

CITY OF SUMMIT
UNION COUNTY, NEW JERSEY

SUMMIT GOLF COURSE - FOOT BRIDGES

MARCH 2017

REVISED AUGUST 2024 (OCTOBER 2021)

CITY COUNCIL

ELIZABETH FAGAN, MAYOR
LISA K. ALLEN, COUNCIL PRESIDENT
DELIA HAMLET
ANDY MINEGAR
BOB PAWLOWSKI
JAMEL BOYER
GREG VARTAN
KEVIN SMALLWOOD

CITY ADMINISTRATOR

MICHAEL F. ROGERS

CITY ENGINEER

AARON SHRAGER, P.E. C.M.E. P.P.

CITY CLERK

ROSEMARY LICATESE

UTILITIES

PUBLIC SERVICE ELECTRIC
& GAS CO.
48 MIDDLE AVENUE
SUMMIT, NJ 07901

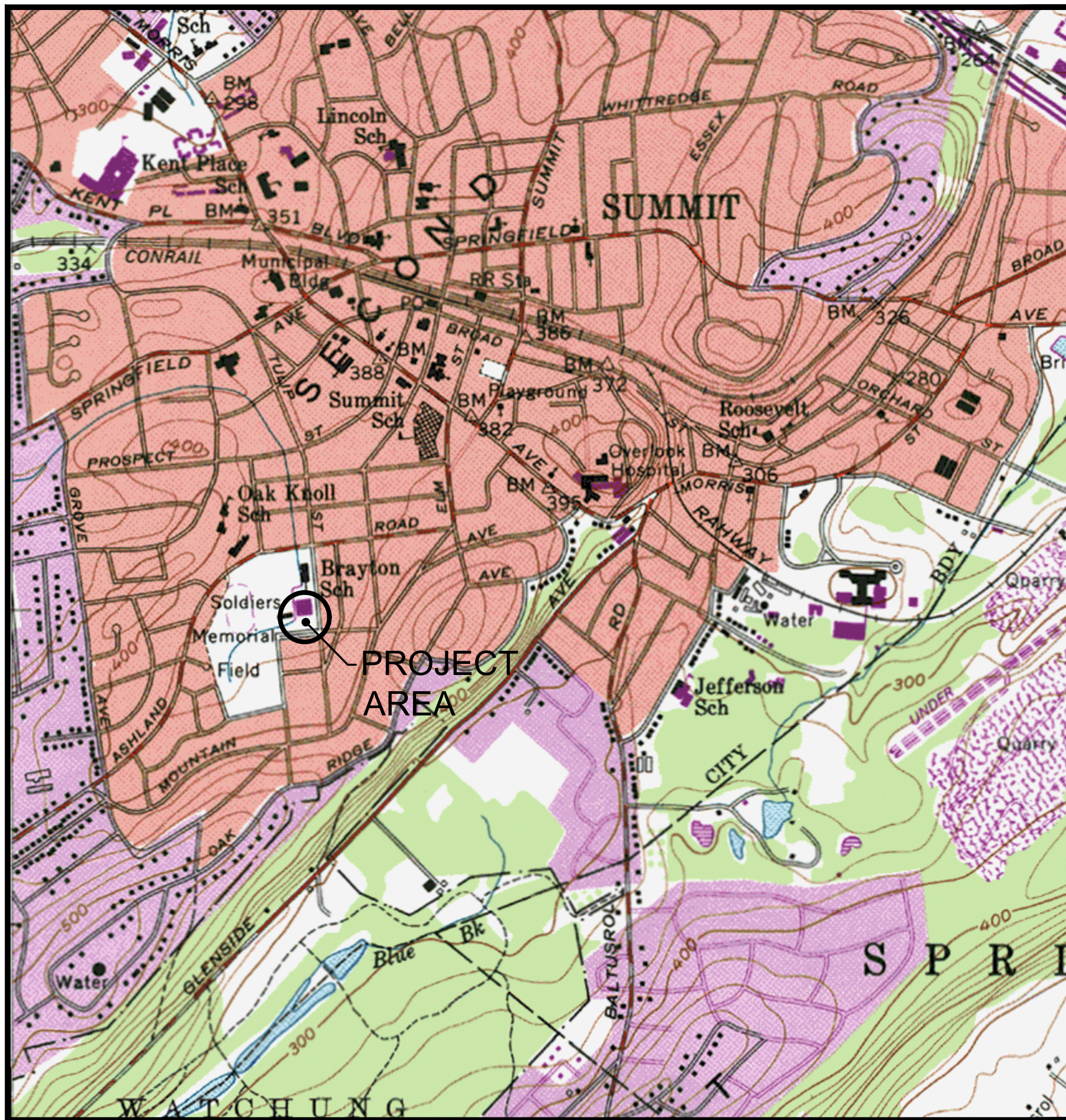
JERSEY CENTRAL POWER
& LIGHT
300 MADISON AVENUE
MORRISTOWN, NJ 07960

COMCAST CABLEVISION
OF NEW JERSEY
300 RAHWAY AVENUE
UNION, NJ 07083

VERIZON
445 GEORGES ROAD
NORTH BRUNSWICK, NJ 08902

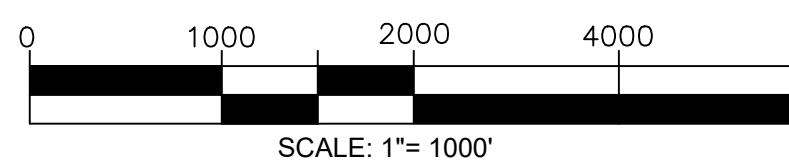
CITY OF SUMMIT
DIVISION OF PUBLIC WORKS
41 CHATHAM ROAD
SUMMIT, NJ 07901

NEW JERSEY AMERICAN WATER CO.
167 JFK PARKWAY
SHORT HILLS, NJ 07078



SOURCE: ROSELLE, NEW JERSEY - U.S.G.S TOPOGRAPHIC QUADRANGLE

KEY MAP



DRAWING LIST

- | | |
|--------------|--|
| 1 | TITLE SHEET |
| 2 | OVERALL SITE PLAN |
| 3 | SPILLWAY & BRIDGE SITE PLAN & NOTES |
| 4 | DEMOLITION PLANS AND SECTIONS |
| 5 | SPILLWAY PLANS, SECTIONS, & DETAILS |
| 6 | BRIDGE PLANS, SECTIONS, & DETAILS |
| 7 | PEDESTRIAN BRIDGE PLAN |
| 8 | PEDESTRIAN BRIDGE SECTION - 1 |
| 9 | PEDESTRIAN BRIDGE SECTION - 2 |
| 10-11 | CONSTRUCTION DETAILS |
| 12 | SOIL EROSION & SEDIMENT CONTROL |



A/Thm

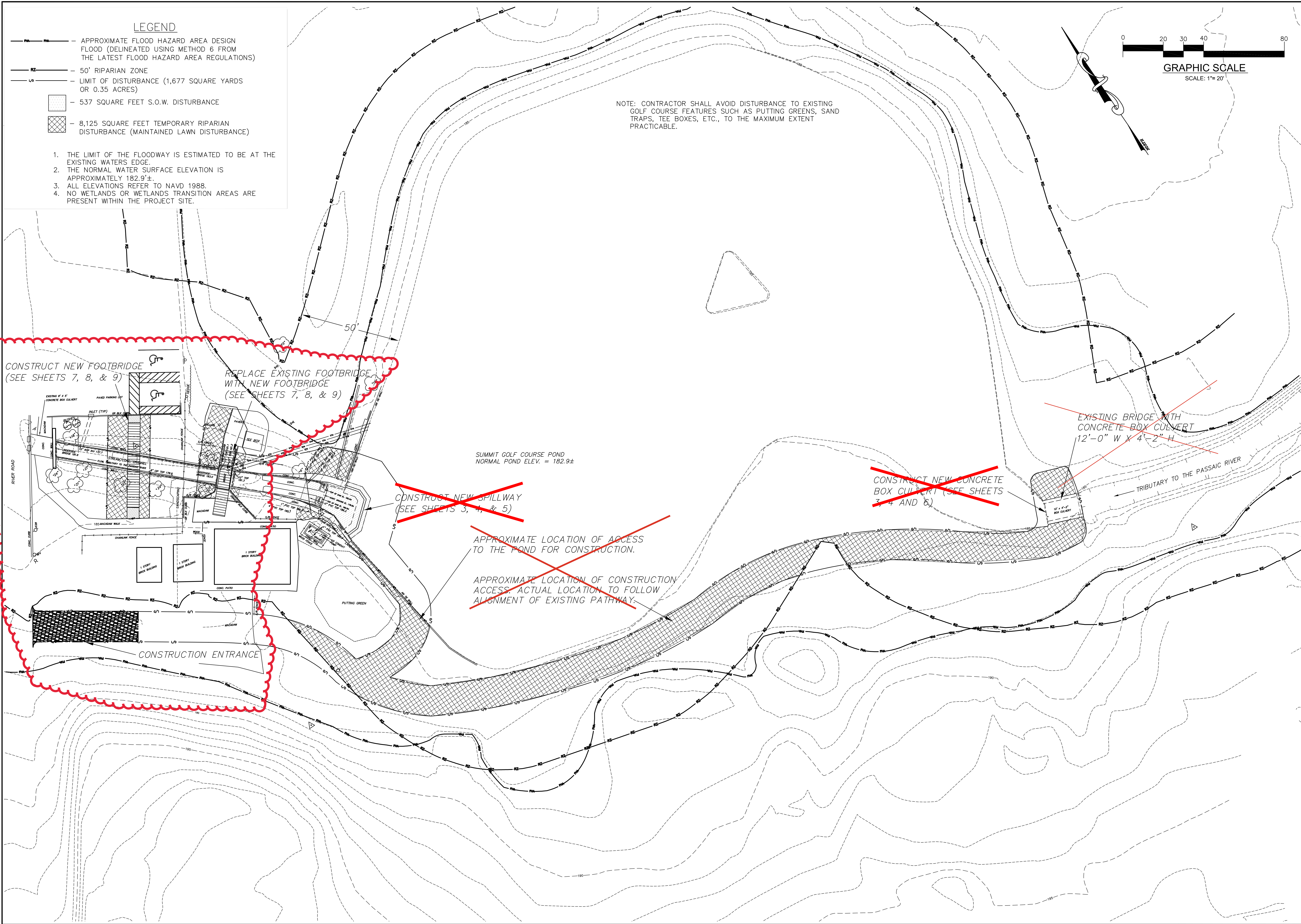
Aaron J. Schrager
Professional Engineer
New Jersey Lic. No. 46143
City Engineer

8/15/2024

DATE _____

ORIGINALLY DESIGNED BY KEVIN K. NOLLSTADT FOR
MOTT MCDONALD ON 10/12/2021
NJ LICENSE NO. 45197

Cadd:\L\MUNICIPAL\SUMMIT\319309 GOLF COURSE DRAINAGE IMPROV\DWG\2021 REVISIONS\OCT 2021 REV\SHEETS 2 AND 3_0072021.DWG 10/12/2021 3:40:21 PM



LEGEND

- APPROXIMATE FLOOD HAZARD AREA DESIGN FLOOD (DELINEATED USING METHOD 6 FROM THE LATEST FLOOD HAZARD AREA REGULATIONS)
- 50' RIPARIAN ZONE
- LIMIT OF DISTURBANCE (1,677 SQUARE YARDS OR 0.35 ACRES)
- 537 SQUARE FEET S.O.W. DISTURBANCE
- 8,125 SQUARE FEET TEMPORARY RIPARIAN DISTURBANCE (MAINTAINED LAWN DISTURBANCE)

- THE LIMIT OF THE FLOODWAY IS ESTIMATED TO BE AT THE EXISTING WATERS EDGE.
- THE NORMAL WATER SURFACE ELEVATION IS APPROXIMATELY 182.9±.
- ALL ELEVATIONS REFER TO NAVD 1988.
- NO WETLANDS OR WETLANDS TRANSITION AREAS ARE PRESENT WITHIN THE PROJECT SITE.

NOTE: CONTRACTOR SHALL AVOID DISTURBANCE TO EXISTING GOLF COURSE FEATURES SUCH AS PUTTING GREENS, SAND TRAPS, TEE BOXES, ETC., TO THE MAXIMUM EXTENT PRACTICABLE.

GRAPHIC SCALE

SCALE: 1"= 20'

ORIGINALLY DESIGNED BY KEVIN K. NOLLSTADT FOR
MOTT McDONALD ON 10/12/2021
NJ LICENSE NO. 45197

10/12/2021	ISSUED FOR CONSTRUCTION	10/12/2021	DATE
7/01/2021	GENERAL REVISIONS	8/15/2024	DATE
9/13/2019	GENERAL REVISIONS		
7/05/2017	REVISED PER NDEP		
4/10/2017	REVISED PER NDEP		
	Revision		

8/15/2024	DATE
Aaron J. Schragger	DATE
Professional Engineer	
New Jersey Lic. No. 46143	
City Engineer	



CITY OF SUMMIT
UNION COUNTY, NEW JERSEY
SUMMIT GOLF COURSE -
FOOT BRIDGES
OVERALL SITE PLAN

File	SUMMIT GOLF COURSE
Book	Page
319308	2
Scale	B/O Total
1"=20'	12

Drawing No.

LEGEND

- FMA — FMA — APPROXIMATE FLOOD HAZARD AREA DESIGN
FLOOD (DELINEATED USING METHOD 6 FROM
THE LATEST FLOOD HAZARD AREA REGULATIONS)
- RZ — 50' RIPARIAN ZONE
- LD — LIMIT OF DISTURBANCE (1,677 SQUARE YARDS
OR 0.35 ACRES)

1. THE LIMIT OF THE FLOODWAY IS ESTIMATED TO BE AT THE EXISTING WATERS EDGE.
2. THE NORMAL WATER SURFACE ELEVATION IS APPROXIMATELY 182.9'±.
3. ALL ELEVATIONS REFER TO NAVD 1988.
4. NO WETLANDS OR WETLANDS TRANSITION AREAS ARE PRESENT WITHIN THE PROJECT SITE.

- GENERAL NOTES:


3. THIS HORIZONTAL DATUM REFERENCED TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD83 AND THE VERTICAL DATUM IS REFERENCED TO NAVD 1988 (CONVERSION TO NAVD 1989 IS +0.97).
2. CONTRACTOR SHALL PROVIDE CONSTRUCTION FENCE AT AND AROUND DRIP LINE OF ALL TREES IN THE VICINITY OF CONSTRUCTION AREA.
3. DURING AND AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE PROJECT AREAS IN A NEAT AND TIDY CONDITION WITH ALL EQUIPMENT SECURED WHEN NOT IN USE.
4. CONSTRUCTION ACTIVITIES WITHIN THE BANKS OF ANY STREAM ON SITE ARE PROHIBITED BETWEEN THE DATES PROVIDED IN THE PERMITS.
5. THE MAINTAINED LAWN AREAS AND OTHER AREAS THAT ARE DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE FULLY RESTORED AS THEY WERE PRIOR TO COMMENCEMENT OF THE WORK. THIS INCLUDES FENCING, LANDSCAPING, PATIOS & OTHER EXISTING STRUCTURES.
6. ALL WORK SHALL BE PERFORMED IN A GOOD, SAFE AND WORKMAN-LIKE MANNER.
7. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT HIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE TO BRING ATTENTION TO POSSIBLE CONFLICTS. ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ALL COSTS FOR REPAIRS SHALL BE BORNE BY THE CONTRACTOR.
8. CONSTRUCTION ACTIVITIES MUST NOT DISTURB THE POND BANKS OR THEIR VEGETATION, EXCEPT IN AREA NECESSARY TO GAIN ACCESS TO THE POND. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING EMBANKMENT WALLS ALONG THE POND BANK.
9. TOPOGRAPHIC DATA BASED ON A FIELD SURVEY PERFORMED BY MOTT MACDONALD ON MARCH 29, 2013.
10. CONTRACTOR SHALL APPLY AND OBTAIN A WATER LOWERING PERMIT FROM NJDEP DIVISION OF FISH AND WILDLIFE PRIOR TO PERFORMING ANY CONSTRUCTION ACTIVITIES.
11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL THE POND IS LOWERED IN ACCORDANCE WITH THE WATER LOWERING PERMIT.
12. CONTRACTOR TO UTILIZE LOW WATER LEVEL VALVE LOCATED AT SPILLWAY, IF OPERATIONAL, AND/OR PUMPING FOR LAKE LOWERING OPERATIONS.
13. THE CONTRACTOR SHALL ALLOW THE POND TO REFILL TO NORMAL WATER LEVEL AS SOON AS THE WORK IS COMPLETED.
14. CONTRACTOR SHALL COMPLY WITH CONDITIONS OF ALL PERMITS AS APPLICABLE TO HIS ACTIVITIES AND WORK.
15. ~~CONTRACTOR SHALL PROVIDE BYPASS OR DIVERSION FLOW CAPACITY AS NEEDED FOR CONSTRUCTION TO MAINTAIN DISE FLOW TO THE DOWNSTREAM CHANNEL. THE CONSTRUCTION SITE IS IN A FLOOD-PRONE AND SUBJECT TO PERIODIC FLOODING. THE CONTRACTOR SHALL ASSESS THE RISK OF ANY SITES PROVIDE THE BYPASS OR DIVERSION CAPACITY AND PROTECTION MEASURES TO THE DESIGN APPROPRIATE FOR HIS PURPOSE. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL PAYMENT DUE TO FLOODING OF THE SITE. THE CONTRACTOR SHALL DETERMINE THE POND AS OFTEN AS NECESSARY DURING CONSTRUCTION, EMERGENCY OR SHORTE-FLW MUST BE FREE OF SEDIMENT CAUSED BY CONSTRUCTION OR SEDIMENT REMOVAL.~~
16. ~~IF REQUIRED UNDER THE WATER LOWERING PERMIT, THE CONTRACTOR SHALL RETAIN A FIRM OR INDIVIDUAL ACCEPTABLE TO THE ENGINEER, EXPERIENCED IN DAMAGE OF FIRM FROM LAKE TO UNDERTAKE THE FIRM SHORING.~~
17. ~~WATER LOWERING SHALL NOT BE ADVANCED AT A RATE GREATER THAN ONE FOOT PER DAY, AND SHALL NOT BE INITIATED WITHIN PERIODS PROHIBITED BY THE CONDITIONS OF THE PERMITS.~~
18. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF ANY SOIL OR SEDIMENT DISTURBANCE AND SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND SURFACE AREAS ARE STABILIZED.
19. THE CONTRACTOR SHALL NOT DISTURB THE SHORELINE SLOPE OR VEGETATION ALONG THE SHORELINE EXCEPT AS REQUIRED FOR ACCESS TO THE POND FOR CONSTRUCTION.
20. ~~PRIOR TO REFILLING THE POND, THE CONTRACTOR MUST COMPLETE ALL CONSTRUCTION ACTIVITIES, AND REMOVE ALL TEMPORARY FACILITIES WITHIN THE POND.~~
21. METHOD 6, PER 7.13-3.6 WAS USED TO DETERMINE THE FLOOD HAZARD AREA.
22. ALL OR A PORTION OF THIS SITE LIES IN A FLOOD HAZARD AREA. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS ARE REGULATED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A PERMIT. CONTACT THE DIVISION OF LAND USE REGULATION AT (609)292-0060 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ONSITE.
23. PER THE CITY OF SUMMIT AND NJDEP, FERTILIZER SHALL NOT BE USED WITHIN ANY RIPARIAN ZONE.
24. CONTRACTOR SHALL COORDINATE WITH THE CITY OF SUMMIT FOR PARKING AND STORAGE OF MATERIALS WITHIN THE PROJECT SITE. SOME OF THE EXISTING PARKING LOT ALONG THE BACK ROW HEDGES MAY BE USED FOR PARKING AND STORAGE OF MATERIALS.
25. CONTRACTOR MUST PROTECT ALL GOLF COURSE UTILITIES SUCH AS SPRINKLER SYSTEMS, DRAINAGE SYSTEMS, ETC. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES AND SHALL REPLACE ANY DAMAGED UTILITIES AT HIS OWN EXPENSE.

Drawing No.

[illegible]

8/15/2024

DATE


Aaron J. Schrager
Professional Engineer
New Jersey Lic. No. 46143
City Engineer



CITY OF SUMMIT
UNION COUNTY, NEW JERSEY
SUMMIT GOLD COURSE -
FOOT BRIDGES

File SUMMIT GOLF COURSE		
Book	Page	
Job 319308	No. 3	
Scale 1"=5'	B/O	Total 12

NOT TO SCALE

SCALE: 1" = 1'-0"

SCALE: 1/2" = 1'-0"

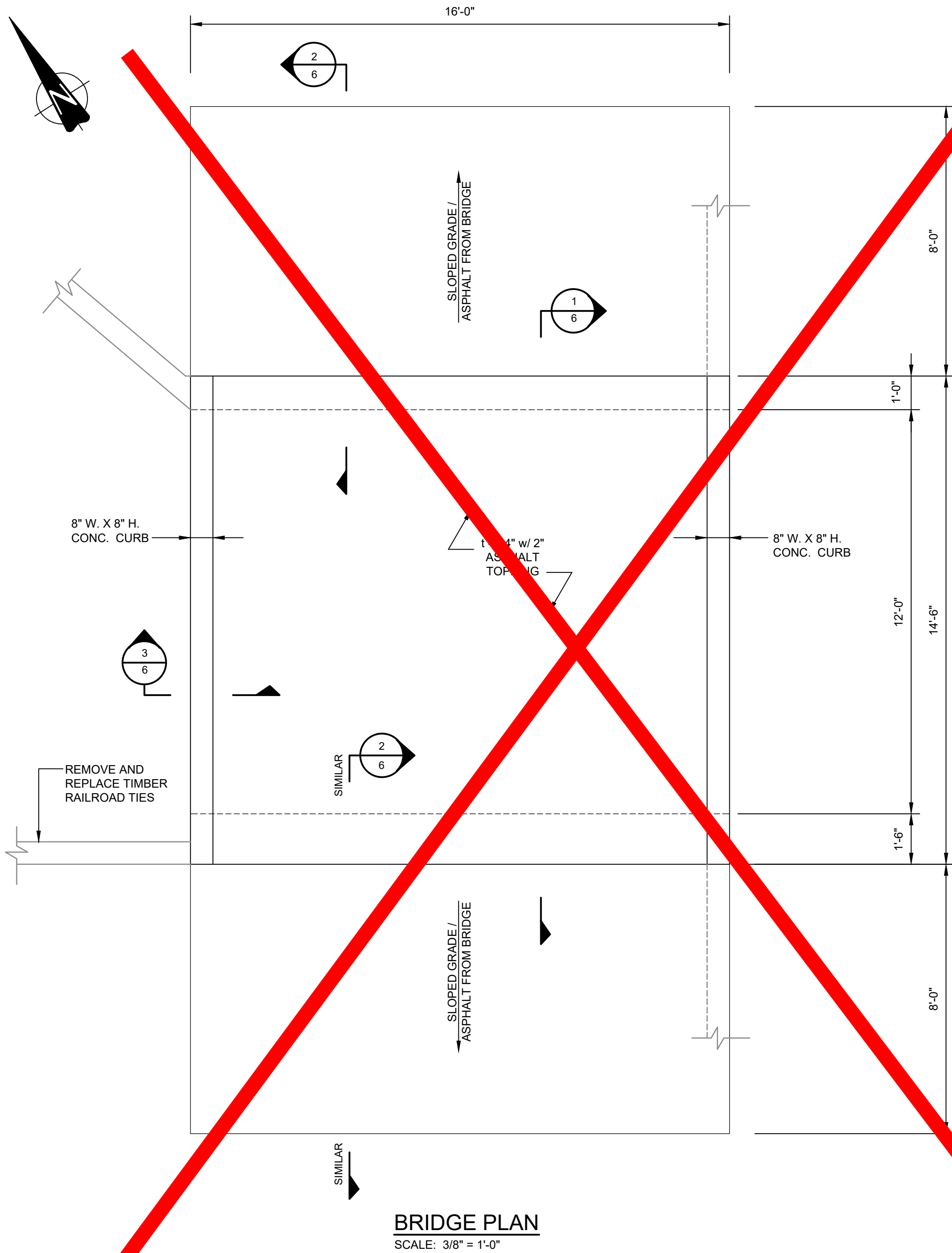
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SCALE: 3/4" = 1'-0"

SCALE: 3/4" = 1'-0"

$1/2''=1'-0''$	$3/8''=1'-0''$
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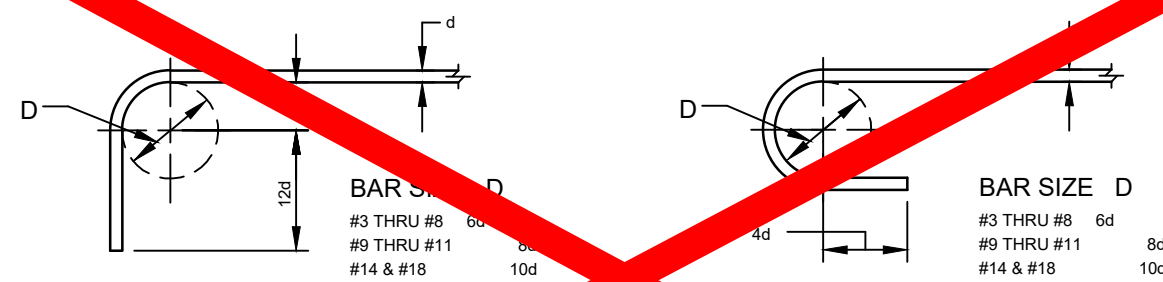
BRIDGE PLAN

SCALE: 3/8" = 1'-0"

DESIGN LIVE LOAD = HS20 TRUCK LOADING - AAHTSO 17TH EDITION
27 PSF SNOW LOAD = ASCE 7-10

NOTE:

ALL DIMENSIONS AND EXISTING CONDITIONS, INCLUDING WALL ABUTMENTS TO REMAIN FOLLOWING DEMOLITION, ARE TO BE FIELD VERIFIED, PRIOR TO CONSTRUCTION.

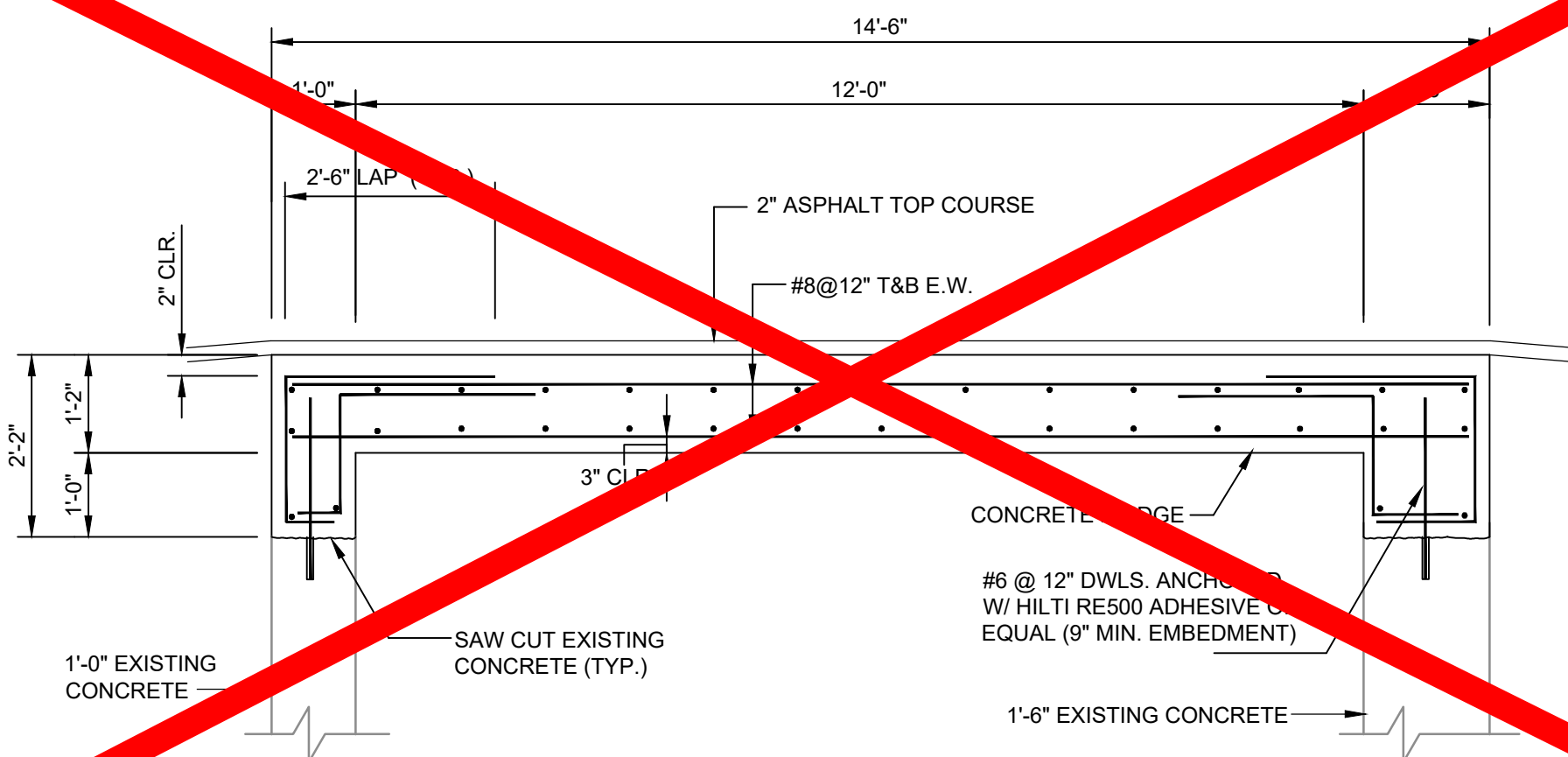


90° HOOK

180° HOOK

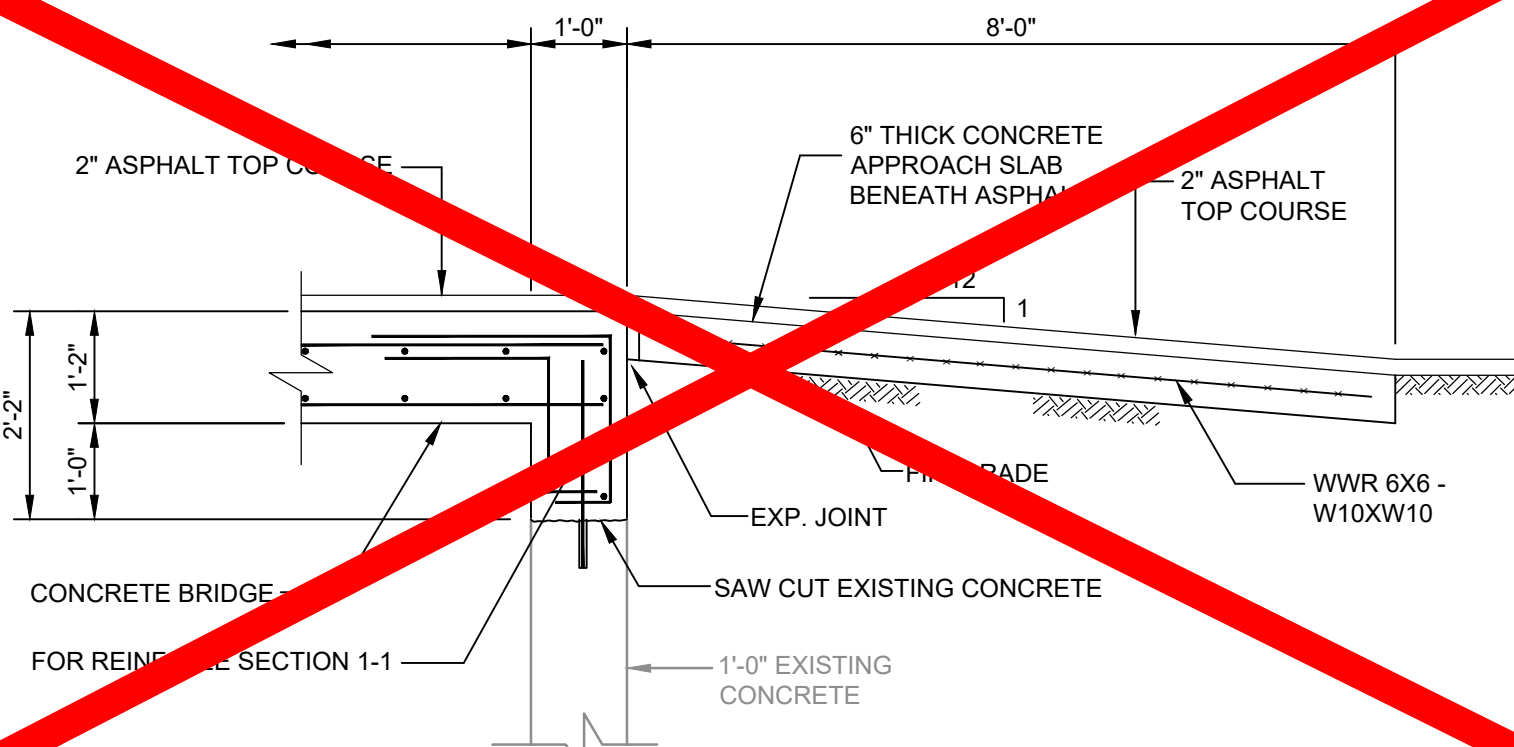
TYP. BAR HOOK DETAILS

NOT TO SCALE



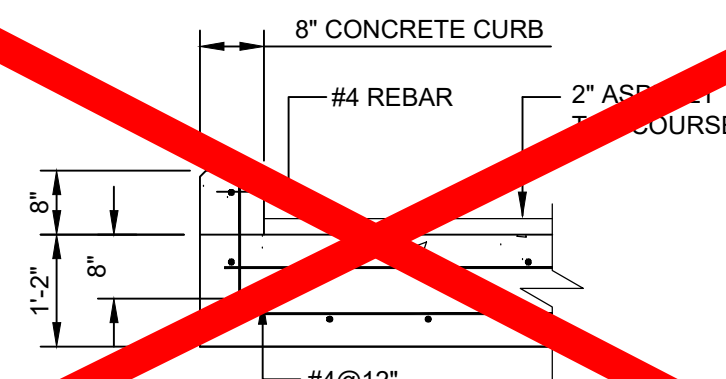
SECTION 1-1

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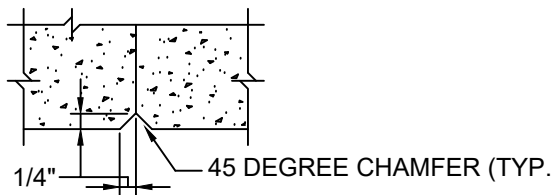
SECTION 2-2

SCALE: 1/2" = 1'-0"



SECTION 3-3

SCALE: 1/2" = 1'-0"

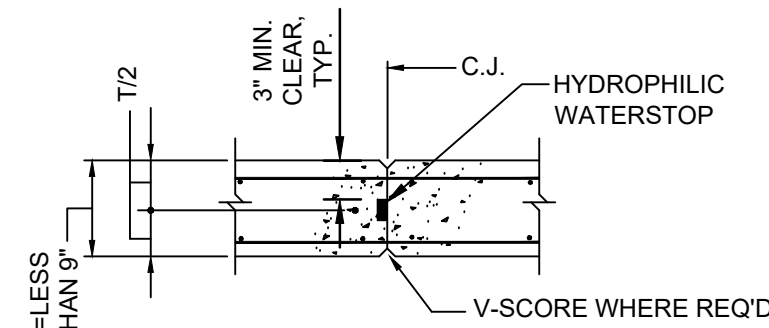


NOTES FOR V-SCORES FOR CONSTRUCTION JOINTS ONLY

- V-SCORES ARE TO BE INSTALLED IN WALLS AND SLABS WHERE JOINTS ARE EXPOSED TO VIEW OR LIQUIDS. OMIT V-SCORES WHERE JOINTS WILL BE EMBEDDED IN EARTH AND NOT EXPOSED TO VIEW. OMIT V-SCORES ON TOP SURFACES OF ALL INTERIOR SLABS THAT ARE COATED OR COVERED WITH AN ARCHITECTURAL FINISH.
- ALL V-SCORED JOINTS MUST BE USED IN CONJUNCTION WITH CONSTRUCTION JOINT DETAILS.
- THE EXTENT AND LOCATION OF V-SCORES SHALL BE REVIEWED WITH THE DESIGN ENGINEERS PRIOR TO FORM FABRICATION.

TYP. V-SCORE DETAIL

NOT TO SCALE



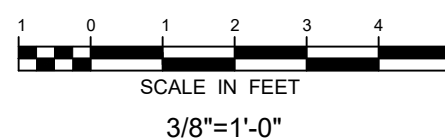
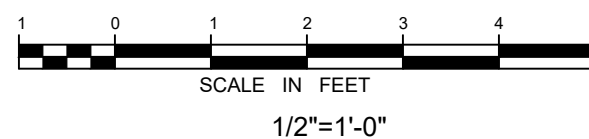
CONSTRUCTION JOINT IN SLAB

NOT TO SCALE

(HORIZONTAL SLAB AND VERTICAL WALL CONSTRUCTION JOINTS)

NOTES

- THE STRUCTURAL DESIGN OF THIS PROJECT IS BASED UPON APPROPRIATE PORTIONS OF THE FOLLOWING:
 - AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, 17TH EDITION 2002.
 - AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318-19
 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-10.
- ALL REINFORCED CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI STANDARD 318-08), "ACI DETAILING MANUAL" (ACI PUBLICATION SP 66-(04)), EXCEPT AS SPECIFICALLY MODIFIED BY THE CONTRACT DRAWINGS.
- ALL STRUCTURAL MEMBERS SHALL BE CAST MONOLITHICALLY FOR THEIR FULL DEPTH, UNLESS OTHERWISE NOTED.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER.
- THE SPACING OF REINFORCING SHOWN ON THE CONTRACT DRAWINGS IS THE MAXIMUM PERMITTED. IT MAY BE REDUCED FOR CONSTRUCTION CONSIDERATIONS BUT IS NOT TO BE EXCEEDED.
- PRIOR TO THE ORDERING OF ANY CONCRETE, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR REVIEW, A DESIGN MIX INDICATING THE PROPOSED PROPORTIONING OF MATERIALS TO BE USED FOR EACH CLASS OF CONCRETE, TOGETHER WITH DOCUMENTATION FROM AN APPROVED TESTING LABORATORY THAT THE PROPORTIONS PROPOSED MEET THE SPECIFIED REQUIREMENTS.
- THE DESIGN MIX OR MIXES SHALL BE PREPARED BY THE PRODUCER OR CONTRACTOR'S TESTING LABORATORY, AND SHALL BE PREPARED IN ACCORDANCE WITH ACI 318-11, SECTION 5.3, "PROPORTIONING ON THE BASIS OF FIELD EXPERIENCE AND/OR TRIAL MIXTURES". EACH REQUIRED DESIGN MIX SHALL REFLECT THE EFFECTS OF THE ADDITION OF ALL PROPOSED OR REQUIRED ADMIXTURES. FOR THE PURPOSE OF ESTABLISHING A DESIGN MIX CONTAINING A SET-RETARDING ADMIXTURE, THE TEMPERATURE MAY BE ASSUMED AT 65°F.
- THE DESIGN MIX SUBMITTAL SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:
 - NAMES OF ALL SUPPLIERS AND/OR MANUFACTURERS.
 - DISTANCE, IN MILES, FROM THE CONCRETE PLANT TO THE JOB SITE.
 - CERTIFICATION OF COMPLIANCE OF MATERIALS WITH ASTM SPECIFICATIONS AS HERE IN BEFORE SPECIFIED.
 - PROPOSED PROPORTIONING OF MATERIALS REQUIRED FOR EACH DESIGN MIX SUBMITTED FOR THE VARIOUS REQUIRED CONCRETE STRENGTHS, W/C RATIOS, AND AGGREGATE SIZES.
 - ADMIXTURES REQUIRED AND/OR PROPOSED AND DOSAGE OF EACH FOR ALL TEMPERATURE RANGES PROPOSED.
 - SIEVE ANALYSES FOR EACH AGGREGATE SIZE.
 - REQUIRED CYLINDER TEST RESULTS AND CURVES.
 - SIGNED STATEMENT THAT THE PROPOSED PROPORTIONS MEET ALL OF THE SPECIFICATION REQUIREMENTS, INCLUDING REQUIRED AVERAGE COMPRESSIVE STRENGTH SHALL CONSIST OF A FIELD STRENGTH TEST RECORD, SEVERAL STRENGTH TEST RECORDS, OR TRIAL MIXTURES. ALL DOCUMENTATION SUBMITTED SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, CHAPTER 5.
- ALL DESIGN MIXES, OF EACH PROPOSED MIX FOR EACH STRENGTH OF CONCRETE AND MAXIMUM COARSE AGGREGATE SIZE, SHALL BE SUBMITTED TO THE ENGINEER AT LEAST 15 DAYS PRIOR TO THE START OF THE WORK, INCLUDING CERTIFIED REPORTS OF TESTS CONFORMING TO ASTM C227 INDICATING THAT THE AGGREGATES COMPLY AS SPECIFIED. THE CONTRACTOR SHALL NOT BEGIN CONCRETE PRODUCTION UNTIL THE MIXES HAVE BEEN REVIEWED AND ACCEPTED BY THE ENGINEER.
- THE COST OF PREPARING THE DESIGN MIXES SHALL BE PAID BY THE CONTRACTOR.
- WHERE CALLED FOR CHEMICAL ANCHORS SHALL BE AN EPOXY ADHESIVE SYSTEM SUCH AS HIT-RE500 V3 EPOXY ADHESIVE BY HILTI, OR EQUAL. ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE STRICTLY ADHERED.
- ALL POST-INSTALLED ANCHORS AND HARDWARE (NUTS AND WASHERS) SHALL BE 316 STAINLESS STEEL.



ORIGINALLY DESIGNED BY KEVIN K. NOLLSTADT FOR
MOTT MACDONALD ON 10/12/2021
NJ LICENSE NO. 45197

ISSUED FOR CONSTRUCTION	REVISIONS
10/12/2021	1
5/24/2021	2
9/13/2019	3
DATE	Revision

8/15/2024
DATE
AARON J. SCHRAGER
Professional Engineer
New Jersey Lic. No. 46143
Civil Engineer



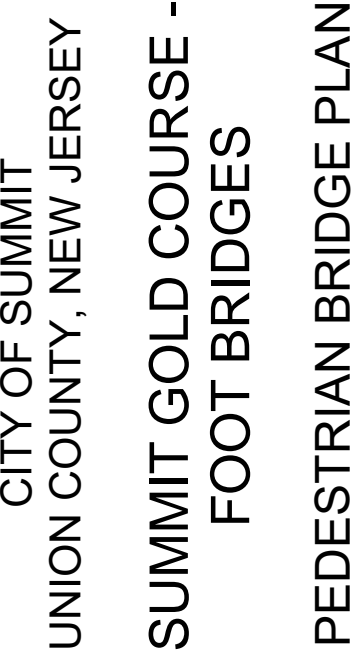
CITY OF SUMMIT
UNION COUNTY, NEW JERSEY
SUMMIT GOLD COURSE -
FOOT BRIDGES
BRIDGE PLAN, SECTIONS AND DETAILS

File	SUMMIT GOLF COURSE
Book	Page
Job	No.
319308	6
Scale	B/O
1"=5'	Total
	12

Drawing No.

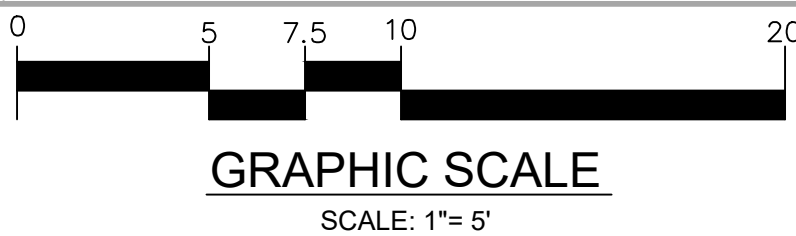
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File SUMMIT GOLF COURSE		
Book	Page	
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LEGEND

- _____ FHA _____ - APPROXIMATE FLOOD HAZARD AREA DESIGN FLOOD (DELINEATED USING METHOD 6 FROM THE LATEST FLOOD HAZARD AREA REGULATIONS)
- _____ RZ _____ - 50' RIPARIAN ZONE
- _____ L/D _____ - LIMIT OF DISTURBANCE (1,677 SQUARE YARDS OR 0.35 ACRES)

1. CONTRACTOR SHALL PROVIDE CONSTRUCTION FENCE AT AND AROUND RING DUMP OF ALL TREES IN THE VICINITY OF CONSTRUCTION AREA.

2. DURING AND AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE PROJECT AREAS IN A NEAT AND TIDY CONDITION WITH ALL EQUIPMENT SECURED WHEN NOT IN USE.

3. CONSIDERED IN THE PERMITS.

4. THE MAINTAINED LANDSCAPE AREAS AND OTHER AREAS THAT ARE DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE FULLY RESTORED AS THEY WERE PRIOR TO COMMENCEMENT OF THE WORK. THIS INCLUDES:

5. FENCING, LANDSCAPING, PATIOS & OTHER EXISTING STRUCTURES.

6. ALL WORK SHALL BE PERFORMED IN A GOOD, SAFE AND WORKMAN-LIKE MANNER.

7. ALL INFORMATION SHOWN OR NOTED FOR EXISTING FACILITIES, GRADES, ROADWAYS, AND MATERIALS IS APPROXIMATE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL INFORMATION WHICH MAY AFFECT HIS WORK. LOCATION OF EXISTING UTILITIES ARE ONLY INDICATED TO BRING ATTENTION TO POSSIBLE CONFLICTS. ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ALL COSTS FOR REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

8. TOPOGRAPHIC DATA BASED ON A FIELD SURVEY PERFORMED BY MOTT MACDONALD ON MARCH 29, 2013.

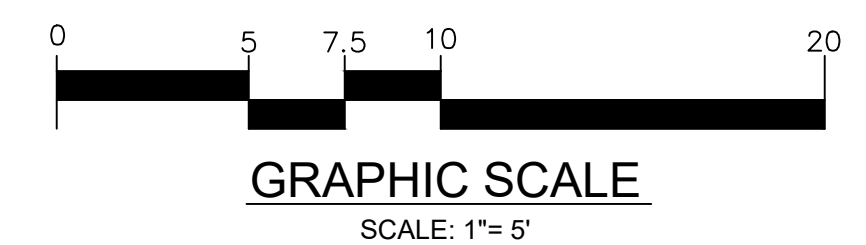
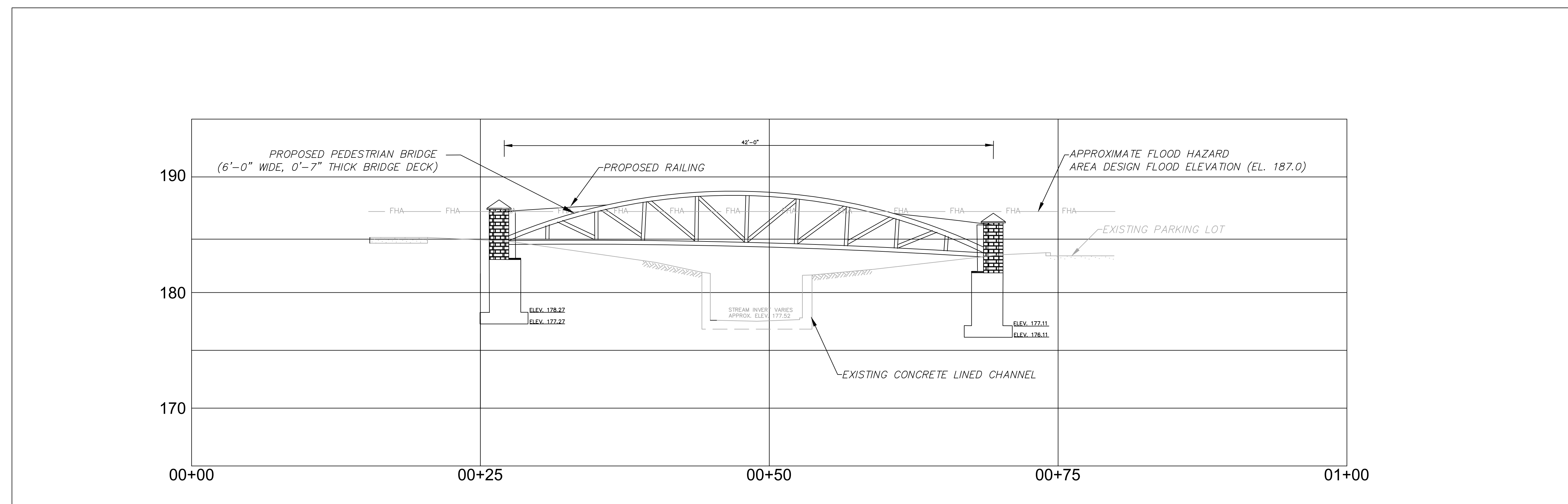
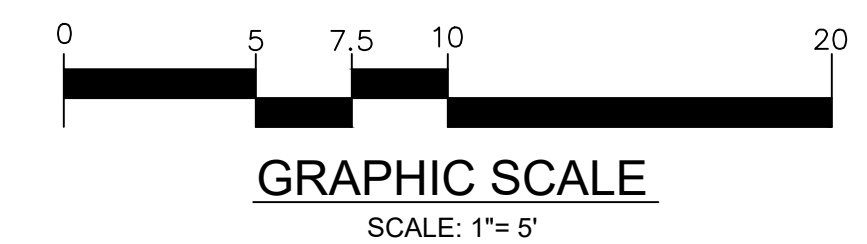
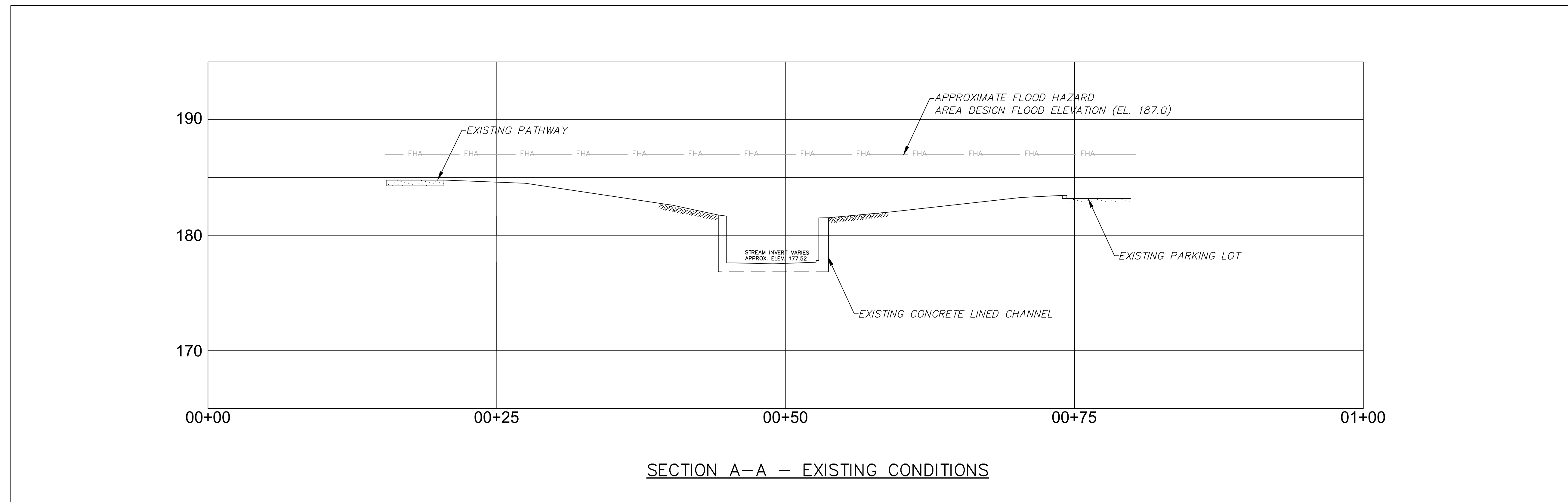
9. ALL SOIL, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF ANY SOIL OR SEDIMENT DISTURBANCE AND SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND SURFACE AREAS ARE REHABILITATED.

10. THE CONTRACTOR SHALL NOT DISTURB THE SHORELINE SLOPE OR VEGETATION ALONG THE SHORELINE EXCEPT AS REQUIRED FOR ACCESS TO THE POND FOR CONSTRUCTION.

11. PER THE CITY OF SUMMIT AND NIDUEP, FERTILIZER SHALL NOT BE USED WITHIN ANY RIPARIAN ZONE.

12. CONTRACTOR SHALL COORDINATE WITH THE CITY OF SUMMIT FOR PARKING AND STORAGE OF MATERIALS WITHIN THE PROJECT SITE. SOME OF THE EXISTING PARKING LOT ALONG THE BACK ROW SHALL BE USED FOR PARKING AND STORAGE OF MATERIALS.

13. CONTRACTOR MUST PROTECT ALL GOLF COURSE UTILITIES SUCH AS SPRINKLER SYSTEMS, DRAINAGE SYSTEMS, ETC. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES AND SHALL REPLACE



MO IT MCDONALD ON 10/12/2021
NJ LICENSE NO. 45197

Date	Revision
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DATE _____

Professional Engineer
New Jersey Lic. No. 46143
City Engineer

City Engineer

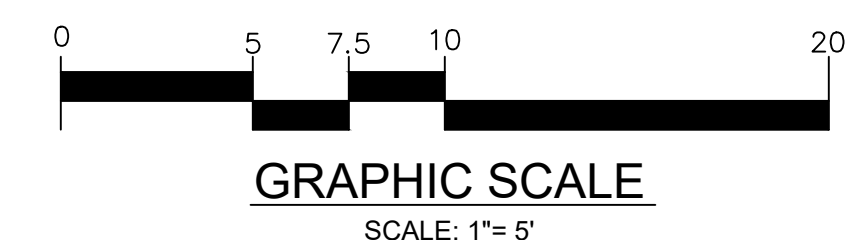
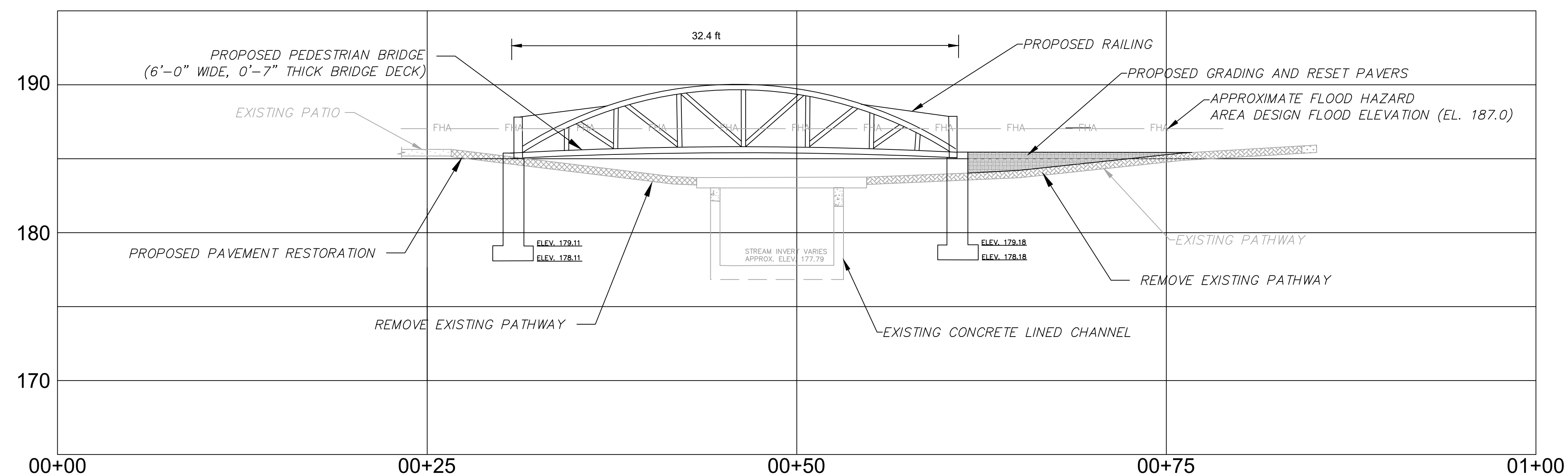
City Engineer



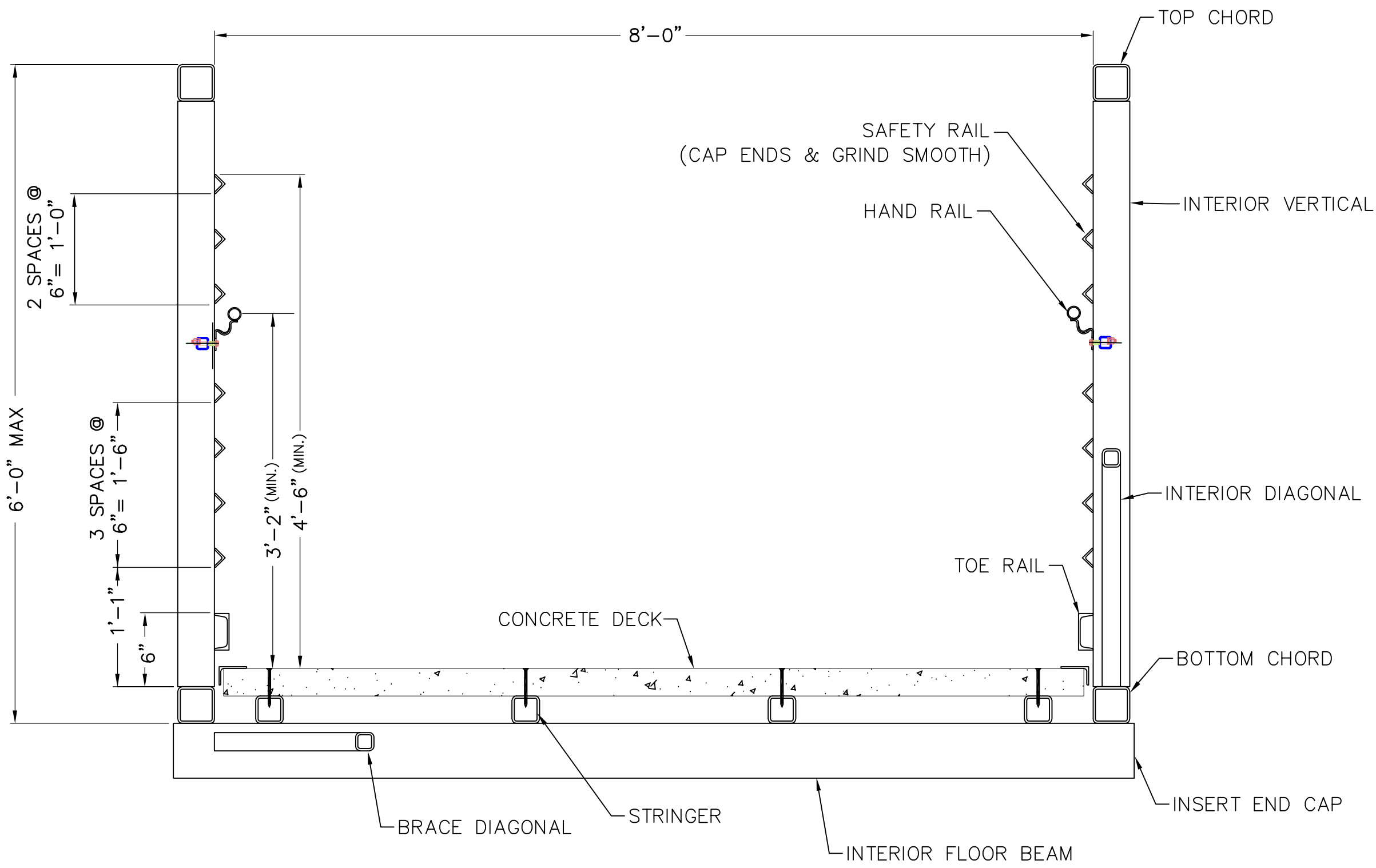
UNION COUNTY, NEW JERSEY
SUMMIT GOLD COURSE -
FOOT BRIDGES

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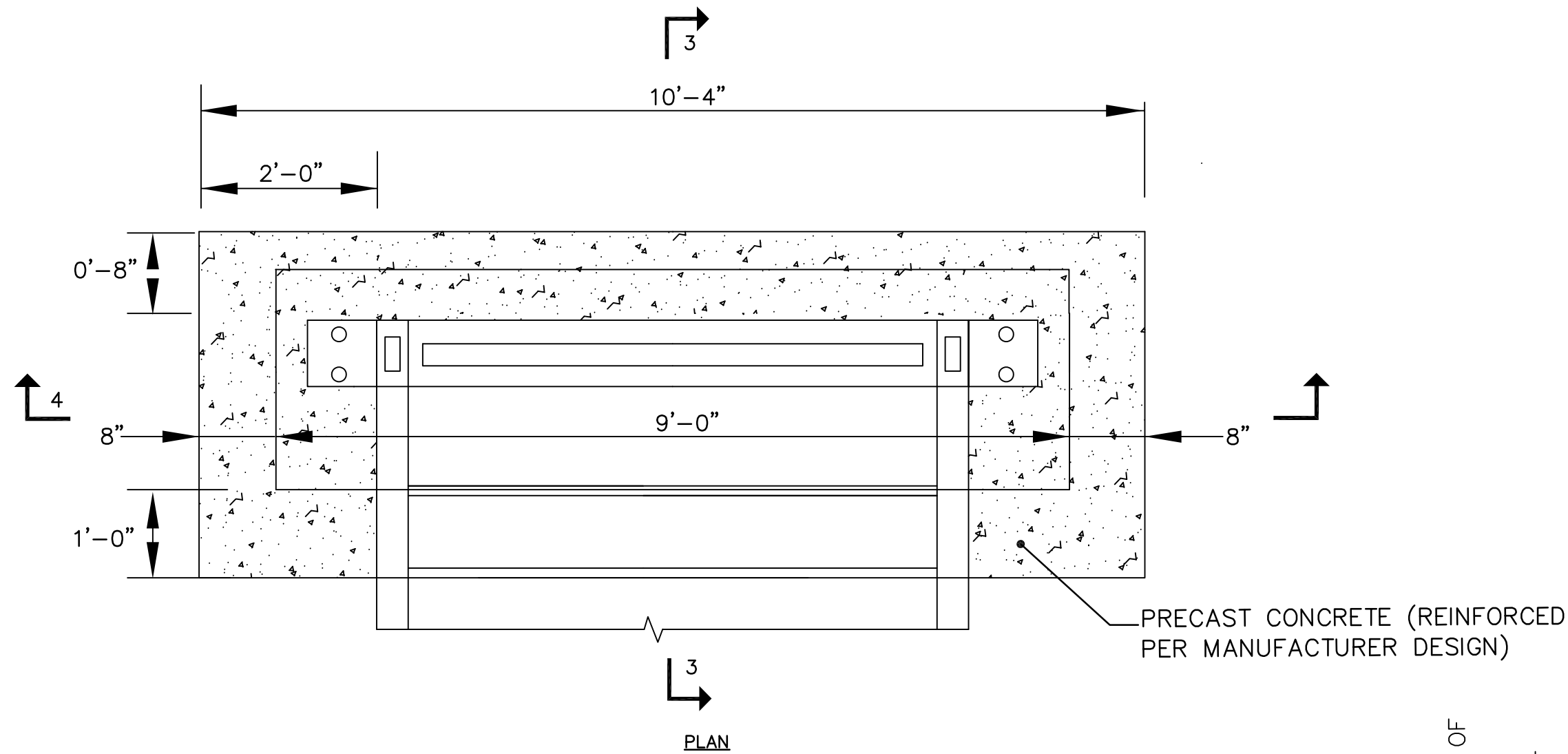
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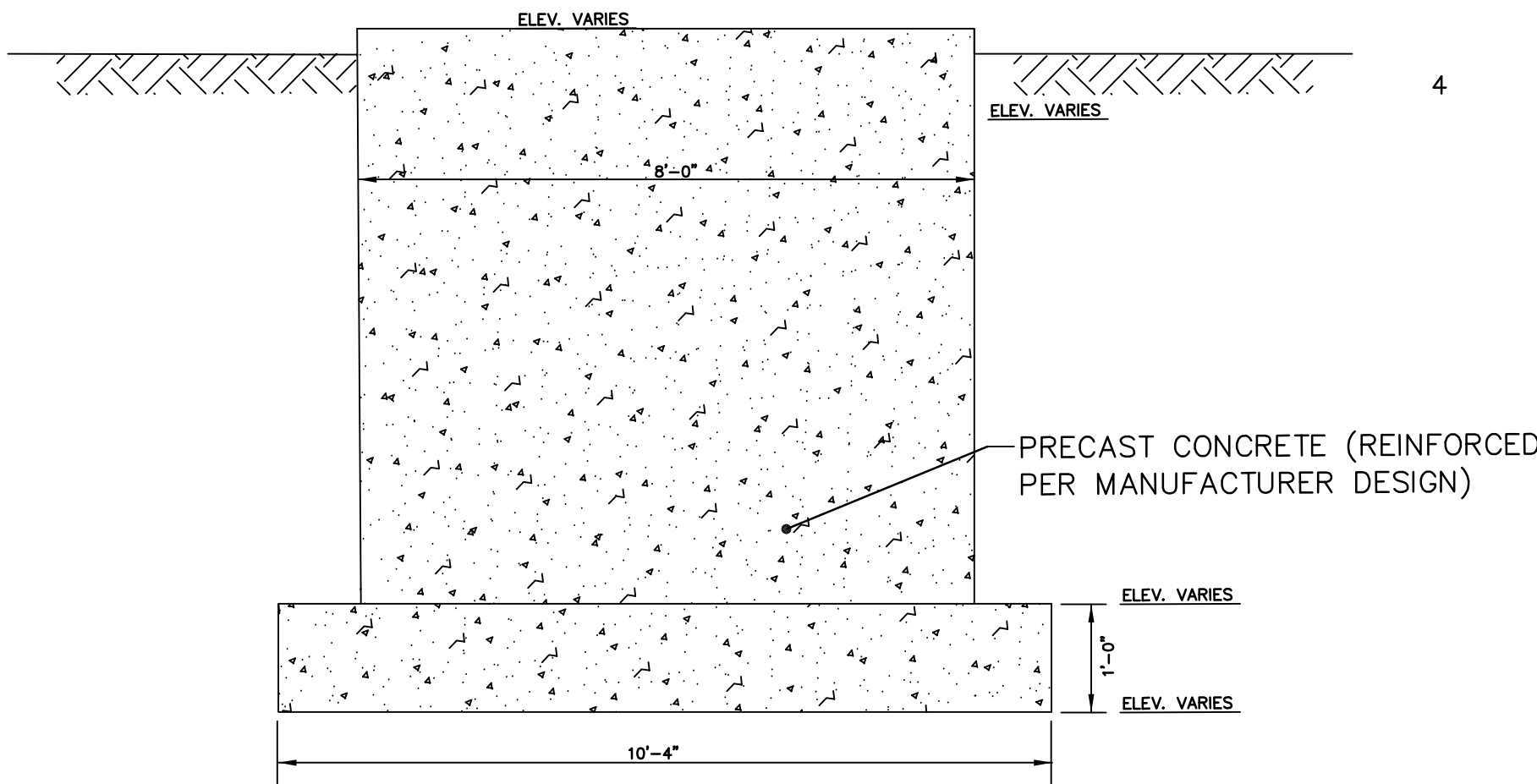


PROPOSED FOOTBRIDGE - CROSS SECTION (TYP.)
NOT TO SCALE

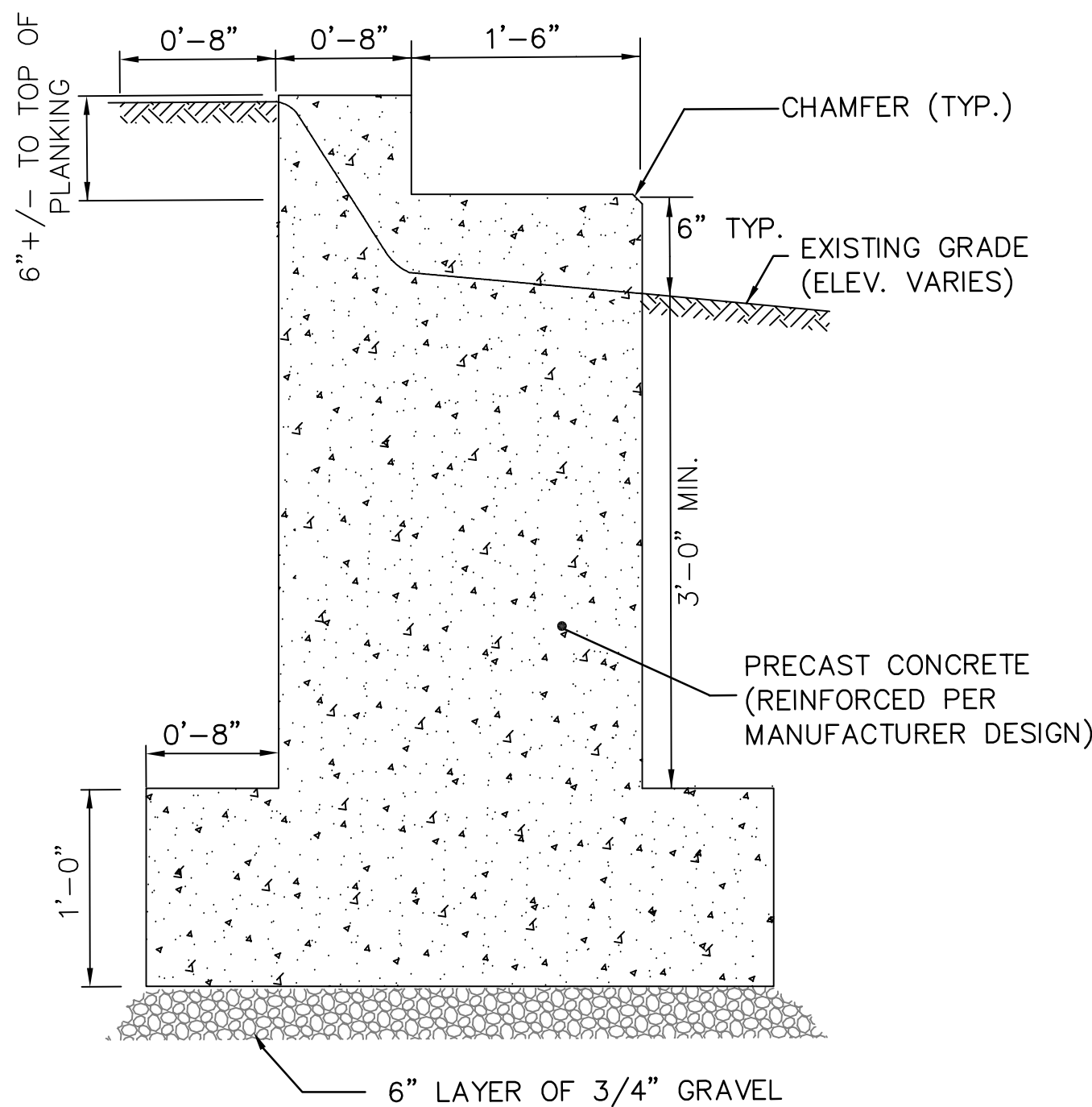


CONCRETE ABUTMENT DETAIL - BRIDGE 2
NOT TO SCALE

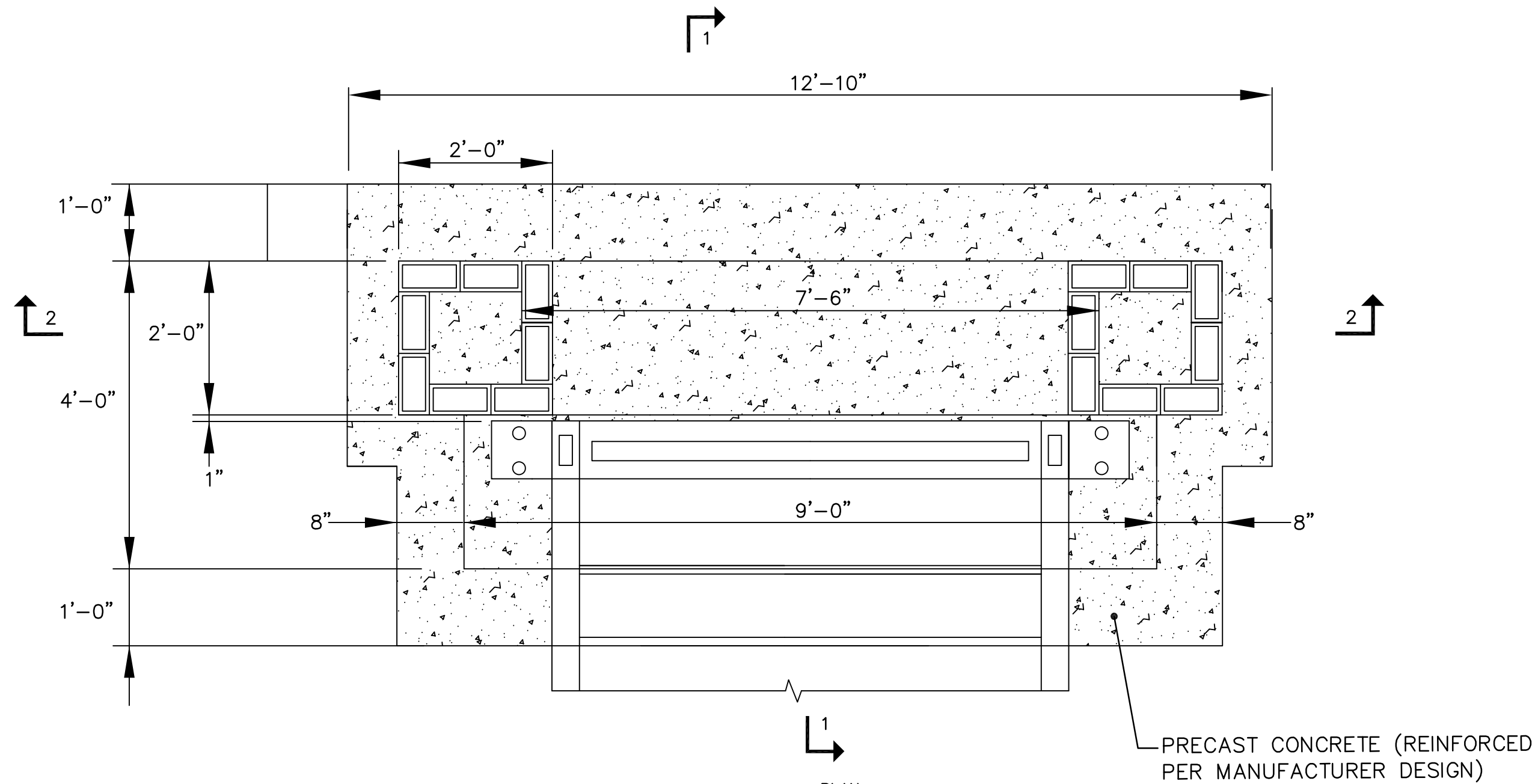
- NOTES:
1. FOR LOCATION AND ORIENTATION OF ABUTMENTS, SEE SITE PLAN.
 2. FOOTING DIMENSIONS SHOWN REPRESENTS MINIMUM REQUIREMENTS. EXACT DIMENSIONS SHALL BE DETERMINED BY PROFESSIONAL ENGINEER RETAINED BY CONTRACTOR PER PROJECT SPECIFICATIONS.
 3. CONTRACTOR TO TEST PIT FOUNDATION LOCATIONS TO VERIFY SOIL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWING. SOIL BEARING CAPACITY ASSUMED @ 1,500 PSI.



SECTION 4-4
NOT TO SCALE

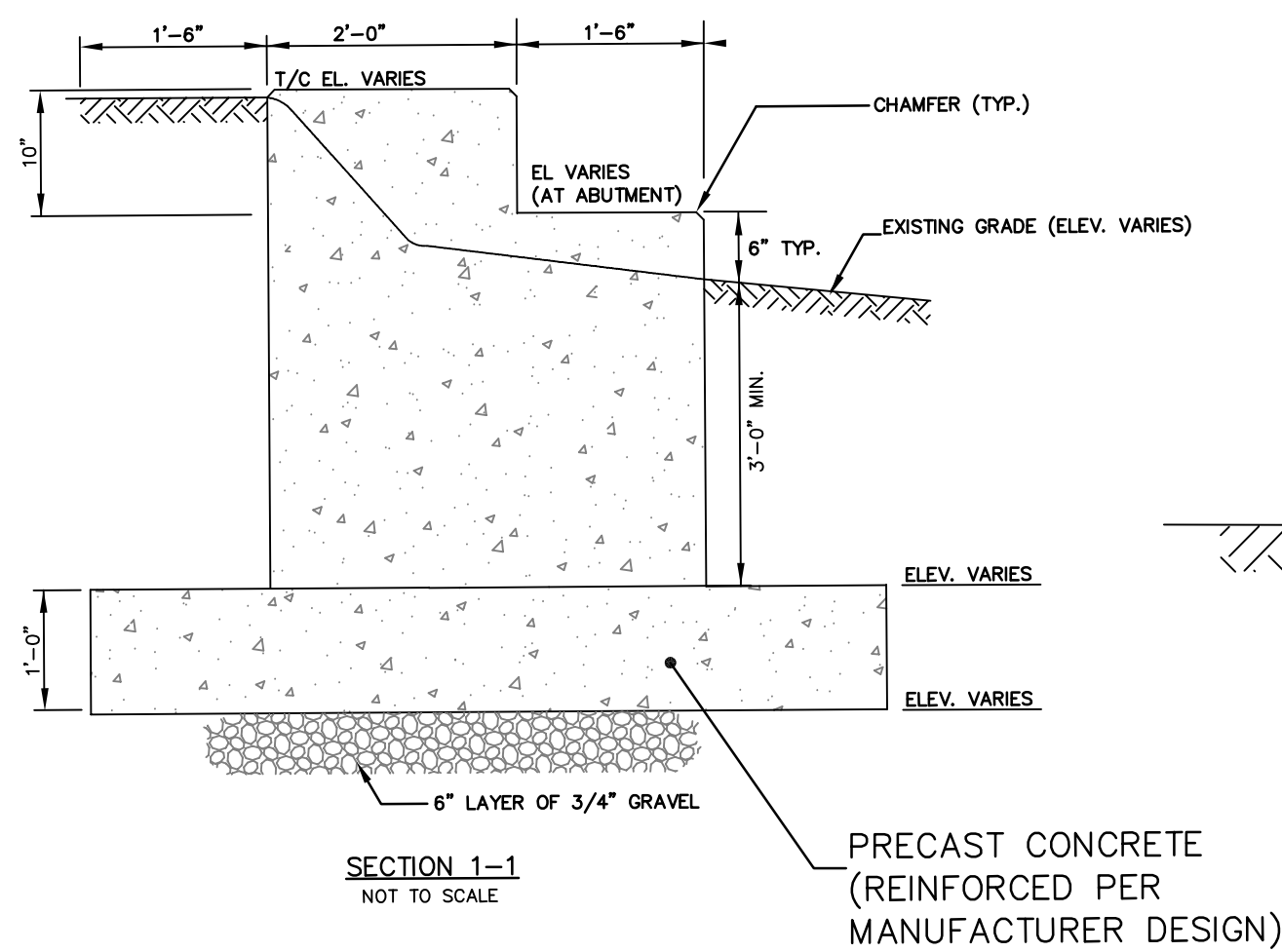


SECTION 3-3
NOT TO SCALE

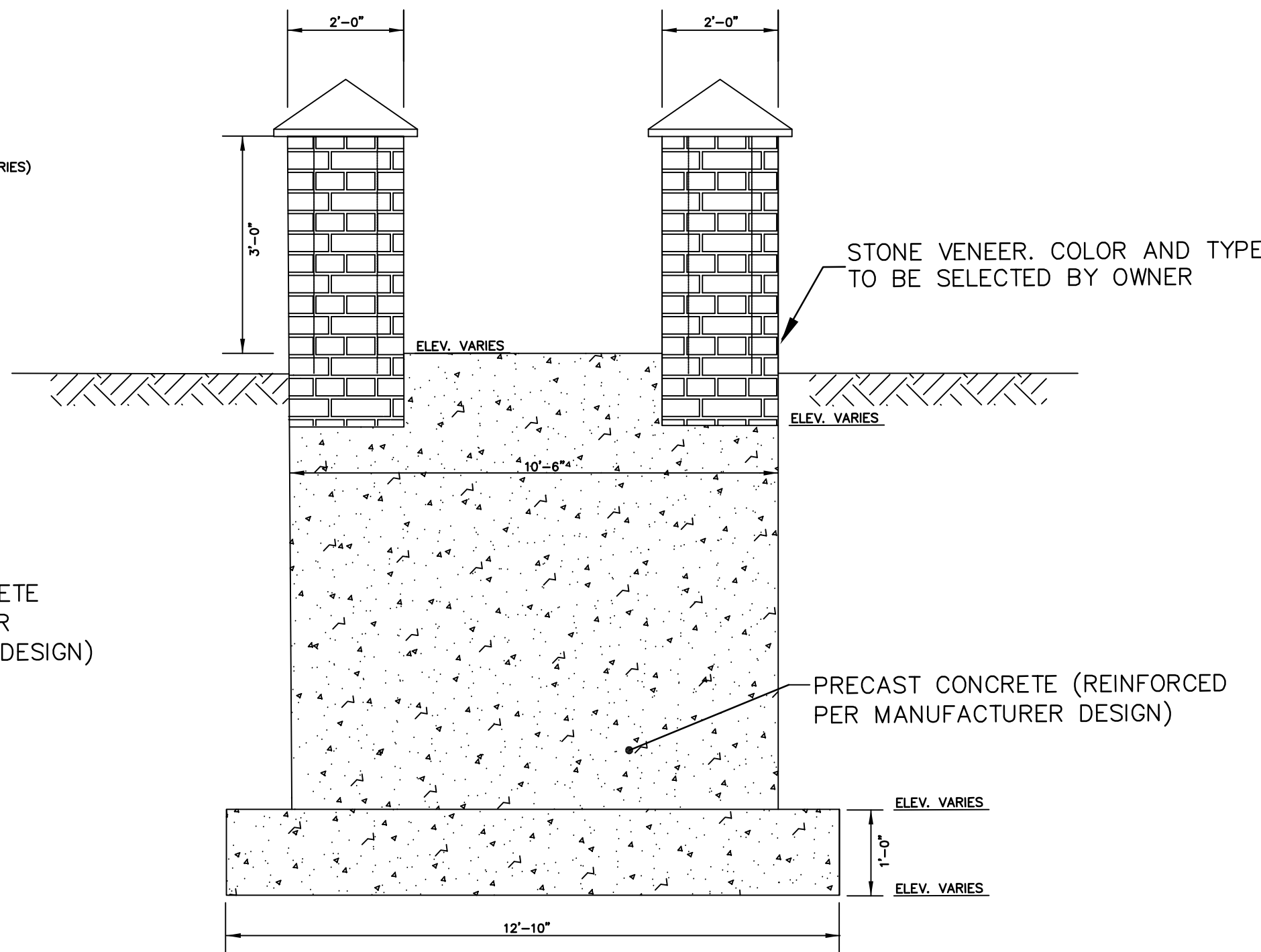


CONCRETE ABUTMENT DETAIL - BRIDGE 1
NOT TO SCALE

- NOTES:
1. FOR LOCATION AND ORIENTATION OF ABUTMENTS, SEE SITE PLAN.
 2. FOOTING DIMENSIONS SHOWN REPRESENTS MINIMUM REQUIREMENTS. EXACT DIMENSIONS SHALL BE DETERMINED BY PROFESSIONAL ENGINEER RETAINED BY CONTRACTOR PER PROJECT SPECIFICATIONS.
 3. CONTRACTOR TO TEST PIT FOUNDATION LOCATIONS TO VERIFY SOIL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWING. SOIL BEARING CAPACITY ASSUMED @ 1,500 PSI.




SECTION 1-1
NOT TO SCALE

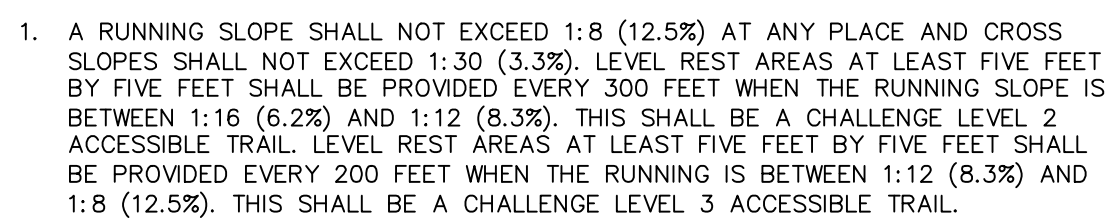



SECTION 2-2
NOT TO SCALE

NOTES:

1. PRECAST CONCRETE MAY BE REPLACED WITH CAST-IN-PLACE CONCRETE. CONTRACTOR RESPONSIBLE TO PROVIDE SHOP DRAWINGS, SIGNED AND SEALED BY A NEW JERSEY PROFESSIONAL ENGINEER, FOR REINFORCEMENT, CONCRETE MIX, ETC..
1. CONTRACTOR MAY FABRICATE AND SECURE THE PRECAST INTO SECTIONS SUBJECT TO THE REVIEW AND APPROVAL BY THE TOWNSHIP ENGINEER.

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Aaron J. Schragger
Professional Engineer
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DATE

8/15/2024



CITY OF SUMMIT
UNION COUNTY, NEW JERSEY

SUMMIT GOLD COURSE -
FOOT BRIDGES

CONSTRUCTION DETAILS

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STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION

ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE

TO PERMANENTLY STABILIZE THE SOIL, ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

I. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 4.11.

B. INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 4.2 THROUGH 4.16.

II. SEEDED PREPARATION

A. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY SOIL TESTING LABORATORY. SOIL SAMPLE SMALLERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 38-0-0 PER ACRE OF EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED IN LIEU OF TOPDRESSING (SEE PAGE 3.2.7, SECTION IV). APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES) AS FOLLOWS:

SOIL TEXTURE	TONS/ACRE	LBS./1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	4	180
SANDY LOAM, LOAM, SILT LOAM	3	135
LOAMY SAND, SAND	2	90

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LINE AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

C. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.

D. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

III. SEEDING

A. SELECT A MIXTURE FROM TABLE 3.2-1 OR USE MIXTURE RECOMMENDED BY THE COOPERATIVE EXTENSION SERVICE OR SOIL CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT.

B. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. THE LATTER MAY BE JUSTIFIABLE FOR LARGE, STEEP AREAS WHERE CONVENTIONAL VEHICLES CANNOT TRAVEL. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. A DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD, WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

IV. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. (THE EXISTENCE OF SATISFACTORY PERMANENT VEGETATION AT THE TIME OF THE PROJECT OR UNIT COMPLETELY SHALL BE DEEMED AS COMPLIANCE WITH MULCHING REQUIREMENTS.)

A. MULCH MATERIALS SHOULD BE UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY BE APPLIED AT THE RATE OF 1-1/2 TONS PER ACRE (75 LBS. PER 1,000 SQ. FT.) EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION MUST BE DOUBLE THE LOWER RATE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MATERIAL.

B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 75% TO 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

C. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE – DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CROSS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

2. MULCH NETTINGS – STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

3. CRIMPER (MULCH ANCHORING TOOL) – A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISCHARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

4. LIQUID MULCH-BINDERS – MAY BE USED TO ANCHOR SALT HAY, HAY, OR STRAW MULCHES.

A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

B. USE ONE OF THE FOLLOWING:

1. EMULSIFIED ASPHALT (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE.

2. OUTBACK ASPHALT – RAPID CURING (RC-70, RC-250, AND RC-800) OR MEDIUM CURING (MC-250 OR MC-800). APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT AREAS AND ON SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE.

3. SYNTHETIC OR ORGANIC BINDERS – BINDERS SUCH AS CURASOL, DCA-70, PETRO-SET, AND TERRA-TACK MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS.

NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

C. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

V. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER (A MINIMUM OF 1/2 INCH TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDLINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR DROUGHTY SITES.

VI. TOPDRESSING

A. SPRING SEEDINGS WILL REQUIRE AN APPLICATION OF FERTILIZER SUCH AS 10-10-10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQ. FT. BETWEEN SEPTEMBER 1 AND OCTOBER 15.

B. FALL SEEDINGS WILL REQUIRE THE ABOVE BETWEEN MARCH AND MAY 1.

C. MIXTURES DOMINATED BY WEEPING LOVEGRASS OR LEGUMES MAY NOT NEED TOPDRESSING.

D. BERMUDAGRASS SHOULD BE TOPDRESSED BEFORE AUGUST 15.

*IF SLOW RELEASE NITROGEN (300 POUNDS 30-0-0 PER ACRE OR EQUIVALENT) IS USED IN ADDITION TO SUGGESTED FERTILIZER, THIS FOLLOW-UP OF TOPDRESSING IS NOT MANDATORY.

NOTE: SOILS HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A pH OF 5 OR MORE BEFORE SEEDED PREPARATION. THE ADDED SOIL SHALL BE LIMED AS ABOVE.

SOILS AND SEED MIXTURES

40% PERENNIAL RYE GRASS
30% CREEPING RED FESCUE
20% KENTUCKY BLUE GRASS
10% ALAIRE PERENNIAL RYE GRASS

TABLE 3.2-1

SOILS, SEED MIXTURES, AND DATES FOR PERMANENT SEEDINGS FOR SOIL STABILIZATION

SOILS & SITES	SEED MIXTURE 1/	MINIMUM SEEDING RATES 2/ (pounds)	OPTIMUM SEEDING DATES 3/
Based on Plant Hardiness Zone 3/			
		Per 1,000 Sq. Ft.	ZONE 5 ZONE 6 ZONE 7
A. Well to Excessively Well Drained	Normal Seeding Depth is from 1/4-1/2 inch except A-3, A-4, A-7	Per Acre	
1. Unmowed areas, e.g., lawns, recreation areas	Seeding lovegrass Sericea lespedeza	20 0.1 0.3	— — 3/1-8/1
2. Unmowed, coarse textured soils, wildlife areas; native good forage	Switchgrass	25 0.6 0.3	3/1-7/1 4/1-6/1 4/1-6/1
3. Unmowed areas	Seeding lovegrass 1/2-1", Crownvetch	3 0.1 0.3	— — 3/1-8/1
4. Best for coarse textured soils; suppresses woody growth; unmowed areas	Seeding lovegrass 1/2-1", Florgess	30 0.1 0.7	— — 3/1-8/1
5. Unmowed areas, e.g., road banks, gravel pits, etc.	Perennial ryegrass 12 0.3 0.3	25 0.6 0.3	3/15-6/1 3/1-5/15 2/15-5/1
	Spreading fescue	25 0.6 0.3	8/15-10/1 8/15-10/15

END OF NOTES

SEQUENCE OF CONSTRUCTION

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SOIL EROSION AND SEDIMENT CONTROL MEASURES, ESTABLISH STAGING AND STOCKPILE AREAS.

2. INSTALL EROSION CONTROL MEASURES TO THE WORK AREA AS REQUIRED FOR CONSTRUCTION. EXCAVATE, CONSTRUCT NEW STRUCTURES, BACKFILL AS REQUIRED.

3. INSTALL TEMPORARY AND/OR PERMANENT SEEDING AS REQUIRED ALONG AREAS DISTURBED BY CONSTRUCTION.

4. PROCEED WITH CONSTRUCTION OF PROJECT.

5. UPON COMPLETION OF CONSTRUCTION, REMOVE SOIL EROSION AND SEDIMENT CONTROL MEASURES, AND RESTORE STAGING AND STOCKPILE AREAS.

6. DURATION OF THE PROJECT CONSTRUCTION WILL BE 12-15 MONTHS.

NOTE:

SOMERSET-UNION SOIL CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING PRIOR TO ANY DISTURBANCE

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

Definition

Establishment of temporary vegetative cover on soils exposed for periods of two to 12 months.

Purpose

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Where Applicable

On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

I. Site Preparation

A. Grade as needed and feasible to permit the use of conventional equipment for seeded preparation, seedling, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, p. 4.11.

B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 4.2 through 4.16.

II. Seeded Preparation

A. Apply limestone and fertilizer according to soil test recommendations such as those offered by Rutgers University Soil Testing Laboratory. Soil sample smallers are available from the local Cooperative Extension Service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent. In addition, 300 lbs. of slow release nitrogen may be used in lieu of topdressing. Limestone is drilled over seeded fertilizer. The rate of fertilizer is reduced 50 percent. Apply limestone (equivalent to 50 percent calcium plus magnesium oxides) as follows:

SOIL TEXTURE	TONS/ACRE	LBS./1,000 SQ. FT.
Clay, clay loam, and high organic soil	3	135
Sandy loam, loam, silt loam	2	90
Loamy sand, sand	1	45

Pulverized dolomitic limestone is preferred for most soils south of the New Brunswick-Trantion line.

B. Work line and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrow or discing operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.

C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled as above.

D. Soils high on sulfides or having a pH of 4 or less should be mulched only. See Standards for Stabilization with Mulch Only, p. 3.3.1.

III. Seeding

A. Select seed from recommendations in Table 3.1-1.

NOTES:

1/ Seeding mixtures and/or rates not listed above may be used if recommended by the local Soil Conservation District, Soil Conservation Service, recommendations of the Cooperative Extension Service may be used if approved by the Soil Conservation District. Legumes (clover, crown vetch, trefoil, lespedeza) should be mixed with proper inoculant prior to planting.

2/ Grass seed mixture checked by the chief of the Bureau of Seed Certification, New Jersey Department of Agriculture, Trenton, New Jersey, will assure the purchaser that the mixture contains the mixture ordered.

3/ Plant Hardiness Zone (see map, p. 3.2.6)

Zone 5 - Portions of Sussex and Warren Counties

Zone 6 - Portions of Bergen, Camden, Essex and Gloucester, all of Hunterdon, portions of Mercer and Middlesex, all of Morris and Passaic, portions of Somerset, Sussex, Union and Warren Counties

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B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 4.2 through 4.16.

II. Seeded Preparation

A. Apply limestone and fertilizer according to soil test recommendations such as those offered by Rutgers University Soil Testing Laboratory. Soil sample smallers are available from the local Cooperative Extension Service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent. In addition, 300 lbs. of slow release nitrogen may be used in lieu of topdressing. Limestone is drilled over seeded fertilizer. The rate of fertilizer is reduced 50 percent. Apply limestone (equivalent to 50 percent calcium plus magnesium oxides) as follows:

SOIL TEXTURE	TONS/ACRE	LBS./1,000 SQ. FT.
Clay, clay loam, and high organic soil	3	135
Sandy loam, loam, silt loam	2	90
Loamy sand, sand	1	45

Pulverized dolomitic limestone is preferred for most soils south of the New Brunswick-Trantion line.

B. Work line and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrow or discing operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.

C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled as above.

D. Soils high on sulfides or having a pH of 4 or less should be mulched only. See Standards for Stabilization with Mulch Only, p. 3.3.1.

III. Seeding

A. Select seed from recommendations in Table 3.1-1.

NOTES:

1/ Seeding mixtures and/or rates not listed above may be used if recommended by the local Soil Conservation District, Soil Conservation Service, recommendations of the Cooperative Extension Service may be used if approved by the Soil Conservation District. Legumes (clover, crown vetch, trefoil, lespedeza) should be mixed with proper inoculant prior to planting.

2/ Grass seed mixture checked by the chief of the Bureau of Seed Certification, New Jersey Department of Agriculture, Trenton, New Jersey, will assure the purchaser that the mixture contains the mixture ordered.

3/ Plant Hardiness Zone (see map, p. 3.2.6)

Zone 5 - Portions of Sussex and Warren Counties

Zone 6 - Portions of Bergen, Camden, Essex and Gloucester, all of Hunterdon, portions of Mercer and Middlesex, all of Morris and Passaic, portions of Somerset, Sussex, Union and Warren Counties

Zone 7 - Atlantic, portion of Bergen, all of Burlington, Cape May and Cumberland, portions of Essex and Gloucester, all of Hudson, portion of Middlesex, all of Monmouth, Ocean and Salem and portion of Union County

DEFINITION

Establishment of temporary vegetative cover on soils exposed for periods of two to 12 months.

PURPOSE

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

WHERE APPLICABLE

On exposed soils that have the potential for causing off-site environmental damage.

METHODS AND MATERIALS

I. Site Preparation

A. Grade as needed and feasible to permit the use of conventional equipment for seeded preparation, seedling, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, p. 4.11.

B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 4.2 through