

Riverside Drive Recreation Field Improvements

Prepared for the Town of Andover, Connecticut

Funded in Part by a Grant Through the
SMALL TOWN ECONOMIC ASSISTANCE PROGRAM

Constructed in Cooperation with the
State of Connecticut
Dannel P. Malloy, Governor

Revised: May 18, 2016 (Issued for Bid)
Revised: April 12, 2016 (Draft Bid Document)
Revised: March 14, 2016
Revised: January 13, 2016
January 2016



LOCATION MAP
SCALE: 1" = ±1000'

INDEX TO DRAWINGS

DRAWING NO.	DESCRIPTION OF DRAWINGS
1	Existing Conditions & Demolition Plan
2	Site Improvement Plan
3	Erosion & Sedimentation Control Plan
4	Irrigation & Water System Plan
5	Add Alternate Precast Restroom & Concession Building Septic System Plan
6	Stormwater Management Plan and Erosion & Sedimentation Control Details
7	Construction Details & Notes
A-1	ADA Restrooms / Concession Stand

LEGEND TO DRAWINGS

	EXISTING CATCH BASIN & CULVERT
	EXISTING UTILITY POLE
	EXISTING TREE OR SHRUB
	EXISTING TREE / SHRUB LINE
	FENCE
	STONE WALL
	RETAINING WALL
	CONTOUR ELEVATION
	OVERHEAD WIRES
	PROPERTY LINE
	EXISTING MONUMENT OR PIN/PIPE
	PROPOSED CONTOUR
	PROPOSED SILT FENCE
	PROPOSED STONE DUST WALKING PATH
	PROPOSED GRAVEL SURFACE
	WETLAND FLAGS / LIMITS
	WETLAND REGULATED AREA LIMITS

CLA Engineers, Inc.
CIVIL • STRUCTURAL • SURVEYING

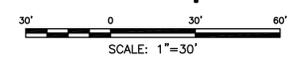
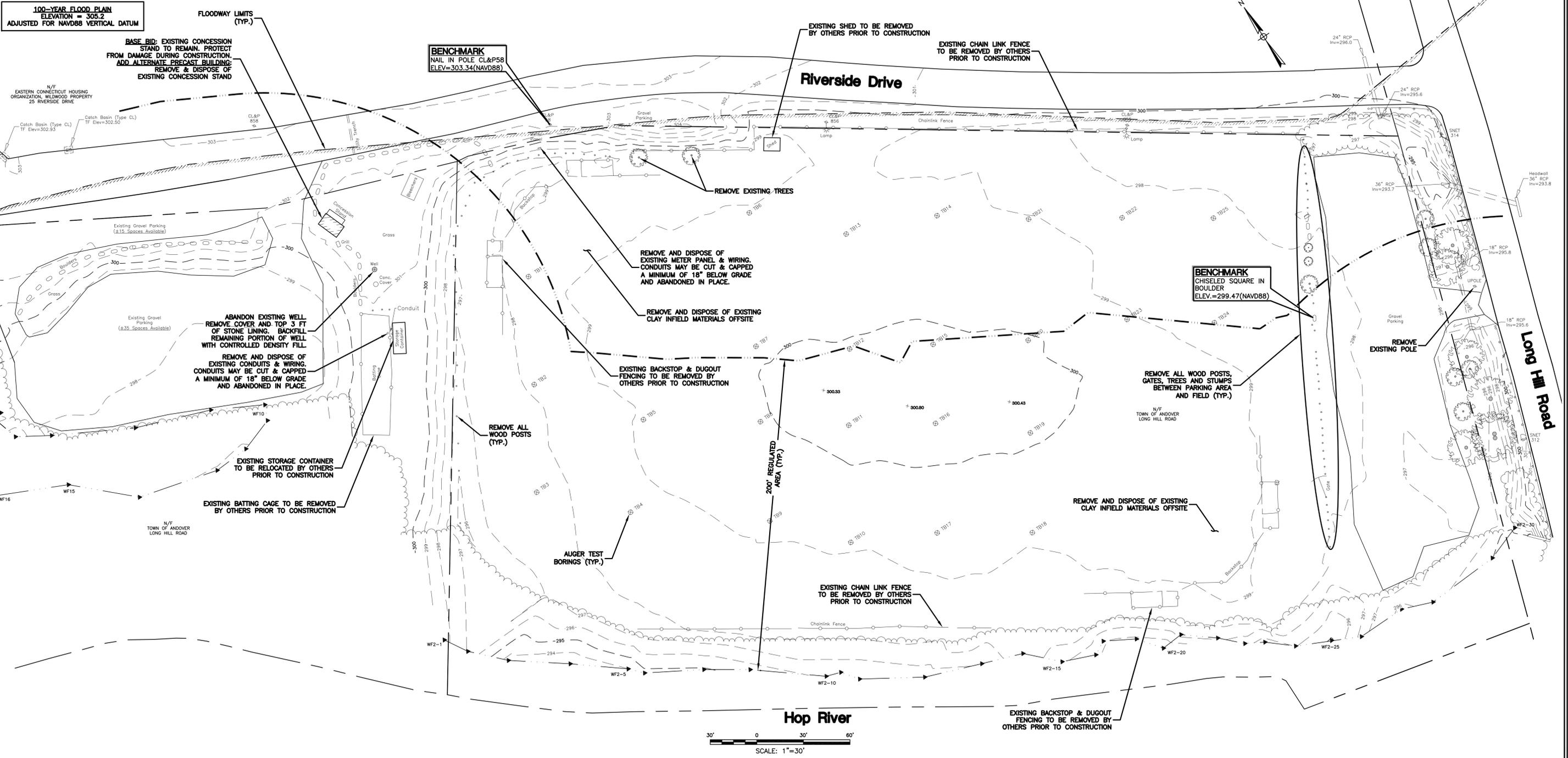
317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165

100-YEAR FLOOD PLAN
ELEVATION = 305.2
ADJUSTED FOR NAVD88 VERTICAL DATUM

BASE BID: EXISTING CONCESSION STAND TO REMAIN. PROTECT FROM DAMAGE DURING CONSTRUCTION. ADD ALTERNATE PRECAST BUILDING. REMOVE & DISPOSE OF EXISTING CONCESSION STAND

BENCHMARK
NAIL IN POLE CL&P58
ELEV=303.34(NAVD88)

BENCHMARK
CHISELED SQUARE IN BOULDER
ELEV.=299.47(NAVD88)



- General Notes**
- TOPOGRAPHY ESTABLISHED BY CLA ENGINEERS, INC.
 - CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 811 PRIOR TO THE START OF CONSTRUCTION.
 - INFORMATION SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING FIELD SURVEY, UTILITY COMPANY AND TOWN RECORD MAPS AND DRAWINGS, AND IS NOT GUARANTEED ACCURATE OR COMPLETE.
 - THE CONTRACTOR SHALL EXCAVATE TEST PITS AS NEEDED OR AS DIRECTED BY THE OWNER TO VERIFY UTILITY INFORMATION.
 - PASSAGE OF TRAFFIC ON ROADWAYS: A MINIMUM OF ONE LANE FOR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PERFORM HIS OPERATIONS TO MINIMIZE DISRUPTIONS TO TRAFFIC WITHIN THE PROJECT SITE. A SINGLE LANE OF TRAFFIC MUST BE MAINTAINED AT ALL TIMES FOR RESIDENTS, BUSINESSES AND EMERGENCY VEHICLES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC AND TRAFFIC CONTROL.
 - THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE STREET LINES, EASEMENTS AND PROPERTY AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAY, SIDEWALKS, ETC., OUTSIDE OF THE WORK AREA AND SHALL REPAIR SUCH DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY AND PERMANENT SUPPORT OF ALL EXISTING UTILITY POLES IN AN ADJACENT TO THE CONSTRUCTION AREA AND SHALL COMPLY WITH ALL THE REQUIREMENTS AND SPECIAL DETAILS FOR THE SUPPORT OF UTILITIES REQUIRED BY UTILITY AGENCIES. ALL COSTS FOR TEMPORARILY SUPPORTING UTILITY POLES DURING CONSTRUCTION SHALL BE INCLUDED IN OTHER ITEMS.
 - MATERIAL STOCKPILE AND STAGING AREAS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING STOCKPILE, MATERIAL STORAGE AND EQUIPMENT STORAGE AREAS. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL IDENTIFY THESE AREAS AND PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED.
 - THE CONTRACTOR SHALL ERECT TEMPORARY CONSTRUCTION FENCING AROUND THE WORK AREA TO SECURE THE SITE FROM UNAUTHORIZED ENTRANCE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY AND STAKEOUT AS THEY NEED, A CAD FILE WITH CONTROL POINT INFORMATION WILL BE PROVIDED TO THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
 - PLACEMENT OF FILL AND THE FORMATION OF THE EMBANKMENT SHALL CONFORM TO THE REQUIREMENTS OF SECTION 2.02 OF DOT FORM 816.

Test Boring Data

- | | | |
|--|---|---|
| Test Boring 1
0 - 4' topsoil brown sandy loam
4 - 15' yellow brown sandy loam | Test Boring 10
0 - 8' topsoil brown sandy loam
8 - 15' pale brown medium sand | Test Boring 18
0 - 6' topsoil brown sandy loam
6 - 15' pale brown medium sand |
| Test Boring 2
0 - 11' topsoil brown sandy loam
11 - 18' yellow brown sandy loam | Test Boring 11
0 - 9' topsoil brown sandy loam
9 - 16' yellow brown stones & gravel | Test Boring 19
0 - 8' topsoil brown sandy loam
8 - 16' pale brown medium sand |
| Test Boring 3
0 - 8' topsoil brown sandy loam
8 - 15' sandy loam yellow brown stones & gravel | Test Boring 12
0 - 9' topsoil brown sandy loam
9 - 15' light brown medium sand | Test Boring 20
0 - 10' topsoil brown sandy loam
10 - 17' pale brown medium sand |
| Test Boring 4
0 - 12' topsoil brown sandy loam
12 - 16' yellow brown stones & gravel | Test Boring 13
0 - 11' topsoil brown sandy loam
11 - 16' light brown medium sand | Test Boring 21
0 - 12' topsoil brown sandy loam
12 - 18' yellow brown stones & gravel |
| Test Boring 5
0 - 8' topsoil brown sandy loam
8 - 12' yellow brown stones & gravel | Test Boring 14
0 - 9' topsoil brown sandy loam
9 - 12' yellow brown stones & gravel
12 - 16' sandy loam light brown medium sand | Test Boring 22
0 - 10' topsoil brown sandy loam
10 - 17' yellow brown stones & gravel |
| Test Boring 6
0 - 11' topsoil brown sandy loam
11 - 16' sandy loam yellow brown loamy sand | Test Boring 15
0 - 12' topsoil brown sandy loam
12 - 17' pale brown medium sand | Test Boring 23
0 - 12' topsoil brown sandy loam
12 - 16' sandy loam light brown medium sand |
| Test Boring 7
0 - 10' topsoil brown sandy loam
10 - 16' sandy loam yellow brown loamy sand | Test Boring 16
0 - 9' topsoil brown sandy loam
9 - 15' yellow brown stones & gravel | Test Boring 24
0 - 9' topsoil brown sandy loam
9 - 16' sandy loam yellow brown stones & gravel |
| Test Boring 8
0 - 8' topsoil brown sandy loam
8 - 15' pale brown medium sand | Test Boring 17
0 - 9' topsoil brown sandy loam
9 - 17' pale brown medium sand | Test Boring 25
0 - 9' topsoil brown sandy loam
9 - 16' sandy loam light brown medium sand |
| Test Boring 9
0 - 8' topsoil brown sandy loam
8 - 15' pale brown medium sand | | |

CALL TWO FULL WORKING DAYS IN ADVANCE
CALL BEFORE YOU DIG
811

<p>CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING</p> <p>317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165</p>		<p>Project No. CLA-5077</p> <p>Proj. Engineer R.A.D.</p> <p>Date: Jan. 2016</p> <p>Sheet No. 1</p>
<p>4 5/18/16 Issued for Bid</p> <p>3 4/12/16 Draft Bid Document</p> <p>2 3/14/16 Misc. Revisions per Rec. Committee</p> <p>1 1/13/16 Misc. Revisions</p>	<p>REVISION</p>	<p>Town of Andover, Connecticut</p> <p>Riverside Drive Recreation Field Improvements</p> <p>Existing Conditions & Demolition Plan</p>

M:\50000\50000\5077 Andover Recreation Field Drawings\Riverside Drive Site\Drawings\Riverside Drive Bid Plans\5077 Riverside Drive Bid Plans - Sheet 01 - Existing Conditions.dwg

100-YEAR FLOOD PLAIN
ELEVATION = 305.2
ADJUSTED FOR NAVD88 VERTICAL DATUM

PROPOSED PRECAST CONCRETE RESTROOM AND CONCESSION BUILDING:
INSTALLED ON 16" THICKNESS OF CRUSHED STONE.
FINISH FLOOR = 301.7
THERE WILL BE NO FOOD PREPARATION IN THE CONCESSION AREA.
BUILDING TO BE DESIGNED & BUILT IN ACCORDANCE WITH THE STATE OF CONNECTICUT BUILDING CODE.
BUILDING TO BE CERTIFIED FLOOD PROOF TO THE 100-YEAR FLOOD PLAIN ELEVATION BY THE MANUFACTURERS PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.

FLOODWAY LIMITS (TYP.)

N/F EASTERN CONNECTICUT HOUSING ORGANIZATION, WILDWOOD PROPERTY 25 RIVERSIDE DRIVE

END TIMBER GUIDE RAIL AT LINE OF BOULDERS

SWALE TO DRAIN S=±0.5%

2-2" SCH. 40 PVC CONDUIT AND WIRING FOR ELECTRICAL SERVICE

BENCHMARK
NAIL IN POLE CL&P58
ELEV=303.34(NAVD88)

TRANSITION TIMBER POSTS & RAILS UP ±3:1 SLOPE

PROTECT EXISTING UTILITY POLES FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING TEMPORARY SUPPORT OF ALL UTILITY POLES AS NEEDED DURING CONSTRUCTION.

PROVIDE 6' WIDE STONE DUST WALKING TRACK (±1,515' @ CENTERLINE, 0.287 MILES)

PROVIDE GRASS LINED DRAINAGE SWALE (TYP.)

PROVIDE 40 LF - 12" RCP INV.IN=297.5 INV.OUT=297.3

PROVIDE NEW GRAVEL PARKING SURFACE REMOVE TOP ±4" OF EXISTING GRAVEL & PROVIDE NEW 4" THICK ROLLED BANK GRAVEL SURFACE (SEE DETAIL)

Riverside Drive

BASE BID: PROVIDE PANEL BOARD FOR ELECTRICAL SERVICE METER AND PANEL IN WEATHER PROOF ENCLOSURES. ADD ALTERNATE PRECAST BUILDING. ATTACHED METER TO BUILDING AND INSTALL PANEL IN THE MECH. ROOM.

PROPOSED SEPTIC SYSTEM (SEE SHEET 5)

PROVIDE NEW ELECTRICAL SERVICE DROP, METER, AND PANEL FOR NEW WELLS AND IRRIGATION SYSTEM. COORDINATE ALL ELECTRICAL SERVICE WORK WITH EVERSOURCE.

PROVIDE LONG RADIUS SWEEPS AT ALL CONDUIT CHANGES IN DIRECTION (VERTICAL & HORIZ.) (TYP.)

PROVIDE 12"x16" HDPE ELECTRIC HANDHOLE W/ CONDUIT STUB-UPS (TYP. FOR 4)

BENCHMARK
CHISELED SQUARE IN BOULDER
ELEV.=299.47(NAVD88)

PROVIDE BITUMINOUS CONCRETE HANDICAP PARKING SPACES & 3' WIDE SIDEWALK TO WALKING TRACK

PROVIDE 3' GAP IN TIMBER RAIL

PROVIDE 12' WIDE SWINGING TUBULAR BARRIER GATE

PROVIDE LINE OF BOULDERS. 1 CY MINIMUM SIZE, SPACED WITH 3' GAPS MAXIMUM

MATCH FENCE & END OF BOULDERS

Hop River

PROVIDE 3' WIDE GATE IN FENCING WITH 5'x5' STONE DUST PAD

PROVIDE 8" DIA. ROTARY DRILLED WELL FOR POTABLE WATER & IRRIGATION SYSTEM. A MINIMUM OF 80 GPM IS SOUGHT. MINIMUM DEPTH: 100 VF ESTIMATED TOTAL DEPTH: 100 VF

APPROXIMATE PHASE LINE: AT NO TIME SHALL MORE THAN 2 ACRES OF TOPSOIL BE STRIPPED AND STOCKPILED AT ONE TIME (±2,000 CY)

PROVIDE 2" SCH. 40 PVC CONDUIT FOR FUTURE SITE LIGHTING AROUND FIELD PERIMETER

MATCH CHAIN LINK FENCE TO TIMBER GUIDE RAIL

PROVIDE 4' HIGH CHAIN LINK FENCE

PROVIDE DEPRESSED FILTER STRIP: ±110 LF @ 5' WIDE (SEE DETAILS & LANDSCAPE SCHEDULE)

CONTRACTOR SHALL REGRADE THE EXISTING FIELDS TO MEET THE PROPOSED GRADES AND CROSS SECTION. CONTRACTOR MAY EITHER:

1. STRIP, SCREEN & STOCKPILE THE EXISTING TOPSOIL FROM THE FIELD. AT NO POINT SHALL MORE THAN 2 ACRES BE STRIPPED AND STOCKPILED AT ONE TIME (A PHASE LINE HAS BEEN SHOWN ON THE PLANS). REGRADE THE GRAVEL SUBBASE MATERIAL AND REINSTALL TOPSOIL TO MEET THE PROPOSED GRADES AND CROSS SECTION DETAIL.
2. REVERSE TILL THE ENTIRE FIELD TO A MINIMUM DEPTH OF 12" AND REGRADE TO MEET THE PROPOSED GRADES. TILLED MATERIAL SHALL BE AT LEAST 8" THICK AFTER REGRADING. IN AREAS WHERE THE GRADES REQUIRE A CUT, THE TILLED MATERIAL SHALL BE REMOVED, GRAVEL SUBBASE REGRADED AND TILLED MATERIAL REINSTALLED TO MEET THE REQUIRED THICKNESS. THE ENTIRE FIELD MAY BE TILLED AND WORKED AT ONE TIME.
3. AT THE CONTRACTORS DISCRETION, THEY MAY USE A COMBINATION OF EACH METHOD TO PERFORM THE WORK OR AN ALTERNATE METHOD TO BE REVIEWED AND APPROVED BY THE ENGINEER AND OWNER. AT NO TIME SHALL MORE THAN 2 ACRES OF TOPSOIL BE STRIPPED AND STOCKPILED AT ONE TIME.

TYPICAL STRIPING FOR SOCCER FIELDS FOR CONTRACTOR REFERENCE. STRIPING IS NOT PART OF THIS CONTRACT.



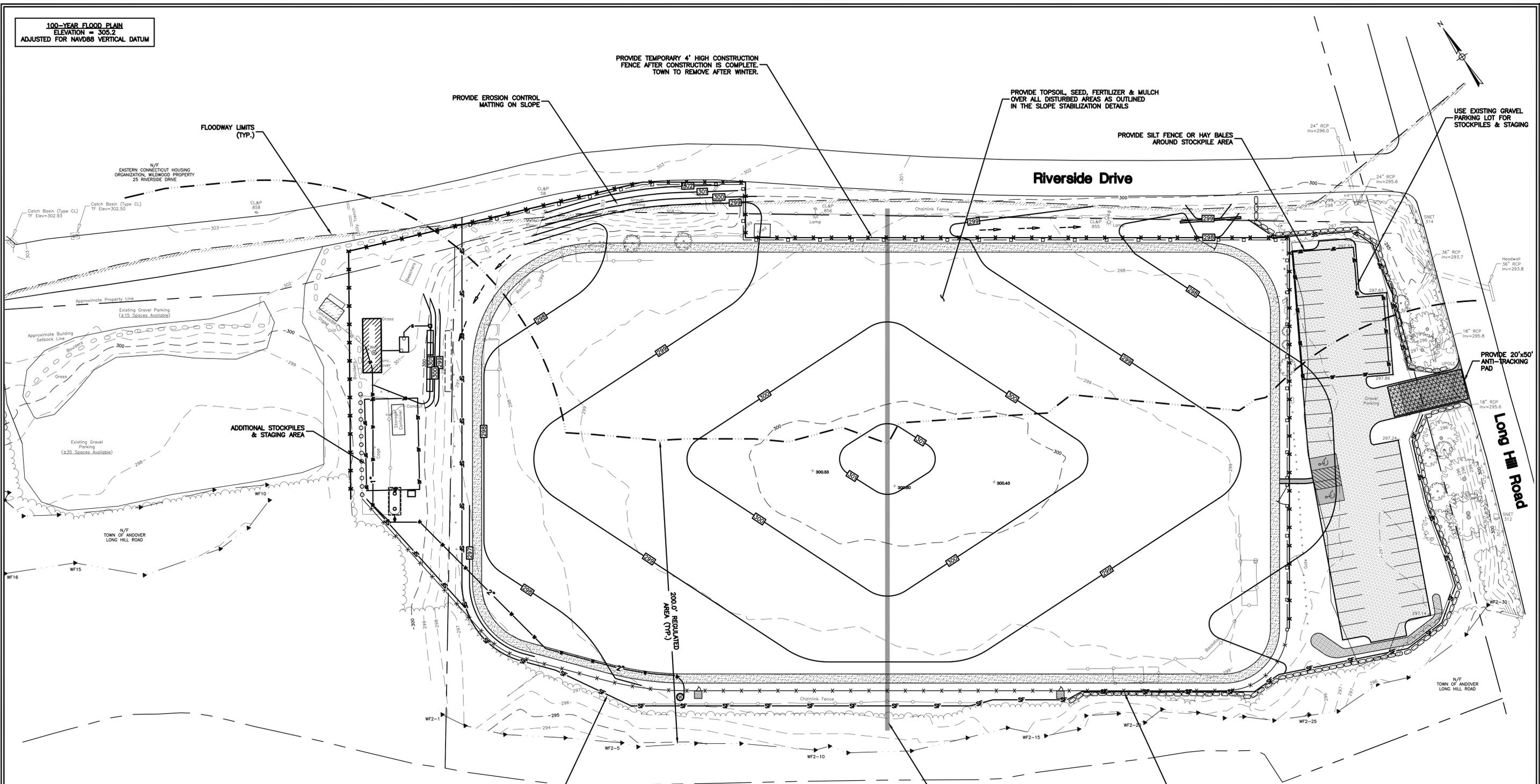
4	5/18/16	Issued for Bid
3	4/12/16	Draft Bid Document
2	3/14/16	Misc. Revisions per Rec. Committee
1	1/13/16	Misc. Revisions
No.	DATE	REVISION

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CIVIL · STRUCTURAL · SURVEYING
317 Main Street Norwich, CT 06360
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Town of Andover, Connecticut
Riverside Drive
Recreation Field Improvements
Site Improvement Plan

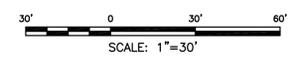
Project No. CLA-5077
Proj. Engineer R.A.D.
Date: Jan. 2016
Sheet No. **2**

100-YEAR FLOOD PLAIN
ELEVATION = 306.2
ADJUSTED FOR NAVD88 VERTICAL DATUM



THE WORK SITE LIES ENTIRELY WITHIN THE HOP RIVER 100-YEAR FLOOD PLAIN

- THERE SHALL BE NO BUOYANT, HAZARDOUS FLAMMABLE, EXPLOSIVE, SOLUBLE, EXPANSIVE, OR ANY OTHER MATERIAL WHICH COULD BE INJURIOUS TO HUMAN, ANIMAL OR PLANT LIFE STORED WITHIN THIS AREA AT ANY TIME.
- NO STORAGE OF CONSTRUCTION EQUIPMENT AND/OR MATERIAL SHALL OCCUR WITHIN THE FLOOD PLAIN UNLESS SUCH EQUIPMENT OR MATERIAL IS NOT SUBJECT TO MAJOR FLOOD DAMAGE, IS ANCHORED, RESTRAINED OR ENCLOSED TO PREVENT IT FROM FLOATING AWAY OR IS REMOVED PRIOR TO FLOODING.
- THE CONTRACTOR SHALL MONITOR WEATHER CONDITIONS AND RIVER ELEVATIONS. IN THE EVENT OF A PREDICTED MAJOR STORM, POTENTIAL FLOODING OR AT THE DIRECTION OF THE OWNER OR ENGINEER, THE CONTRACTOR MUST REMOVE EQUIPMENT AND LOOSE MATERIALS FROM THE FLOOD PLAIN AND SECURE THE SITE. THE FOLLOWING METHODS AND/OR PRODUCTS MAY BE UTILIZED TO PROTECT GRAVEL, TOPSOIL, OR OTHER STOCKPILES DURING A FLOOD EVENT:
 - LOAD AND TRUCK THE MATERIALS OFF SITE TO A SUITABLE LOCATION BEYOND THE FLOOD ZONE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SECURING SUCH SITE.
 - PROVIDE A CONCRETE BLOCK ("MAFIA" BLOCK) TYPE BARRIER AROUND THE PERIMETER OF THE STOCKPILES TO SECURE THE MATERIAL DURING A FLOOD EVENT. BARRIER SHALL EXTEND A MINIMUM OF 4' ABOVE GRADE.
 - PROVIDE A "TIGER DAM" OR "AQUA DAM" TEMPORARY FLOOD CONTROL DYKE (OR APPROVED EQUAL) AROUND THE PERIMETER OF THE STOCKPILES TO SECURE THE MATERIAL DURING A FLOOD EVENT. BARRIER SHALL EXTEND A MINIMUM OF 4' ABOVE GRADE.
 - PROVIDE AN ALTERNATE METHOD OR PRODUCT FOR SECURING STOCKPILES TO BE SUBMITTED TO THE ENGINEER AND THE TOWN AND SUBJECT TO APPROVAL PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE PROVISIONS FOR AND SHALL BE SOLELY RESPONSIBLE FOR SECURING THE WORK IN PROGRESS AND ANY MATERIAL STOCKPILES PRIOR TO A MAJOR STORM. THE CONTRACTOR SHALL SUBMIT A WRITTEN FLOOD CONTINGENCY PLAN TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

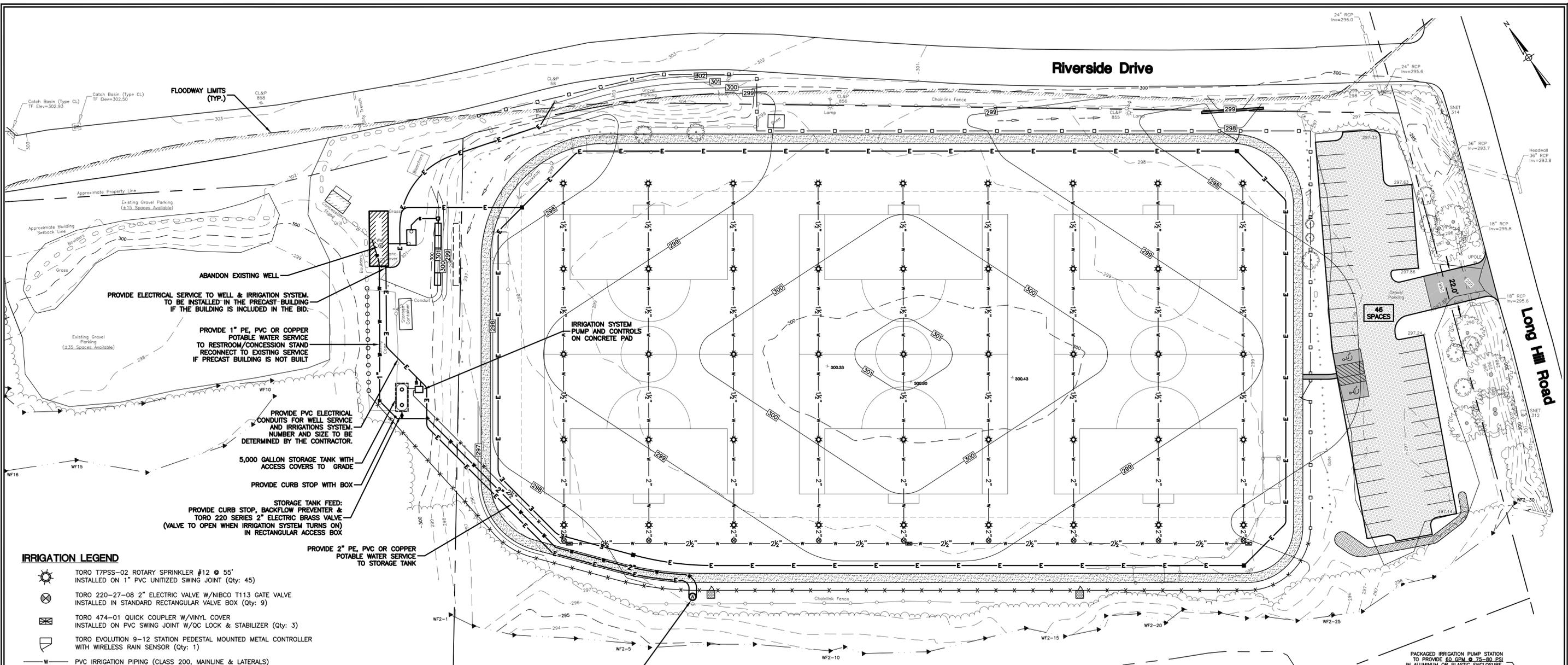


APPROXIMATE PHASE LINE:
AT NO TIME SHALL MORE THAN 2 ACRES
OF TOPSOIL BE STRIPPED AND STOCKPILED
AT ONE TIME (±2,000 CY)

CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165		Project No. CLA-5077
Town of Andover, Connecticut		Proj. Engineer R.A.D.
Riverside Drive Recreation Field Improvements		Date: Jan. 2016
Erosion & Sedimentation Control Plan		Sheet No. 3

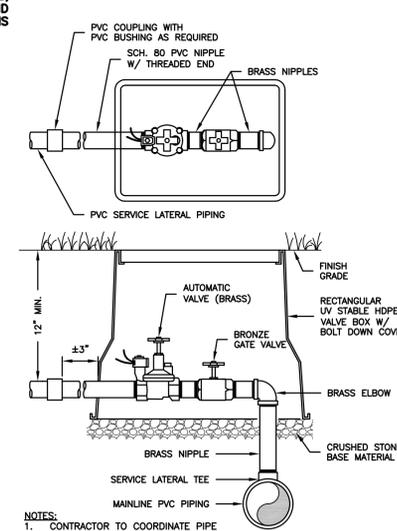


M:\50000\50000\5077 Riverside Drive Site\Drawings\Riverside Drive Bid Plans\5077 Riverside Drive Bid Plans - Sheet 02-05 Site Plan.dwg

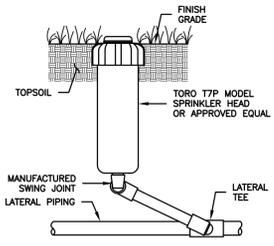


- IRRIGATION LEGEND**
- TORO T7PSS-02 ROTARY SPRINKLER #12 @ 55' INSTALLED ON 1" PVC UNITIZED SWING JOINT (Qty: 45)
 - TORO 220-27-08 2" ELECTRIC VALVE W/NIBCO T113 GATE VALVE INSTALLED IN STANDARD RECTANGULAR VALVE BOX (Qty: 9)
 - TORO 474-01 QUICK COUPLER W/VINYL COVER INSTALLED ON PVC SWING JOINT W/QC LOCK & STABILIZER (Qty: 3)
 - TORO EVOLUTION 9-12 STATION PEDESTAL MOUNTED METAL CONTROLLER WITH WIRELESS RAIN SENSOR (Qty: 1)
 - PVC IRRIGATION PIPING (CLASS 200, MAINLINE & LATERALS)
- IRRIGATION SYSTEM NOTES**
- SYSTEM IS DESIGNED FOR 60 GALLONS PER MINUTE @ 75-80 PSI
 - THIS CONTROLLER SHALL BE GROUNDED WITH #6 BARE COPPER CABLE AND A GROUND ROD. PIPE & WIRE. (SEE TRENCH DETAIL)
 - PVC MAIN - TRENCH OR VIBRATORY PLOW 24" DEEP. INSTALL WITH WIRE. PVC LATERALS - TRENCH OR PULL 12" DEEP. WIRE - TO BE #18 GAUGE MULTI STRAND UF. USE DRY SPLICE KITS. DESIGN IS DIAGRAMMATIC. INSTALLER SHALL FIELD LOCATE ALL ITEMS WITHOUT COMPROMISING THE INTEGRITY OF THIS DESIGN. ANY CHANGES TO THE NUMBER OF HEADS OR VALVES, OR TO THE HYDRAULICS SHALL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK. PIPE ROUTING, HEAD AND VALVE PLACEMENT SHALL BE THE RESPONSIBILITY OF THE INSTALLER, USING THIS DESIGN AS A GUIDE.
 - IRRIGATION SYSTEM LAYOUT HAS BEEN PROVIDED BY BILL CONLEY OF TURF PRODUCTS, LLC, ENFIELD, CT, 860-763-3581
 - CONTRACTOR SHALL CALIBRATE RUN TIMES PER ZONE TO ACHIEVE 1" OF WATER PER WEEK. TOTAL APPLICATION RATE SHALL NOT EXCEED 50,000 GALLONS DURING ANY 24-HOUR PERIOD. INSTALLATION SHALL FOLLOW ALL APPLICABLE CODES AND LAWS.

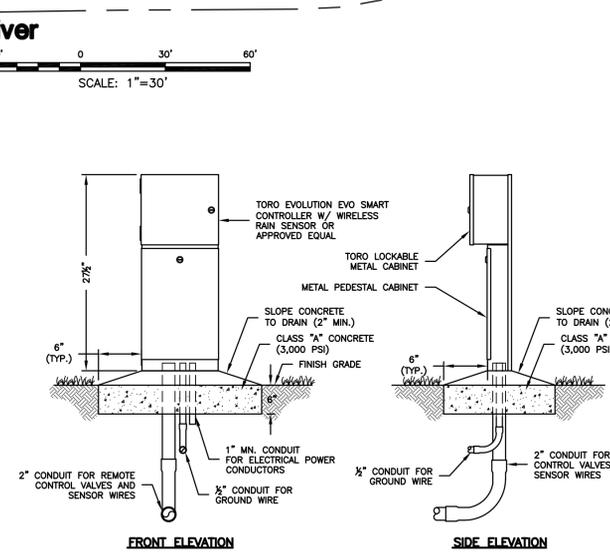
PROVIDE 8" DRILLED & CASSED WELL FOR POTABLE WATER AND IRRIGATION. A MINIMUM OF 80 GPM IS SOUGHT. CONTRACTOR SHALL COORDINATE ALL CONTROLS, CONDUIT, AND WIRING AS NEEDED FOR CONCESSION STAND AND IRRIGATION SYSTEM OPERATIONS



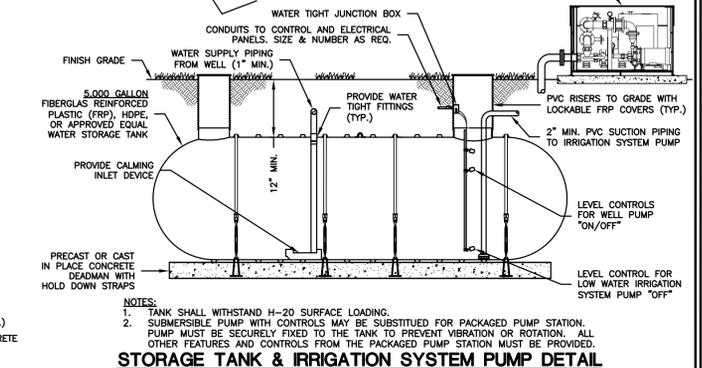
TYPICAL VALVE ASSEMBLY DETAIL
NOT TO SCALE



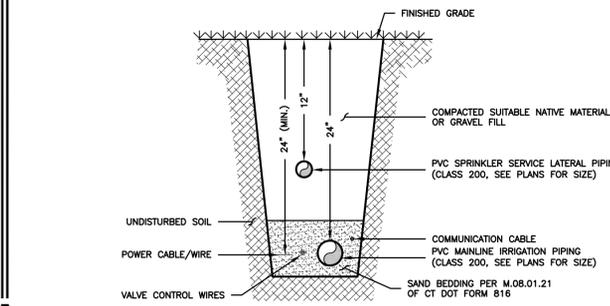
TYPICAL SPRINKLER HEAD ASSEMBLY DETAIL
NOT TO SCALE



PEDESTAL MOUNTED CONTROLLER DETAIL
NOT TO SCALE

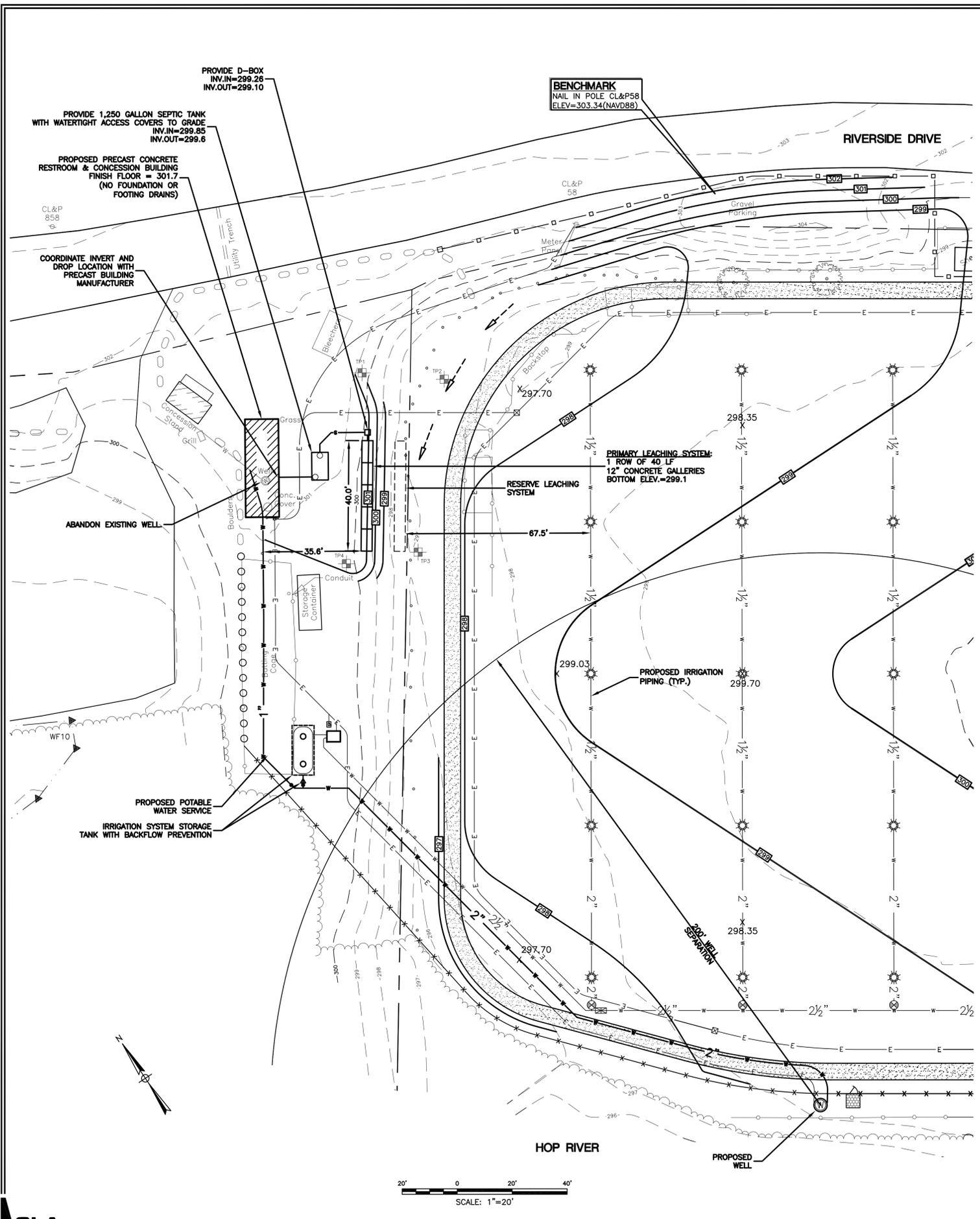


STORAGE TANK & IRRIGATION SYSTEM PUMP DETAIL
NOT TO SCALE



TRENCH DETAIL: IRRIGATION SYSTEM
NOT TO SCALE

4		5/18/16	Issued for Bid	CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	Project No.	CLA-5077
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2		3/14/16	Misc. Revisions per Rec. Committee		Date:	Jan. 2016
1		1/13/16	Misc. Revisions		Sheet No.	4
No.	DATE	REVISION	Town of Andover, Connecticut Riverside Drive Recreation Field Improvements Irrigation & Water System Plan			



PERCOLATION RATE

RECORDED BY CLA ENGINEERS, INC. ON 5/17/16

PERC. #1

PRESOAK:	10:58
HOLE DEPTH:	36"
TIME	READING
11:02	27"
11:03	29"
11:04	30"
11:05	31"
11:06	32"
11:07	33"
11:08	34" (SILTY BOTTOM)

RATE: 1" / MIN.

TEST HOLE DATA

TEST HOLES RECORDED BY CLA ENGINEERS, INC. AND EASTERN HIGHLAND HEALTH DISTRICT ON 5/17/16

TP 1 (CLOSEST TO ROAD)

- 0-19" FILL
- 19"-33" BURIED TOPSOIL
- 33"-48" FINE SANDY LOAM TRANSITION TO LOAMY SAND LAYER
- 48"-88" MEDIUM THEN COARSE SAND & GRAVEL

SATURATED: 74"
MOTTLING: 35" FROM GRADE, 24" FROM ORIGINAL

TP 2 (DOWNHILL)

- 0-31" MIXED FILL
- 31"-81" STRATIFIED DRIFT; SAND & GRAVEL W/ COBBLES

SATURATED: 49"

TP 3 (DOWNHILL)

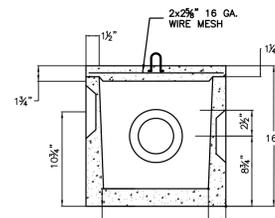
- SOUTH END DISTURBED W/ 2" PVC WATER PIPE STAY NORTH W/ SYSTEM
- 0-5" TOPSOIL
- 5"-9" ORANGE/BROWN FINE SANDY LOAM
- 9"-48" STRATIFIED DRIFT

WATER: 32"
DEPTH: 48"

TP 4 (UP HILL FROM 3)

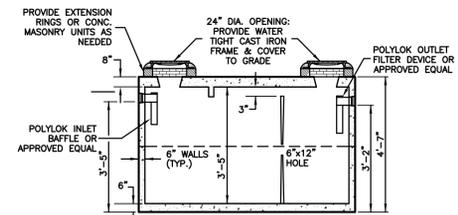
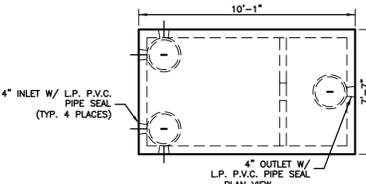
- 0-15" MIXED FILL
- 15"-86" STRATIFIED DRIFT

WATER: 73"
MOTTLING: 55"



NOTES:
1. D-BOX TO BE RATED FOR H-20 LOADING.
NOT TO SCALE

D-BOX DETAIL



NOTES:
1. TANK, EXTENSION RINGS, MASONRY UNITS, FRAMES AND COVERS TO BE RATED FOR HS-20 LOADING.
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI MIN AT 28 DAYS WITH 4-7% AIR ENTRAINMENT.
3. DIMENSIONS MAY VARY DEPENDING ON TANK MANUFACTURER
4. TANKS SHALL MEET THE REQUIREMENTS OF SECTION 5 OF THE PUBLIC HEALTH CODE.

1,250 GALLON HEAVY DUTY SEPTIC TANK
NOT TO SCALE

SEPTIC SYSTEM DESIGN

THE TOWN OF ANDOVER SHALL SUBMIT THE SYSTEM DESIGN TO THE EASTERN HIGHLAND HEALTH DISTRICT FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS WITH THE HEALTH DEPARTMENT.

SEPTIC SYSTEM NOTES

1. THE SEPTIC SYSTEM SHALL BE INSTALLED BY A CONNECTICUT LICENSED SEPTIC INSTALLER.
2. PROPOSED SEPTIC SYSTEM TO BE STAKED IN THE FIELD BY A LAND SURVEYOR LICENSED IN THE STATE OF CONNECTICUT. OFFSET STAKES SHALL INCLUDE FLOW LINE OR BOTTOM OF TRENCH ELEVATIONS.
3. ALL WORK AND MATERIAL (SEPTIC TANK, DISTRIBUTION BOX, PIPE) SHALL CONFORM TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEM.
4. SEWER LINE FROM BUILDING WALL TO SEPTIC TANKS SHALL BE 4" SCHEDULE 40 PVC - ASTM D 1785 AND JOINTS PER HEALTH CODE.
5. TRENCHES SHALL BE SET LEVEL FOR ENTIRE LENGTH.
6. PIPE FROM SEPTIC TANK TO DISTRIBUTION LINES SHALL BE 4" SOLID PVC CONFORMING TO ASTM D-3034, SDR-35.
7. PIPE FROM "D"-BOX TO LEACHING TRENCHES SHALL BE SOLID PVC FOR 2 FT.
8. THERE ARE PRESENTLY NO KNOWN WATER WELLS WITHIN 75' OF THE PROPOSED SEPTIC SYSTEM.
9. A BOTTOM OF EXCAVATION INSPECTION IS REQUIRED BY THE LOCAL HEALTH DEPARTMENT AFTER THE EXISTING TOPSOIL IS REMOVED.
10. ALL FILL MATERIAL SHALL BE CLEAN EARTH FREE OF STUMPS, ORGANICS, CONSTRUCTION DEBRIS AND TOPSOIL.

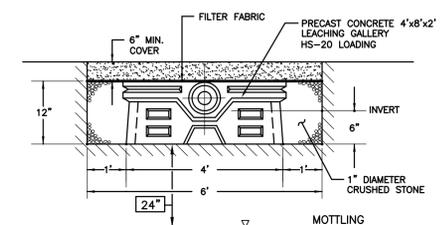
SELECT FILL SPECIFICATION

SELECT FILL PLACED WITHIN AND ADJACENT TO LEACHING SYSTEM AREAS SHALL BE COMPRISED OF CLEAN SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS PER THE CONNECTICUT PUBLIC HEALTH CODE FOR USE WITHIN THE LEACHING AREA:

1. THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THE THREE (3) INCH SLEEVE.
2. UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SLEEVE (THIS IS THE GRAVEL PORTION OF THE SAMPLE).
3. THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED.
4. THE REMAINING SAMPLE SHALL MEET THE FOLLOWING CRITERIA:

SIEVE SIZE	PERCENT PASSING WET SIEVE	PERCENT PASSING DRY SIEVE
#4	100	100
#10	70-100	70-100
#40	10-50*	10-75
#100	0-20	0-5
#200	0-5	0-2.5

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%.



CONCRETE LEACHING GALLERY TRENCH DETAIL
NOT TO SCALE

		CLA Engineers, Inc. Civil · Structural · Surveying	
2	5/18/16	Issued for Bid	317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165
1	4/12/16	Draft Bid Document	
No.	DATE	REVISION	
Town of Andover, Connecticut			Project No. CLA-5077
Riverside Drive Recreation Field Improvements			Proj. Engineer R.A.D.
Add Alternate Precast Restroom & Concession Building Septic System Plan			Date: Jan. 2016
			Sheet No. 5

EROSION & SEDIMENTATION CONTROL NARRATIVE

1. THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
2. THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE SILT FENCE, STONE CHECK DAMS AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
4. THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
5. STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED (SEE NOTE).
6. INLET SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED UNDER THE GRATES OF ALL NEW CATCH BASINS AT THE TIME OF INSTALLATION, AND UNDER THE GRATES OF EXISTING CATCH BASINS IN THE CONSTRUCTION AREA.
7. CONTINUOUS DUST CONTROL USING WATER OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES, GRAVELED ROADWAY SURFACES, AND DISTURBED AREAS. **THE USE OF CALCIUM CHLORIDE FOR DUST CONTROL SHALL NOT BE ALLOWED.**
8. IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS SHOWN IN THE HAY-BALE BARRIER DEWATERING DETAIL OR ALTERNATE METHOD PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
9. ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) SLOPE SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL DISTURBED AREAS THAT ARE SLOPED THREE HORIZONTAL TO ONE VERTICAL (3:1) OR STEEPER. IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.
11. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.
12. ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.
13. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE TOWN.
14. UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
15. THE CONTRACTOR SHALL PROVIDE THE NAME AND CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS.

NOTE: THE CONTRACTOR SHALL CONTINUALLY STORE THE FOLLOWING MATERIALS ONSITE DURING CONSTRUCTION TO MEET UNEXPECTED EROSION NEEDS

- * 200 LF OF SILT FENCE
- * 20 HAY BALES
- * 10 CY WOOD CHIPS OR CRUSHED STONE

PERVIOUS TOPSOIL MIX

FOR USE IN THE DEPRESSED FILTER STRIP.

MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE M.13.01 OF DOT FORM 816 WITH THE FOLLOWING GRADATION:

SIEVE	% PASSING
#10	100%
#40	60-80%
#80	5%
#200	0%

DO NOT COMPACT MATERIAL DURING INSTALLATION.

TEMPORARY VEGETATIVE COVER

A TEMPORARY SEEDING OF RYE GRASS WILL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF STOCKPILES. IF THE SOIL IN THE STOCKPILES HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS IT SHALL BE LOOSENED TO A DEPTH OF 2 INCHES BEFORE THE FERTILIZER, LIME AND SEED IS APPLIED. 10-10-10 FERTILIZER AT A RATE OF 7.5 POUNDS PER 1000 S.F. LIMESTONE AT A RATE OF 90 LBS. PER 1000 S.F. SHALL BE USED. RYE GRASS APPLIED AT A RATE OF 1 LB. PER 1000 S.F. SHALL PROVIDE THE TEMPORARY VEGETATIVE COVER. STRAW FREE FROM WEEDS AND COARSE MATTER SHALL BE USED AT A RATE OF 70-90 LBS. PER 1000 S.F. AS A TEMPORARY MULCH. APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS.

PERMANENT VEGETATIVE COVER

TOPSOIL WILL BE REPLACED ONCE THE EXCAVATIONS HAVE BEEN COMPLETED AND THE SLOPES ARE GRADED AS SHOWN ON THE PLANS. PROVIDE SLOPE PROTECTION AS CALLED FOR ON THE PLANS AND DETAILS. TOPSOIL SHALL BE SPREAD AT A MINIMUM COMPACTED DEPTH OF 8 INCHES. ONCE THE TOPSOIL HAS BEEN SPREAD, ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION WILL BE REMOVED AS WELL AS DEBRIS. TAKE AT LEAST 10 SOIL CORE SAMPLES TO BE TESTED AT A SOIL TESTING LAB IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. THIS WILL DETERMINE THE AMOUNT AND COMPOSITION OF THE FERTILIZER TO BE APPLIED. AT A MINIMUM AMEND THE SOIL AS FOLLOWS:

- APPLY 10-20-10 FERTILIZER AT A RATE OF 435 LBS. PER ACRE (10 LBS PER 1,000 SF)
- LAB TESTING WILL DETERMINE THE AMOUNT OF FERTILIZER AND RATIO TO BE APPLIED
- TOP DRESS THE ENTIRE FIELD AREA WITH A 1/2" THICKNESS OF COMPOST IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.

INSPECT SEEDBED BEFORE PLACING SEED. IF TRAFFIC HAS COMPACTED THE SOIL, RETILL COMPACTED AREAS. APPLY THE FOLLOWING GRASS SEED MIX:

SEED MIXTURE

DEPRESSED FILTER STRIP

NEW ENGLAND EROSION CONTROL MIX (SEE BELOW)

PLAYING FIELDS (WITHIN THE WALKING TRACK PERIMETER)	PURITY %	LBS./ACRE	LBS./1000 S.F.
ARMADA KENTUCKY BLUEGRASS	29.63	104	2.38
AMERICA KENTUCKY BLUEGRASS	24.71	86	1.97
FIELDER KENTUCKY BLUEGRASS	24.69	86	1.97
KARMA PERENNIAL RYEGRASS	9.87	35	0.80
FIESTA 4 PERENNIAL RYEGRASS	4.90	17	0.39
WICKED PERENNIAL RYEGRASS	4.87	17	0.39
INERT MATTER	1.13	4	0.09
OTHER CROP SEED	0.12	.7	0.02
WEED CONTENT	0.08	.3	0.01
		350	8.02

REMAINDER OF DISTURBED AREAS	LBS./ACRE	LBS./1000 S.F.
KENTUCKY BLUEGRASS	75	1.72
CREeping RED FESCUE	75	1.72
PERENNIAL RYEGRASS	25	0.56
	175	4.00

THE RECOMMENDED SEEDING DATES ARE:
APRIL 1 - JUNE 15 AND AUGUST 15 - OCTOBER 15
PERMANENT SEEDING OF THE PLAYING FIELDS MUST BE COMPLETED PRIOR TO OCTOBER 15.

IMMEDIATELY FOLLOWING SEEDING, FIRM SEED BED WITH A ROLLER AND MULCH WITH WEED FREE STRAW OR WOOD FIBER MULCH.

VEGETATIVE COVER FOR DEPRESSED FILTER STRIP

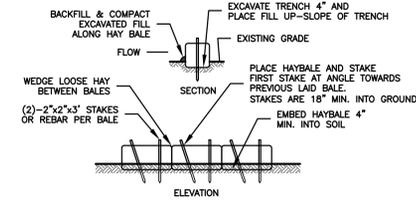
SEED MIXTURE FOR WETLAND AREAS AND AREAS ADJACENT TO WETLANDS SHALL BE THE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES" FROM NEW ENGLAND WETLAND PLANTS, AMHERST, MA, TELEPHONE NO. 413-548-8000

THE BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. SUMMER AND FALL SEEDING REQUIRE A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A 1% INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

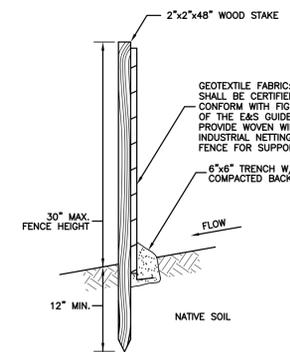
FILTER STRIP SEED MIXTURE

NEW ENGLAND EROSION CONTROL/RESTORATION MIX LBS./ACRE 35
FOR DETENTION BASINS AND MOIST SITES

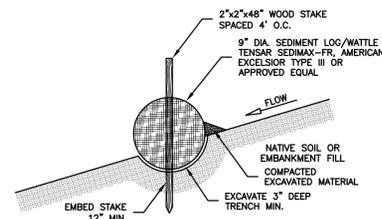
SPECIES: Virginia Wild Rye, (Elymus virginicus), Creeping Red Fescue, (Festuca rubra), Little Bluestem, (Schizachyrium scoparium), Big Bluestem, (Andropogon gerardii), Fox Sedge, (Carex vulpinoidea), Switch Grass, (Panicum virgatum), Rough Bentgrass, (Agrostis scabra), New England Aster, (Aster novae-angliae), Boneset, (Eupatorium perfoliatum), Grass Leaved Goldenrod, (Euthamia graminifolia), Green Bulrush, (Scirpus atrovirens), Blue Vervain, (Verbena hastata), Soft Rush, (Juncus effusus), Wool Grass, (Scirpus cyperinus)



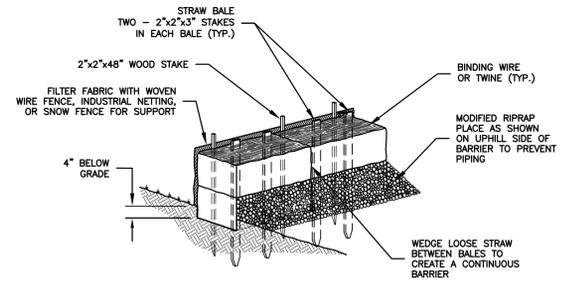
HAY BALE BARRIER DETAIL
NOT TO SCALE



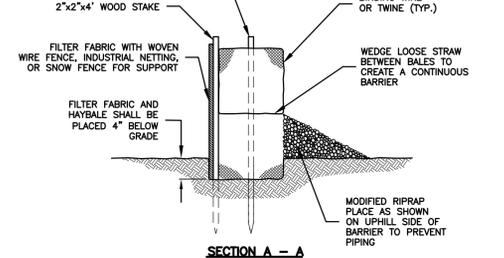
SILT FENCE SECTION
NOT TO SCALE



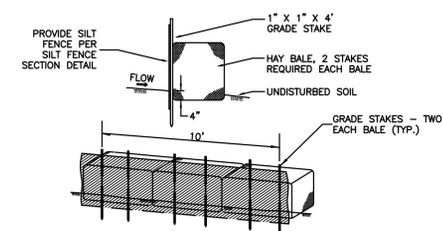
STORMWATER SEDIMENT LOG SECTION
NOT TO SCALE



HAY BALE BARRIER DE-WATERING DETAIL
NOT TO SCALE

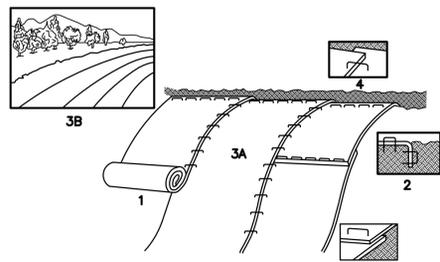
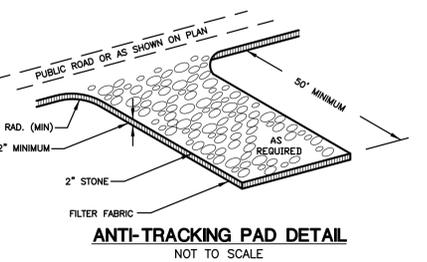


HAY BALE BARRIER DE-WATERING DETAIL
NOT TO SCALE

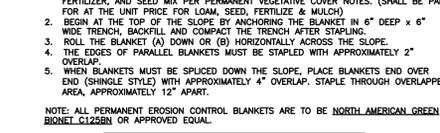


SILT FENCE BACKED BY HAY BALES DETAIL
NOT TO SCALE

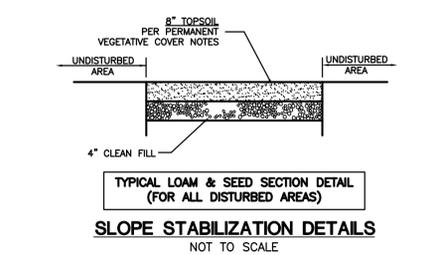
ANTI-TRACKING PAD DETAIL
NOT TO SCALE



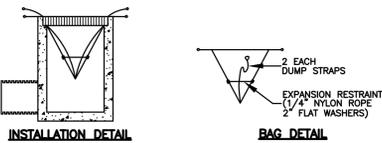
EROSION CONTROL MATTING DETAIL
(FOR 3:1 SLOPES OR GREATER)



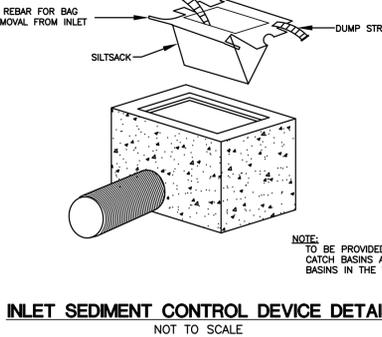
TYPICAL LOAM & SEED SECTION DETAIL
(FOR ALL DISTURBED AREAS)



SLOPE STABILIZATION DETAILS
NOT TO SCALE



INLET SEDIMENT CONTROL DEVICE DETAIL
NOT TO SCALE



INLET SEDIMENT CONTROL DEVICE DETAIL
NOT TO SCALE

- CONSTRUCTION NOTES:**
1. SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH STAPLES, 6" ON CENTER.
 2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
 3. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

- DEWATERING PLAN**
- A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS FOLLOWS:
1. PUMP INLET SHALL BE PROTECTED WITH FILTER FABRIC.
 2. PUMP SHALL BE SITED OUTSIDE OF WETLANDS.
 3. THE WATER SHALL BE PUMPED TO A DEWATERING STRUCTURE WHICH SHALL BE LOCATED AT LEAST 50 FEET FROM ANY REGULATED WETLAND AREA.
 4. THE DEWATERING STRUCTURE SHALL BE SIZED TO ACCOMMODATE PUMP DISCHARGE RATE: $REQUIRED\ VOLUME\ (CF) = PUMP\ DISCHARGE\ (G.P.M.) \times 10$
 5. THE DEWATERING STRUCTURE SHALL BE SURROUNDED BY SILT FENCE AND THE OUTFALL IS TO BE DISCHARGED TO A VEGETATED AREA.
 6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN AND PROPERLY DISPOSED OF WHEN ACCUMULATION REACHES HALF OF THE REQUIRED STORAGE VOLUME.
 7. DEWATERING AREA SHALL BE RESTORED WITH NEW ENGLAND EROSION CONTROL SEED MIX.

HAY BALE BARRIER DE-WATERING DETAIL
NOT TO SCALE

<p>CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING</p> <p>317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165</p>		<p>Project No. CLA-5077</p> <p>Proj. Engineer R.A.D.</p> <p>Date: Jan. 2016</p> <p>Sheet No. 6</p>
<p>4 5/18/16 Issued for Bid</p> <p>3 4/12/16 Draft Bid Document</p> <p>2 3/14/16 Misc. Revisions per Rec. Committee</p> <p>1 1/13/16 Misc. Revisions</p>	<p>Town of Andover, Connecticut</p> <p>Riverside Drive</p> <p>Recreation Field Improvements</p> <p>Stormwater Management Plan and Erosion & Sedimentation Control Details</p>	<p>REVISION</p>

DEVELOPMENT

THE PROPOSED DEVELOPMENT INCLUDES THE RECONSTRUCTION OF AN EXISTING PLAYING FIELD FOR USE AS A GRASS SOCCER FIELD, RESURFACING A GRAVEL PARKING LOT AND INSTALLATION OF A STONE DUST WALKING TRACK. THE WORK AREAS WILL BE REGRADED AND SURFACES RESTORED AS SHOWN ON THE SITE PLANS TO ACCOMMODATE THE PROPOSED USES. THE PROPOSED DEVELOPMENT WILL DISTURB APPROXIMATELY 215,000 SQUARE FEET (4.9 AC.).

- THE ENTIRE SITE LIES WITHIN THE 100-YEAR FLOOD PLAIN OF THE HOP RIVER (FIRM MAP #0901610003A & #0601610004A)
- THERE IS NO PROPOSED WETLAND DISTURBANCE

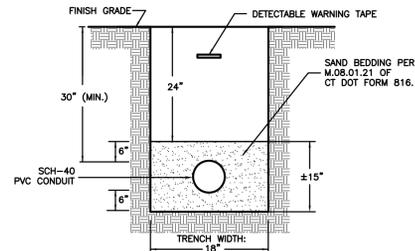
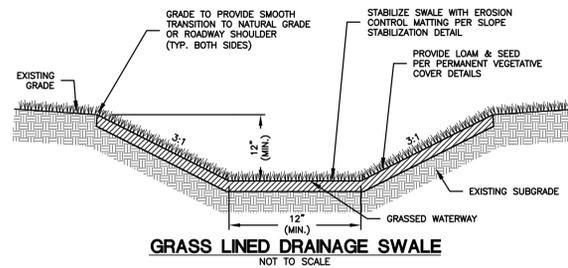
CONSTRUCTION SEQUENCE

1. PRIOR TO ANY SITE DISTURBANCE CONTACT "CALL BEFORE YOU DIG" AT 811 TO MARK OUT EXISTING UTILITY LOCATIONS.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE EROSION AND SEDIMENTATION CONTROL PLAN & NARRATIVE.
3. ESTABLISH STOCKPILE AND STAGING AREAS AS SHOWN ON THE PLANS, ADJUST EXACT LOCATIONS AND PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AS NEEDED DURING CONSTRUCTION.
4. INSTALL TEMPORARY CONSTRUCTION FENCE TO PROTECT THE SITE.
5. DRILL WELL(S) AND INSTALL STORAGE TANK(S) AS NEEDED FOR THE IRRIGATION SYSTEM.
6. CONSTRUCT THE SOCCER FIELD PLAY AREA.
 - A. REMOVE AND DISPOSE OF THE EXISTING CLAY BASEBALL INFIELD MATERIAL.
 - B. REGRADE AND WORK THE PLAYING FIELDS AS OUTLINED IN THE NARRATIVE ON SHEET 2.
 - C. INSTALL THE PROPOSED IRRIGATION SYSTEM.
 - D. RAKE AND RETILL AND TOPSOIL THAT HAS BEEN COMPACTED DURING THE IRRIGATION SYSTEM INSTALLATION.
 - E. TAKE AT LEAST 10 SOIL CORE SAMPLES TO BE TESTED AT A SOIL TESTING LAB IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. THIS WILL DETERMINE THE AMOUNT AND COMPOSITION OF THE FERTILIZER TO BE APPLIED.
 - F. INSTALL COMPOST, SEED, FERTILIZER, AND MULCH TO ALL OF THE DISTURBED AREAS.
7. INSTALL THE STONE DUST WALKING TRACK.
8. INSTALL THE PERIMETER CHAIN LINK FENCE AND TIMBER RAILS.
9. REGRADE AND RESURFACE THE THE EXISTING GRAVEL PARKING LOT.
10. PAVE THE ENTRANCE APRON AND HANDICAP PARKING SPACES.
11. REMOVE EXCESS MATERIALS AND CLEAN STORAGE AREAS.
12. INSTALL TOPSOIL, SEED, FERTILIZER AND MULCH OVER ANY REMAINING DISTURBED AREAS.
13. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, AND WITH PRIOR APPROVAL FROM TOWN STAFF AND THE ENGINEER, REMOVE THE EROSION AND SEDIMENTATION CONTROL MEASURES.

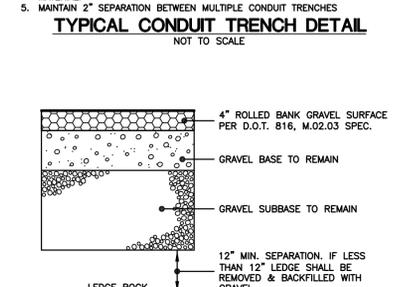
SITE ELECTRICAL SERVICE REQUIREMENTS

THE ELECTRICAL SERVICE SHALL BE DESIGNED AND BUILT BY THE CONTRACTOR. THE SYSTEM SHALL INCLUDE THE FOLLOWING AT A MINIMUM:

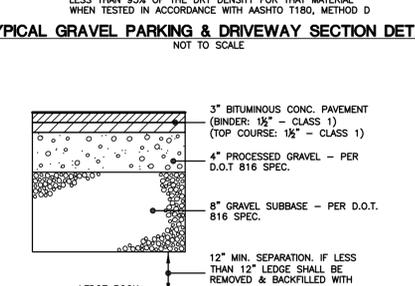
1. METER, PANELBOARD, AND ELECTRICAL SERVICE EQUIPMENT SHALL BE SIZED, SPECIFIED AND CONSTRUCTED TO MEET EVERSOURCE (FORMERLY CL&P) REQUIREMENTS.
2. THE ELECTRICAL SERVICE SHALL BE SIZED TO ACCOMMODATE
 - A. WELL PUMP
 - B. IRRIGATION SYSTEM, INCLUDING IRRIGATION PUMP
 - C. PRECAST CONCRETE RESTROOM/CONSESSION BUILDING
 - D. A 20A DUPLEX CONVENIENCE RECEPTACLE WITH GFI PROTECTION
3. THE SYSTEM SHALL INCLUDE ALL BREAKERS, SURGE PROTECTION, TRANSFORMERS, CONTROLS, AND ALL OTHER EQUIPMENT AS MAY BE NECESSARY FOR FULLY SYSTEMS.
4. ALL EQUIPMENT SHALL BE IN NEMA 3R WEATHERPROOF LOCKABLE ENCLOSURES.
5. ALL EQUIPMENT SHALL BE GROUNDED AS REQUIRED.
6. ALL CONDUIT SHALL BE MINIMUM 1/2" DIAMETER.



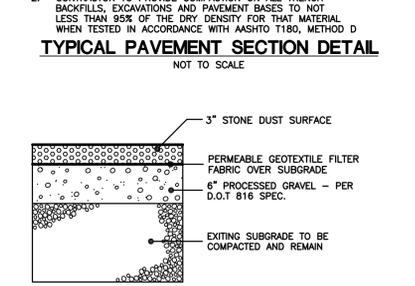
- NOTES:
1. TRENCH WIDTHS NOTED ARE SET TO ESTABLISH PAY LIMITS ONLY.
 2. ALL EXCAVATIONS MUST MEET OSHA STANDARDS.
 3. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.
 4. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.
 5. MAINTAIN 2" SEPARATION BETWEEN MULTIPLE CONDUIT TRENCHES



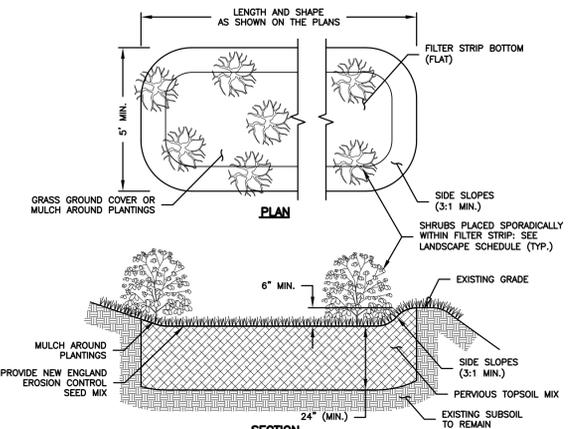
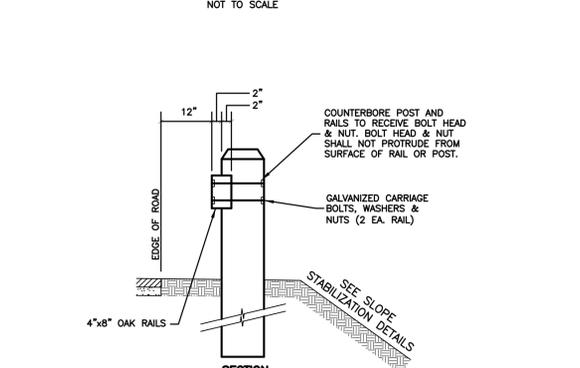
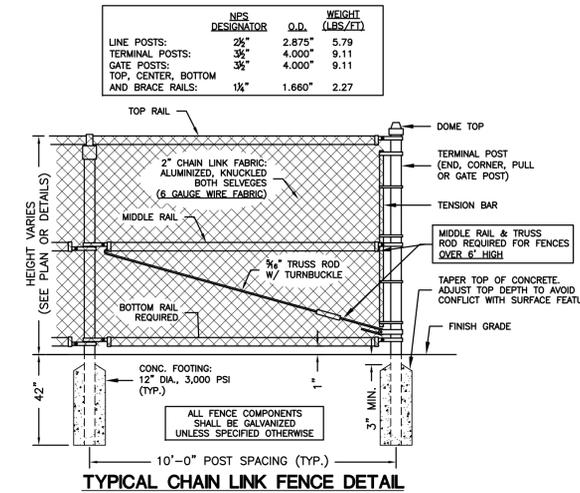
- NOTES:
1. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D



- NOTES:
1. PROVIDE CONTINUOUS TACK COAT ALONG EDGE WHEN MATCHING EXISTING PAVEMENT
 2. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D



- NOTES:
1. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D
 2. CONTRACTOR SHALL REMOVE ALL ORGANIC MATERIAL ABOVE THE EXISTING GRAVEL SUBGRADE PRIOR TO PLACING GRAVEL TO THE PROPOSED GRADES.
 3. SEE PLAN FOR WALKWAY WIDTH

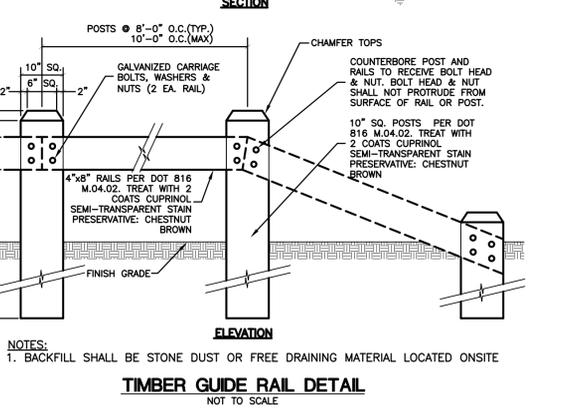


- NOTES:
1. PERVIOUS TOPSOIL MIX SHALL MEET THE REQUIREMENTS OF DOT FORM 816, ARTICLE M.13.01.1 WITH THE GRADATION SPECIFIED HEREIN.
 2. EXCAVATE FILTER STRIP TO THE GRADES SPECIFIED WITH SIDEWALLS AS NEAR TO VERTICAL AS POSSIBLE. INSTALL PERVIOUS TOPSOIL MIX. DO NOT COMPACT TOPSOIL MIX.
 3. SEED MIX SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN THE VEGETATIVE COVER NARRATIVE HEREIN.
 4. INSTALL SHRUBS AND ALL PLANTINGS IN CONFORMANCE WITH THE CONSTRUCTION DETAILS AND LANDSCAPING NOTES HEREIN.
- MAINTENANCE:
- A. MOW BOTTOM 2-3 TIMES PER YEAR, AS NEEDED.
 - B. REFRESH MULCH AROUND PLANTINGS AS NEEDED.
 - C. REMOVE SEDIMENT AND LEAF LITTER TWICE YEARLY
 - D. BETWEEN NOVEMBER 15 AND DECEMBER 15 (AFTER LEAF FALL)
 - E. DURING APRIL (AFTER SNOW MELT)

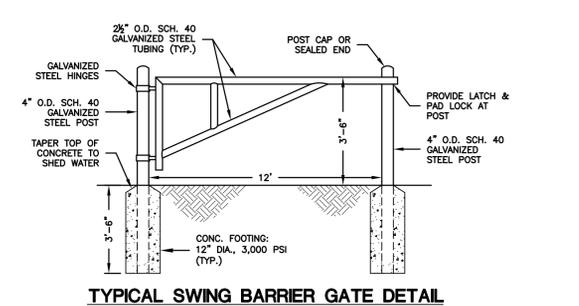
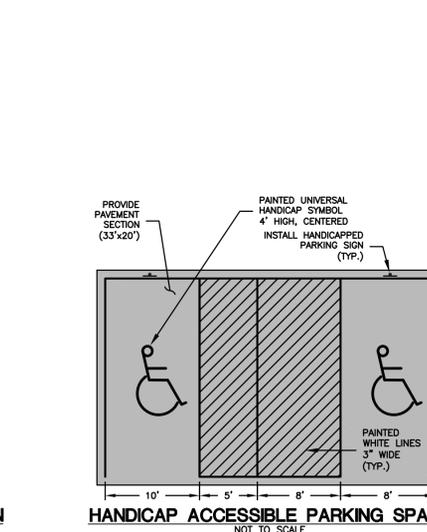
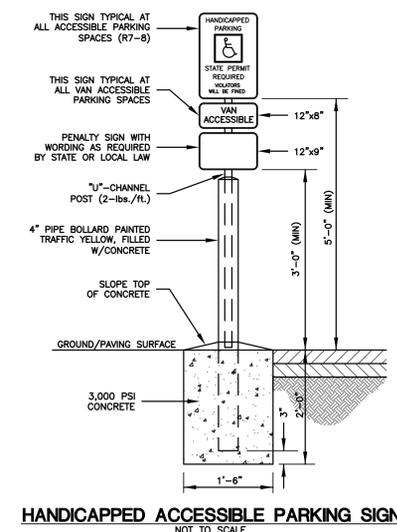
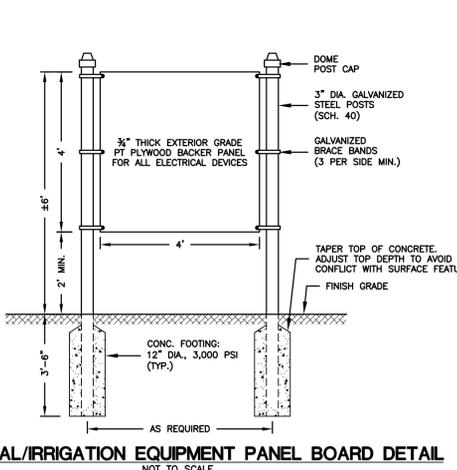
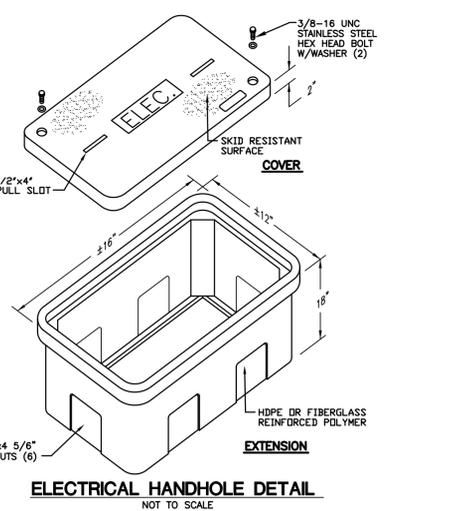
LANDSCAPE SCHEDULE FOR FILTER STRIP

Botanical Name	Common Name	Size	Qty
Filter Strip (total plantings)			
Ilex Verticillata	Winterbury Holly	18" ht.	6
Viburnum Recognitum	Arrowwood Viburnum	18" ht.	6
Vaccinium Corymbosum	Highbush Blueberry	18" ht.	6

1. ALL PLANTS SHALL BE NURSERY GROWN AND CONFORM TO THE LATEST EDITION OF ANSI 260.1, AMERICAN STANDARD FOR NURSERY STOCK
2. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN CONSENT OF THE PROJECT OWNER.
3. ALL SIZES NOTED ARE MINIMUMS.
4. SHREDDED HEMLOCK BARK MULCH OR EQUAL, SHALL BE USED AROUND ALL TREE AND SHRUB PLANTINGS AS SPECIFIED IN THE DETAILS. BROWN OR BLACK ONLY, NO ORANGE OR RED DYED.
5. ALL PLANTS AND TREES SHALL BE GUARANTEED FOR A PERIOD OF ONE FULL YEAR AFTER INSPECTION AND ACCEPTANCE BY THE PROJECT OWNER, AND SHALL HAVE AT LEAST 80% HEALTHY GROWTH AT THE END OF THE GUARANTEE PERIOD.
6. PLANTING SHALL HAVE AN 80% SURVIVAL 5-YEARS AFTER INSPECTION AND ACCEPTANCE. (N.J.C.)
7. ALL DISTURBED AREAS SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED.

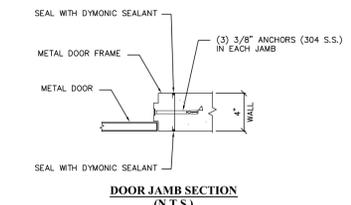
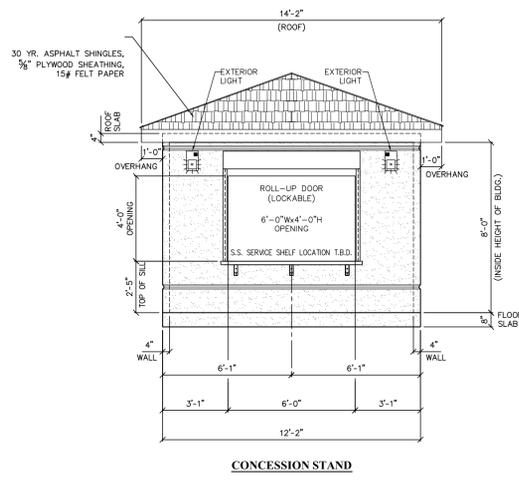
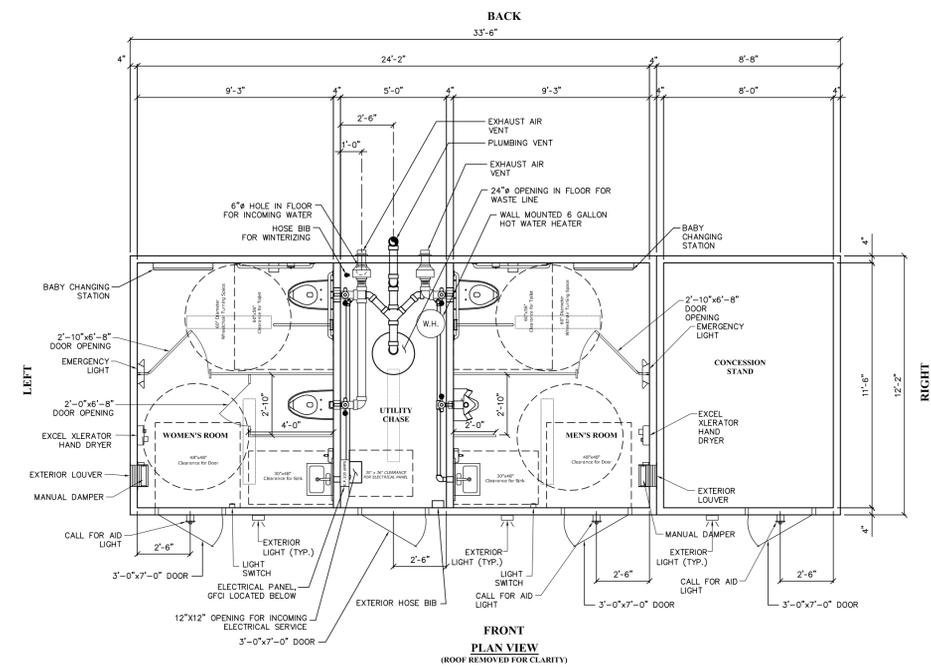


- NOTES:
1. BACKFILL SHALL BE STONE DUST OR FREE DRAINING MATERIAL LOCATED ONSITE

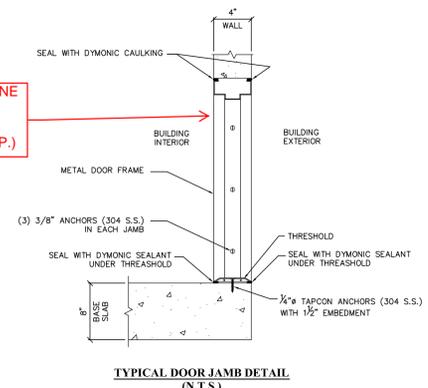
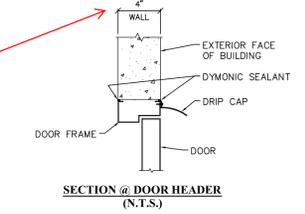


4	5/18/16	Issued for Bid	CLA Engineers, Inc. CIVIL · STRUCTURAL · SURVEYING 317 Main Street Norwich, CT 06360 (860) 886-1966 Fax (860) 886-9165	Project No. CLA-5077
3	4/12/16	Draft Bid Document		Proj. Engineer R.A.D.
2	3/14/16	Misc. Revisions per Rec. Committee		Date: Jan. 2016
1	1/13/16	Misc. Revisions		Sheet No. 7
No.	DATE	REVISION		

Town of Andover, Connecticut
Riverside Drive
 Recreation Field Improvements
 Construction Details & Notes



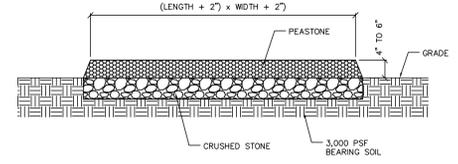
WALL THICKNESS TO BE ADJUSTED TO ACCOUNT FOR FLOOD LOADING (TYP. FOR ALL WALLS)



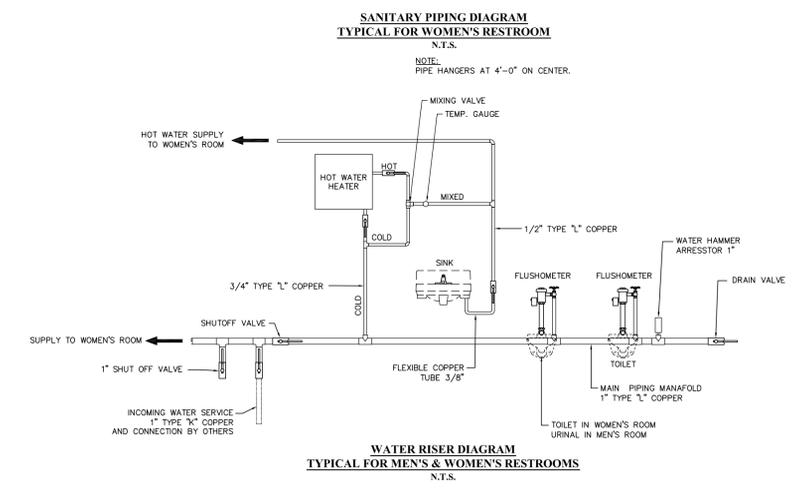
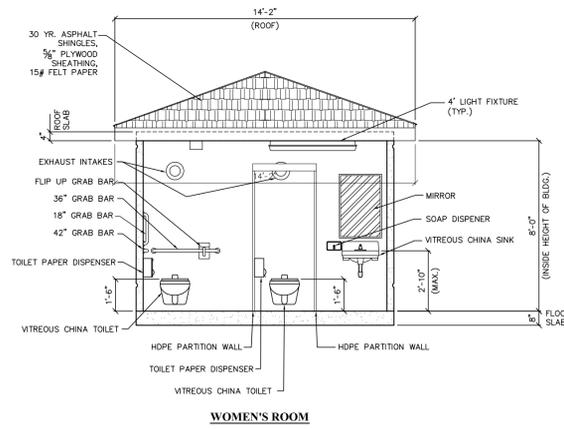
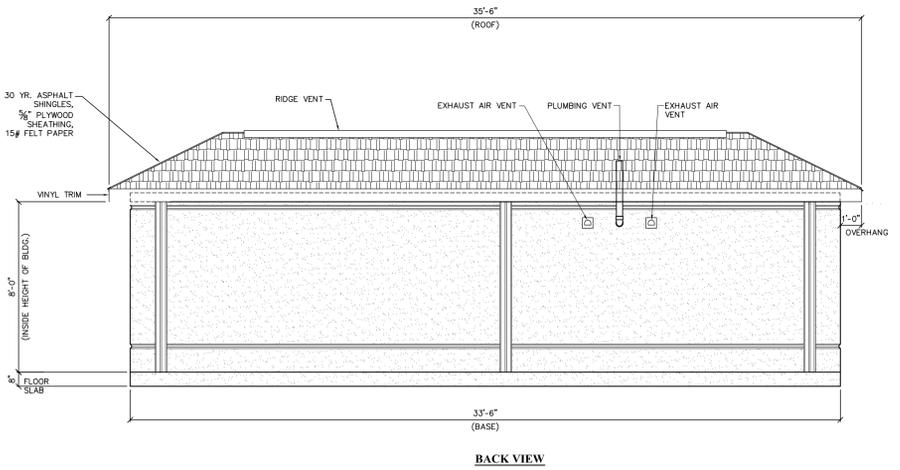
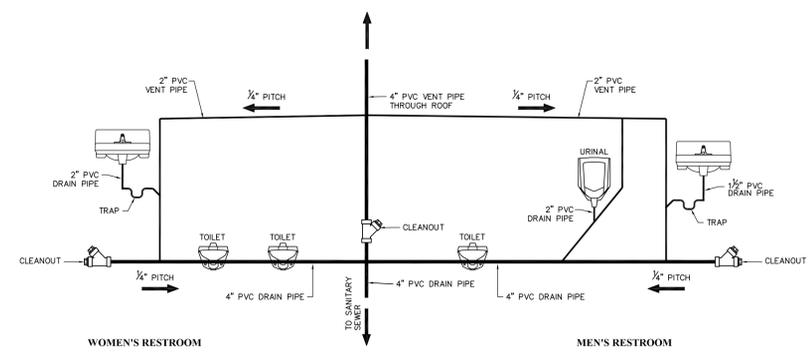
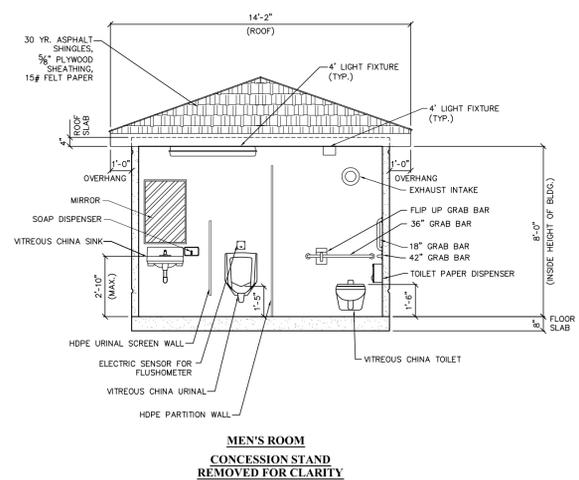
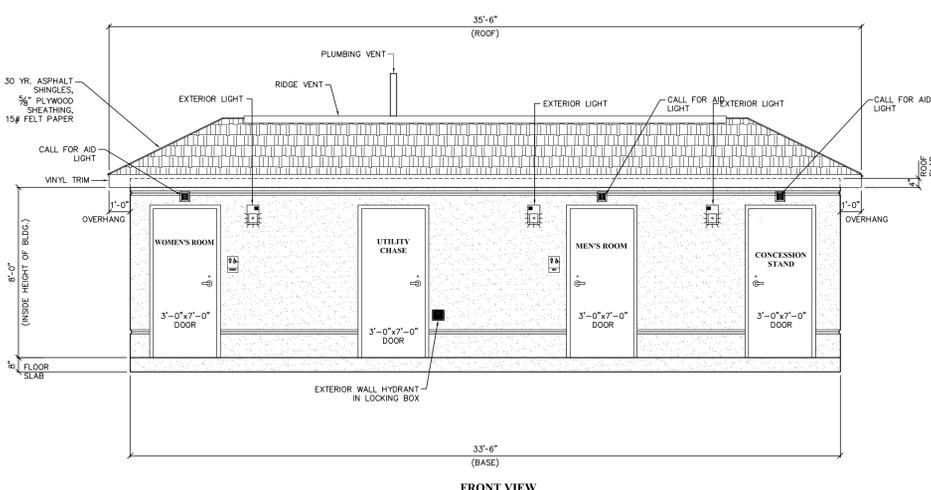
GENERAL NOTES:

- SEE STRUCTURAL CALCULATIONS FOR PRODUCTION SPECIFICATIONS.
- CONCRETE COMPRESSIVE STRENGTH: **5,000 PSI @ 28 DAYS.**
- STRUCTURE SHALL BE WET CAST USING A SELF COMPACTING CONCRETE MIX.
- THE SUPPORTING BASE FOR THE BUILDING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO PROVIDE/VERIFY LOCATIONS AND SIZES OF ALL OPENINGS IN THE BUILDING.
- RESTROOM DOOR HANDLES MEET ACCESSIBILITY CODE.

FINISH SCHEDULE		
AREA	COATING TYPE	COLOR
BUILDING EXTERIOR ROOF	(2) COATS OF FOX, FX-500 ROOF MASTIC	WHITE
BUILDING EXTERIOR WALLS	ARCHITECTURAL CHAMFERED FINISH w/ (1) COAT OF THOROSEAL, FOLLOWED BY (1) COAT OF THOROCOAT (FINE)	PER OWNER'S SPECIFICATIONS
BUILDING INTERIOR WALLS	(2) COATS OF SHERWIN WILLIAMS WATER BASED EPOXY	PER OWNER'S SPECIFICATIONS
BUILDING INTERIOR CEILING	(2) COATS OF SHERWIN WILLIAMS WATER BASED EPOXY	PER OWNER'S SPECIFICATIONS
BUILDING INTERIOR FLOOR	(2) COATS OF SIKKA 62 FLOOR COATING	GRAY
BUILDING DOORS & FRAMES	(2) COATS OF SHERWIN WILLIAMS SHER-CRYL HPA	PER OWNER'S SPECIFICATIONS
LOUVERS	MILL FINISH	N/A
CONSTRUCTION SEALANT	TREMCO DYMOMIC	LIMESTONE
INTERIOR OF MECHANICAL CHASE	NATURAL CONCRETE FINISH	N/A



- STEP 1**
EXCAVATE TOP SOIL DOWN TO 3,000 PSF BEARING SOIL.
- STEP 2**
INSTALL 10" OF CRUSHED STONE ON THE BEARING SOIL.
- STEP 3**
A FINAL SURFACE OF PEASTONE 4" TO 6" THICK SHOULD BE APPLIED PERFECTLY LEVEL (A FEW INCHES HIGHER THAN THE FINISHED GRADE FOR SURFACE DRAINAGE).
- NOTE:**
THESE FOUNDATION DRAWINGS ARE MERELY SUGGESTIONS. LOCAL CODE SHOULD BE FOLLOWED IN CREATING THE FOUNDATION FOR THE BUILDING.



ISSUE LOG	
REV. NO.	DESCRIPTION
4	
3	
2	
1	ISSUED FOR APPROVAL

UNITED CONCRETE PRODUCTS
UNITED CONCRETE PRODUCTS INC.
 173 Church Street Yalesville, CT 06492
 (800) 234-3119 Fax: (203) 265-4941

CUSTOMER:	DOUBLE OCCUPANCY WITH CONCESSION STAND
JOB LOCATION:	ANDOVER CT
DWG TITLE:	ADA RESTROOMS/ CONCESSION STAND
DRAFTER:	DATE: CK BY: DATE:
JOB NO:	SCALE: DRAWING NO:
6999	1/4" = 1'-0" A-1