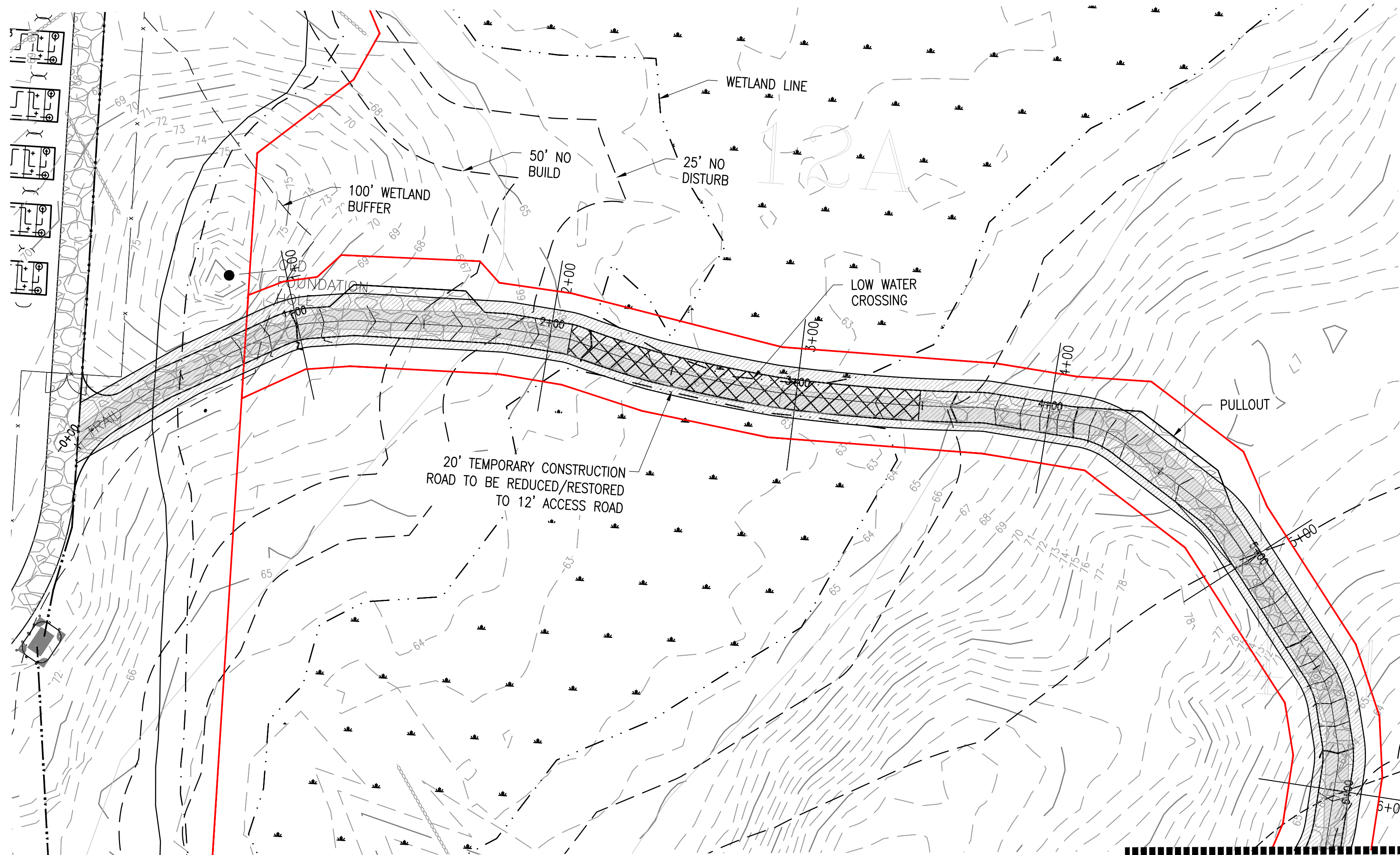
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5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

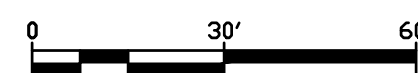
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ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

C-5.1

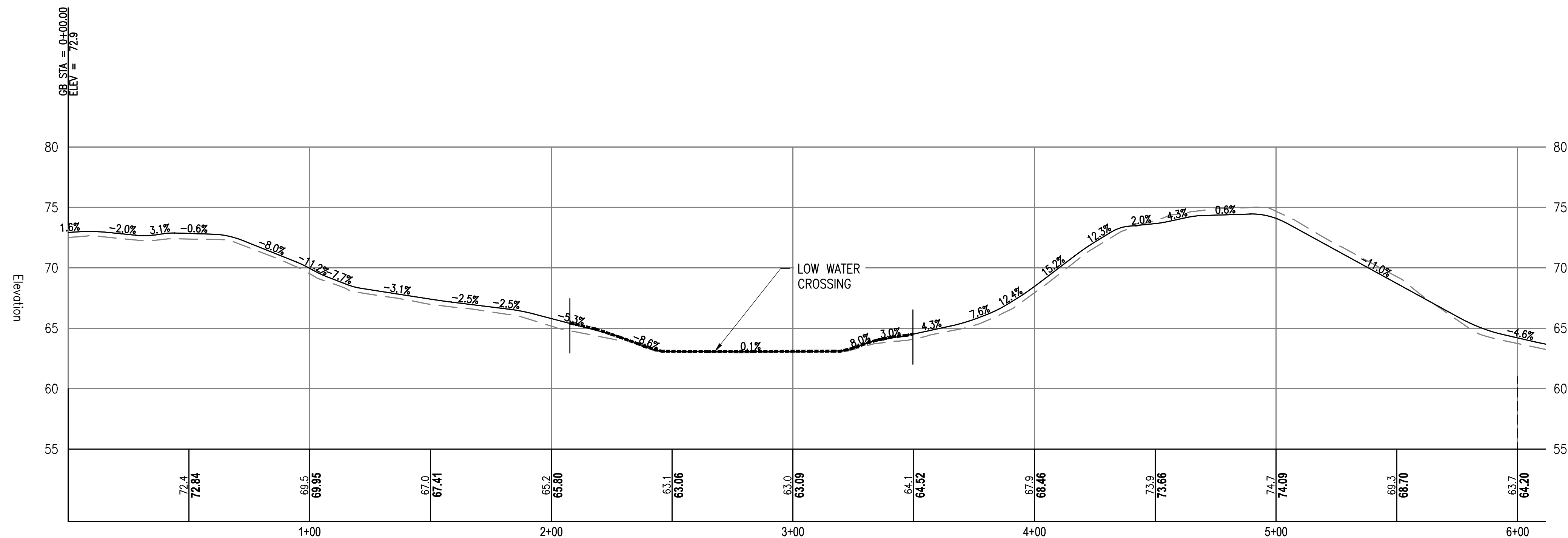
PLAN AND PROFILE  
STA-0+00 TO 6+00



SCALE: 1" = 30'

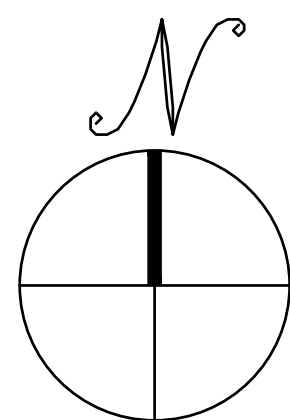


SEE SHEET C-5.2



PLAN AND PROFILE-NORTH

VERTICAL SCALE: 1"=6'  
HORIZONTAL SCALE: 1"=30'





NOT FOR  
CONSTRUCTION

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USED FOR CONSTRUCTIONS



07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

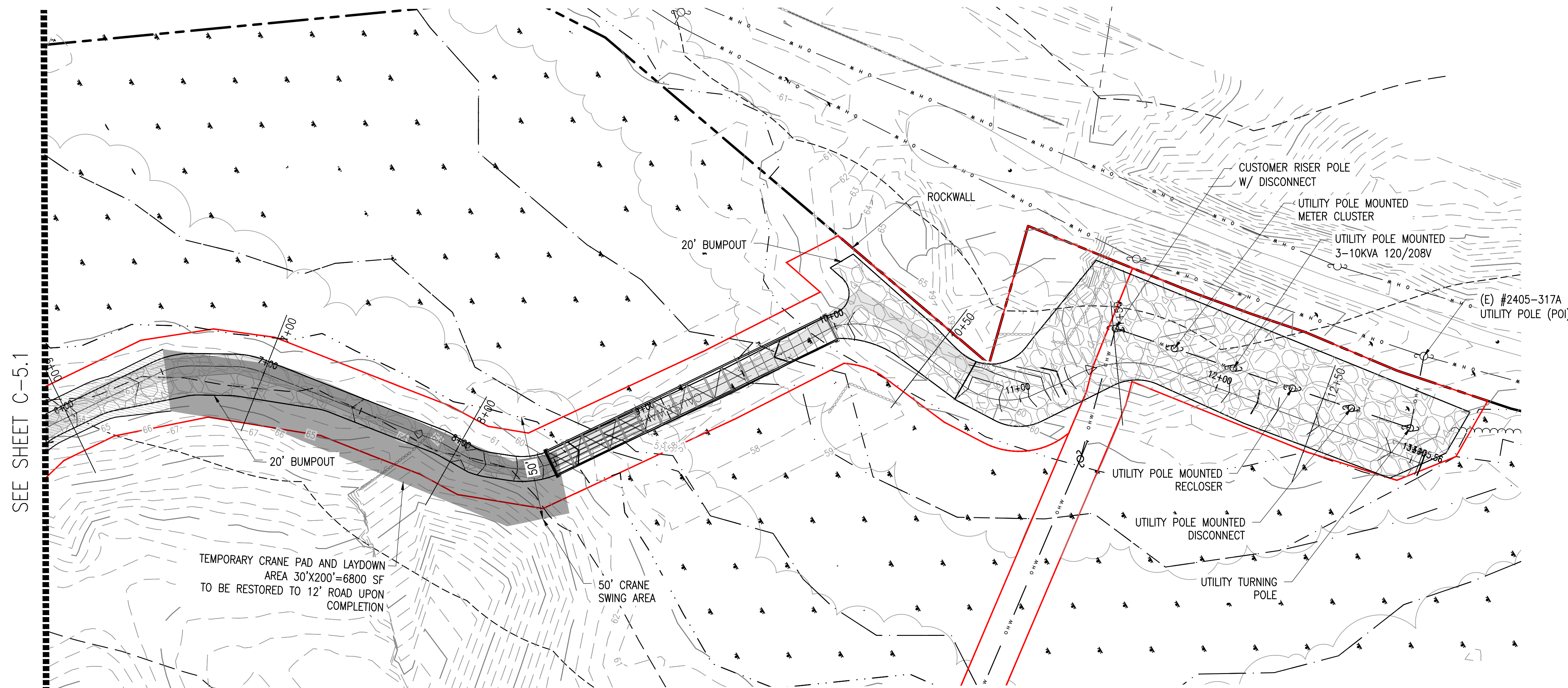
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5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

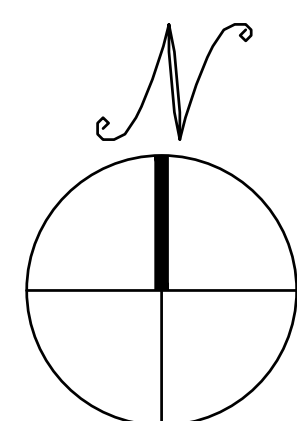
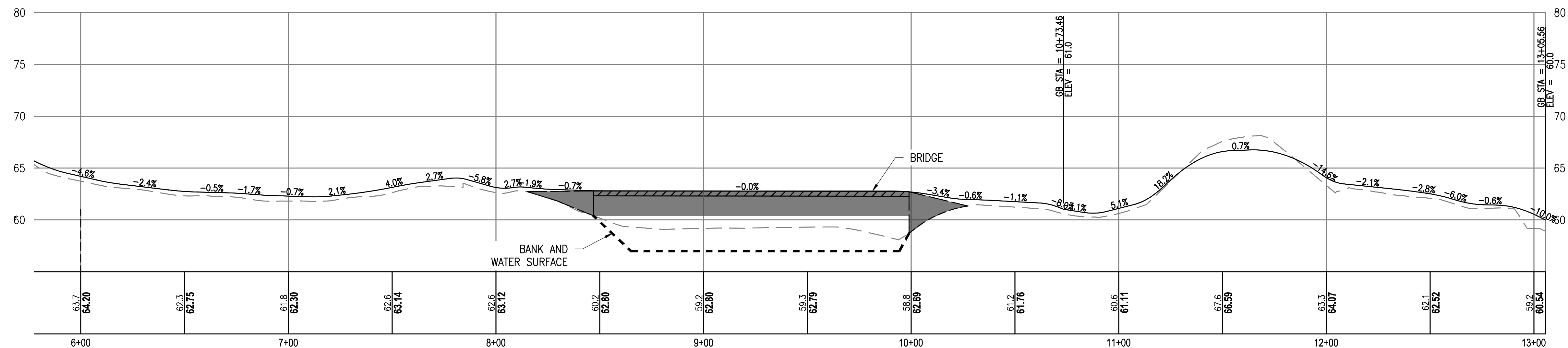
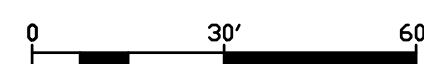
**C-5.2**

PLAN AND PROFILE  
STA- 8+00 TO 13+00



SEE SHEET C-5.1

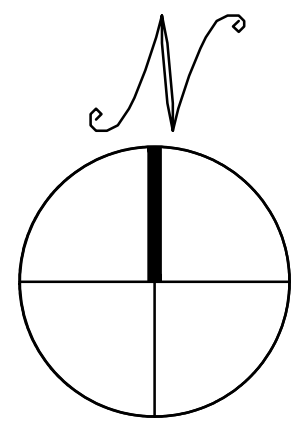
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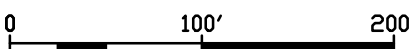
PLAN AND PROFILE-SOUTH

VERTICAL SCALE: 1"=6'  
HORIZONTAL SCALE: 1"=30'





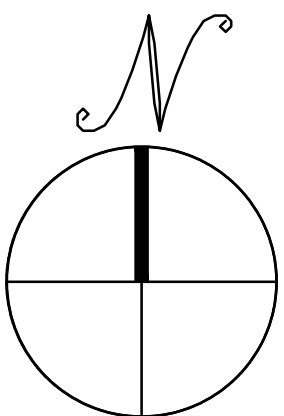
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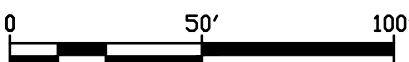
## C-6.0

### WETLANDS PLAN



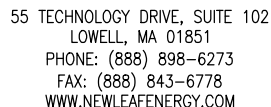


SCALE: 1"=50'



1. THE WETLANDS ON THIS SITE WERE DELINEATED BY CHRIS LUCAS OF LUCAS ENVIRONMENTAL IN MARCH AND APRIL 2014.

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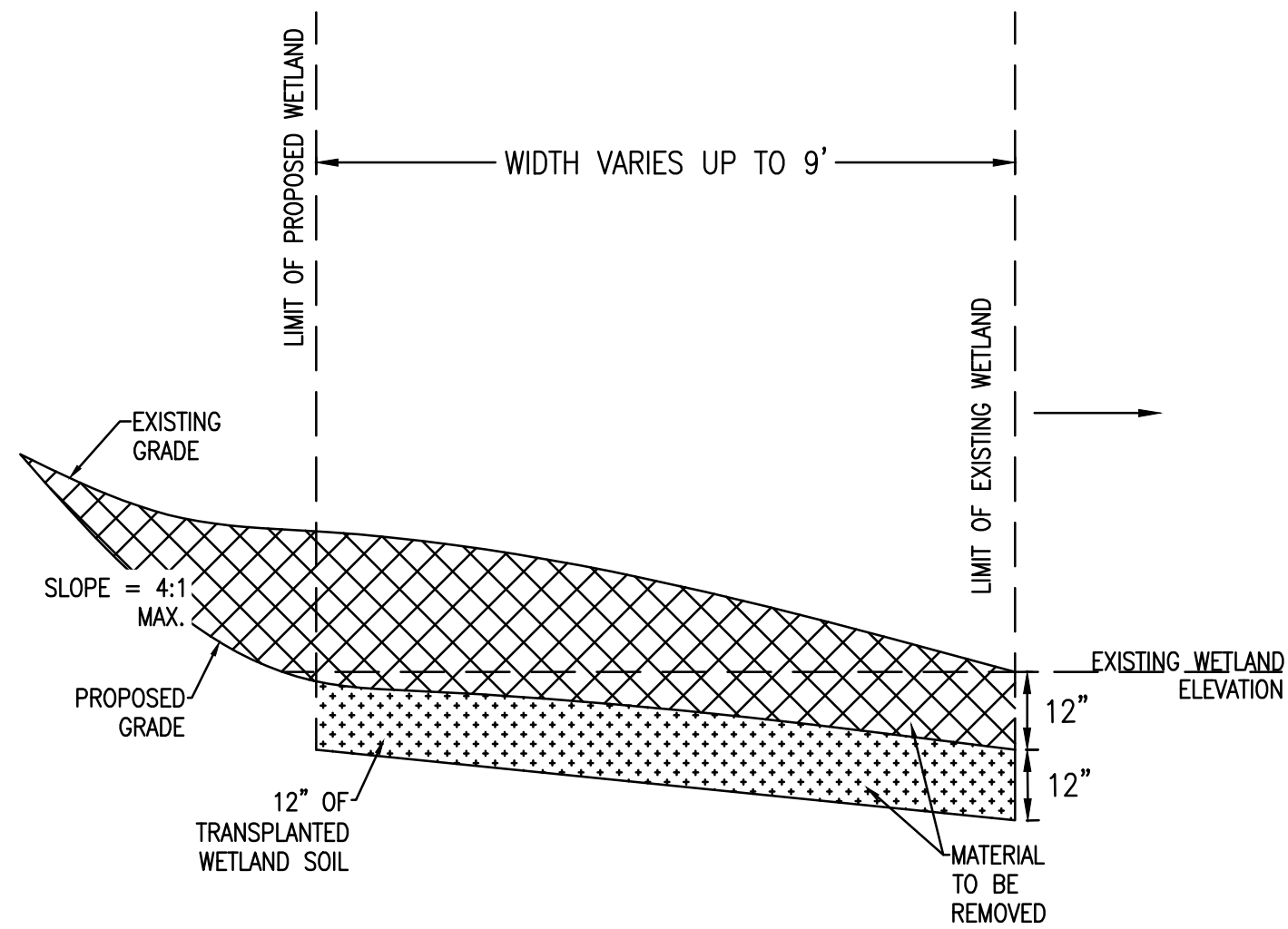
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7	06/08/22	PS	RR	NOTICE OF INTENT	
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1	
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2	

SCALES STATED ON DRAWINGS  
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ARCH D 24" X 36"

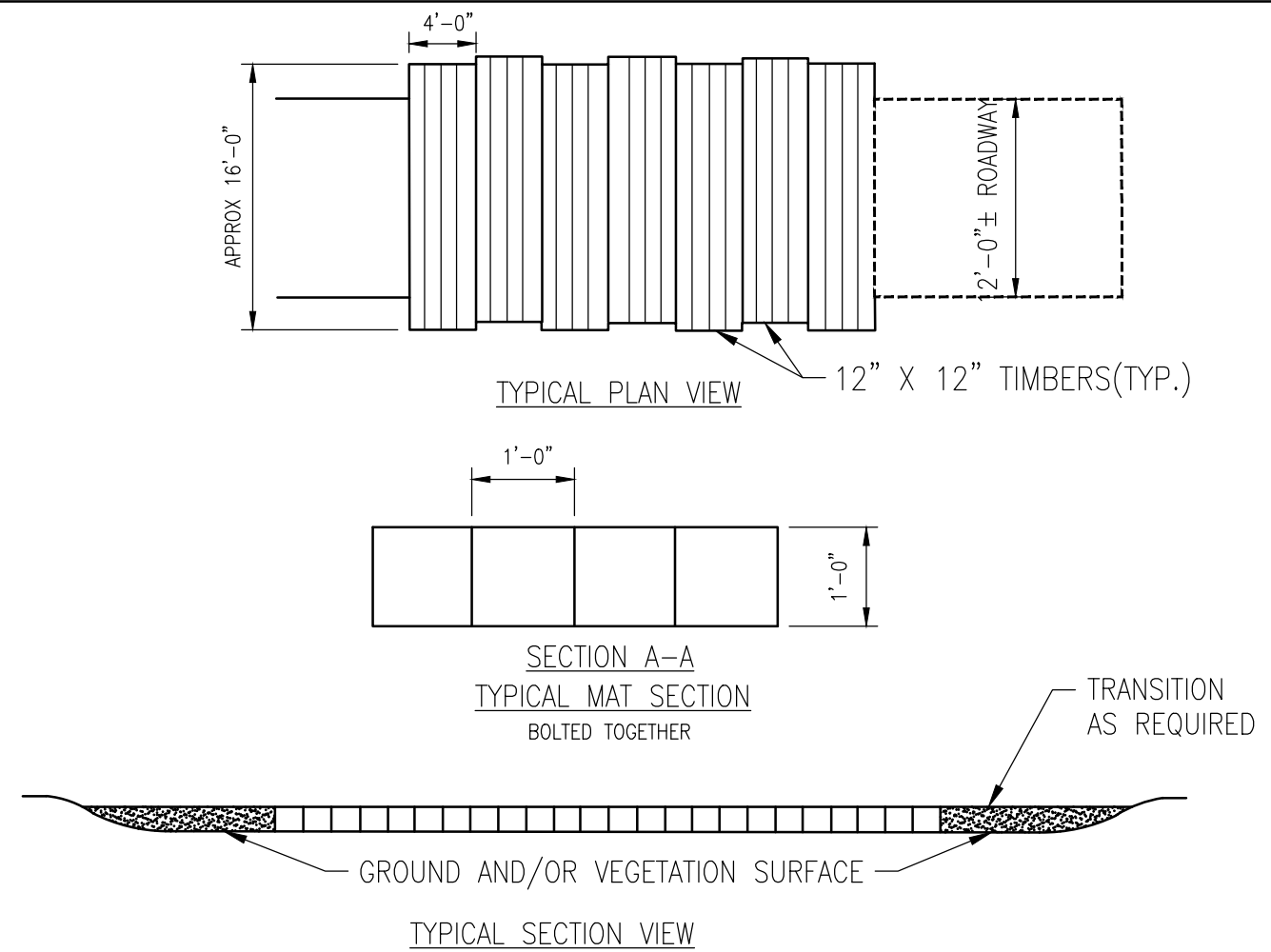
## C-6.1



1. GENERAL
  - A. WETLAND CREATION OF 800 SF TO OCCUR BY REGRAVING OF UPLANDS CREATING EXTENSION OF FORESTED WETLAND FLOODPLAIN.
  - B. NO TREES SHALL BE DISTURBED IN THE WETLAND CREATION. LOCATION OF CREATED WETLAND MAY BE ADJUSTED TO ACCOMMODATE AVOIDING DISTURBANCE OF EXISTING LARGE MATURE VEGETATION.
  - C. WETLAND PLANTINGS AND SOIL TO BE TRANSPLANTED FROM DISTURBED AREAS TO BE RESTORED ALONG CART PATH EQUIVALENT TO 800 SF. THIS INCLUDES SHRUBS AND OTHER OBLIGATE AND FACULTATIVE WETLAND SPECIES.
  - D. WETLAND PLANT TRANSPLANTATION AND EXCAVATION TO BE COORDINATED WITH SITE CONTRACTOR AND LANDSCAPER KNOWLEDGEABLE OF WETLAND PLANTINGS.
  - E. EXISTING WETLAND ELEVATION TO BE VERIFIED BY SUPERVISING ENGINEER.
  - F. DEPTH OF WETLAND EXCAVATION TO BE APPROXIMATELY 24" AT EXISTING WETLAND LIMIT TAPERING TO 12" AT PROPOSED WETLAND LIMIT WITH 12" SOIL FILL.
  - G. DEPTH OF FINISH GRADE OF WETLAND CREATION TO BE APPROXIMATELY 12" AT EXISTING WETLAND LIMIT TAPERING TO 0" AT PROPOSED WETLAND LIMIT.
  - H. EXCAVATION DEPTH MAY BE ADJUSTED IF EXISTING SOILS UPON INSPECTION ARE FOUND TO BE REUSABLE AS HYDRIC SOILS, IN WHICH CASE FINISH GRADE SHALL BE AS NOTED ABOVE AND IN DETAIL. THIS DETERMINATION SHALL BE MADE BY THE SUPERVISING ENGINEER OR A QUALIFIED WETLAND SCIENTIST.
2. RESTORATION SEQUENCE
  - A. WETLAND CREATION BOUNDARIES WILL BE CLEARLY MARKED PRIOR TO THE START OF RESTORATION WORK AND CONFIRMED BY THE SUPERVISING ENGINEER.
  - B. INSTALL SILT FENCE AND STRAW WATTLE AT LIMIT OF DISTURBANCE AS PER SHEET C-3.0.
  - C. ANY EQUIPMENT USED IN THE RESTORATION AREA SHOULD NOT ENTER THE UNDISTURBED WETLAND AREA.
  - D. UNDER THE DIRECTION OF THE SUPERVISING ENGINEER OR A QUALIFIED WETLAND SCIENTIST, REMOVE EXISTING MATERIALS DOWN TO 24" BELOW THE EXISTING GRADE AT THE EXISTING WETLAND LIMIT IN THE PROPOSED WETLAND CREATION AREA TAPERING TO 12" AT PROPOSED WETLAND LIMIT.
  - E. EXCAVATED MATERIALS SHOULD BE PLACED WITHIN THE UPLAND AREAS AS FILL MATERIAL OR HAULED OFF SITE.
  - F. WETLAND PLANTS AND SOILS SHALL BE TRANSPLANTED FROM THE CART PATH RESTORATION AREAS AND INSTALLED IN CREATION AREA WITH SOILS PLACED TO DEPTH OF 12".
  - G. AS NOTED ABOVE, IF EXISTING SOILS IN WETLAND CREATION AREA CAN SATISFY THE NEEDS FOR HYDRIC WETLAND SOILS THEY MAY BE REUSED AND THE DEPTH OF EXCAVATION ADJUSTED ACCORDINGLY.
  - H. REMOVE THE EROSION CONTROL CONTROL ONCE THE CREATION HAS BEEN PROPERLY STABILIZED.
3. CONSTRUCTION DEWATERING
  - A. GROUNDWATER IS ANTICIPATED TO BE AS HIGH AS IT IS ADJACENT TO A WETLAND. IN ADDITION, WATER MAY COLLECT IN EXCAVATIONS OR BE HIGHER FOLLOWING PRECIPITATION EVENTS. THUS, CONSTRUCTION DEWATERING MAY BE REQUIRED TO HELP CONTROL GROUNDWATER AND TO CONDUCT WORK "IN THE DRY".
  - B. BASED ON OUR REVIEW EXISTING SOIL CONDITIONS, CONSTRUCTION DEWATERING MAY BE ACHIEVED WITH LOCALIZED SUMP PUMPS AND DISCHARGED TO NEARBY EXCAVATED PITS LOCATED WELL OUTSIDE OF THE PROPOSED RESTORATION AREA IN ACCORDANCE WITH LOCAL CONSERVATION COMMISSION OR STATE REQUIREMENTS. ADDITIONAL PRECAUTIONS SHOULD BE TAKEN TO PREVENT RUNOFF INTO THE WETLAND AREAS.
  - C. IN ADDITION, IT IS RECOMMENDED THE TEMPORARY CONTROL MEASURES BE IMPLEMENTED TO REDUCE THE AMOUNT OF SURFACE WATER (FROM RAINFALL RUNOFF) FROM POTENTIALLY ENTERING AND PONDING IN THE EXCAVATIONS.



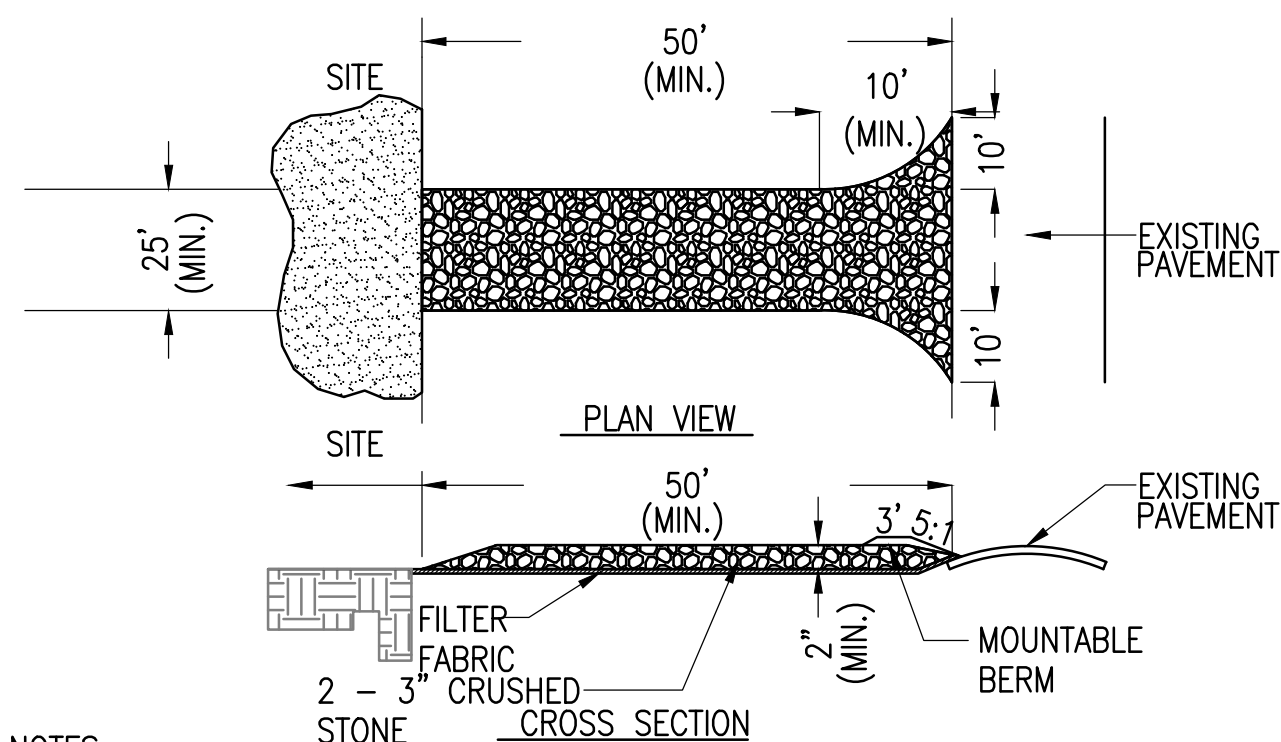
7) \_\_\_\_\_ SCALE: NTS



NOTE:

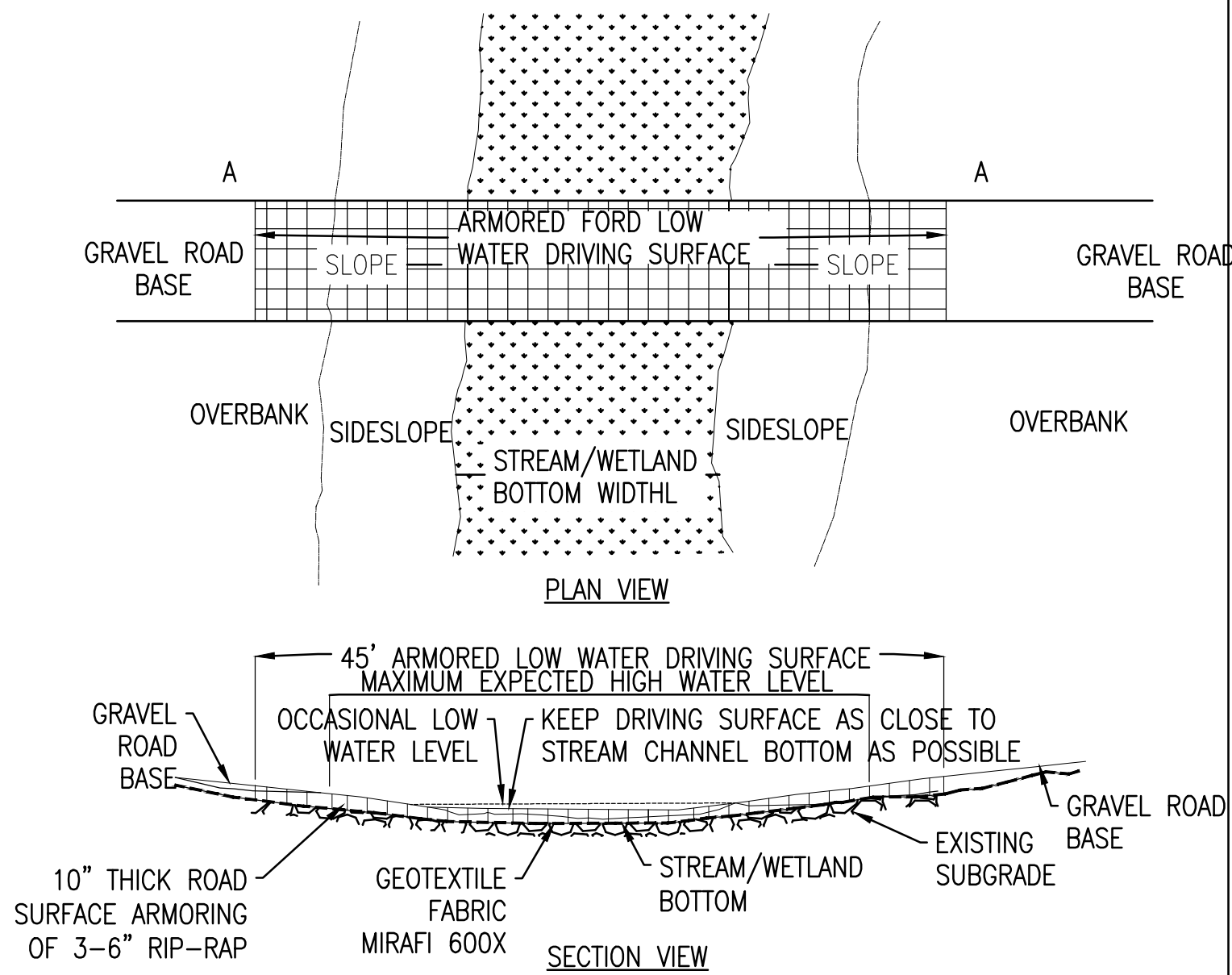
1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS UTILITIES.
2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTORS TIMBER MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF TIMBER MATS MAY BE INSTALLED.
4. MATS SHOULD BE PLACED SO THAT THEY ARE NOT OVERTOPPED WITH WATER AND EQUIPMENT CAN WORK IN THE DRY.
5. MATS SHALL BE REMOVED FROM WETLAND AREAS ONCE THE CROSSING OR MAINTENANCE ACTIVITY IS COMPLETED.

8) \_\_\_\_\_ SCALE: \_\_\_\_\_ NTS \_\_\_\_\_



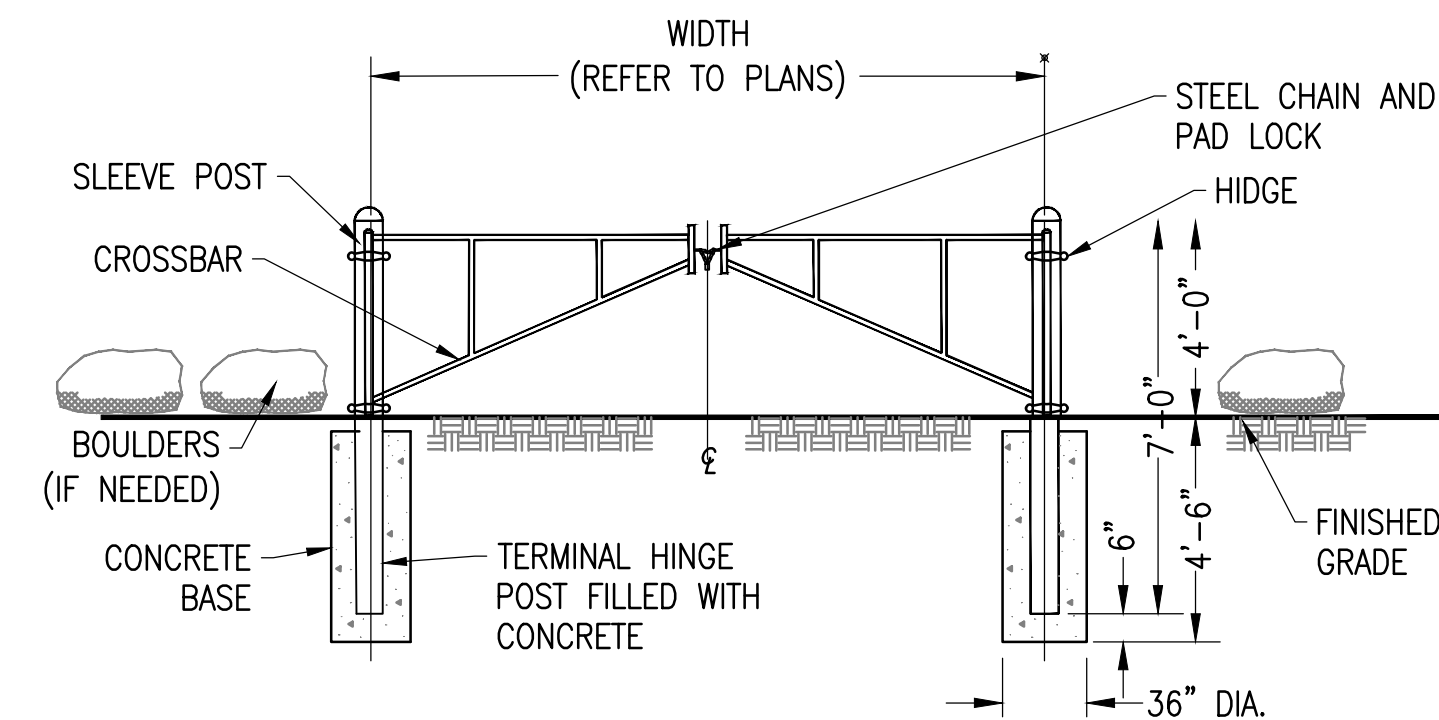
1. ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.

9 O&M ACCESS POINT SCALE:



4) LOW WATER CROSSING DETAIL

SCALE: NTS



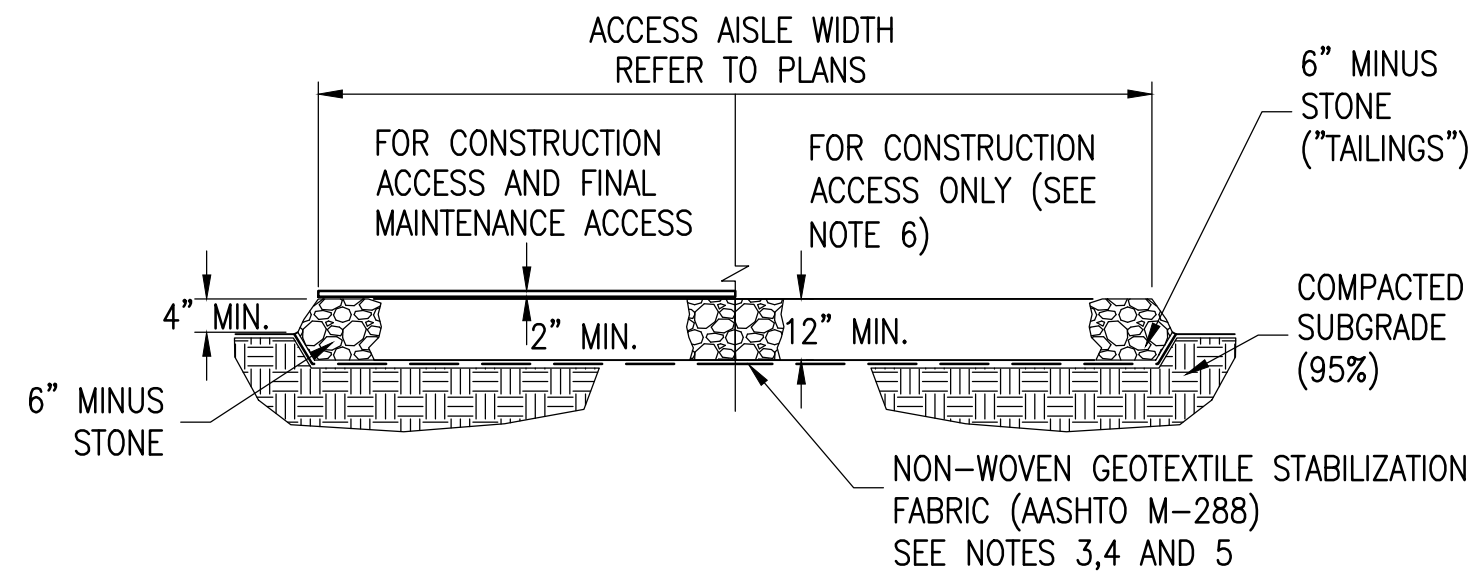
NOTE:  
CONTRACTOR SHALL ENSURE NO VEHICULAR ACCESS (INCLUDING  
MOTORCYCLES, ATV'S, ETC.) AROUND BARRIER GATE.

5 SCALE: NTS  
XD\_CIVIL\_ACCESS\_BARRIER\_GATE 10-24-2018

A technical drawing of a rectangular floatation device. The drawing includes the following labels and dimensions:
 

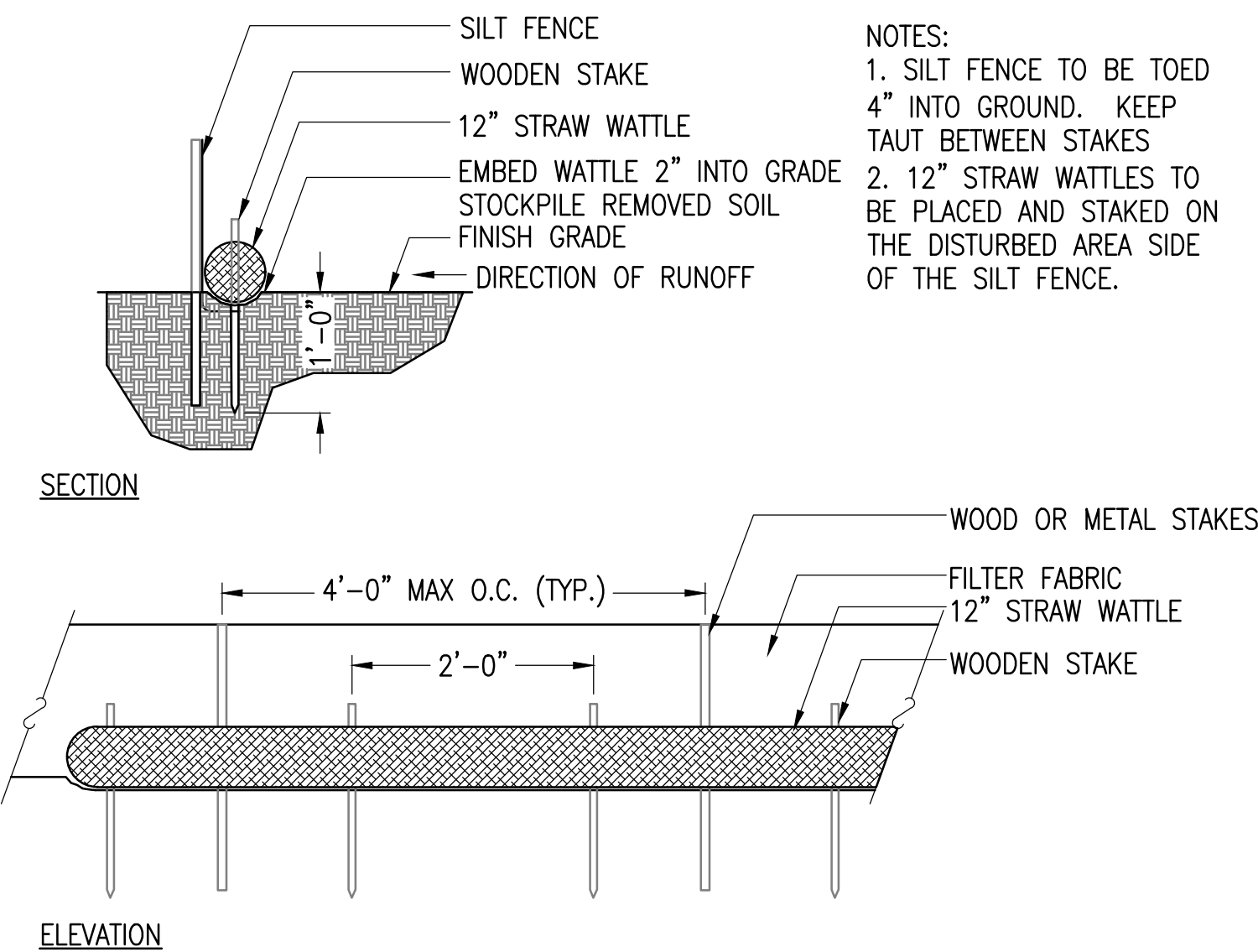
- 180Z PVC COATED POLYESTER BASE FABRIC (YELLOW OR ORANGE)**: Points to the top layer of the device.
- 6 DIA., CLOSED CELL FOAM FLOATATION**: Points to the top edge of the device.
- EAT SEALED SEAM**: Points to the left edge of the device.
- WEBBING REINFORCED BRASS GROMMETS**: Points to the bottom edge of the device.
- 12.00" TYP.**: Dimension for the height of the device.
- DEPTH AS REQUIRED**: Dimension for the depth of the device.
- 1/4" DIA., GALVANIZED STEEL BALLAST CHAIN WITH SCREW PIN ANCHOR SHACKLE FOR JOINING**: Points to the bottom edge of the device.

6 \_\_\_\_\_ SCALE: \_\_\_\_\_ NTS \_\_\_\_\_



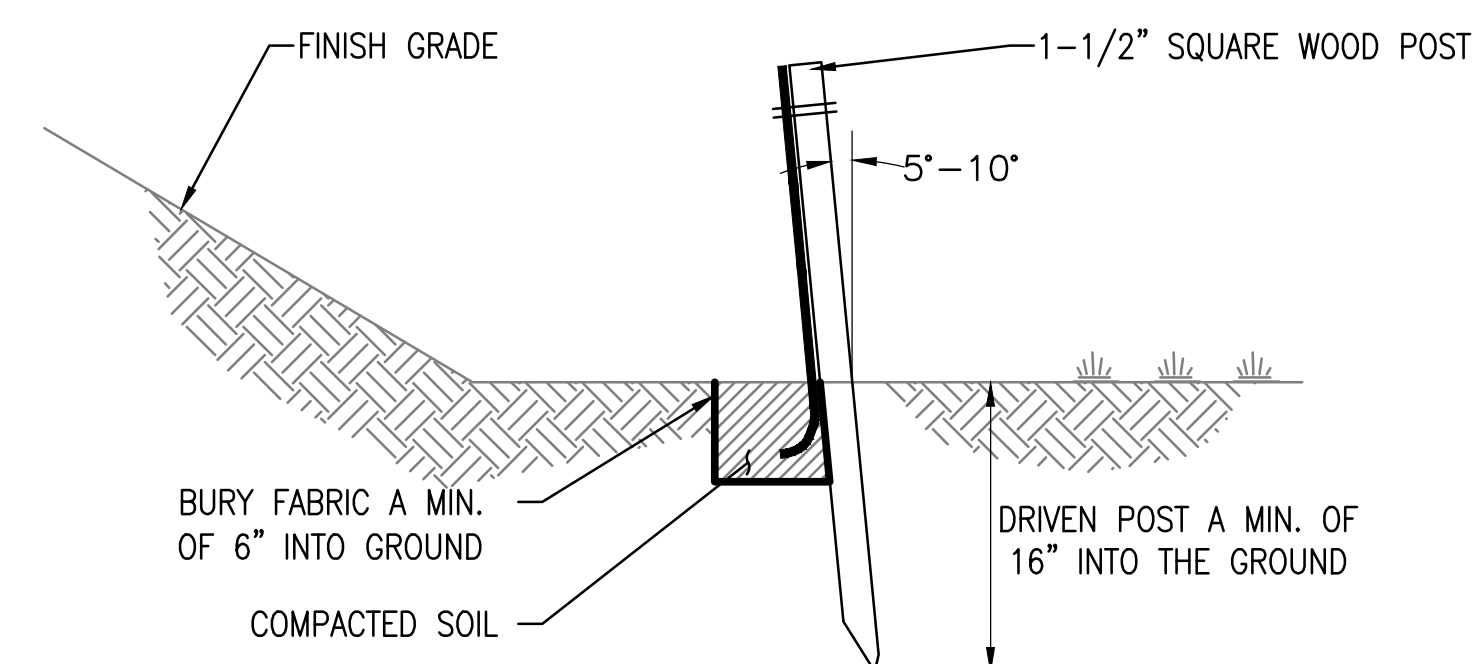
1. SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
2. SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD.
3. GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:
  - TENSILE STRENGTH: 150 LB MIN.
  - ELONGATION: 50%
  - CBR PUNCTURE: 400 LB MIN.
  - MINIMUM WATER FLOW RATE: 120 GPM / FT<sup>2</sup>
4. SUBCONTRACTOR SHALL FOLLOW GEOTEXTILE FABRIC MANUFACTURER INSTALLATION PROCEDURES
5. WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
6. SUBCONTRACTOR SHALL REMOVE CONSTRUCTION ACCESS ONLY AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE COER AND THE GOVERNING AGENCIES.

1 GRAVEL ACCESS ROAD CROSS SECTION SCALE: NTS



2

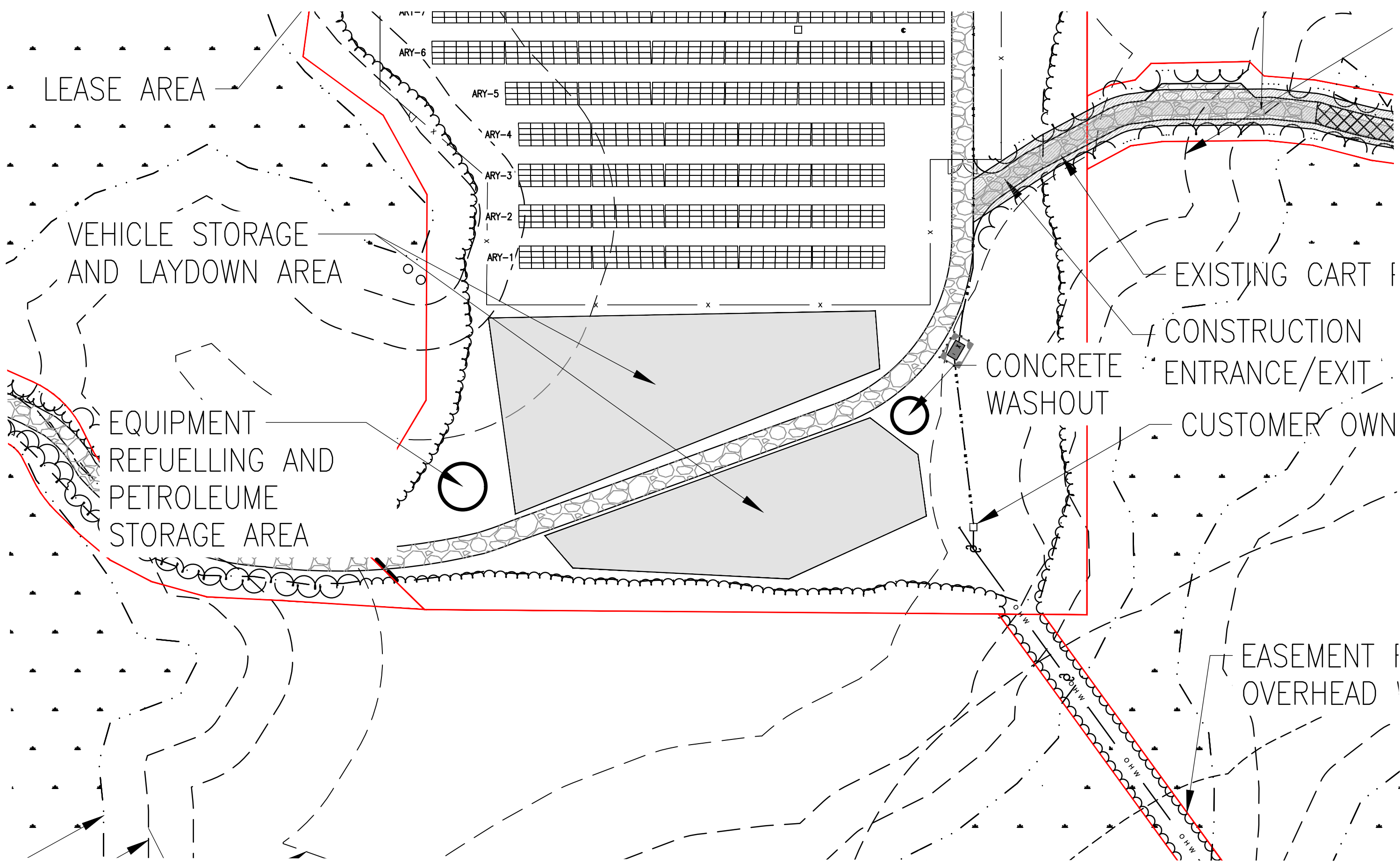
SCALE: N.T.S.  
XD\_CIVIL\_EROSION\_STRAW\_WATTLE\_SILT\_FENCE.DWG 2014-6-2



1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES. POST SHALL BE STEEL EITHER "T" OR "U" SHAPED OR HARDWOOD.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION. FENCE SHALL BE WOVEN WIRE, 12 ½ GAUGE 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABLENKA T140N, OR APPROVED EQUAL.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE.

3 SCALE: NTS  
XD\_CIVIL\_SEDIMENT\_FENCE.DWG 2014-6-1





### CONSTRUCTION EQUIPMENT AND STORAGE

- OTHER EQUIPMENT MAY BE USED AS NEEDED. THIS LIST INCLUDES THE CURRENT ANTICIPATED EQUIPMENT MOST LIKELY TO BE USED.
  - JOHN DEERE 210 EXCAVATOR
  - JOHN DEERE 544 LOADER
  - JOHN DEERE 700 OR 450 DOZER
  - JOHN DEERE OR ANOTHER BRAND SKID STEER
  - JOHN DEERE 350 ROCK TRUCK
  - SINGLE DRUM ROLLER
  - DEMAG AC 500T CRANE
  - 40 TON CRANE/BOOM TRUCK
- EQUIPMENT WILL BE STORED IN DESIGNATED VEHICLE STORAGE AREAS.
- SEE SECTION 2 OF SPILL PREVENT PLAN FOR REFUELING REQUIREMENTS.

### SPILL PREVENTION PLAN

POLLUTION PREVENTION IS DETAILED IN SECTION 5 OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) DATED 12/11/2019. A SPILL PREVENTION PLAN WILL BE PREPARED BY THE SUBCONTRACTOR AND SUBMITTED PRIOR TO BEGINNING CONSTRUCTION.

- SPILL PREVENTION AND RESPONSE  
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF. THE CONTRACTOR'S SUPERINTENDENT SHALL BE RESPONSIBLE FOR ENSURING THAT THE PROJECT IS IN STRICT COMPLIANCE WITH THESE PROCEDURES AT ALL TIMES.

- FERTILIZER AND PESTICIDES ARE PROHIBITED:  
FERTILIZER AND PESTICIDE USE WITHIN THE SOLAR ARRAY AND WITHIN THE BORDERS OF THE RIGHTS OF WAY IS PROHIBITED. LONG-TERM LANDSCAPING AND MAINTENANCE ACTIVITIES WILL PROHIBIT THE USE OF FERTILIZERS AND PESTICIDES, HOWEVER IN THE EVENT THAT THESE ITEMS ARE DEEMED NECESSARY, A PROFESSIONAL LANDSCAPER WILL BE CONSULTED AND RECOMMENDATIONS PRESENTED TO THE TOWN CONSERVATION COMMISSION FOR APPROVAL.

- WINTER ROAD MAINTENANCE AND CHLORIDE PROHIBITION  
WINTER ROAD MAINTENANCE WILL BE LIMITED SOLELY TO PLOWING ROADWAYS TO PROVIDE ACCESS TO MAINTENANCE PERSONNEL AND FIRE DEPARTMENT AS NEEDED. SNOW STOCKPILING WILL BE LIMITED TO THE LAYDOWN AREAS AND OUTSIDE OF DESIGNATED WETLANDS. CHLORIDE AND DEICING CHEMICAL USAGE WILL BE PROHIBITED WITHIN THE EASEMENTS, ROADWAY, AND SOLAR ARRAY. ROAD USAGE IS MINIMIZED FOR WINTER USE AND DEICING WILL NOT BE CONDUCTED.

- SOURCE CONTROL PROVISIONS  
AS RECOMMENDED BY STANDARD 4 OF MADEP STORMWATER HANDBOOK: STORMWATER MANAGEMENT STANDARDS, VOLUME 1 (2008), O&M PLANS SHOULD INCLUDE PROVISIONS FOR SOURCE CONTROL APPROPRIATE TO THE SCALE OF THE PROJECT IN ORDER TO MINIMIZE THE VOLUME OF STORMWATER COMING INTO CONTACT WITH REGULATED SUBSTANCES. THE PROPOSED NEWBURY SOLAR ARRAY PROJECT IS NOT AN AREA WITH "HIGHER POTENTIAL POLLUTANT LOADS," AS OUTLINED IN STANDARD 4 OF MADEP STORMWATER HANDBOOK: STORMWATER MANAGEMENT STANDARDS AND THEREFORE DOES NOT NECESSITATE A SEPARATE SOURCE CONTROL PLAN. INSTEAD, SECTION 2.12 OF THE O&M PLAN SERVES TO OUTLINE SOURCE CONTROL ACTIVITIES TO ADDRESS THE MANAGEMENT OF INDUSTRIAL MATERIALS, MAINTENANCE PRODUCTS, AND ICE MANAGEMENT AT THE SITE. ANY INDUSTRIAL MATERIALS THAT WOULD BE REGULATED SUBSTANCES WILL BE STORED OFFSITE OR WITHIN CLOSED AREAS AND NOT EXPOSED TO THE POTENTIAL FOR RUNOFF. THESE MATERIALS MAY INCLUDE BUT ARE NOT LIMITED TO GASOLINE FOR MAINTENANCE EQUIPMENT, AND PAINTS.

- GOOD HOUSEKEEPING  
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL BE FOLLOWED ONSITE DURING CONSTRUCTION:
  - AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB.
  - ALL MATERIALS STORED ONSITE SHALL BE STORED IN A NEAT, ORDERLY MANNER AND, IF POSSIBLE, UNDER A ROOF OR IN A CONTAINMENT AREA. AT A MINIMUM, ALL CONTAINERS SHALL BE STORED WITH THEIR LIDS ON WHEN NOT IN USE. DRIP PANS SHALL BE PROVIDED UNDER ALL DISPENSERS.
  - PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL IN LEGIBLE CONDITION.
  - SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
  - WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
  - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
  - THE CONTRACTOR'S SUPERINTENDENT SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

- MAINTENANCE  
CLEAN UP SPILLS AND DISPOSE OF CLEANUP MATERIALS IMMEDIATELY. INSPECT EQUIPMENT AND STORAGE CONTAINERS REGULARLY TO IDENTIFY LEAKS OR SIGNS OF DETERIORATION.

- FUELING AND MAINTENANCE OF EQUIPMENT OR VEHICLES  
THE FOLLOWING PROCEDURES SHALL BE FOLLOWED TO PROVIDE AN EFFECTIVE MEANS OF ELIMINATING THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM THE AREA WHERE THESE ACTIVITIES WILL TAKE PLACE. THIS INCLUDES DIESEL FUEL, OIL, HYDRAULIC FLUIDS, OTHER PETROLEUM PRODUCTS, AND OTHER CHEMICALS. SPECIFIC POLLUTION PREVENTION PRACTICES

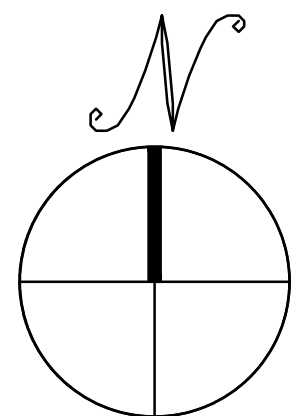
- FUELING AND MAINTENANCE OF EQUIPMENT OR VEHICLES  
PETROLEUM STORAGE MANAGEMENT SHALL BE ACCOMPLISHED BEFORE FUELING OF VEHICLES IS ALLOWED. EQUIPMENT FUELING AND MAINTENANCE DESIGNATE SPECIAL IMPERVIOUS AREAS (I.E. PAVEMENT, CONCRETE, POLYPROPYLENE, ETC.) THAT ARE NOT CONNECTED TO ANY DRAINAGE SYSTEM FOR VEHICLE FUELING AND REPAIR. INSPECT CONSTRUCTION VEHICLES DAILY, AND REPAIR ANY LEAKS IMMEDIATELY. DISPOSE OF ALL USED OIL, ANTIFREEZE, SOLVENTS AND OTHER AUTOMOTIVE-RELATED CHEMICALS ACCORDING TO MANUFACTURER INSTRUCTIONS. THESE WASTES REQUIRE SPECIAL HANDLING AND DISPOSAL. USED OIL, ANTIFREEZE, AND SOME SOLVENTS CAN BE RECYCLED AT DESIGNATED FACILITIES, BUT OTHER CHEMICALS MUST BE DISPOSED OF AT A HAZARDOUS WASTE DISPOSAL SITE. MAINTENANCE REQUIREMENTS THE FUELING AREAS WILL BE INSPECTED EACH DAY BY THE ON-SITE SUPERINTENDENT AND MAINTAINED AS NEEDED. CLEAN UP SPILLS AND DISPOSE OF CLEANUP MATERIALS IMMEDIATELY. INSPECT EQUIPMENT AND STORAGE CONTAINERS REGULARLY TO IDENTIFY LEAKS OR SIGNS OF DETERIORATION.

- WASHING OF EQUIPMENT AND VEHICLES  
NO EQUIPMENT WASHING IS ANTICIPATED.

- STORAGE, HANDLING, AND DISPOSAL OF BUILDING PRODUCTS, MATERIALS, AND WASTES  
THE FOLLOWING PROCEDURES SHALL BE FOLLOWED TO PROVIDE AN EFFECTIVE MEANS OF STORING, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTES. SPECIFIC POLLUTION PREVENTION PRACTICES SOLID AND CONSTRUCTION WASTES

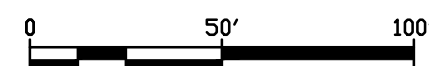
- ALL TRASH, CONSTRUCTION DEBRIS, AND WASTE MATERIALS FROM THE SITE SHALL BE COLLECTED AND STORED IN AN APPROPRIATELY COVERED ROLL-OFF CONTAINER AND/OR SECURELY CONTAINED METAL DUMPSTER PROVIDED BY A LICENSED LOCAL SOLID WASTE MANAGEMENT COMPANY.
- ALL DUMPSTERS AND ROLL-OFF CONTAINERS SHALL COMPLY WITH ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
- ALL DUMPSTERS AND ROLL-OFF CONTAINERS SHALL BE EMPTIED A MINIMUM OF ONCE PER WEEK (OR MORE OFTEN IF NECESSARY) AND HAULED TO A STATE APPROVED LANDFILL.
- NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE.
- ALL DUMPSTERS AND ROLL-OFF CONTAINERS SHALL BE LOCATED AT LEAST 50 FEET FROM ANY STORM INLET, DRAINAGE WAY, SURFACE WATER, OR WETLAND.
- CLEAN UP SPILLS IMMEDIATELY. FOR HAZARDOUS MATERIALS, FOLLOW CLEANUP INSTRUCTIONS ON THE PACKAGE. USE AN ABSORBENT MATERIAL SUCH AS SAWDUST OR KITTY LITTER TO CONTAIN THE SPILL.
- DURING THE DEMOLITION PHASE OF CONSTRUCTION, PROVIDE EXTRA CONTAINERS AND SCHEDULE MORE FREQUENT PICKUPS.
- COLLECT, REMOVE, AND DISPOSAL OF ALL CONSTRUCTION SITE WASTES AT AUTHORIZED DISPOSAL AREAS. CONTACT A LOCAL ENVIRONMENTAL AGENCY TO IDENTIFY THESE DISPOSAL SITES
- ONCE THEIR LOCATION(S) HAVE BEEN DETERMINED, THE CONTRACTOR SHALL IDENTIFY THE LOCATION(S) IN THE SWPPP.
- AREAS WILL BE INSPECTED DAILY BY THE ON-SITE SUPERINTENDENT AND MAINTAINED AS NEEDED. CLEAN UP SPILLS AND DISPOSE OF CLEANUP MATERIALS IMMEDIATELY. INSPECT EQUIPMENT AND STORAGE CONTAINERS REGULARLY TO IDENTIFY LEAKS OR SIGNS OF DETERIORATION.

- WASHING OF APPLICATORS AND CONTAINERS USED FOR CONCRETE OR OTHER MATERIALS  
CONCRETE WASHOUT SHALL OCCUR IN DESIGNATED LOCATIONS. CONCRETE WASHOUT SHALL OCCUR IN AN EXCAVATED HOLE LARGE ENOUGH TO ACCOMMODATE WITH NO DISCHARGE.



## EQUIPMENT STORAGE PLAN

SCALE: 1"=50'



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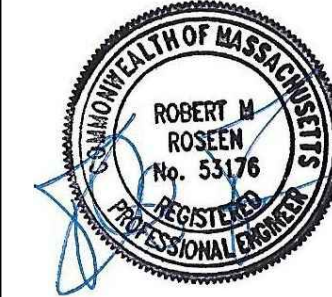
55 TECHNOLOGY DRIVE, SUITE 102  
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9 GREYS WAY  
STRATHAM, MA 01558  
978498-0488

NOT FOR  
CONSTRUCTION

PERMIT DRAWINGS, NOT TO BE  
USED FOR CONSTRUCTIONS



07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE	LEVEL
3	08/25/20	HR	RR	RR	CD-IFC
4	09/17/20	HR	RR	RR	CD-IFC REV 1
5	11/09/21	PS	RR	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

C-7.1

EQUIPMENT STORAGE PLAN



Section V: FIELD CONNECTING PARTIAL LENGTH TRUSSES

If your truss was shipped fully assembled, please skip to SECTION VI: "DETAILED INSTRUCTIONS FOR ERECTING." Trusses are to be assembled using the following guidelines and the bridge plans provided by U.S. Bridge for a particular truss bridge. Each truss is shop- assembled and match-marked prior to shipment, so care must be taken at the jobsite to assemble the trusses exactly as match-marked. **NOTE: BOLTED TRUSS FIELD CONNECTIONS ARE STANDARD.**

1. SITE SELECTION:

Select an area near the bridge site, preferably near the bridge approaches, and place bridge truss component sections on their sides in the positions in which they are to be connected. The area must be of sufficient length and width to allow room for the truss and the necessary equipment for the connecting of the truss component sections. Also, the area must be level and free of any boulders, tree stumps, or any obstruction which could damage the truss or cause the truss to harm any of the workmen while it is being moved.

2. LEVEL TRUSS COMPONENT SECTIONS:

Level each truss component section with wood cribbing or steel beams beneath the shoe gussets and the truss verticals at the top and bottom chords. Cribbing should be level and solid under the truss members so that the members bear evenly on the cribbing. It is important to insure that there is no danger of the cribbing slipping from under the truss or the truss sliding off the cribbing and causing damage or injury. Any cribbing dislodged or tilted during adjustment of the truss sections should be properly repositioned.

3. ASSEMBLE FIRST TRUSS:

Prior to assembly, all gusset plates and truss members must be checked. Any loose dirt, stones, steel shavings, etc., that would prevent bolted parts from being in full contact must also be removed. If gusset plates are bent inward too much so that the truss members cannot be fitted, then the plates may be spread slightly with a hydraulic jack. Care must be taken not to spread the plates too far nor buckle or otherwise damage them. Place the truss component sections in their proper position and align the connection holes using several drift pins of the proper size in each connection. Using the bridge plans provided with the bridge, install a few of the proper sized bolts in each connection and hand tighten only. (It may be necessary to ream some of the holes.)

**WARNING:** The bolted field connection is critical to the structural integrity of the bridge. It is very important that the proper diameter, length, and grade of bolts be installed in each connection as stated on the bridge plans provided by U.S. Bridge. The bolts must also be tightened to the minimum tension for each particular bolt diameter.

4. MEASURE FIRST TRUSS:

Using a string line and a four foot carpenter's level or a transit level, verify that the truss is lying level on its side on the cribbing. The easiest way to level a truss is to make sure that each truss

vertical is level and that each vertical is at the same elevation as the other trusses. Once the sections are leveled, use a tape measure to verify that the center to center distance between truss shoes are the proper dimensions and that the camber stated on the bridge plan is correct. If any adjustments need to be made, loosen the connection bolts and drift pins slightly. Retighten all bolts and drift pins after making any adjustments.

5. INSTALLING BOLTS:

**NOTE:** The following bolt installation directions are to be considered only as an outline of the actual procedure. Refer to the proper A.I.S.C. and AASHTO specifications for structural joints using ASTM A325 bolts and the governing state specifications for complete description of bolt installation procedures.

All bolts in each connection shall be additionally tightened to a minimum bolt tension as stated on the bridge plans. This tension can be accomplished using a properly calibrated torque wrench or the commonly used "Turn-of-the-Nut Method" of tightening (See below). The minimum torque must be determined by using a instrument called a bolt-tension calibrator which measures the actual bolt tension developed by tightening the bolt or nut. This must be done using the same grade and size bolt and the actual torque wrench to be used.

The **Turn-of-the-Nut Method** of tightening is the required rotation of the nut relative to the bolt. For a bolt length up to and including four diameters, a minimum nut rotation of one-third turn from snug tight condition should attain proper bolt tension. For a bolt length of over four diameters, but not exceeding eight diameters, a minimum nut rotation of one and one-half turns is required.

[If Direct Tension Indicators (DTI's) are being used, refer to manufacturer's instructions for proper tightening technique.]

6. SET FIRST TRUSS ASIDE:

After all truss connection bolts have been properly installed and tightened to the specified tension, move the truss to a location near the bridge abutments. The truss must be lying flat on its side in a level position where it will not interfere with the connecting of the other truss and will not be damaged.

7. CONNECT SECOND TRUSS:

Place remaining truss sub-assemblies into the positions where they are to be connected and repeat steps (1) thru (6) above.

After both trusses are fully connected, they are ready to be erected in their final position, and the erector may now proceed with SECTION VI: "DETAILED INSTRUCTIONS FOR TRUSS ERECTION."

SECTION VI: DETAILED INSTRUCTIONS FOR TRUSS ERECTION

**NOTE:** All welding is to be performed by welders certified by guidelines pursuant to procedures set forth in the ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE. The electrodes to be used should be the same as stated on the bridge plans that are provided by U.S. Bridge. Proposed weld procedures for all field welding must be submitted to U.S. Bridge for review prior to field welding operations.

**WARNING:** Each complete truss bridge is designed to carry its rated capacity when all components are properly placed and attached. All work done in the field, such as welding and bolting of the components parts, is critical to the structural integrity of the bridge. Therefore, all work must be performed by competent, knowledgeable, and skilled workers familiar with the latest acceptable construction practices. The most current welding and bolting requirements accepted by AASHTO must be met.

1. POSITION BEARING PLATES: See Appendix A:

All truss bearing devices should be placed and attached to the abutments in their proper locations, prior to the erection of trusses.

Note: The anchor bolts are a very important part of the bridge installation procedure and should be put in place when the abutment concrete is poured, i.e., prior to installing the bridge. As an alternate, the concrete seat can be poured first and then holes can be drilled afterwards. The anchor bolts can then be grouted in place.

2. LIFT FIRST TRUSS: Reference Appendices A, C-K,

**NOTE:** DO NOT ATTEMPT TO LIFT THE FIRST TRUSS ONTO THE ABUTMENTS UNTIL THE FOLLOWING THREE ITEMS HAVE BEEN CONSIDERED:

(A) THE REQUIRED CAPACITY OF THE CRANE must be determined by the contractor after considering the location where the crane will be positioned and the lifting radius required for the final placement of the truss on the bearings. The calculated weight of each assembled truss can be provided by U.S.Bridge. A sample list of average truss weights can be found in Appendix C: "REPRESENTATIVE TRUSS WEIGHTS." Suggested lifting locations can be provided by U.S. Bridge or they can be determined by

consulting the enclosed drawings in Appendices E-K: "Lifting Locations for 4-10 Panel Trusses."

**NOTE:** THE TRUSS MUST BE LIFTED BY THE TOP CHORD INTO AN UPRIGHT POSITION. LIFTING CABLES MUST ALWAYS BE LOCATED NEAR THE GUSSET PLATES SO THAT THE TRUSS MEMBERS WILL NOT BE BENT DURING HANDLING.

(B) The erector must also determine the PROPER SIZE AND LENGTH OF LIFTING CHOKERS needed. U.S. Bridge will take no responsibility in sizing the cranes and lifting devices to be used in the erection of the bridge since site conditions vary. The lifting chokers are always attached to the top chord as close to a gusset plate as possible in the configuration as shown in Appendix D: "CHOKER ATTACHMENT FOR TRUSS MEMBER."

(C) There must be a MEANS OF GUYING THE TRUSS so that it remains in an upright position on the abutments after the crane is released. There must be guy cables of sufficient size and length available to secure the truss from heavy winds and from the possibility of being bumped by other items being moved by the crane.

There must be a MEANS OF ANCHORING THE GUY CABLES to provide support for the truss. Several methods of anchoring such as nearby trees, heavy pieces of construction equipment, piling driven at convenient locations, or heavy blocks of concrete have been used on previous occasions.

3. POSITION FIRST TRUSS: Lift the truss by the top chord to clear any obstructions that can snag the truss and swing the truss into its final position on the abutment bearing plates. The first truss must be positioned accurately on the bearing plates. Care should be taken to insure that although the truss is being held vertical by the crane, all of its weight must be resting on the bearing plates before the trusses are attached to the bearings.

4. ATTACH FIRST TRUSS TO BEARING PLATES:

Attach the truss shoes to the top bearing plates as shown on the bridge plans.

5. STABILIZING FIRST TRUSS:

**NOTE: This is a very important step in the erection of the bridge.**Temporarily stabilize the truss with steel guy cables to allow the crane to safely unhook from the standing truss. The truss must be safely secured to insure against wind forces and careless bumping by other items being handled by the crane. Care should be taken that the guy cables will not interfere with placement of the remaining truss.

6. LIFT SECOND TRUSS:

Lift the second truss using the same lifting locations as the first. The same lifting cables can be used if they were not damaged during the placement of the first truss. If the chokers were badly kinked or the strands of the cables were broken, they should be discarded and new cables should be used to lift the second truss.

7. POSITION SECOND TRUSS:

Lift the truss to clear any obstructions and swing it into place on the abutment bearing plates. For ease in installing the floor beams, note on the design drawings how the floor beams are to be bolted to the trusses. If the floor beams are to be bolted between the trusses to the inside faces of the truss verticals, temporarily locate the truss so that it is one inch outside of its planned location. If the floor beams are to hang from steel plates that are bolted to the outside of the trusses, temporarily locate the truss one inch inside of its planned location.

8. STABILIZE SECOND TRUSS:

Temporarily stabilize the truss with steel guy cables but do not attach the second truss to the abutment bearing plates.

Note: Stabilizing the second truss is more critical than the first truss if a second crane is not available to help hold the truss upright. The truss shoes of the second truss are not attached to the bearings; therefore, the second truss may be less secure once the crane's cable is released. If a second crane is available to install the floor beams, leave the first crane attached to the truss to help stabilize it. The full weight of the truss must be on both bearing plates, and the truss must remain vertical.

9. LIFT FIRST FLOOR BEAM:

NOTE: Consult the bridge plans provided by U.S. Bridge for the method of attaching stringer to the floorbeams. If the plans indicate that the tops of the stringers are recessed to be flush with the top of the floorbeam flange it is suggested that the stringer bottom flange clips and either right or left side web clips be loosely bolted to the floorbeam. This will aid in the later installation of the stringers.

The floor beam should be lifted so that the web is vertical and the top flange is horizontal. A strong rope should be attached to one end to allow a competent individual, skilled in steel erection, to help guide the floor beam in place. The installation of the first floor beam in the bridge is very critical since the trusses can be easily bumped while installing the floor beam and toppled over.

10. PLACE FIRST FLOOR BEAM:

**NOTE:** With all phases of installation including placing floor beams, positioning stringer end bearing steel beams, connecting stringer beams, and laying out deck, it is suggested that work is to start at the fixed end and proceed towards the expansion end. **The rest of the erection process will assume this building strategy.** However, the customer can reverse the process.

Lift the floor beam slightly to clear the abutment and turn the beam so that it hangs parallel with the trusses and roadway centerline. Swing floor beam forward and lower it below the bottom chords of the trusses. Turn the floor beam so that it hangs perpendicular to trusses and directly below the panel points. Gently raise the floor beam into position. Care must be taken that the floor beam hanger plates do not snag the truss gusset plates on the bottom chord. If the trusses are too far apart or too close together for the floor beams to fit properly, the unattached truss shoe nearest the floor beam can be moved slightly sideways with a small hydraulic jack, or a bar, in order to make a snug fit.

11. PIN AND BOLT FIRST FLOOR BEAM:

Align bolt holes in truss with bolt holes in the floor beam hanger plate and drive a minimum of three drift pins in each floor beam hanger plate. Install the proper bolts that are indicated on the plans in each remaining connection hole before tightening nuts. Bolts are to be placed so that the nuts bear on the inside of the truss vertical member flanges. Snug tighten all nuts then remove drift pins and insert remaining bolts. After all bolts are in place and snug tightened, release the crane holding the floor beam.

**NOTE:** Final tightening of floor beam bolts is to be completed only after all floor beams and stringers have been installed and all final adjusting of the trusses has been completed. DO NOT TORQUE BOLTS UNTIL STEP 20.

12. INSTALL KNEE BRACKETS: (if needed, Refer to U.S. Bridge drawings)

If the floor beams hang from the outside of the trusses by hanger plates, knee brackets are required to level and brace the trusses at each floor beam. Install the provided knee brackets to the roadway side of both trusses. They are to be bolted to the interior truss gusset plates and top flanges of the floorbeams with the same procedure used to bolt the floor beam hanger plates to the trusses. Snug tighten the bolts for each bolted knee bracket to floor beam connection.

13. INSTALL SECOND FLOOR BEAM:

Using the same crane, install the second floor beam and knee brackets, if required, with the same procedure used to install the first floor beam and its knee brackets, steps (9) thru (12) above.

14. STABILIZE TRUSSES:

Two properly installed floorbeams with necessary knee brackets (if required) are considered sufficient to stabilize most truss spans. Any previously placed steel guy cables that will interfere with the placement of the remainder of the floor beams can now be safely removed. The crane stabilizing the second truss can now be

released from the truss.

15. INSTALL REMAINING FLOOR BEAMS:

The installation of floor beams should begin at the fixed end abutment and proceed toward the expansion end abutment. Occasionally, the trusses may have a slight horizontal sweep caused during shipping or erection. If floor beams are installed in a random a manner, the sweep may cause difficulty in connecting some of the interior floor beams to the truss. If a sweep causes the truss to be too far apart or too close together at the floor beam location, the normal solution is to move the truss shoe at the abutment farthest away slightly sideways on the bearings with a small hydraulic jack or bar. If floor beams are not installed in sequence, this adjustment is not possible.

16. INSTALL STRINGER END BEARING STEEL: (Fixed Abutment)

Install stringer bearing end beam or stringer bearing plates on fixed abutment as shown on bridge plans. Install an end panel stringer to establish the proper location before attaching to the abutment will insure proper placement.

17. INSTALL SECOND STRINGER BEARING STEEL: (Expansion Abutment)

Install the stringer bearing end beam or stringer bearing plates on the expansion end abutment as shown on the bridge plans. Install an end bay stringer to insure the stringer bearing end beam is in its proper location before attaching it to the abutments.

18. ATTACH SECOND TRUSS TO BEARINGS: (Fixed Abutment)

Measure center to center of trusses and verify that the truss shoe is at its proper location on the fixed abutment. Adjust the shoe as necessary to its proper location with a hydraulic jack or steel bar. Consult the bridge plans for all proper dimensions. Then attach the truss shoes to the top bearing plate as shown on the bridge plans.

19. INSTALL LATERAL RODS:

The main function of the lateral rods is to help with the alignment of the trusses if they are not parallel to the centerline of the roadway for the whole length of the bridge. When they are tightened, they should help to eliminate any sweep in the trusses. Install all lateral rods in the brackets located on the floor beams.

The sequence of tightening the lateral rods (in order to adjust the trusses to be parallel to the roadway centerline) must be field determined by the engineer supervising the steel erection. Contact U.S. Bridge if any problems arise during this operation.

20. INSTALL STRINGERS:

Install the stringers for each bay in their proper location. Bolts should be snug tightened only until all stringers are properly placed. Use the plans provided by U.S. Bridge to verify the proper bolt size for each connection location. Begin installation at the fixed abutment and proceed towards the expansion abutment.

21. INSTALL END FINISH: (Bridge Expansion joints)

Install the end finish for both abutments as shown on the bridge plans.

22. FINAL BOLT TIGHTENING:

Recheck to make sure that all bridge components excluding the flooring and railings are installed as shown on the bridge plans. **THE FINAL TIGHTENING OF ALL BOLTS CAN NOW BE PERFORMED. BOLT TIGHTENING SHOULD START AT THE FIXED ABUTMENT AND PROCEED TOWARD THE EXPANSION ABUTMENT.**

SPECIAL NOTE REGARDING BOLT TORQUE :

Minimum bolt torque CANNOT be specified. Proper tightness of structural bolts is usually specified as the minimum tension present in the installed bolt. For proper bolt installation procedures, refer to "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, FIFTEENTH EDITION," 1992, By the American Association of State Highway and Transportation Officials (AASHTO), Division II, Construction Section 11.5.6.4.1-11.5.6.4.5. Also refer to the State Department of Transportation Standard Specifications.

All bolts in each connection shall be additionally tightened to a minimum bolt tension as stated on the bridge plans. This tension can be accomplished using a properly calibrated torque wrench or the commonly used "Turn-of-the-Nut Method" of tightening (See below). The minimum torque must be determined by using a instrument called a bolt-tension calibrator which measures the actual bolt tension developed by tightening the bolt or nut. This must be done using the same grade and size bolt and the actual torque wrench to be used.

The **Turn-of-the-Nut Method** of tightening is the required rotation of the nut relative to the bolt. For a bolt length up to and including four diameters, a minimum nut rotation of one-third turn from snug tight condition should attain proper bolt tension. For a bolt length of over four diameters, but not exceeding eight diameters, a minimum nut rotation of one and one-half turns is required.

23. ATTACH SECOND TRUSS TO BEARINGS: (Expansion Abutment)

Measure center to center of trusses and verify that the truss shoe is at its proper location on the expansion abutment. Adjust the shoe as necessary to its proper location with a hydraulic jack or steel bar. Consult the bridge plans for all proper dimensions. Then attach the truss shoes to the top bearing plate as shown on the bridge plans.

28. COMPLETE THE INSTALLATION OF REMAINING BRIDGE COMPONENTS.

Refer to the contract plans for the remainder of the bridge components such as flooring and railings. Complete the bridge as shown on the plans.

SECTION VII: INSTALLATION OF CORRUGATED METAL DECKING

A. INTRODUCTION

Corrugated metal decking is generally supplied in either 3"x9" or 2"x6" corrugations. The 3"x9" has a laying, or cover, width of 18", and the 2"x6" has a cover width of 24." All decking is fabricated to be placed perpendicular to the roadway centerline and to cover the entire width of the proposed bridge deck. Each piece of decking also has a shop-punched hole in the valley of each corrugation which is to be centered on the centerline of each stringer flange.

**NOTE:** There is also a series of shop-punched holes on each piece of decking used as weep holes. Do not confuse these with the stringer centerline holes.All of the wide flange beams (stringers) must be parallel with the centerline and have the same uniform spacing that is stated on the bridge plans. The maximum span of the corrugated decking varies with the size of the corrugation and gauge of the steel used; therefore, the specified spacing must be maintained.

Welding is the preferred method of attaching the corrugated metal decking to the steel stringers because it is a very rigid and permanent attachment. Not only does welding eliminate the danger of the floor loosening, but it also greatly adds to the lateral stability of the entire bridge.

B. INSTRUCTIONS FOR INSTALLATION

1. PREPARATION.

Before installing the corrugated flooring, double-check the following items:

-The stringers must be in place and attached as shown on the bridge plans. Each stringer must be parallel with the centerline of the roadway and the tops of each stringer must be at the same elevation. Stringers can be shimmed at the bearings if necessary.

-All bridge situations, except non-skewed bridges using a simple steel backwall plate end finish, must

provide full support for the floor at the expansion joints. Refer to the bridge plans for the proposed assembly design. If no assembly is provided a steel angle shape must be installed so that the top of the horizontal leg of the angle is flush with the top of the stringer.

This angle must be field trimmed to fit and welded to each stringer (see Fig.1-3 at the end of this Section).

**NOTE:** For skewed bridge, corrugated metal flooring is usually skew cut after punching weld holes and before shipment to job site. Prior to fabrication shop, drawings are usually provided for approval. These drawings show how a typical sheet of flooring is punched, how the floor is skew cut, and how the skew cut pieces should be installed on the bridge. These drawings are site specific and must be used during the installation of skewed flooring. Although special drawings are provided for the placement of the skewed flooring, the attachment of the flooring to the stringers is the same as follows.

2. LAY OUT THE FLOOR.

Begin laying out flooring at one abutment and work towards the other end. As mentioned above, US Bridge prefers starting at the fixed end. Place all decking on the stringers and position before welding to the stringers. If the bridge is too long to safely install all of the flooring, twenty to thirty foot segments can be installed.

**NOTE:** For skewed bridges, it is sometimes advisable to place, adjust, and weld down the skew cut pieces at each abutment before placing any non-skew cut pieces.

3. LAPPING THE FLOOR.

Each piece of flooring is slightly wider than its cover width since the punched hole of one flange of each piece laps over the punched hole of the leading flange of the preceding piece of flooring (see Fig.4-Typical Flooring Overlap). Place the first piece of flooring on top of the stringers and adjust the flooring to its proper location.

**NOTE:** The center of the sheet must coincide with the centerline of roadway and the pre-punched welding holes should be centered over each stringer.

As each sheet is laid out, the trailing edge of the sheet is placed on top of the leading edge of the previously placed sheet. The holes in the overlap sheet must correspond with the hole in the bottom sheet. The top hole is punched 1 1/8" diameter, all other holes are punched 15/16" diameter. This allows as much as 3/16" adjustment in each piece of flooring for field adjustments.

4. ALIGN THE SHEETS.

As each sheet is placed, insure that the edges of the sheets are in line with the edge of the previous sheet. An easy way to align the edges of the sheets is to attach a string line along one edge of the bridge to use as a guide.

5. WELD THE SHEETS TOGETHER.

Weld the overlap edge of each sheet to the adjoining sheet with a 3/16" by 3" inch long fillet weld between each stringer (See Fig. 5-Plan View of Decking). Also weld the first sheet to the shelf angle or backwall plate at the abutment.

6. WELD THE SHEETS TO THE STRINGERS.

Weld each sheet to every stringer at every centerline punched hole (in the valleys of the corrugations) with a plug weld filling the entire thickness of the sheet material. The recommended welding rod is an E60XX. A 7/32" diameter welding rod is frequently used for best results. Contact U.S. Bridge if any problems arise.

**NOTE:** Before plug welding, determine if the decking is bearing fully on any stringer by looking at the weld holes and seeing if there is any gap between the bottom of the sheet and the top of the stringer. If the sheeting is not bearing on a line of stringers, drive a heavy vehicle on the bridge with one wheel line near the stringer to force the floor down on the stringer. Once the floor is bearing fully on the stringer, plug weld the sheet to the stringer. As each sheet is welded to the stringer drive or move the load onto the next sheet to force it down into contact with the stringer, then weld the sheet to the stringer. After this procedure is repeated for each sheet move the load to another stringer line where the floor is not in contact with the stringer. Always begin the operation at the same end of the bridge and work toward the other end. This procedure is repeated for each line of stringers until every sheet is plug welded to every stringer at every corrugation.

**WARNING:** Using a heavy truck or other movable vehicle is only a suggested method of holding the sheeting down on the stringers. The installer is responsible to insure that there is no danger to the workers, the public, or to the bridge from combustible material--such as tires or gasoline--that may create an explosion or fire while welding operation is being performed.

7. TRIM THE FLOOR.

After all of the flooring sheets for the entire bridge have been installed and plug welded to the stringers, use a stringline along each edge of the deck to determine if any of the sheets need to be field trimmed. Cut off any extreme projections with a cutting torch or a metal cutting saw. Any damage to the galvanized coatings can be repaired by painting with a cold galvanizing compound.

8. ATTACH END PLATES.

Edge plates (a.k.a. End Dams) are usually provided in twelve foot lengths with the sheeting and are field welded to the upper and lower portions of the corrugations (See Fig.6-Flooring End Dams). Splash plates are placed in front of vertical members of trusses and the end plates need to be cut to fit. Each end dam must be field fit so that one inch of the plate extends below the bottom of the decking to act as a drip edge.

9. FIELD TOUCH UP.

After all welding is completed and all slag is cleaned off the welds, any damaged galvanized coatings can be repaired by painting with cold galvanizing compound. Also the entire deck should be cleaned of any chunks of mud and dirt and any other loose material such as welding rod stubs and slag particles.

10. PAVE THE ROADWAY.

Once the deck has been cleaned, spray the entire deck with a liquid asphalt "tack" coat. The first layer of asphalt on the deck should slightly cover the corrugations. Compact the asphalt with a paving roller. For best long term service from the bridge deck, add a water proofing membrane on top of this layer. Then add the second and final layer of asphalt for a driving surface. Crown the roadway for drainage by placing a minimum thickness of two inches of asphalt at the roadway centerline and one inch minimum at the edges. As the roadway width increases the thickness at the centerline of the roadway may be increased to get a desired drainage slope. The amount of asphalt paving is generally shown on the bridge plans and should be consulted before paving begins. Note: Some installers have found that filling the corrugations with concrete prevents additional compaction of the asphalt under traffic. This additional compaction can cause ripples in the finished wearing surface.

**NOTE:** Asphalt for paving the deck and any water proofing membranes are locally supplied and installed. The specifications for the tack coat, asphalt mix, waterproofing membrane, and application of the pavement shall conform to the state standard specifications for asphalt surfacing.

11. ALTERNATE CONCRETE FINISH

Once the deck has been cleaned, it should be inspected to locate any gaps or open weep drains that will allow concrete to leak out during pouring and finishing. The smaller openings can be simply sealed with common "duct" tape or caulking. Rebar is then installed as shown on the project plans. Concrete is placed to the line and grade as shown on the project plans. The minimum cross slope and any built up curbs will be finished as shown on the project plans.

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STRATHAM, NH 03886  
910-990-0810

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07/18/22

NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

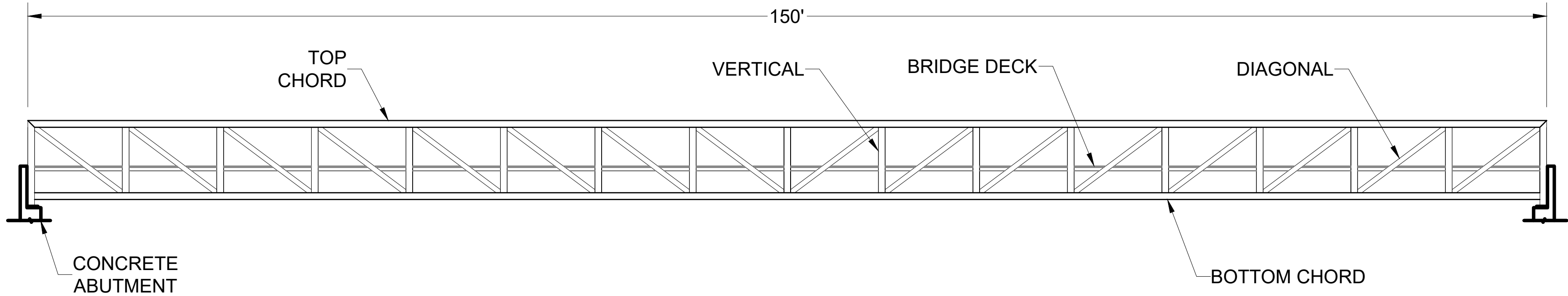
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6	03/24/22	PS	RR	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	RR	NOTICE OF INTENT
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9	08/16/22	PP	RR	RR	NOTICE OF INTENT REV 2

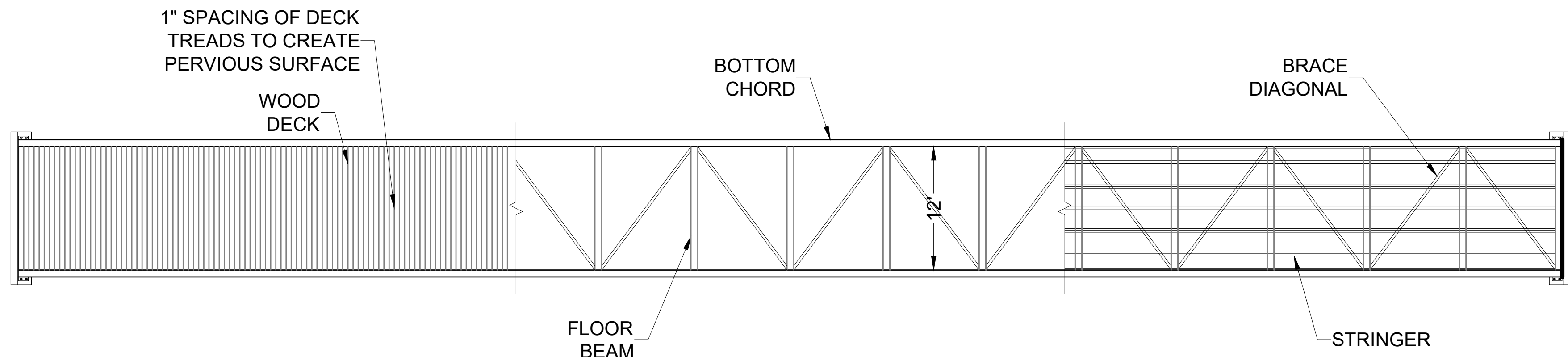
SCALES SHOWN ON DRAWINGS ARE VALID UNLESS PLOTTED AT A DIFFERENT SCALE

C-8.0  
BRIDGE NOTES





BRIDGE ELEVATION

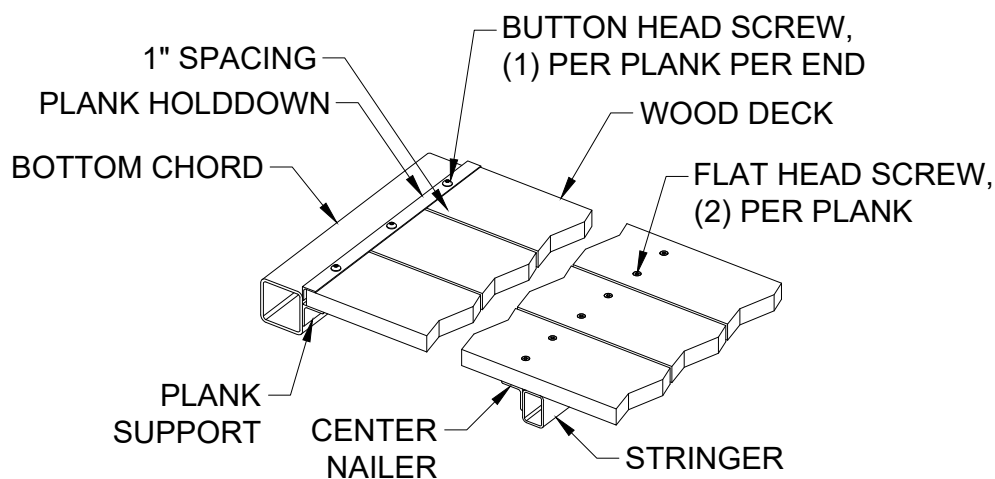


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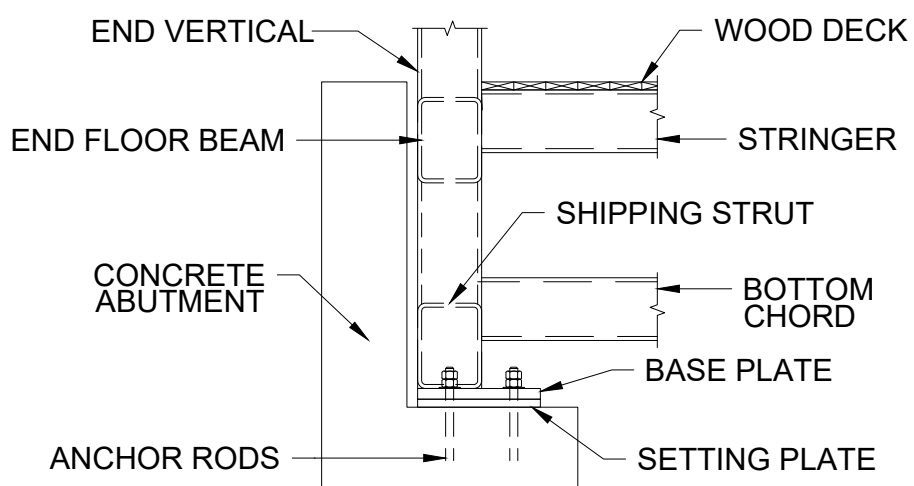
BRACING

FRAMING

BRIDGE PLAN

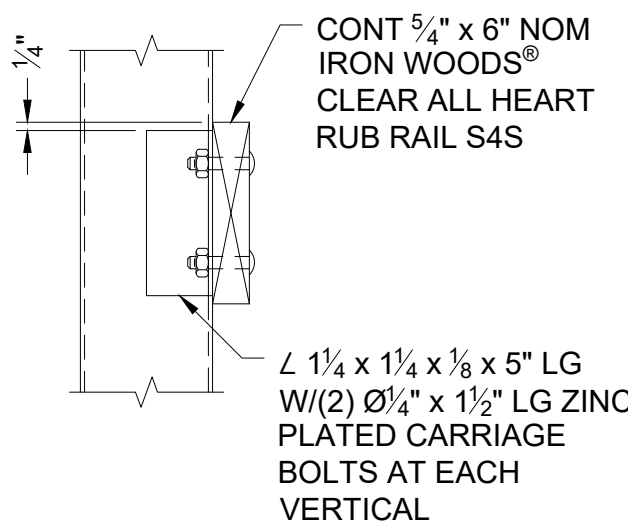


WOOD DECK DETAIL

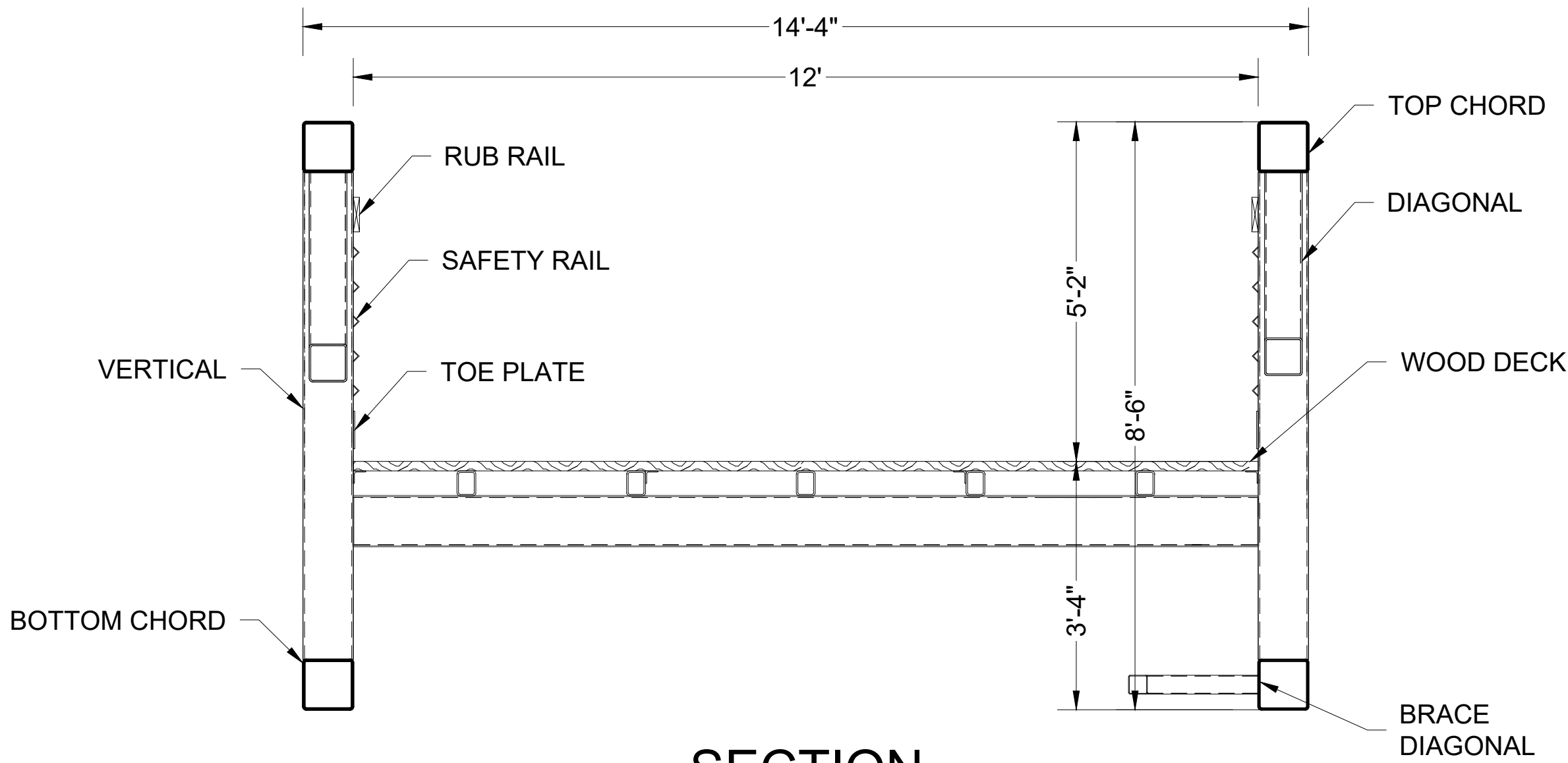


BEARING SIDE VIEW

INFORMATION PROVIDED FOR REPRESENTATION ONLY.  
ACTUAL BEARING DIAGRAMS TO BE BASED ON FINAL DESIGN.



RUB RAIL DETAIL



SECTION

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER

BRIDGE DATA	
OUT TO OUT BRIDGE LENGTH	150'-0"
STRINGER LENGTH	50'-0"
CL TO CL ANCHOR BOLT	
BEARING THICKNESS	

BRIDGE DETAIL

SCALE: = N.T.S.

GENERAL NOTES - FURNISHED BY CONTECH FOR 40'X14' BIG R MODULAR BRIDGE:

NOTE : FINAL DESIGN AND SPECIFICATIONS TO BE PROVIDED WITH CONSTRUCTION DRAWINGS

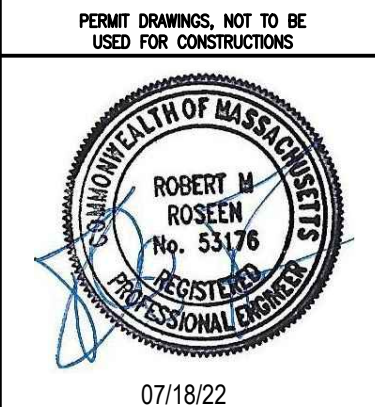
- DESIGN STRESSES ARE IN ACCORDANCE WITH THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, BY AASHTO.
  - MATERIALS: ALL MATERIAL TO BE ASTM A588 WEATHERING STEEL
  - ALL SHOP WELDING SHALL BE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS WILL BE USED.
  - ALL BOLTS, NUTS, AND WASHERS SHALL BE FURNISHED IN THE AMOUNT OF 2% IN EXCESS OF THE NUMBER 5. REQUIRED FOR EACH SIZE AND LENGTH,
  - DESIGN LOADINGS:
    - BRIDGE DEAD LOAD PLUS 80 PSF TOTAL WEARING SURFACE.
    - VEHICLE LIVE LOAD U80 (OR CUSTOMER SPECIFIED)
    - WIND LOAD OF 50 PSF AGAINST HEIGHT OF STRINGER PLUS SIDE DAM.
    - GUARDRAIL DESIGNED FOR 1/2 AASHTO LOADING (OR CUSTOMER SPECIFIED)
  - FINISH:
    - ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE WIPE CLEANED IN ACCORDANCE WITH SSPC -SP1, EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE OUTSIDE OF THE STRUCTURE
  - INSTALLATION:
    - EACH SECTION TO BE LIFTED FROM THE FOUR LIFTING LUGS.
    - ATTACH RIGGING TO LIFTING LUGS WITH ADEQUATELY SIZED RIGGING HARDWARE. RIGGING MATERIALS AND METHODS ARE THE RESPONSIBILITY OFF THE INSTALLER.
    - CAPACITY OF THE LIFTING LUG IS 24,000 POUNDS AT A 45 --DEGREE LIFT ANGLE
    - ALL STRUCTURAL BOLTS TO BE INSTALLED PER THE TURN-OF-THE-NUT METHOD
  - ASPHALT SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
    - CLEAN METAL SURFACES OF ALL FOREIGN MATTER.
    - APPLY A TACK COAT OVER DECK SURFACE.
  - FILL AND COMPACT ALL CORRUGATIONS WITH ASPHALT TO THE TOP OF THE DECK, OVERLAY A LEVELING COURSE AND ADDITIONAL COURSES AS NECESSARY TO FINAL SURFACE ELEVATION, AND COMPACT TO REQUIRED DENSITY.
  - MAINTENANCE NOTE: DO NOT APPLY DEICING OR RUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE.
- STANDARD 14' MODULAR BRIDGES:
- STANDARD WEARING SURFACE LOAD OF 80 PSF WILL ACCOMMODATE UP TO 5 1/2- OF GRAVEL BASE OR 4- 1/2- OF ASPHALT SURFACING ABOVE THE STEEL BRIDGE DECK CORRUGATIONS.
  - STANDARD DESIGN LIVE LOADING IS U80 TRUCK WITHOUT IMPACT AND L/B00 DEFLECTION FOR HS20-44 LOADING WITHOUT IMPACT. IF DTHER LOADING 15 REQUIRED, IT MAY REQUIRE A CUSTOM DESIGN.
  - STANDARD DETAILS ARE ONLY APPLICABLE FOR 14' WIDE AND 30' LONG BRIDGES.
  - BRIDGES OUTSIDE THESE DIMENSIONS WILL REQUIRE CUSTOM DESIGNS.
  - GUARDRAIL OPTIONS:
    - 12 GA W-BEAM, GOOD FOR ½ AASHTO LOADING.
    - 10 GA THRIE-BEAM, GOOD FOR FULL AASHTO LOADING.



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NOTICE OF INTENT  
140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
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4	09/17/20	HR	RR	CD-IFC REV 1
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
6	03/24/22	PS	RR	RECORD DRAWINGS
7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

C-8.1  
BRIDGE DETAIL



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CONSTRUCTION

PERMIT DRAWINGS, NOT TO BE  
USED FOR CONSTRUCTIONS



07/18/22

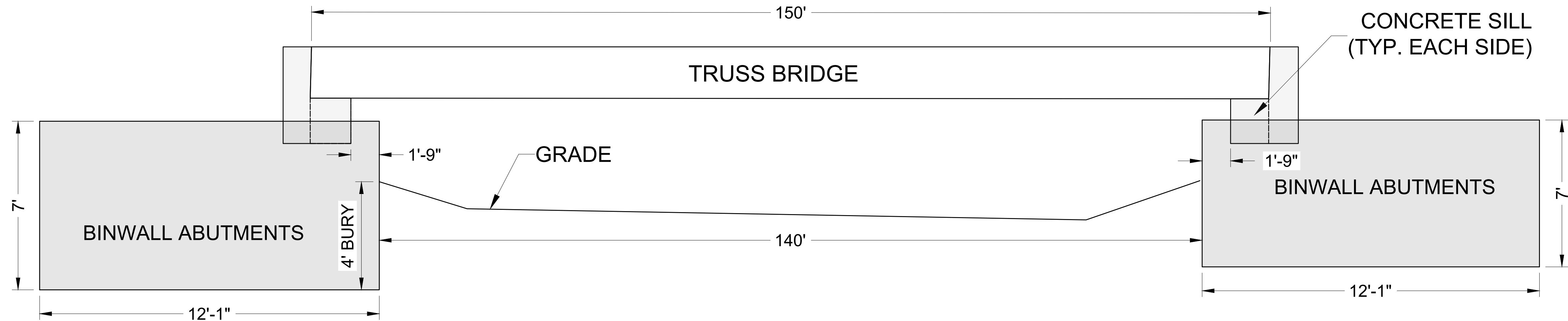
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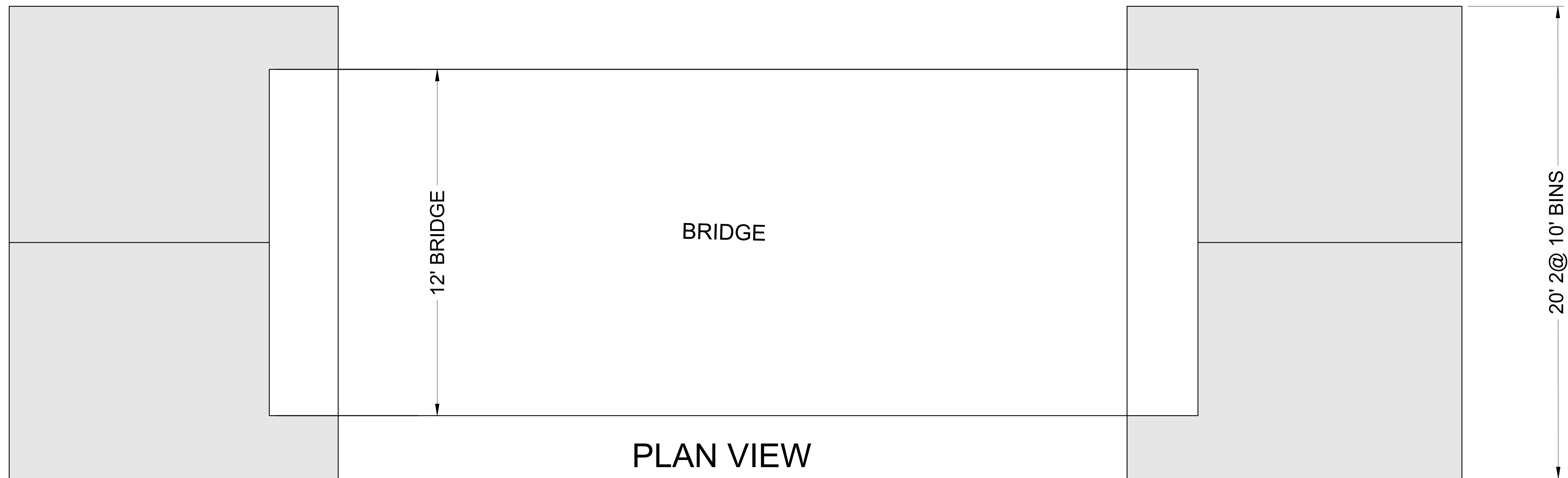
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9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

SCALES STATED ON DRAWINGS  
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**C-8.2**  
BRIDGE DETAIL



PROFILE VIEW



PLAN VIEW

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER

## BRIDGE DETAIL

SCALE: = N.T.S.



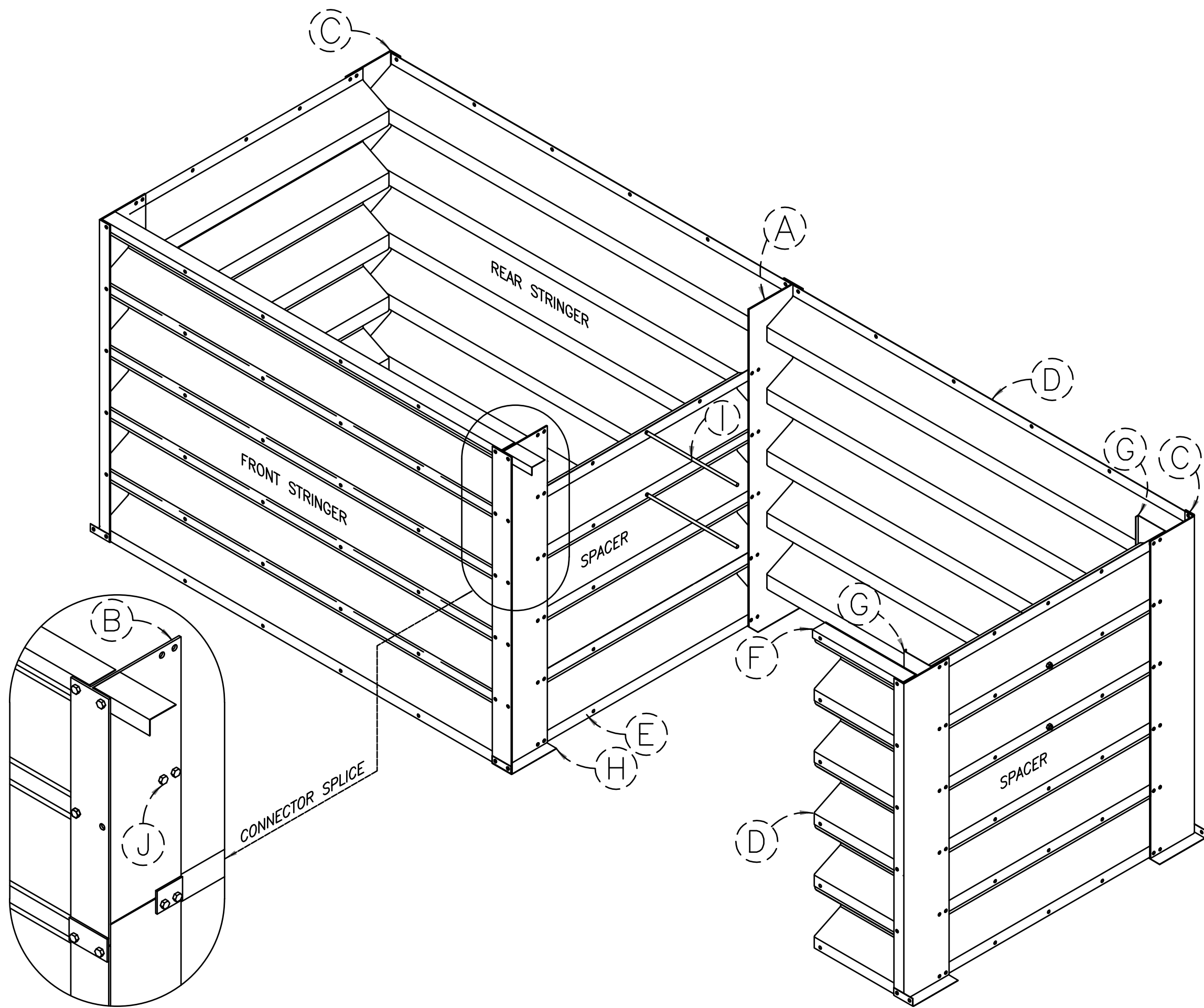
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7	06/08/22	PS	RR	NOTICE OF INTENT REV 1
8	07/19/22	PP	RR	NOTICE OF INTENT REV 2
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2

DESIGN NOTES:

- DESIGN IS BASED ON THE ASSUMPTION THAT THE BACKFILL WITHIN THE REINFORCED SOIL MASS, THE METHODS OF CONSTRUCTION, AND THE QUALITY OF MATERIALS CONFORM TO THE REQUIREMENTS STATED HEREIN.
- THE DESIGN REQUIRES A NON-SATURATED BACKFILL. SURFACE AND SUBSURFACE DRAINAGE CONTROL MAY BE REQUIRED TO PREVENT SATURATION OF BACKFILL OR RELIEVE HYDROSTATIC PRESSURES. DRAINAGE CONTROL SHALL BE AS SPECIFIED IN THE PROJECT PLANS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER'S ENGINEER.
- ASSUMED MINIMUM SOIL CHARACTERISTICS:
  - BIN BACKFILL: EVENLY GRADED, FREE DRAINING, GRANULAR MATERIAL COMPACTED TO 95% STANDARD PROCTOR DENSITY. MEASURES MUST BE TAKEN TO PREVENT LOSS OF BIN BACKFILL THROUGH WASHING. IF A CRUSHED STONE MATERIAL IS USED, CARE MUST BE TAKEN TO PREVENT DENTING OF THE BIN.
  - UNIT WEIGHT = 120 pcf
  - INTERNAL FRICTION ANGLE = 34°
  - SITE GENERAL FILL: FREE DRAINING GRANULAR MATERIAL COMPACTED TO 90% PER AASHTO T-180
  - FOUNDATION:
    - FRICTION ANGLE FOR SLIDING = 30°
    - COEFFICIENT OF FRICTION = 0.577
    - ALLOWABLE BEARING CAPACITY =4400 psf (MINIMUM)
- DESIGN LIVE LOAD: HL-93 MODIFIED  
WEARING SURFACE = 80 psf  
BRIDGE SUPERSTRUCTURE, 1 BRIDGE @ 22'W x 59'L
- SAFETY FACTORS:
  - OVERTURNING = 2.0
  - SLIDING = 1.5
- THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. GLOBAL STABILITY, INCLUDING FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.
- ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE BIN WALL, AS DETERMINED BY THE OWNER'S GEOTECHNICAL ENGINEER, SHALL BE EXCAVATED FOR THE FULL LENGTH OF THE BINS AND TO A DEPTH AS DIRECTED BY THE ENGINEER. EXCAVATED UNSUITABLE MATERIAL SHALL BE REPLACED WITH GRANULAR MATERIAL AND COMPACTED AS DIRECTED BY THE OWNER.
- SPECIFICATIONS BY CONTECH ENGINEERED SOLUTIONS ARE AN INTEGRAL PART OF THESE DRAWINGS.
- THE OWNERS GEOTECHNICAL ENGINEER SHALL CONFIRM THAT THE SITE FOUNDATION SOILS MEET OR EXCEED THE REQUIREMENTS REFERENCED IN NOTE #3. THIS INCLUDES BUT IS NOT LIMITED TO BEARING CAPACITY AND FRICTION ANGLE. IF THESE REQUIREMENTS CAN NOT BE MEET WITH THE IN SITU MATERIALS, A SOIL MODIFICATION PROGRAM SHOULD BE UNDERTAKEN AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER.
- IF ACTUAL CHARACTERISTICS, GRADES OR DIMENSIONS OF SOIL MATERIALS DIFFER FROM THOSE LISTED ABOVE OR SHOWN ON THE PLANS, CONTECH SHALL BE NOTIFIED TO EVALUATE THE NEED TO REDESIGN.
- PLACE STEEL SHEET PILING/RIP RAP PROTECTION TO PREVENT LOSS OF BIN BACKFILL DUE TO SCOUR AS DESIGNED/SUPPLIED BY THE OWNER'S HYDROTECHNICAL ENGINEER. EXTENT, SIZE, AND LOCATION OF PROTECTION SHALL BE DETERMINED BY THE OWNER'S HYDROTECHNICAL ENGINEER.

GENERAL NOTES:

- ALL DIMENSIONS ARE IN FEET.
- THE BACKFILL MATERIAL WITHIN AND BEHIND THE BIN, THE METHODS OF CONSTRUCTION, AND THE FOUNDATION SHALL CONFORM TO THE REQUIREMENTS OF CONTECH FOR BIN WALL RETAINING WALLS.
- VERTICAL DIMENSIONS ARE FROM THE CENTER OF THE BOLT HOLES. OVERALL HEIGHT IS EQUAL TO THE BIN HEIGHT PLUS 2.32".
- GRADE PLATES, SUPPLIED BY CONTECH, ARE REQUIRED AT THE BOTTOM OF ALL VERTICAL CONNECTORS.
- BRIDGE BEARING PAD MUST NOT COME INTO CONTACT WITH ANY METAL COMPONENTS. (6" MIN.)
- CONNECTION HARDWARE IN ACCORDANCE WITH ASTM A307 AND GALVANIZED TO ASTM A153/A153M
- TIE RODS REQUIRED WHERE END SPACERS ARE EXPOSED.
- ASSEMBLE IN ACCORDANCE WITH MANUFACTURING DRAWINGS FROM CONTECH.



TYPICAL BIN WALL DETAILS – ISOMETRIC

BIN WALL TYPE 2 COMPONENTS

<b>A</b>	VERTICAL CONNECTOR	Connects stringers and spacers.
<b>B</b>	UPPER VERTICAL CONNECTOR	Connects stringers and spacers above vertical connector splice.
<b>C</b>	SPLIT VERTICAL CONNECTOR	Connects stringers and spacers at end wall corners.
<b>D</b>	STANDARD STRINGER	Forms front and rear walls.
<b>E</b>	SPACER	Forms transverse and end walls.
<b>F</b>	STRINGER STIFFENER	Stiffens top stringers.
<b>G</b>	SPACER CLOSURE	Retains bin fill at end walls.
<b>H</b>	GRADE PLATE	Assists in bin construction layout.
<b>I</b>	TIE ROD	Reinforces spacers at end.
<b>J</b>	5/8" Ø BOLT w/ NUT	Fastens all components.

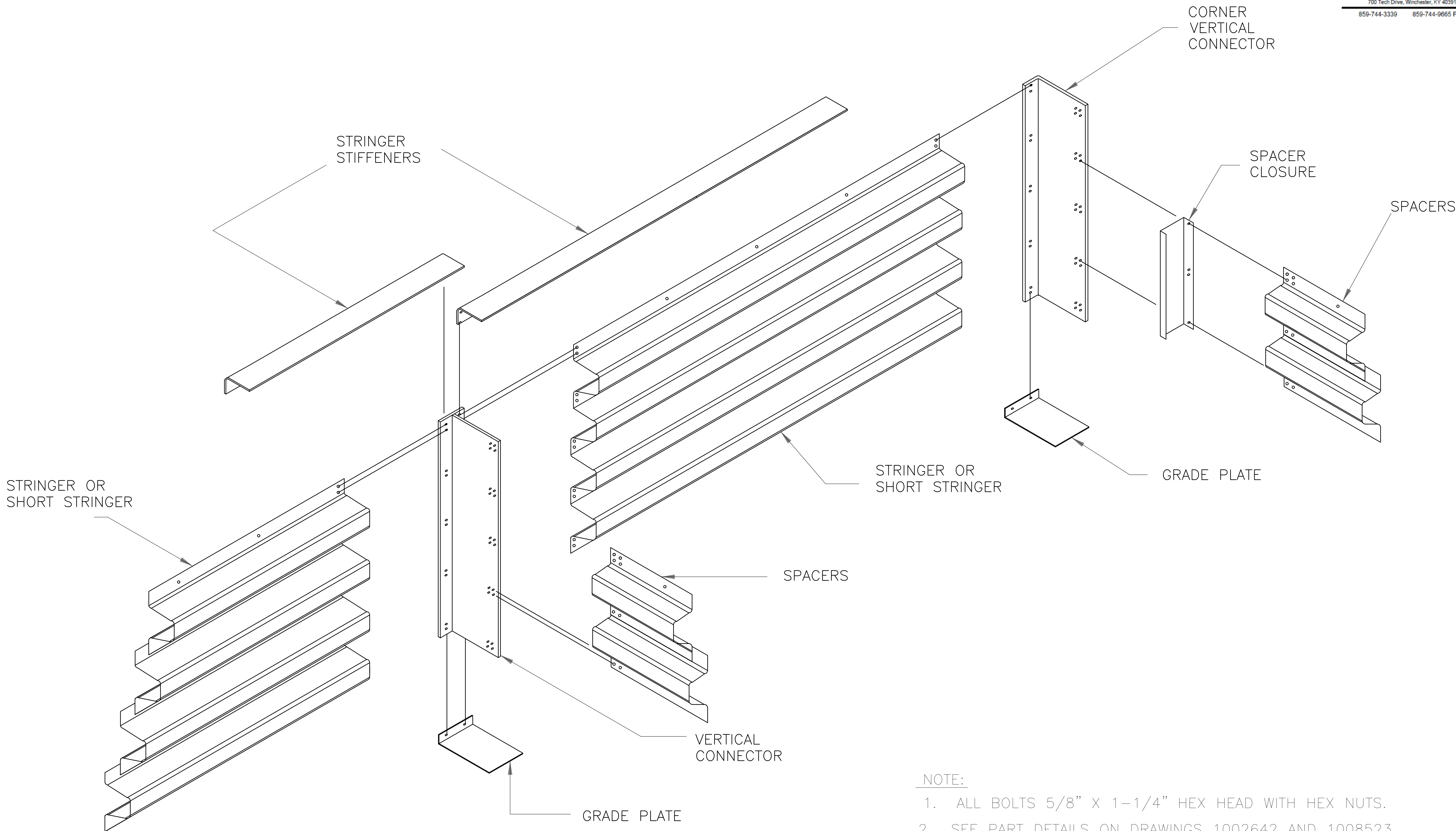
FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER

BRIDGE DETAIL

SCALE: = N.T.S.



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4	09/17/20	HR	RR	CD-IFC REV 1
5	11/09/21	PS	RR	MAINTENANCE ACCESS ROAD
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7	06/08/22	PS	RR	NOTICE OF INTENT
8	07/19/22	PP	RR	NOTICE OF INTENT REV 1
9	08/16/22	PP	RR	NOTICE OF INTENT REV 2



NOTE:

1. ALL BOLTS 5/8" X 1-1/4" HEX HEAD WITH HEX NUTS.
2. SEE PART DETAILS ON DRAWINGS 1002642 AND 1008523.

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER

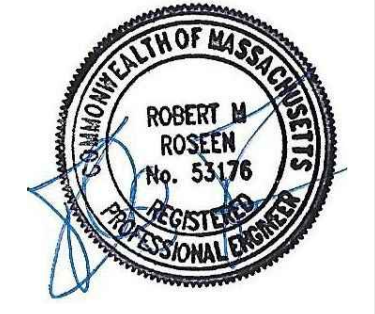
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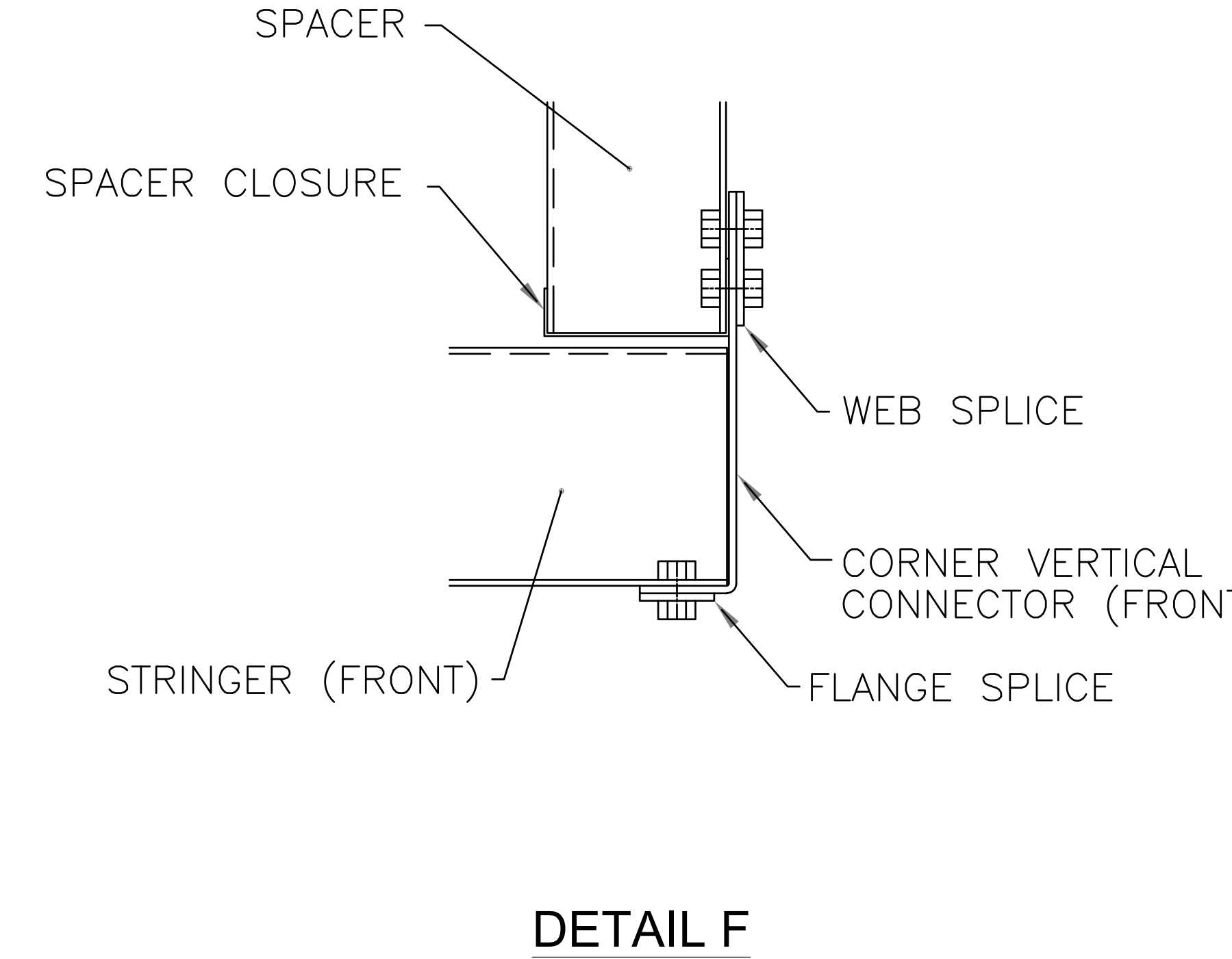
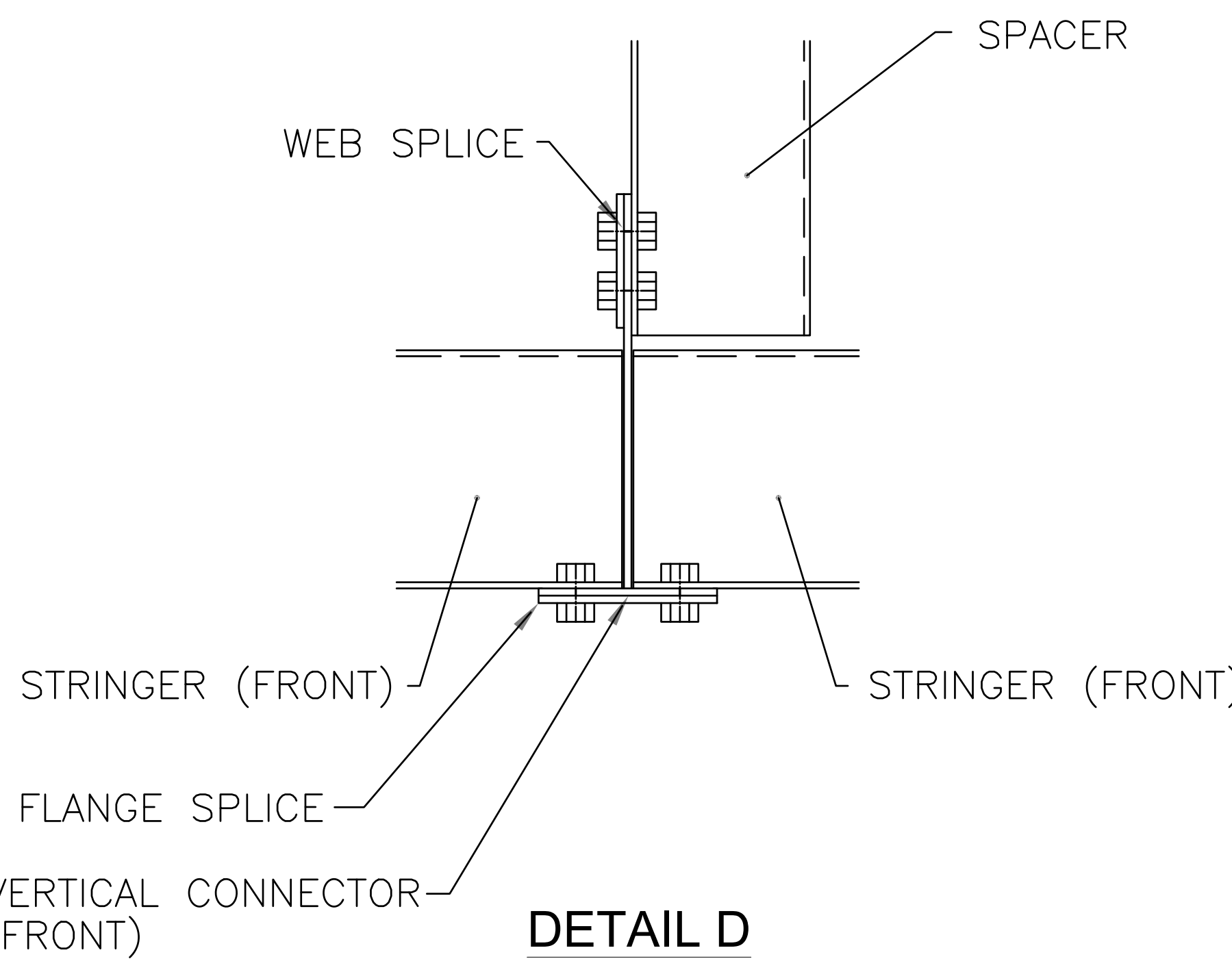
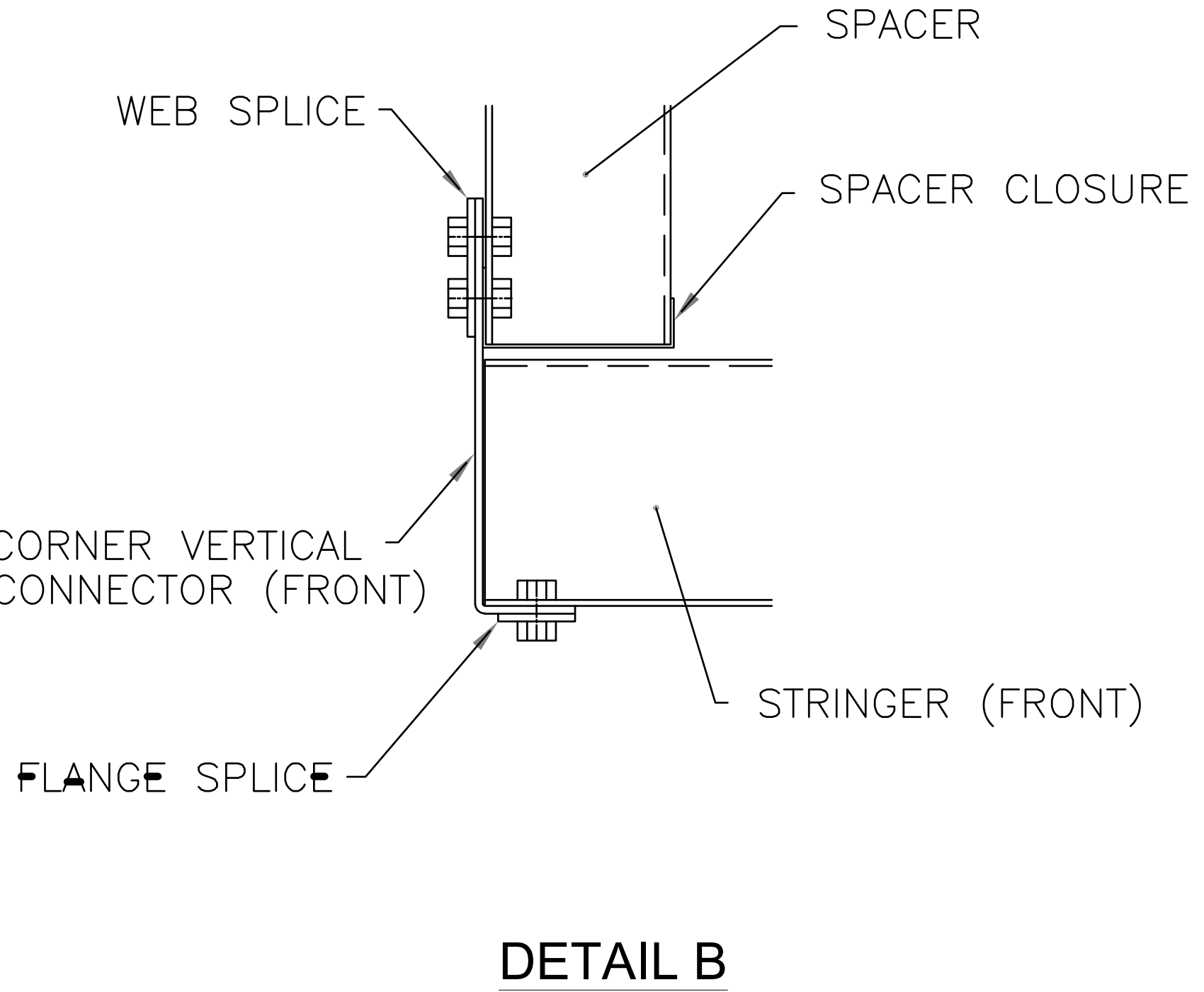
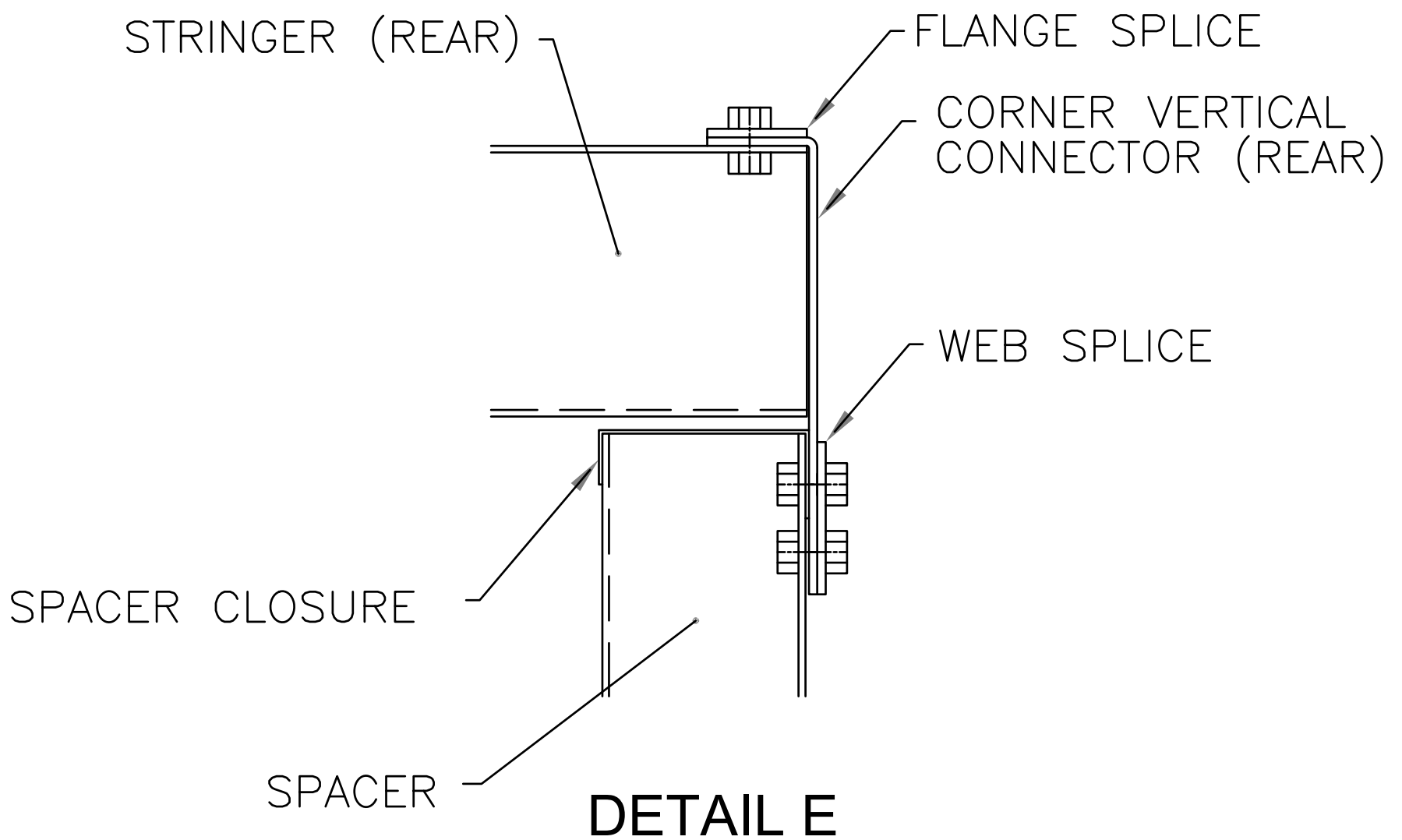
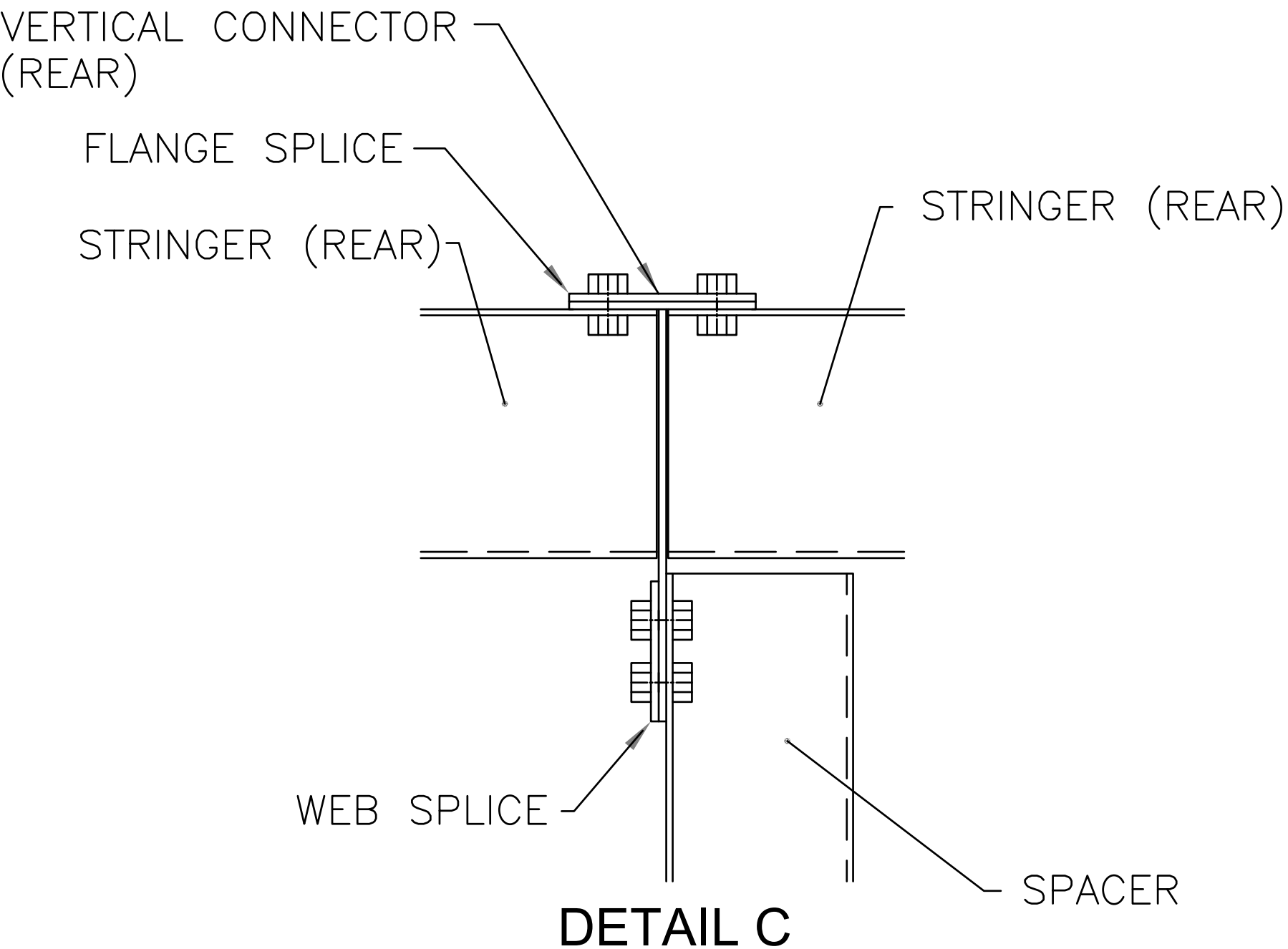
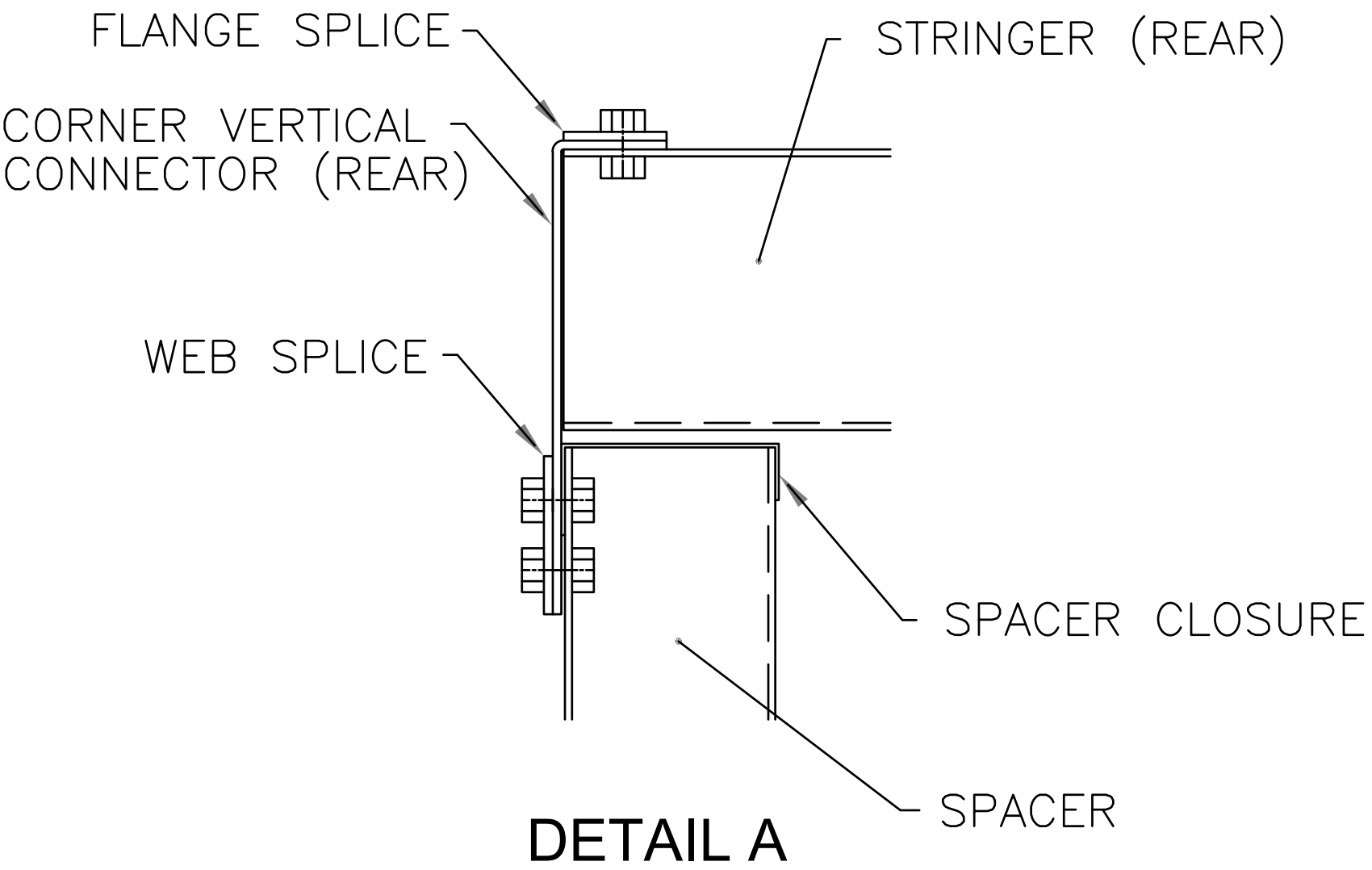
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140 R MAIN STREET,  
NEWBURY MA 01922

PROJECT NUMBER:  
905-0391

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SCALES STATED ON DRAWINGS  
ARE VALID ONLY WHEN PLOTTED  
ARCH D 24" X 36"

**C-8.5**  
BRIDGE DETAIL



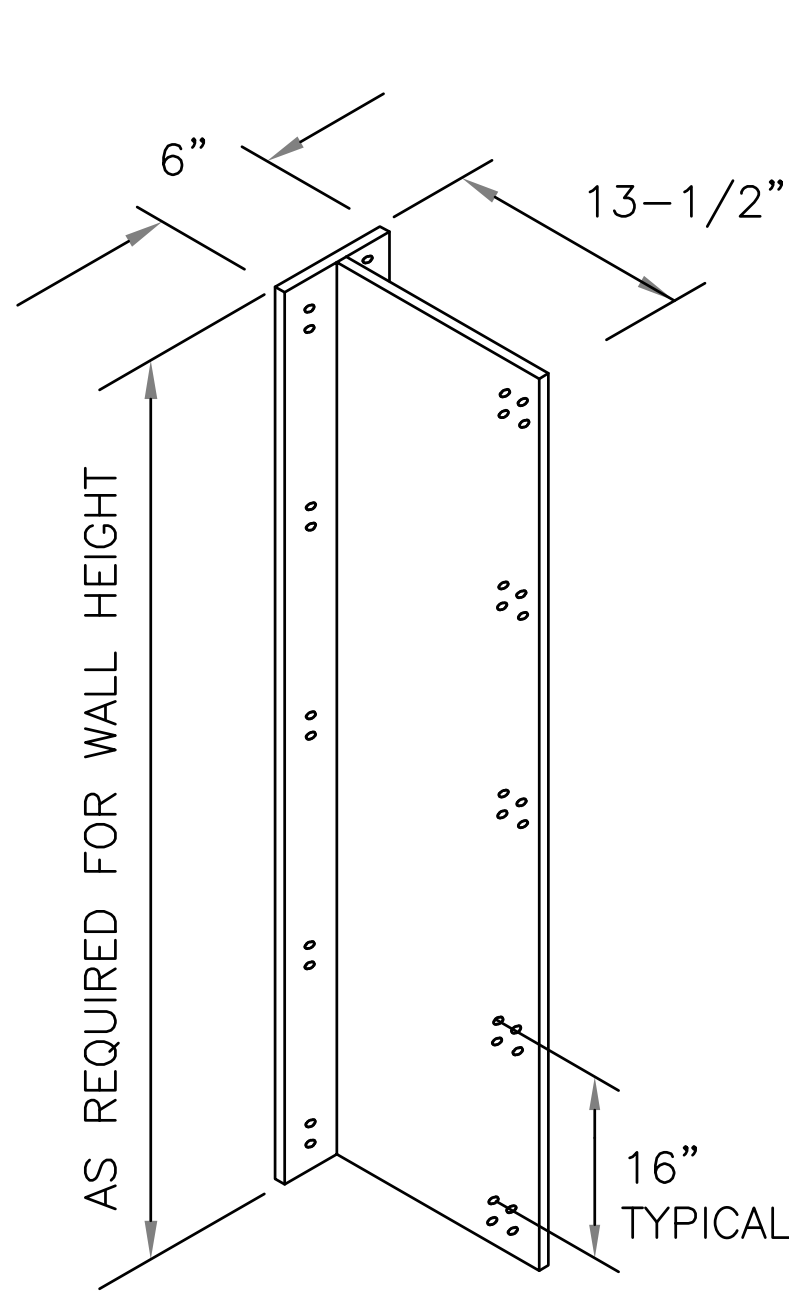
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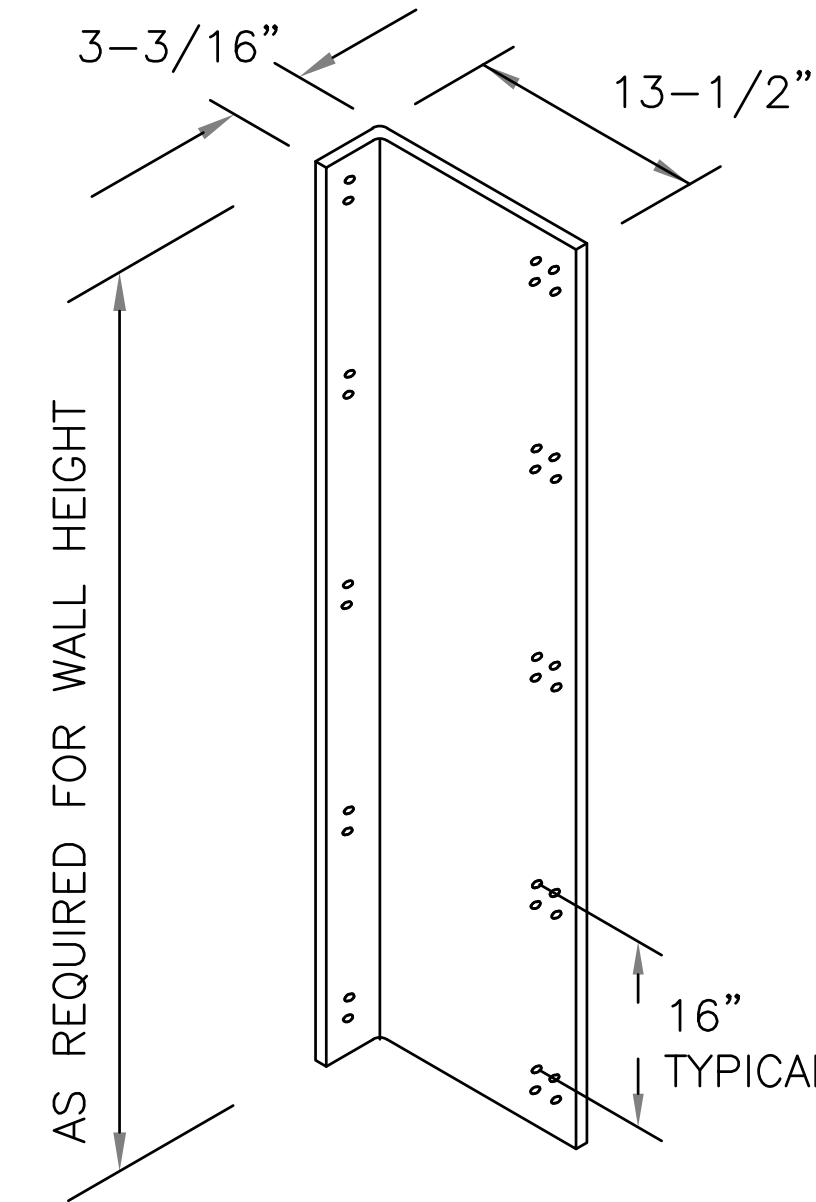
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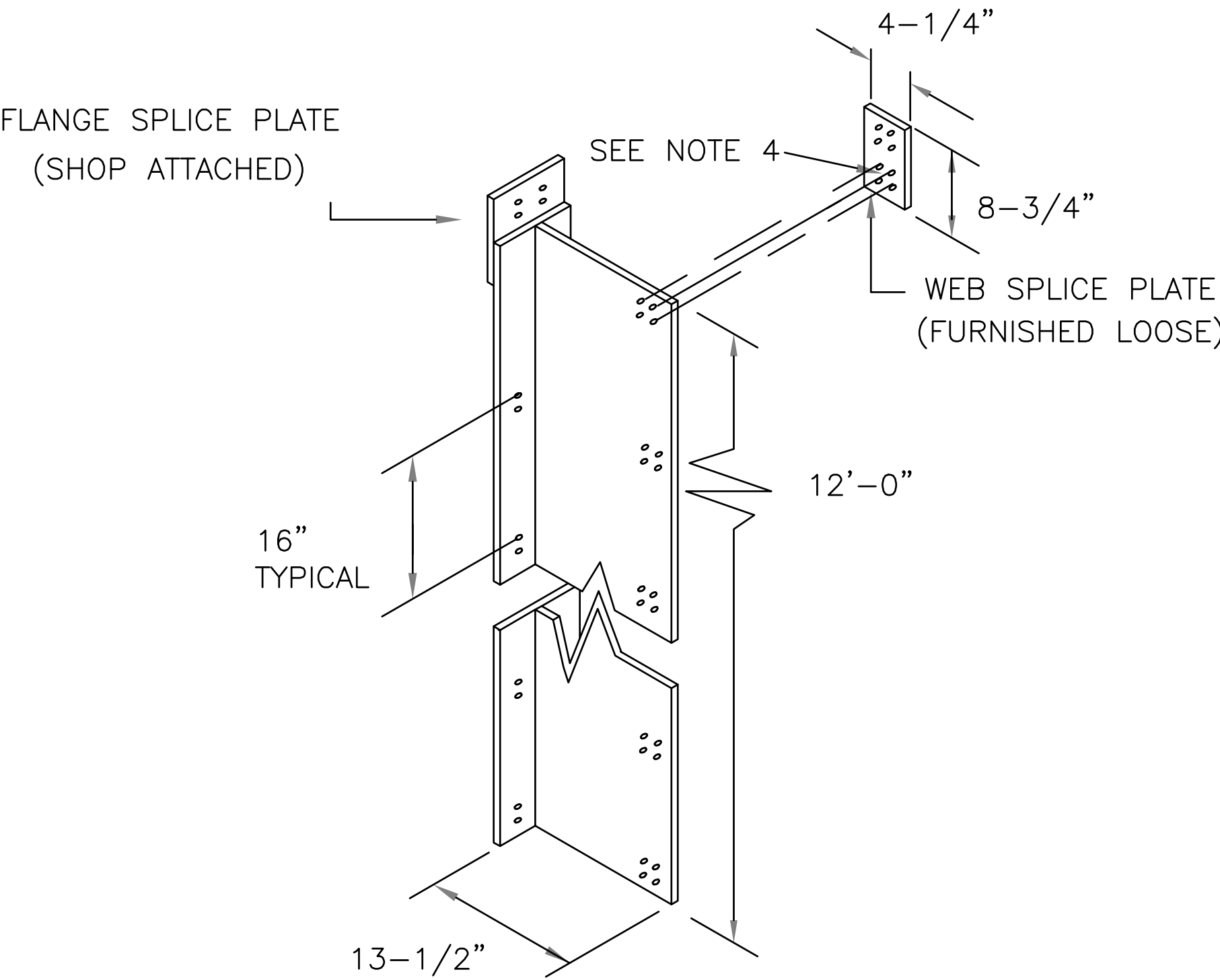
**VERTICAL CONNECTOR**  
VERTICAL CONNECTOR SHOWN IS 5.33'  
(SEE NOTE # 1)



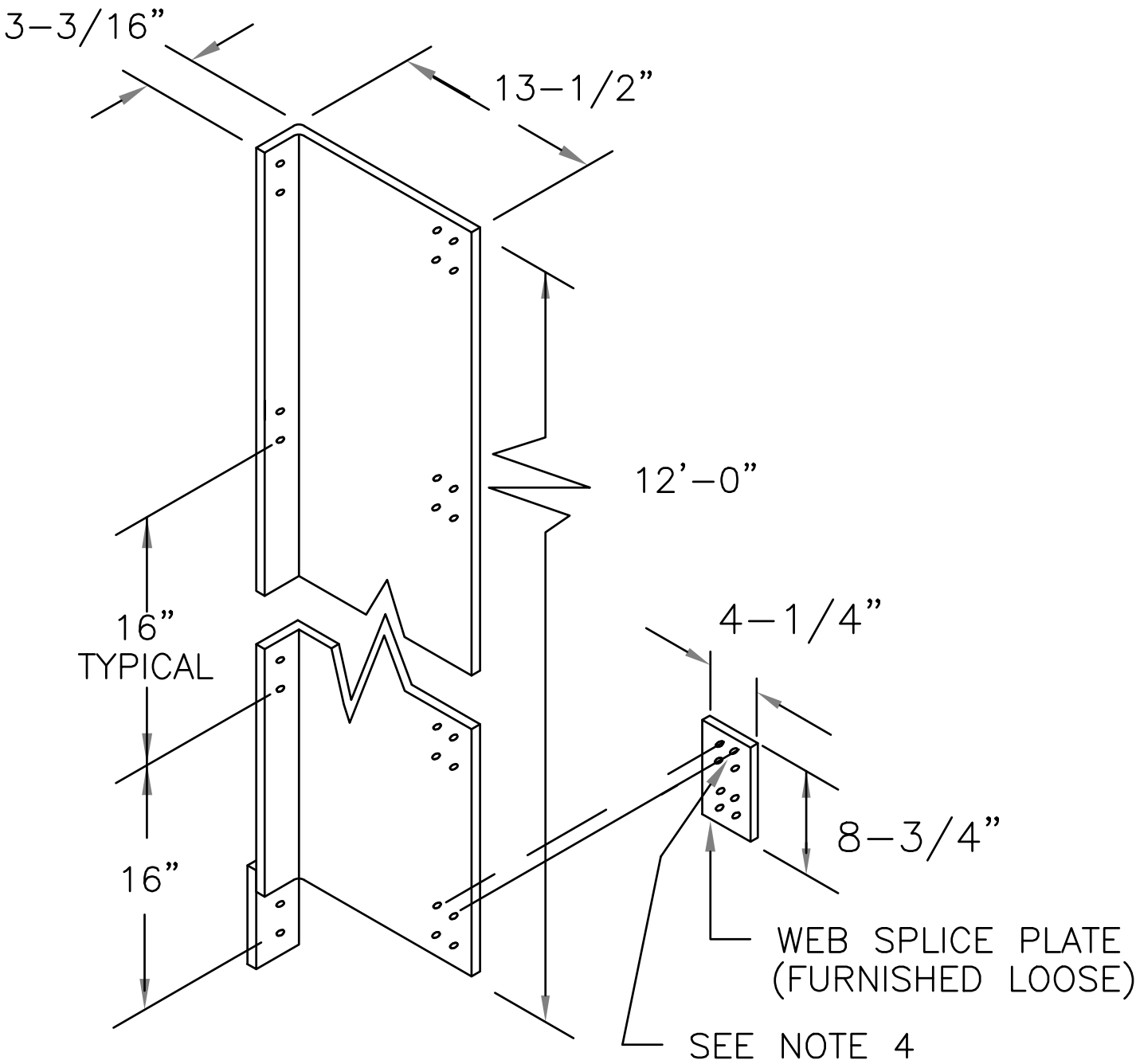
**CORNER VERTICAL CONNECTOR**  
VERTICAL CONNECTOR SHOWN IS 5.33'  
(SEE NOTE # 1)

**BRIDGE DETAIL**

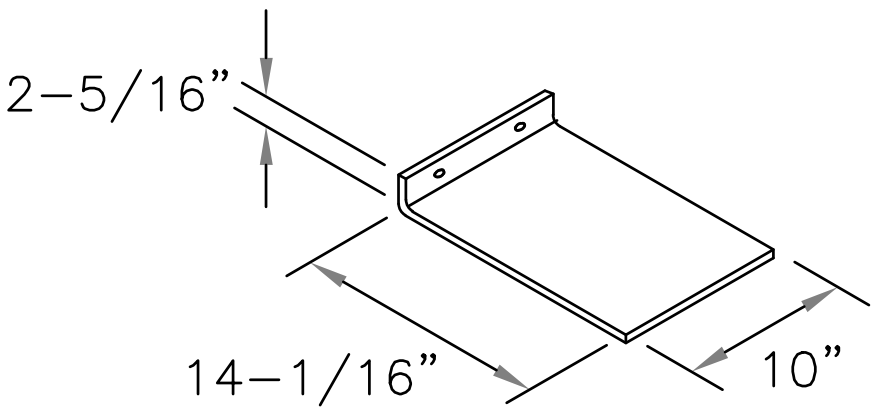
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**UPPER LIFT VERTICAL CONNECTOR**  
(SEE NOTE # 2)



**UPPER LIFT CORNER VERTICAL CONNECTOR**  
(SEE NOTE # 3)



**GRADE PLATE**  
(14 GAGE)

**NOTES -**

1. FURNISHED IN LENGTH INCREMENTS OF 16".  
(1.67' THRU 12.33')
2. UPPER LIFT VERTICAL CONNECTORS ARE USED ON WALLS HIGHER THAN 12.33'. FOR THESE WALLS THE VERTICAL CONNECTORS WILL CONTAIN TWO OR MORE PIECES. THE 12.00' LONG VERTICAL SEGMENT SHOULD BE USED AS THE LOWER SECTION.
3. UPPER LIFT CORNER VERTICAL CONNECTORS ARE USED AT ENDWALL CONNECTIONS WHEN THE WALL HEIGHT EXCEEDS 12.33'. THE UPPER LIFT CORNER VERTICAL CONNECTORS MUST BE INSTALLED BELOW THE CORNER VERTICAL CONNECTOR AT THE RIGHT FRONT AND THE LEFT REAR CORNERS AND ABOVE THE CORNER VERTICAL CONNECTORS AT THE LEFT FRONT AND THE RIGHT REAR CORNERS.
4. ATTACH THE WEB SPLICE PLATE TO THE UPPER LIFT VERTICAL / CORNER VERTICAL CONNECTOR PRIOR TO ATTACHING THE SPACERS. BOLT HEADS MUST BE ON THE SAME SIDE OF THE WEB AS THE SPACER.
5. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER



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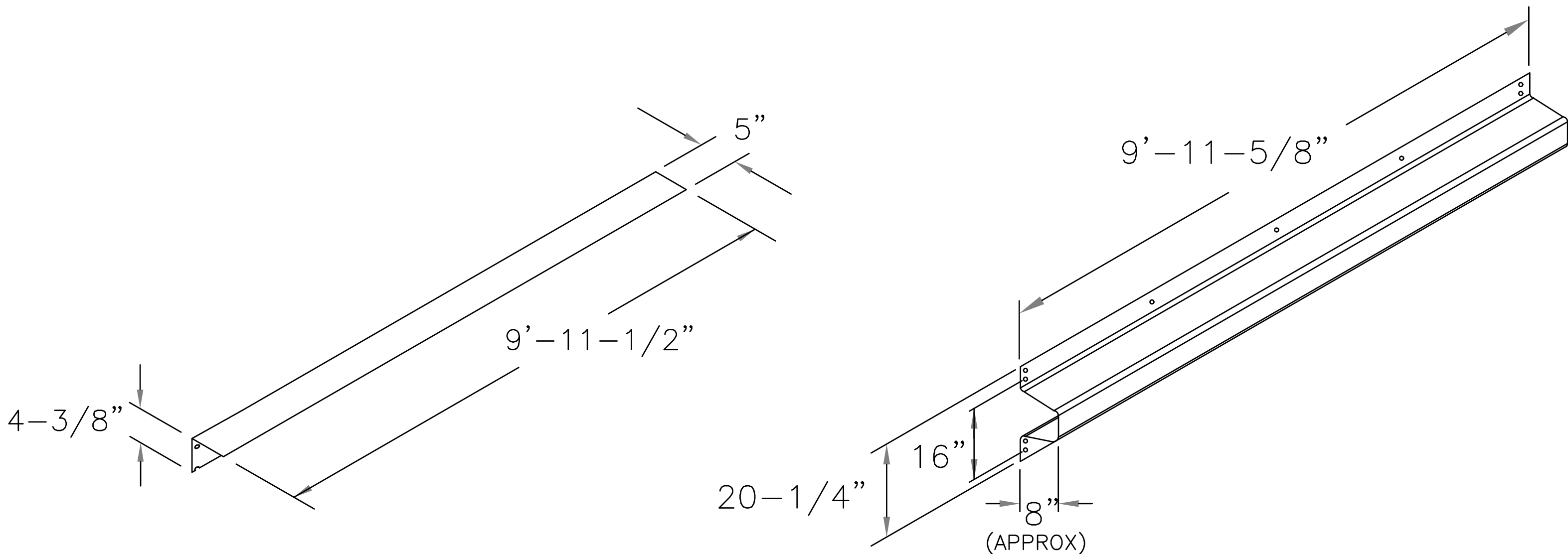
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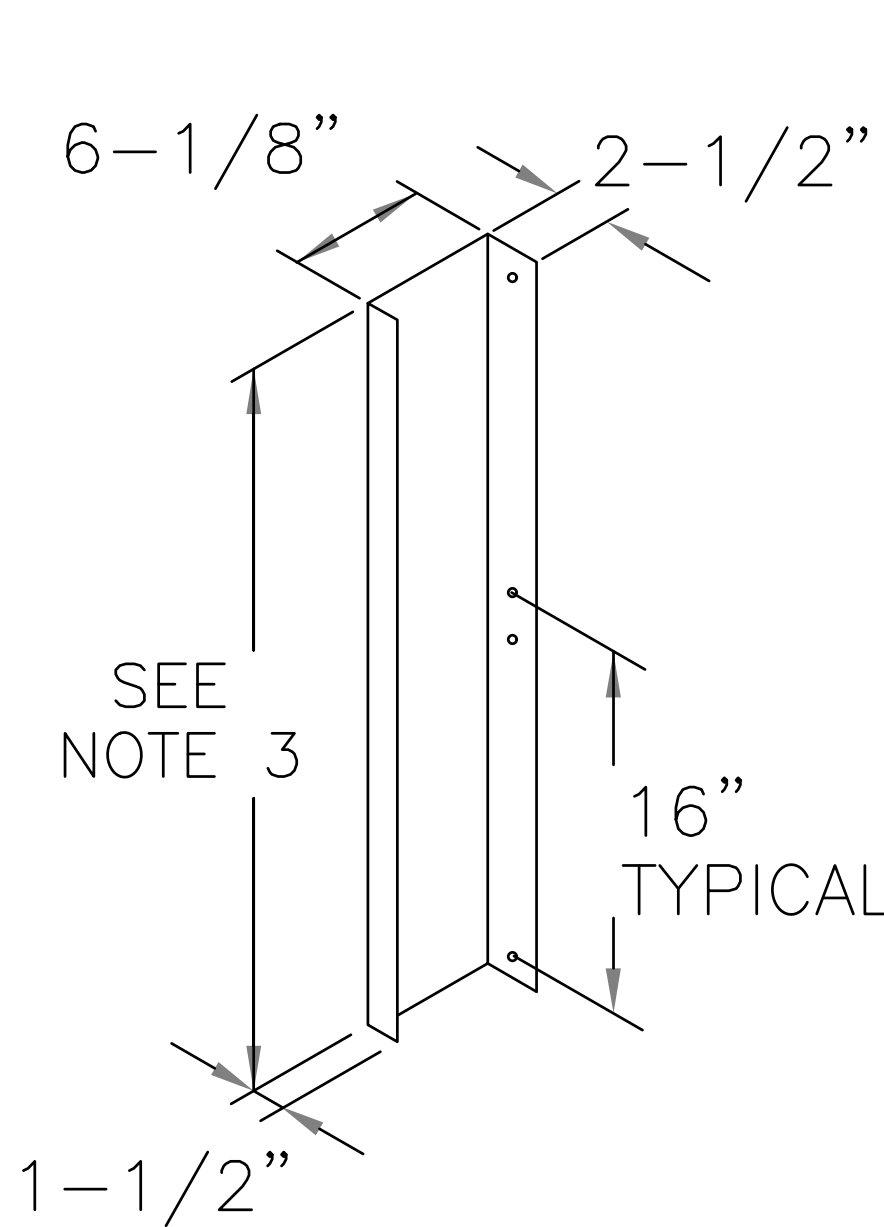
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**C-8.7**  
BRIDGE DETAIL

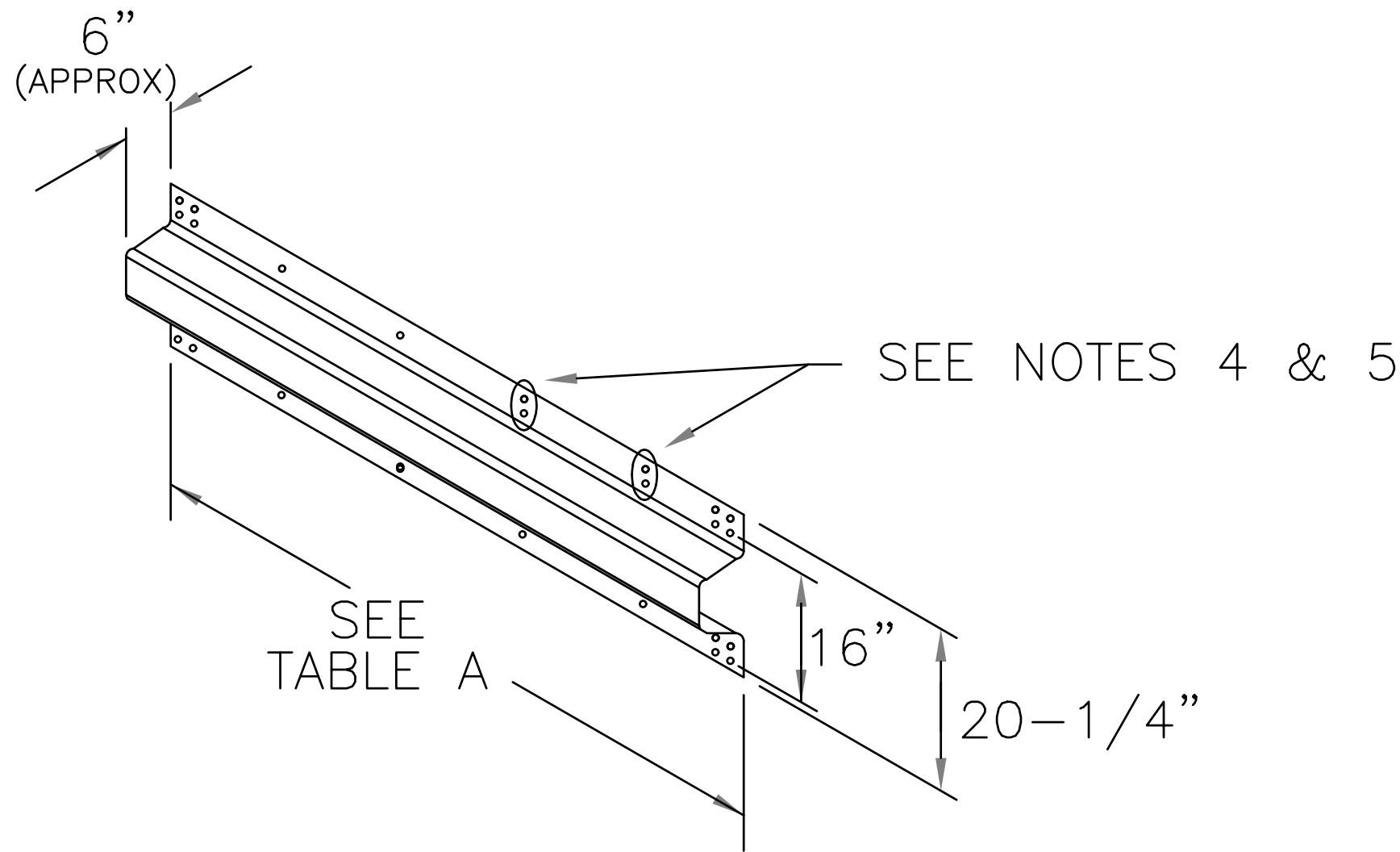


STRINGER STIFFENER

STANDARD STRINGER



SPACER CLOSURE



SPACER

NOTE: 2-PIECE SPACER COMPONENTS ARE  
FIELD-OVERLAPPED AND BOLTED TO ACHIEVE THE  
OVERALL LENGTH.

NOTES

1. THE STRINGER STIFFENER IS FURNISHED TO FIT THE CORRESPONDING TOP STRINGER. THE STRINGER STIFFENER IS NORMALLY FURNISHED FOR THE FRONT PANEL ONLY.
2. THE STANDARD STRINGER LENGTH IS 9'-11-5/8" AND THE STANDARD SHORT STRINGER LENGTH IS 9'-8-5/8".
3. SPACER CLOSURES ARE USED ONLY EXPOSED CORNERS AND ARE FURNISHED IN THE LENGTH INCREMENTS 16". (1.33' THRU 8.0') WHEN A SPACER CLOSURE COVERS THE CONNECTION OF A VERTICAL CONNECTOR WEB SPLICE PLATE, FIELD DRILL HOLES IN THE SPACER CLOSURE SO THAT THE EIGHT BOLTS MAY BE INSTALLED.
4. FOR A STANDARD SPACER TO SPACER CONNECTION IT IS NECESSARY TO BOLT THRU ONLY ONE HOLE IN THE DOUBLE HOLE CLUSTER. THE ENTIRE DOUBLE HOLE CLUSTER IS UTILIZED ONLY WHEN ATTACHING A SPLIT VERTICAL CONNECTOR.
5. IT IS IMPORTANT TO ATTACH THE SPACER SO THAT THE DOUBLE HOLE CLUSTERS ARE AT THE REAR OF THE BIN.
6. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

TABLE A — SPACER LENGTHS

WALL DESIGN	SPACER LENGTH (FT.)
H	19.5

BRIDGE DETAIL

SCALE: = N.T.S.

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER



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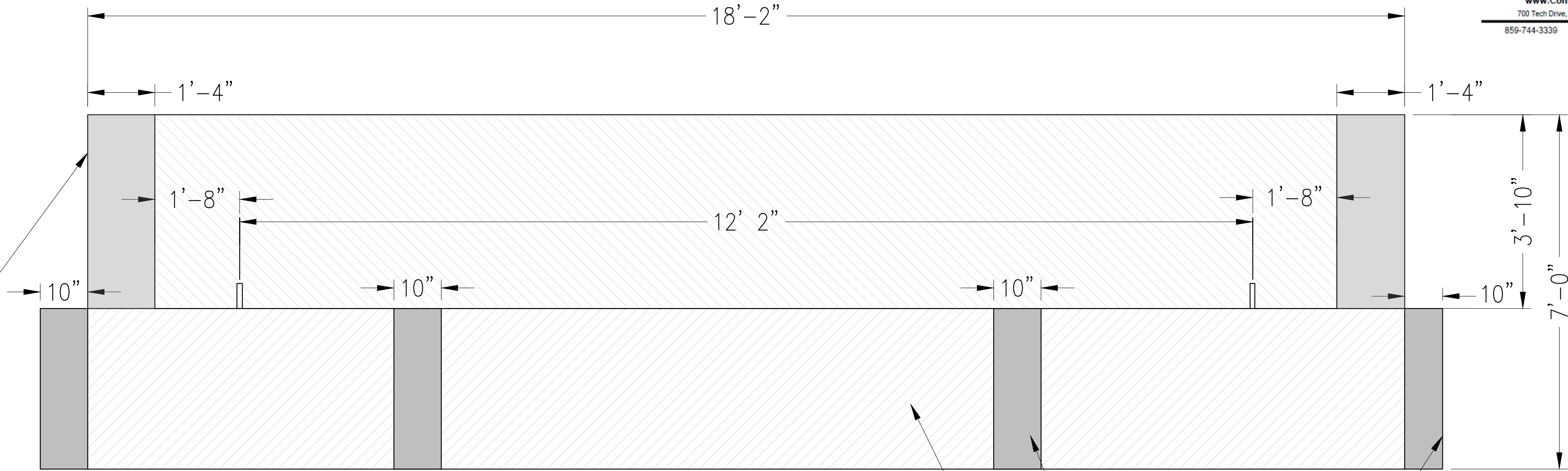
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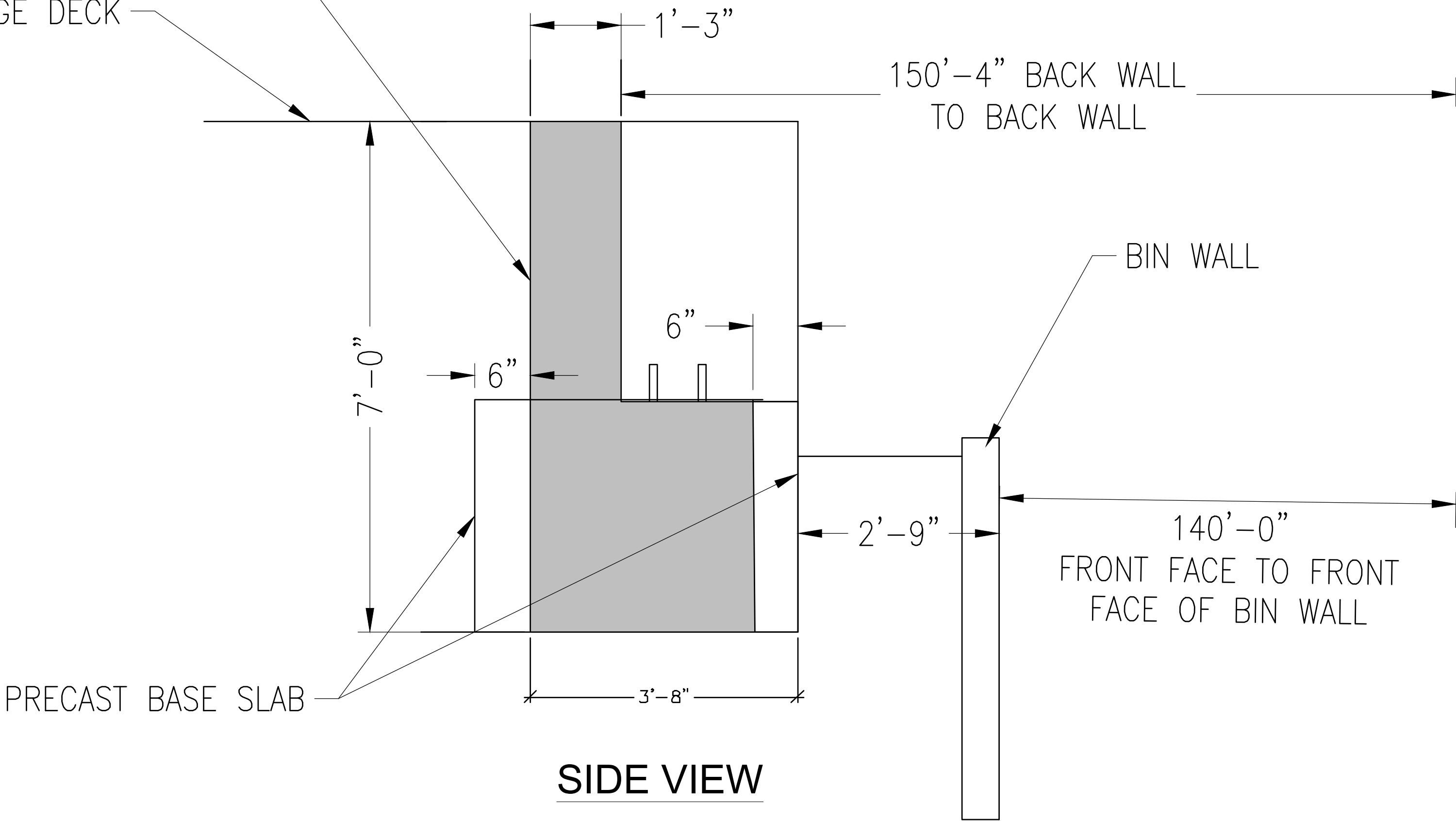
**C-8.8**  
BRIDGE DETAIL



FRONT FACE OF SILL

SINGLE PIECE BACKWALL AND CHEEK WALLS

TOP OF ROAD/BRIDGE DECK



SIDE VIEW

PRECAST SILL: BACKWALL, CHEEK WALL AND BASE SLAB

BRIDGE DETAIL

SCALE: = N.T.S.

FINAL CONSTRUCTION DESIGN DRAWINGS TO BE FURNISHED BY SUPPLIER