



**ADD ALTERNATES:**

ADD ALTERNATE #1- INSTALL SOD IN LIEU OF ATHLETIC FIELD SEED MIX

ADD ALTERNATE #2- INSTALL SPORTS FIELD LIGHTING CONTROL CABINET AND SPORTS FIELD LIGHTING AND WIRING AT BASEBALL FIELD

ADD ALTERNATE #3- INSTALL SPORTS FIELD LIGHTING AND WIRING AT FOOTBALL FIELD

ADD ALTERNATE #4- INSTALL CONCRETE PAVERS IN LIEU OF CONCRETE PAVING

# City of Newton

## PLANS FOR THE

# NEWTON HIGHLANDS

# PLAYGROUND REHABILITATION

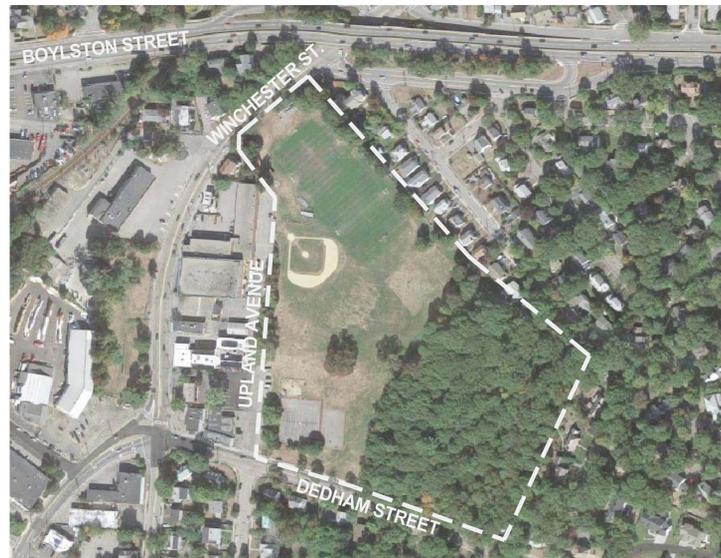
16 Winchester Street  
Newton, Massachusetts



CONSTRUCTION DOCUMENTS

City of Newton, Massachusetts  
Setti D. Warren, Mayor

Robert J. DeRubeis, Commissioner  
Newton Parks & Recreation



August 18, 2016

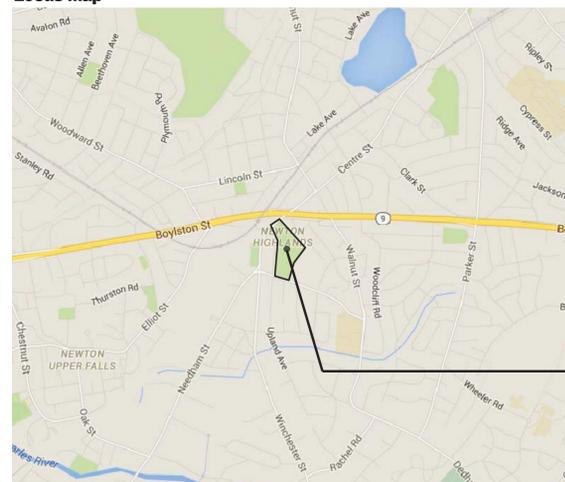
Prepared By



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**Locus Map**



NEWTON HIGHLANDS  
PLAYGROUND  
Locus Map

## GENERAL NOTES

- SITE SURVEY CONDUCTED BY CHAPPELL ENGINEERING ASSOCIATES ON APRIL 6, 2007. (SHEET L1.00)
- ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.
- LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO CONSTRUCT SITE IMPROVEMENTS.
- ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR OWNERS REPRESENTATIVE BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
- ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER OR OWNERS REPRESENTATIVE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
- THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
- FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER OR OWNERS REPRESENTATIVE.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUIDES SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE OWNERS REPRESENTATIVE, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
- NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE.
- ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
- ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL, AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
- CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY THE OWNER OR OWNERS REPRESENTATIVE. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER OR OWNERS REPRESENTATIVE.
- THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER OR OWNERS REPRESENTATIVE.

18. CONTRACTOR SHALL PROVIDE CITY OF NEWTON WITH AS-BUILT DRAWINGS ON THE CITY DATUM MEETING MASSDOT REQUIREMENTS FOR SURVEY. LIMITS TO INCLUDE CENTER LINE OF ROADWAY FOR FUTURE WORK.

## EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN L2.00 FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE CITY OF NEWTON FLOODPLAIN/ WATERSHED PROTECTION ORDINANCE REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
- EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND SILTATION CONTROLS. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- ALL CATCH BASINS AND DRAIN GRATES WITHIN LIMIT OF CONTRACT SHALL BE PROTECTED WITH INLET SEDIMENT CONTROL MEASURES DURING THE ENTIRE DURATION OF CONSTRUCTION.
- EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
- ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER OR OWNERS REPRESENTATIVE.
- ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC/ PRIVATE ROADS.

## DEMOLITION & SITE PREPARATION NOTES

- THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
- THE OWNER AND OWNERS REPRESENTATIVE RESERVE THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
- UNLESS SPECIFICALLY NOTED TO BE REMOVED AND STOCKPILED (R&S) OR REUSED AND RELOCATE (R&R), ALL SITE FEATURES CALLED FOR REMOVAL AND DEMOLITION (R&D) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC., TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
- ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
- DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL, AND SHALL TAKE WHATEVER MEASURES NECESSARY AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
- IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER AND OWNERS REPRESENTATIVE, TO REUSE EXISTING GRAVEL PAVEMENT BASE COURSE IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
- ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
- STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
- LOAM / TOPSOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
- TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN. CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH WITHIN THE DRIP LINE OF THE TREE BY HAND, AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.
- THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT AT LIMIT OF WORK IN A CLEAN, STRAIGHT LINE WHERE PAVEMENT CONTINUES BEYOND LIMIT OF WORK. CONTRACTOR SHALL REMOVE AND DEMOLISH EXISTING PAVEMENT AS INDICATED ON PLANS AND PROTECT EXISTING PAVEMENT TO REMAIN.

## LAYOUT & MATERIALS NOTES

- REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEET L1.00).
- COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED BY THE "CITY".
- THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAPPED ACCESS CMR 521, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
- ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
- ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
- THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED.
- ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO HYDROMULCH SEEDED LAWN.
- REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.

## GRADING & DRAINAGE NOTES

- ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF NEWTON.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNERS REPRESENTATIVE.
- ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED SURFACE MEETS EXISTING SURFACE. BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
- CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
- ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR521 AND AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX UNLESS OTHERWISE NOTED ON PLANS.
- MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNERS REPRESENTATIVE PRIOR TO CONTINUING WORK.
- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/ PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
- EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
- WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
- RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS WITH LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
- SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.

## ABBREVIATIONS

### GENERAL

PROP  
ADJ  
BIT. CONC.  
CEM. CONC.  
B  
N.T.S.  
B.M.  
ABAN  
MB  
GRAN. CURB  
EXIST.  
(OR EX.)  
FDN  
F.L.  
(OR F)  
P  
P.V.M.T  
RC  
M.H.B.  
REM  
RET  
R.O.W.  
R&R  
R&R  
R&S  
R&D  
SB  
NIC  
H.C.  
WCR  
FF  
HMA  
G.C.  
E.C.  
P.C.  
SWEL  
BWLL  
SYEL  
L&S

PROPOSED  
ADJUST  
BITUMINOUS CONCRETE  
CEMENT CONCRETE  
BASELINE  
NOT TO SCALE  
BENCH MARK  
ABANDON  
MAIL BOX  
GRANITE CURB  
EXISTING  
FOUNDATION  
FLOW LINE  
PROPERTY LINE  
PAVEMENT  
PAVED WATERWAY  
REINFORCED CONCRETE  
MASSACHUSETTS HIGHWAY BOUND  
REMOVE  
RETAIN  
RIGHT-OF-WAY  
REMOVE AND RESET  
REMOVE, RELOCATED AND RESET  
REMOVE AND STACK  
REMOVE AND DISPOSE  
STONE BOUND  
NOT IN CONTRACT  
HANDICAP  
WHEELCHAIR RAMP  
FINISHED FLOOR  
HOT MIX ASPHALT  
GENERAL CONTRACTOR  
ELECTRICAL CONTRACTOR  
PLUMBING CONTRACTOR  
SOLID WHITE EDGE LINE  
BROKEN WHITE LANE LINE  
SOLID YELLOW EDGE LINE  
LOAM AND SEED

### UTILITIES

GCI  
CBCI  
CB  
C.I.T.  
F&G  
F&C  
CI  
CIP  
CMP  
DI  
GI  
HYD  
INV. ELEV.  
UP  
SMH  
WG  
DS  
HDPE  
PVC  
RCP  
DMH  
LB  
CI  
OCS  
OGT  
VC  
LP  
SWTU  
HH  
GUTTER INLET W/ CURB INLET  
CATCH BASIN W/ CURB INLET  
CATCH BASIN  
CHANGE IN TYPE  
FRAME AND GRATE  
FRAME AND COVER  
CURB INLET  
CAST IRON PIPE  
CORRUGATED METAL PIPE  
DUCTILE IRON PIPE  
DUCTILE IRON PIPE  
GUTTER INLET  
HYDRANT  
INVERT ELEVATION  
UTILITY POLE  
SEWER MANHOLE  
WATER GATE  
DOWN SPOUT  
HIGH DENSITY POLYETHYLENE PIPE  
POLYVINYL CHLORIDE  
REINFORCED CONCRETE PIPE  
DRAIN MANHOLE  
LEACHING BASIN  
CAST IRON  
OUTLET CONTROL STRUCTURE  
OIL AND GRIT TRAP  
VITRIFIED CLAY PIPE  
LIGHT POLE  
STORM WATER TREATMENT UNIT  
HANDHOLE

Project:

**NEWTON HIGHLANDS  
PLAYGROUND  
REHABILITATION**



Weston & Sampson

85 Devonshire Street, 3rd Floor  
Boston, MA 02109  
(617) 412-4480 (800) Sampson  
www.westonandsampson.com

Consultants:

North

Revisions:

Rev	Date	Description

Seal:



**CONSTRUCTION  
DOCUMENTS**

Date: 08.18.2016

Scale: N/A

Drawn By: CB/CC

Reviewed By: EB/CR

Checked By: BR/BK

Approved By: EB

Drawing Title:

**GENERAL NOTES**

Sheet Number:

**L0.00**



**PLAN REFERENCES**

STATE HIGHWAY LAYOUT PLAN #601 OF 7/18/1901  
 STATE HIGHWAY ALTERATION PLAN #2249 OF 4/21/1925  
 STATE HIGHWAY ALTERATION PLAN #2618 OF 10/22/1929  
 STATE HIGHWAY LAYOUT PLAN #2887 OF 4/15/1932  
 STATE HIGHWAY ALTERATION PLAN #3020 OF 5/31/1933  
 CITY RECORD LAYOUT PLAN #29610 N-63 OF 5/20/1946  
 (PLAN #1031 OF 1946 PLAN BK 7019 PG 109)  
 CITY RECORD PLAN #25922-B N-65 OF 4/1937  
 CITY RECORD PLAN #28007 P-26 OF 1937  
 CITY RECORD PLAN #33121 S-53 OF 2/1953  
 CITY RECORD PLAN #21357 N-59  
 CITY RECORD PLAN #27288 S-51 OF 12/1939  
 CITY RECORD PLAN #27528 S-51 OF 7/1940  
 PLAN BK 33 PLAN 30 (A-E) OF 5/1873  
 PLAN BK 52 PLAN 43 OF 7-11/1886  
 PLAN NO 436 (A-C) OF 1934 BK 5856 PG 519  
 PLAN NO 1036 OF 1937 BK 6162 PG 517  
 LC PLAN NO 11713B OF 12/18/1937 BK 286 PG 373  
 PLAN NO 1057 OF 5/1940 BK 6446 PG 279  
 PLAN NO 1895 OF 10/11/1946 BK 7066 PG 484  
 PLAN NO 526 OF 3/12/1969 BK 11686 PG 205

**LEGEND**

- EXISTING STREET LAYOUT LINE
- PROPERTY LINE
- PROPERTY EASEMENT
- GAS LINE
- X- CHAIN LINK FENCE
- OHW OVERHEAD WIRE
- S SEWER LINE
- W WATER LINE
- SD STORM DRAIN LINE
- STEAM LINE
- RETAINING WALL
- LIGHT POLE
- HYDRANT
- DRILL HOLE
- STONE/CONC. BOUND
- TELEPHONE MANHOLE
- SEWER MANHOLE
- BENCHMARK
- DRAINAGE MANHOLE
- CATCH BASIN
- GAS VALVE
- WATER VALVE
- UTILITY POLE
- SIGN
- BORING LOCATION, SEE SPECIFICATIONS FOR BORING LOG AND REPORT
- EXISTING TREE/ CANOPY

**NOTES**

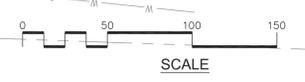
ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO THE COMMENCEMENT OF ANY SITE WORK. CALL DIG SAFE 1-888-344-7233 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

PROPERTY LINE INFORMATION IS COMPILED FROM FIELD OBSERVATIONS, CITY LAYOUT AND ASSESSORS PLANS, DEEDS RECORDED AT THE MIDDLESEX COUNTY REGISTRY OF DEEDS, AND PLANS OF RECORD.

BEARING SYSTEM OF THIS PLAN IS BASED UPON MASSACHUSETTS MAINLAND STATE PLANE GRID. GRID NORTH WAS ESTABLISHED FROM GPS READINGS ON JANUARY 18, 2007.

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD1988)

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)



Project:  
**NEWTON HIGHLANDS PLAYGROUND REHABILITATION**

Weston & Sampson

85 Devonshire Street, 3rd Floor  
 Boston, MA 02109  
 (617) 412-4480 (800) Sampson  
 www.westonandsampson.com

Consultants:

**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
 Civil - Structural - Land Surveying  
 201 BOSTON POST ROAD WEST, SUITE 101  
 MARLBOROUGH, MA 01752  
 (508)481-7400  
 www.chappellengineering.com

North:

Revisions:

Rev	Date	Description

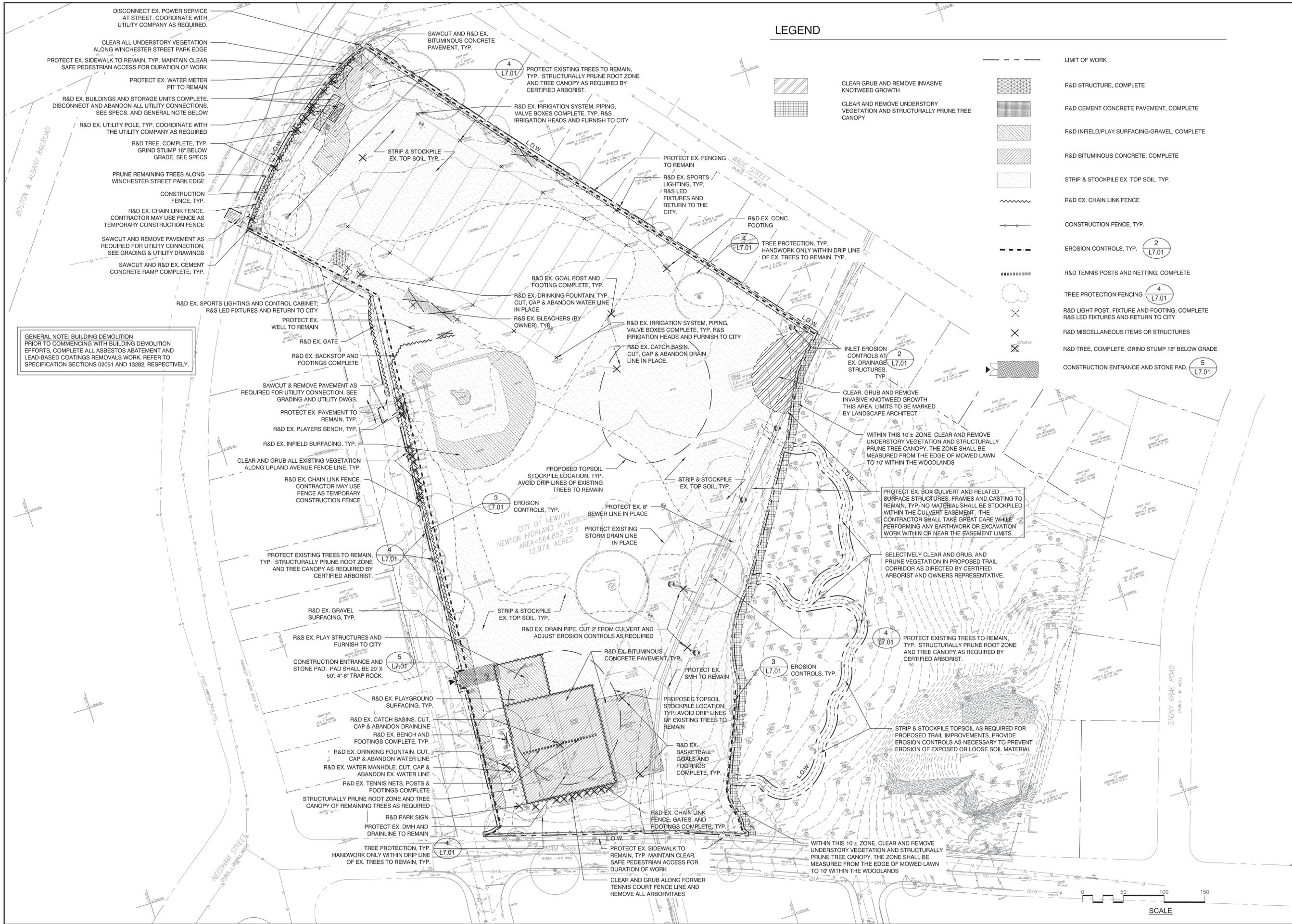
Seal:

**CONSTRUCTION DOCUMENTS**

Date: 08.18.2016  
 Scale: 1" = 50'-0"  
 Drawn By: CEA  
 Reviewed By: CEA  
 Checked By: CEA  
 Approved By: CEA

Drawing Title:  
**EXISTING CONDITIONS PLAN**

Sheet Number:  
**L1.00**



**LEGEND**

- CLEAR GRUB AND REMOVE INVASIVE KNOTWEED GROWTH
- CLEAR AND REMOVE UNDERSTORY VEGETATION AND STRUCTURALLY PRUNE TREE CANOPY
- LIMIT OF WORK
- R&D STRUCTURE, COMPLETE
- R&D CEMENT CONCRETE PAVEMENT, COMPLETE
- R&D INFIELD/PLAY SURFACING/GRAVEL, COMPLETE
- R&D BITUMINOUS CONCRETE, COMPLETE
- STRIP & STOCKPILE EX. TOP SOIL, TYP.
- R&D EX. CHAIN LINK FENCE
- CONSTRUCTION FENCE, TYP.
- EROSION CONTROLS, TYP. 2 L7.01
- R&D TENNIS POSTS AND NETTING, COMPLETE
- TREE PROTECTION FENCING 4 L7.01
- R&D LIGHT POST, FIXTURE AND FOOTING, COMPLETE R&S LED FIXTURES AND RETURN TO CITY
- R&D MISCELLANEOUS ITEMS OR STRUCTURES
- R&D TREE, COMPLETE, GRIND STUMP 18" BELOW GRADE
- CONSTRUCTION ENTRANCE AND STONE PAD. 5 L7.01

**GENERAL NOTE: BUILDING DEMOLITION**  
 PRIOR TO COMMENCING WITH BUILDING DEMOLITION EFFORTS, COMPLETE ALL ASBESTOS ABATEMENT AND LEAD-BASED COATINGS REMOVALS WORK. REFER TO SPECIFICATION SECTIONS 02051 AND 13282, RESPECTIVELY.

Project:  
**NEWTON HIGHLANDS PLAYGROUND REHABILITATION**

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Consultants:

North:

Revisions:

Rev	Date	Description

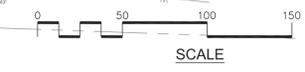
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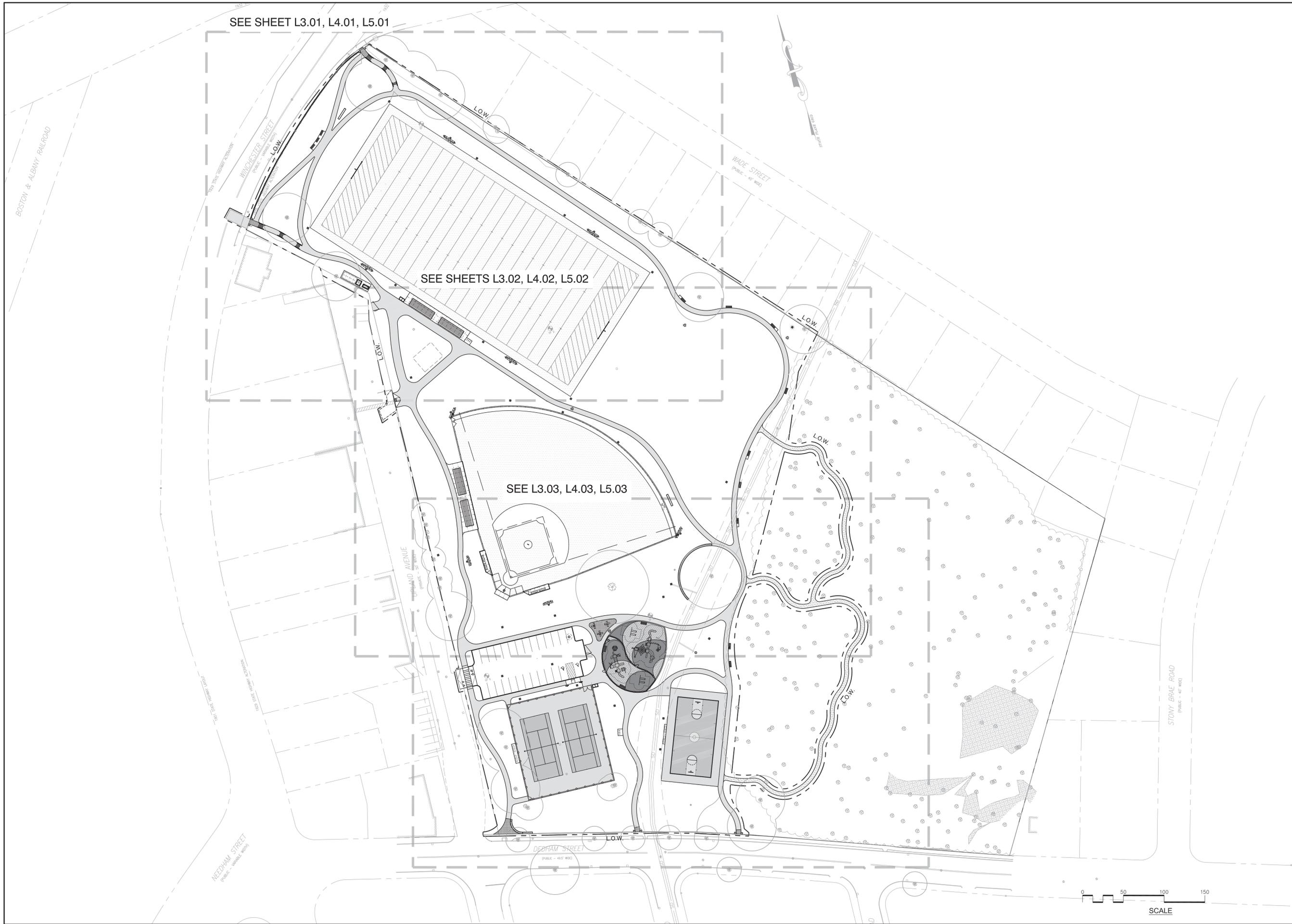
**CONSTRUCTION DOCUMENTS**

Date: 08.18.2016  
 Scale: 1" = 50'-0"  
 Drawn By: CB/CC  
 Reviewed By: EB/CR  
 Checked By: BR/BK  
 Approved By: EB

Drawing Title:  
**SITE PREPARATION PLAN**

Sheet Number:  
**L2.00**





SEE SHEET L3.01, L4.01, L5.01

SEE SHEETS L3.02, L4.02, L5.02

SEE L3.03, L4.03, L5.03

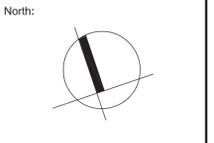
Project:  
**NEWTON HIGHLANDS  
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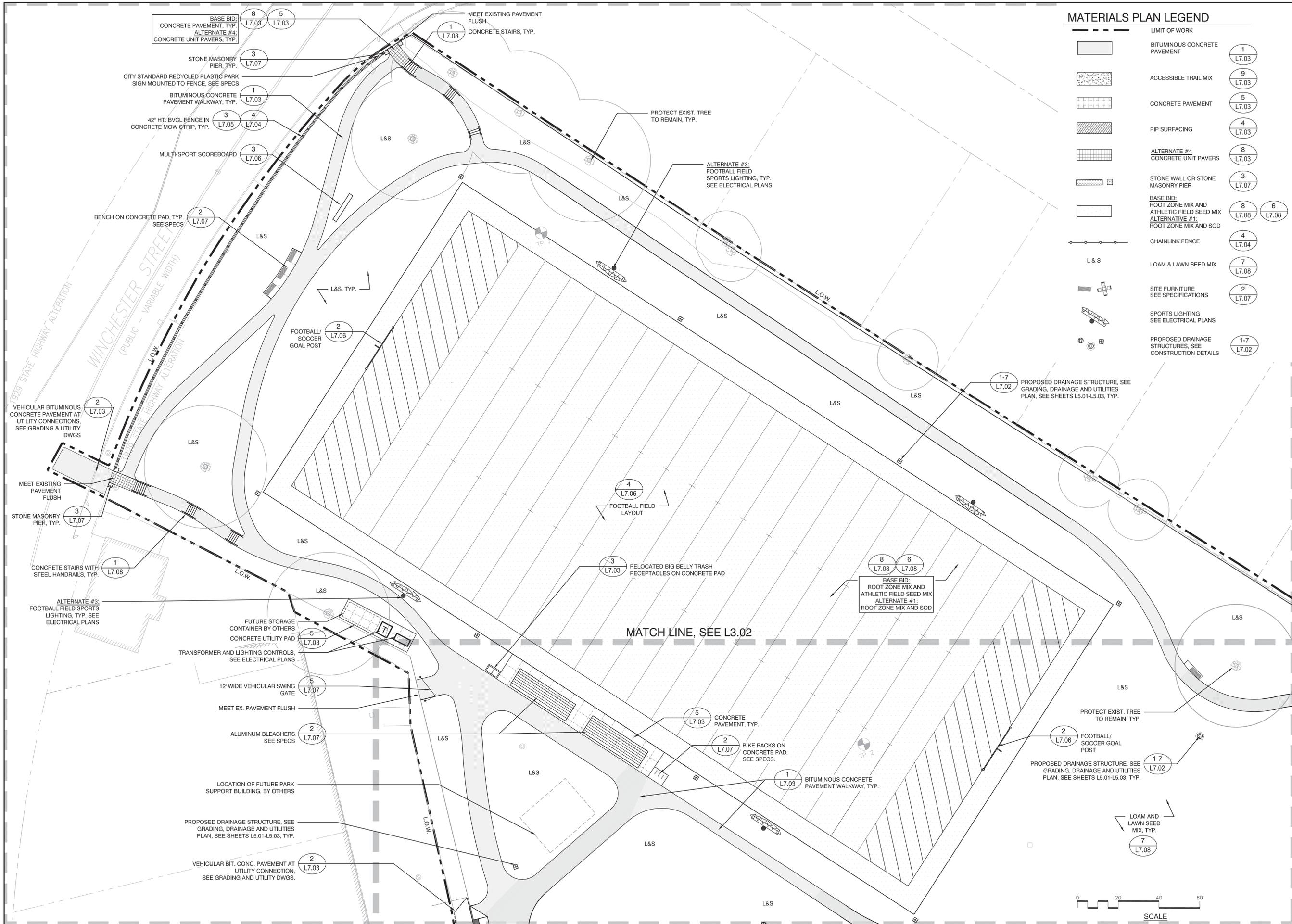


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Drawing Title:  
**OVERALL  
 IMPROVEMENTS PLAN  
 SHEET INDEX**

Sheet Number:  
**L3.00**



**MATERIALS PLAN LEGEND**

LIMIT OF WORK	
	BITUMINOUS CONCRETE PAVEMENT (1 L7.03)
	ACCESSIBLE TRAIL MIX (9 L7.03)
	CONCRETE PAVEMENT (5 L7.03)
	PIP SURFACING (4 L7.03)
	ALTERNATE #4 CONCRETE UNIT PAVERS (8 L7.03)
	STONE WALL OR STONE MASONRY PIER (3 L7.07)
	BASE BID: ROOT ZONE MIX AND ATHLETIC FIELD SEED MIX (8 L7.08)
	ALTERNATE #1: ROOT ZONE MIX AND SOD (6 L7.08)
	CHAINLINK FENCE (4 L7.04)
	L & S LOAM & LAWN SEED MIX (7 L7.08)
	SITE FURNITURE SEE SPECIFICATIONS (2 L7.07)
	SPORTS LIGHTING SEE ELECTRICAL PLANS
	PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS (1-7 L7.02)

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Revisions:

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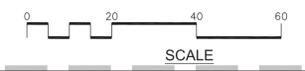
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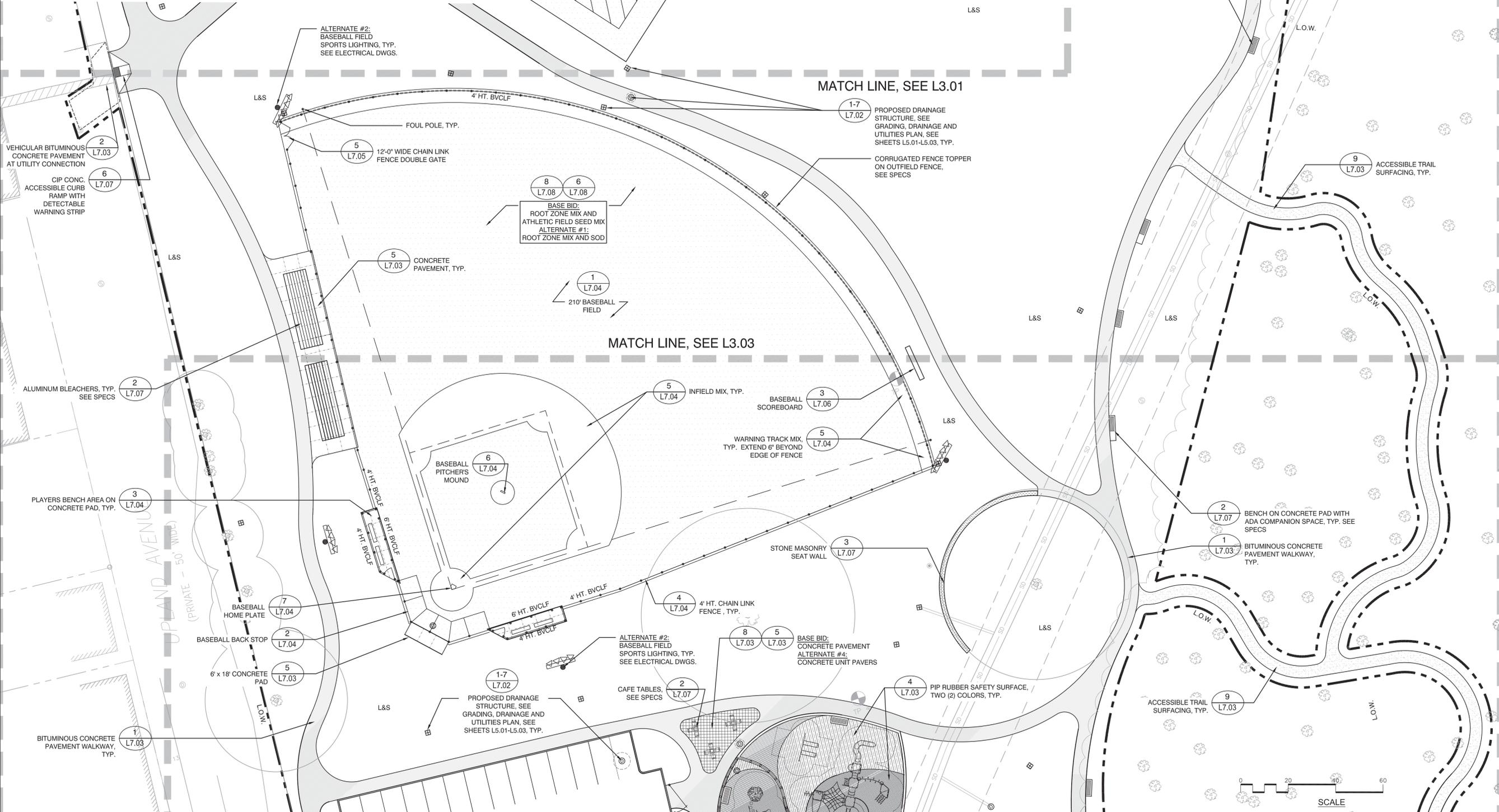
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**MATERIALS PLAN**

Sheet Number:  
**L3.01**



**LEGEND**

-  LIMIT OF WORK
-  BITUMINOUS CONCRETE PAVEMENT (1 L7.03)
-  ACCESSIBLE TRAIL MIX (9 L7.03)
-  CONCRETE PAD (8 L7.03)
-  PIP SURFACING TWO (2) COLORS (4 L7.03)
-  CONCRETE UNIT PAVERS (8 L7.03)
-  STONE WALL OR STONE MASONRY PIER (3 L7.03)
-  PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS (1-7 L7.02)
-  L & S (8 L7.08)
-  LOAM & LAWN SEED MIX (7 L7.08)
-  SITE FURNITURE SEE SPECIFICATIONS (2 L7.07)
-  SPORTS LIGHTING SEE ELECTRICAL PLANS (4 L7.04)
-  CHAINLINK FENCE (4 L7.04)



Project:  
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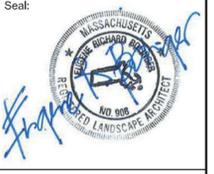
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Rev	Date	Description

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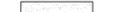
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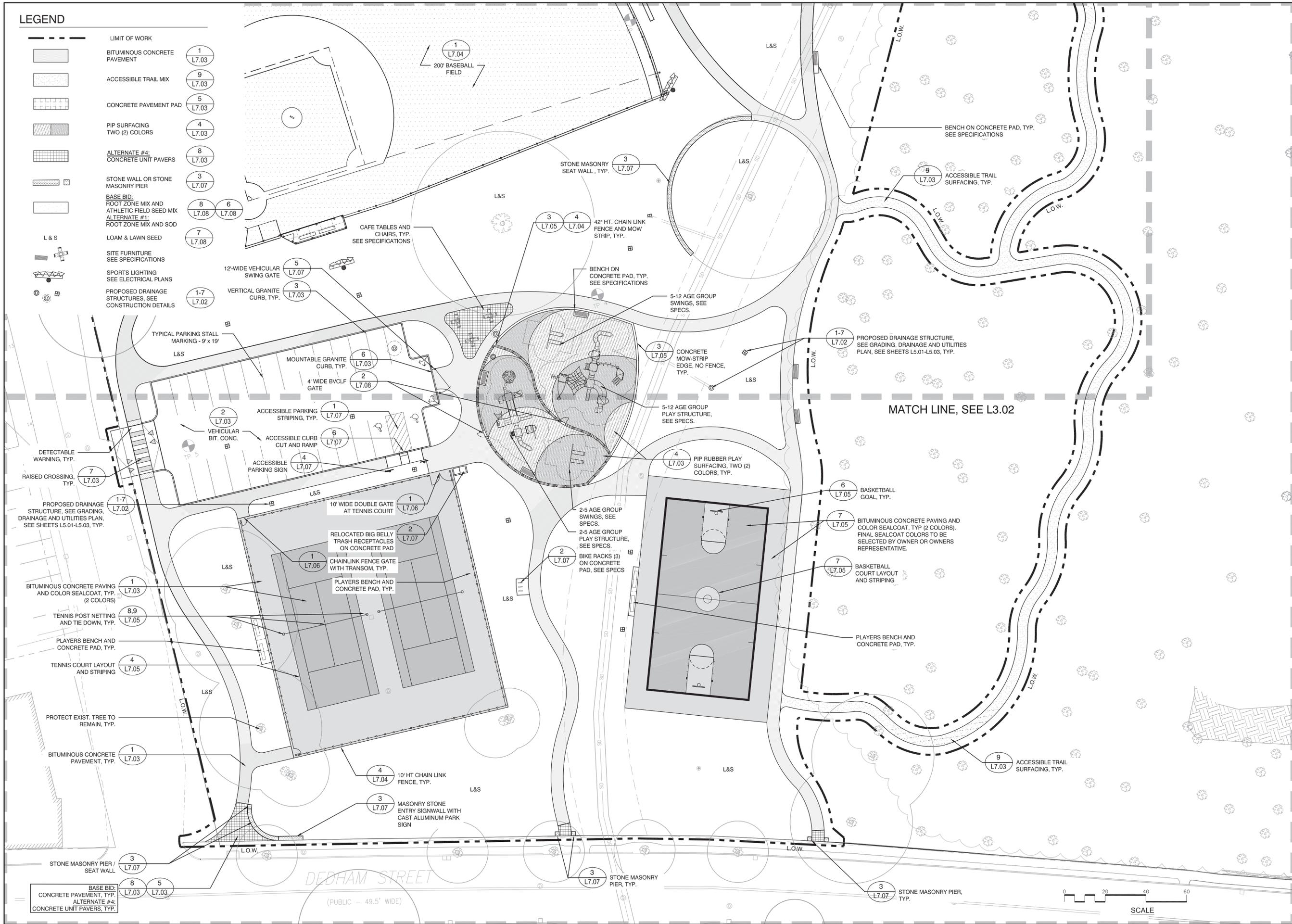
Drawing Title:  
**MATERIALS PLAN**

Sheet Number:  
**L3.02**

**LEGEND**

-  LIMIT OF WORK
-  BITUMINOUS CONCRETE PAVEMENT
-  ACCESSIBLE TRAIL MIX
-  CONCRETE PAVEMENT PAD
-  PIP SURFACING TWO (2) COLORS
-  ALTERNATE #4: CONCRETE UNIT PAVERS
-  STONE WALL OR STONE MASONRY PIER
-  BASE BID: ROOT ZONE MIX AND ATHLETIC FIELD SEED MIX ALTERNATE #1: ROOT ZONE MIX AND SOD
-  LOAM & LAWN SEED
-  SITE FURNITURE SEE SPECIFICATIONS
-  SPORTS LIGHTING SEE ELECTRICAL PLANS
-  PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS

-  1 L7.04
-  9 L7.03
-  5 L7.03
-  4 L7.03
-  8 L7.03
-  3 L7.07
-  8 L7.08
-  6 L7.08
-  7 L7.08
-  1-7 L7.02



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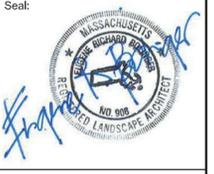
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Revisions:

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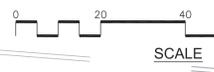


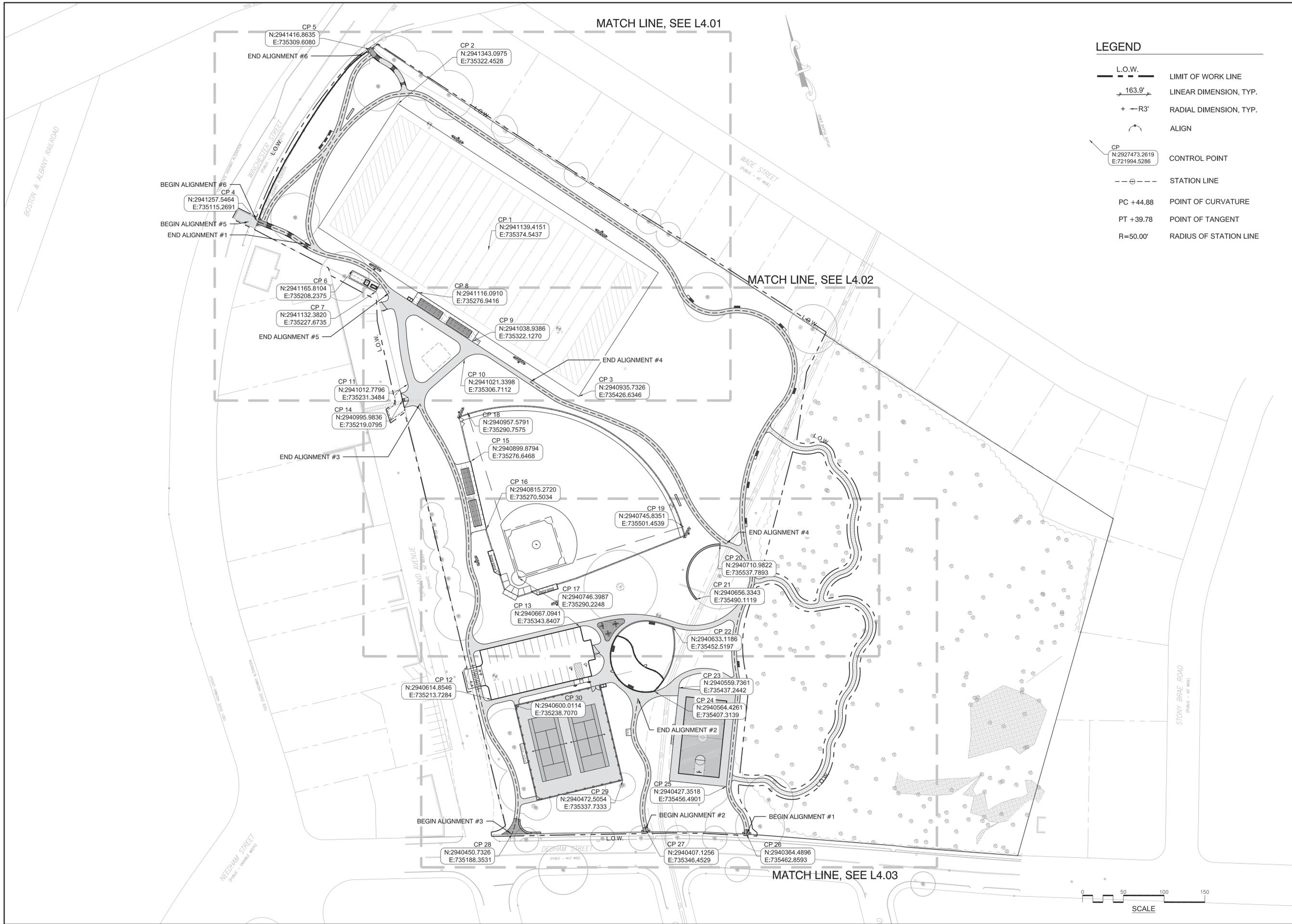
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Drawing Title:  
**MATERIALS PLAN**

Sheet Number:  
**L3.03**





**LEGEND**

- L.O.W. LIMIT OF WORK LINE
- 163.9' LINEAR DIMENSION, TYP.
- + -R3' RADIAL DIMENSION, TYP.
- ALIGN
- CP N:2927473.2619 E:721994.5286 CONTROL POINT
- STATION LINE
- PC +44.88 POINT OF CURVATURE
- PT +39.78 POINT OF TANGENT
- R=50.00' RADIUS OF STATION LINE

Project:  
**NEWTON HIGHLANDS  
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Revisions:

Rev	Date	Description

Seal:

**CONSTRUCTION DOCUMENTS**

Date: 08.18.2016

Scale: 1" = 50'±0"

Drawn By: BR

Reviewed By: EB/CR

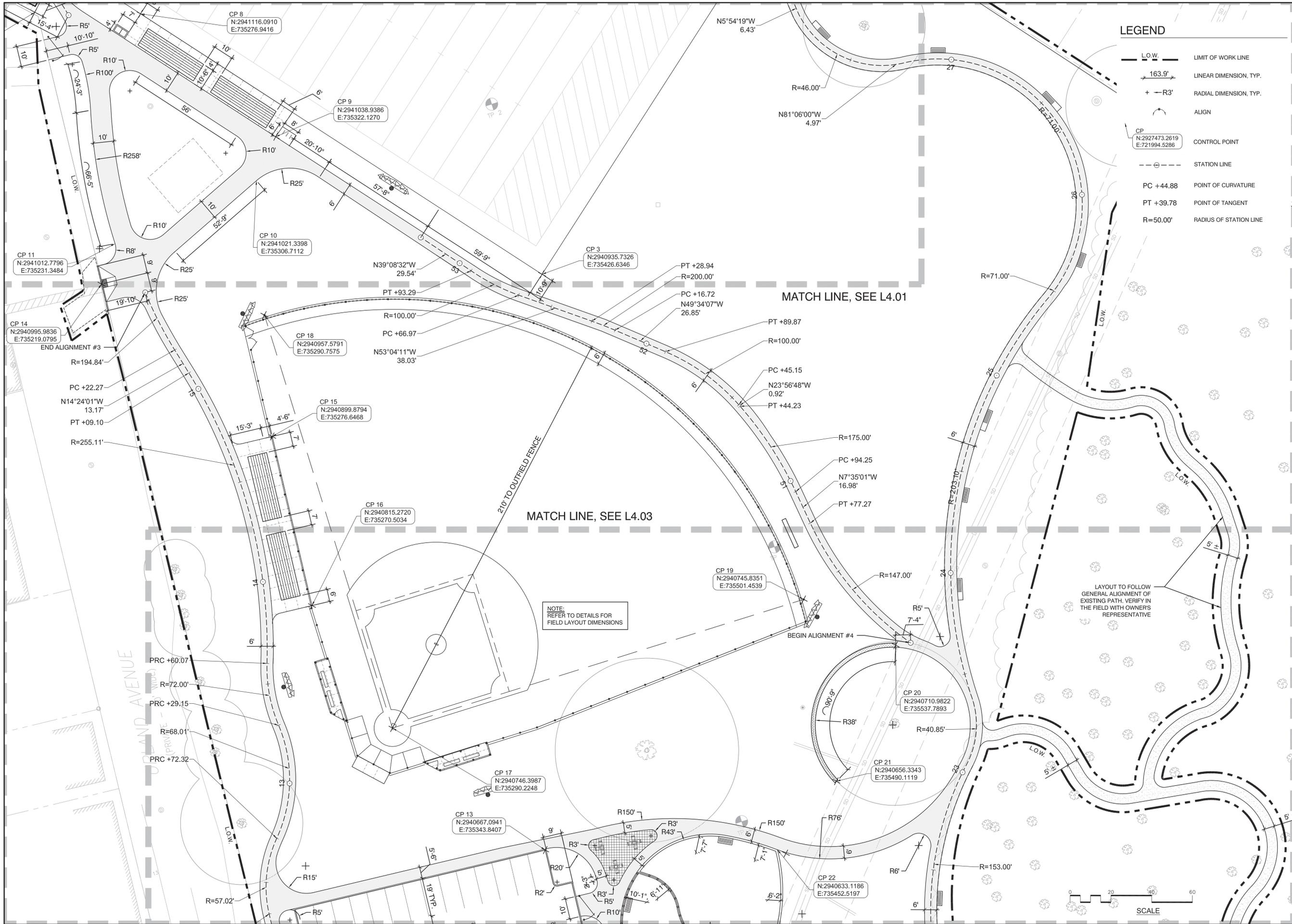
Checked By: BR/BK

Approved By: EB

Drawing Title:  
**OVERALL LAYOUT AND  
 CONTROL PLAN**

Sheet Number:  
**L4.00**





**LEGEND**

- L.O.W. LIMIT OF WORK LINE
- 163.9' LINEAR DIMENSION, TYP.
- + R3' RADIAL DIMENSION, TYP.
- ALIGN
- CP N:2927473.2619 E:721994.5286 CONTROL POINT
- STATION LINE
- PC +44.88 POINT OF CURVATURE
- PT +39.78 POINT OF TANGENT
- R=50.00' RADIUS OF STATION LINE

Project:  
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Revisions:

Rev	Date	Description

Seal:

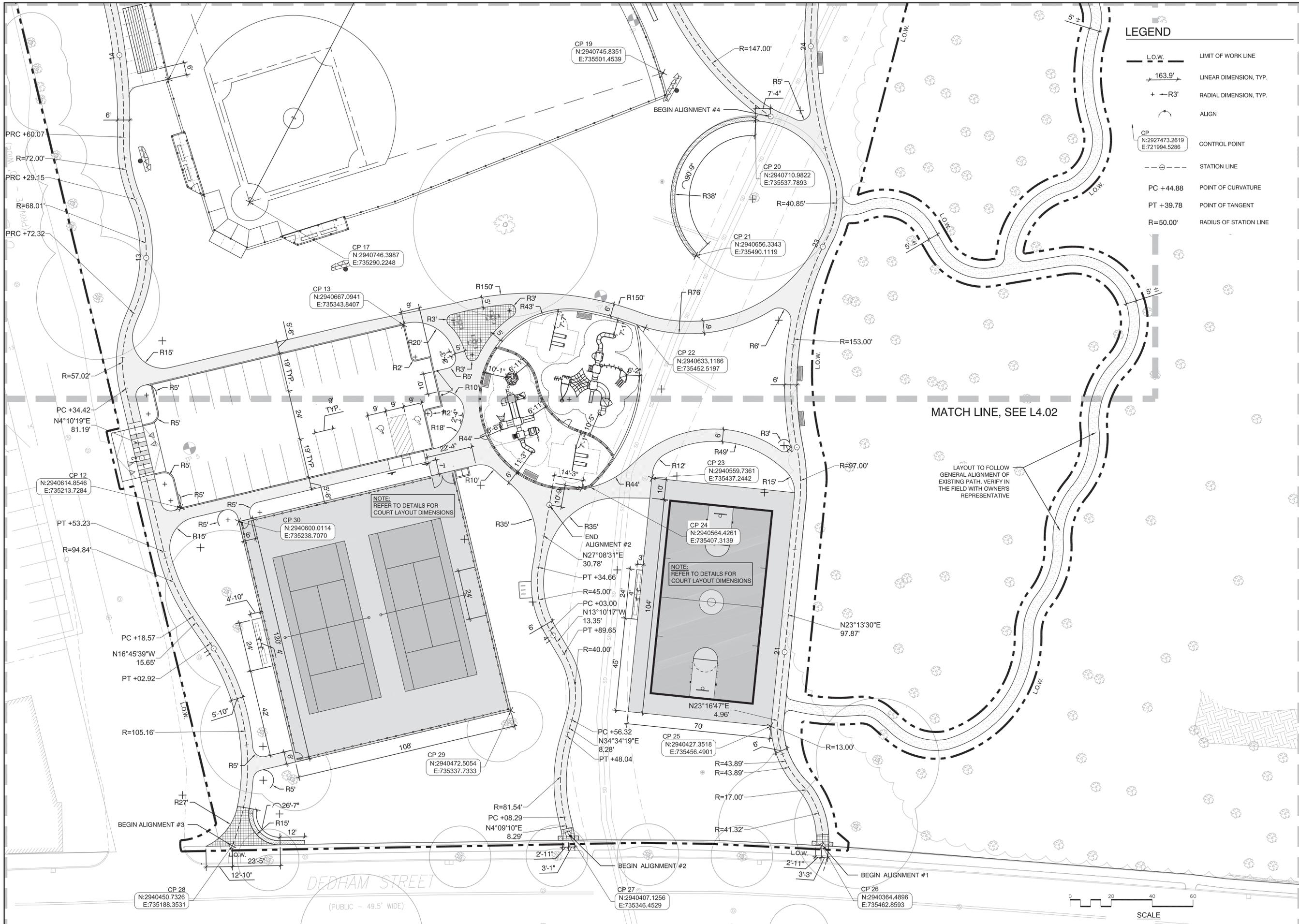
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 Checked By: BR/BK  
 Approved By: EB

Drawing Title:  
**LAYOUT PLAN**

Sheet Number:  
**L4.02**





**LEGEND**

- L.O.W. LIMIT OF WORK LINE
- 163.9' LINEAR DIMENSION, TYP.
- + R3' RADIAL DIMENSION, TYP.
- ALIGN
- CP N:2927473.2619 E:721994.5286 CONTROL POINT
- STATION LINE
- PC +44.88 POINT OF CURVATURE
- PT +39.78 POINT OF TANGENT
- R=50.00' RADIUS OF STATION LINE

Project:  
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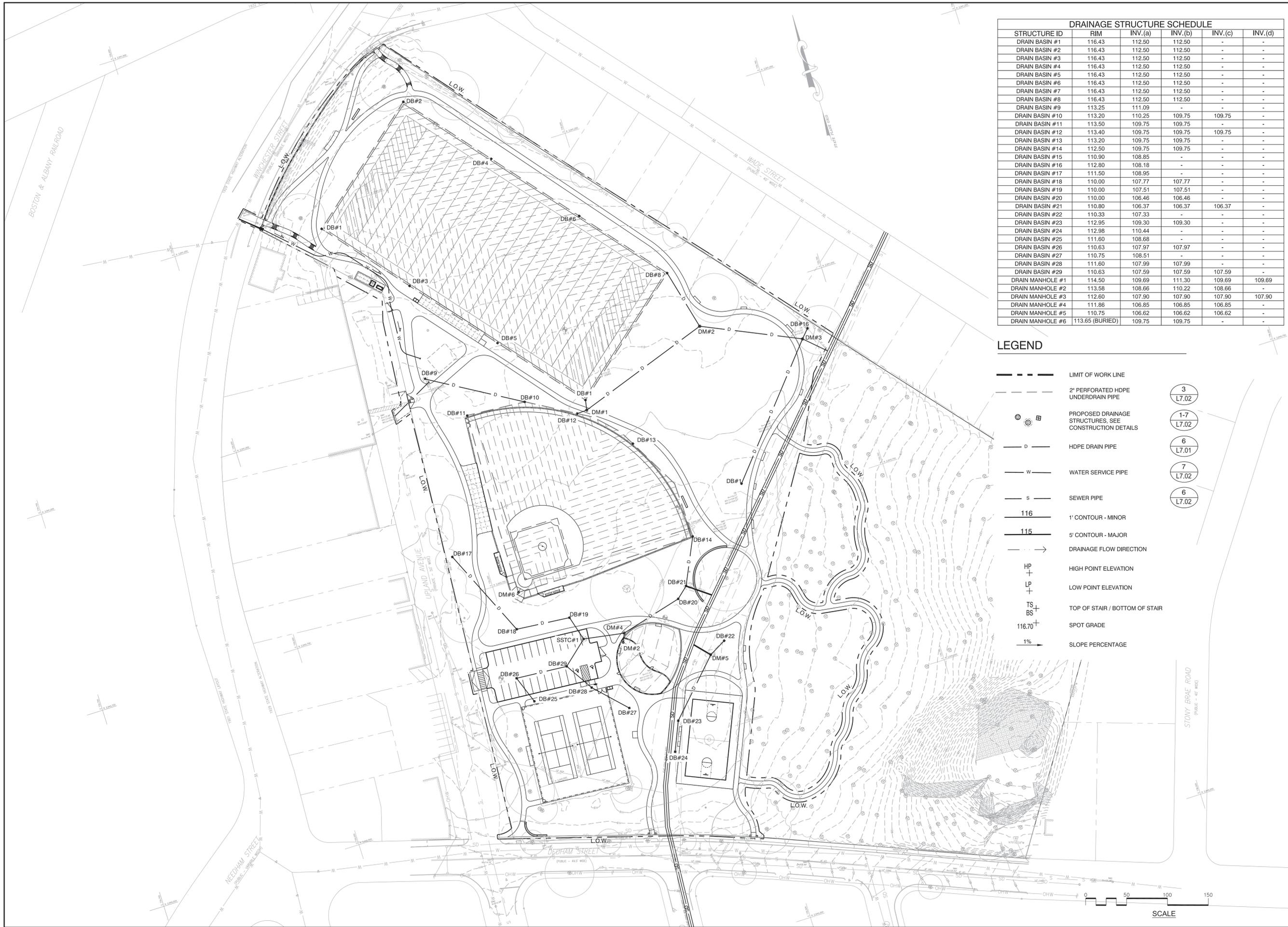
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Drawing Title:  
**LAYOUT PLAN**

Sheet Number:  
**L4.03**



DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE ID	RIM	INV.(a)	INV.(b)	INV.(c)	INV.(d)
DRAIN BASIN #1	116.43	112.50	112.50	-	-
DRAIN BASIN #2	116.43	112.50	112.50	-	-
DRAIN BASIN #3	116.43	112.50	112.50	-	-
DRAIN BASIN #4	116.43	112.50	112.50	-	-
DRAIN BASIN #5	116.43	112.50	112.50	-	-
DRAIN BASIN #6	116.43	112.50	112.50	-	-
DRAIN BASIN #7	116.43	112.50	112.50	-	-
DRAIN BASIN #8	116.43	112.50	112.50	-	-
DRAIN BASIN #9	113.25	111.09	-	-	-
DRAIN BASIN #10	113.20	110.25	109.75	109.75	-
DRAIN BASIN #11	113.50	109.75	109.75	-	-
DRAIN BASIN #12	113.40	109.75	109.75	109.75	-
DRAIN BASIN #13	113.20	109.75	109.75	-	-
DRAIN BASIN #14	112.50	109.75	109.75	-	-
DRAIN BASIN #15	110.90	108.85	-	-	-
DRAIN BASIN #16	112.80	108.18	-	-	-
DRAIN BASIN #17	111.50	108.95	-	-	-
DRAIN BASIN #18	110.00	107.77	107.77	-	-
DRAIN BASIN #19	110.00	107.51	107.51	-	-
DRAIN BASIN #20	110.00	106.46	106.46	-	-
DRAIN BASIN #21	110.80	106.37	106.37	106.37	-
DRAIN BASIN #22	110.33	107.33	-	-	-
DRAIN BASIN #23	112.95	109.30	109.30	-	-
DRAIN BASIN #24	112.98	110.44	-	-	-
DRAIN BASIN #25	111.60	108.68	-	-	-
DRAIN BASIN #26	110.63	107.97	107.97	-	-
DRAIN BASIN #27	110.75	108.51	107.97	-	-
DRAIN BASIN #28	111.60	107.99	107.99	-	-
DRAIN BASIN #29	110.63	107.59	107.59	107.59	-
DRAIN MANHOLE #1	114.50	109.69	111.30	109.69	109.69
DRAIN MANHOLE #2	113.58	108.66	110.22	108.66	-
DRAIN MANHOLE #3	112.60	107.90	107.90	107.90	107.90
DRAIN MANHOLE #4	111.86	106.85	106.85	106.85	-
DRAIN MANHOLE #5	110.75	106.62	106.62	106.62	-
DRAIN MANHOLE #6	113.65 (BURIED)	109.75	109.75	-	-

**LEGEND**

- LIMIT OF WORK LINE
- - - 2" PERFORATED HDPE UNDERDRAIN PIPE
- ⊙ ⊙ ⊙ PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS
- o — HDPE DRAIN PIPE
- w — WATER SERVICE PIPE
- s — SEWER PIPE
- 116 1" CONTOUR - MINOR
- 115 5" CONTOUR - MAJOR
- DRAINAGE FLOW DIRECTION
- HP + HIGH POINT ELEVATION
- LP + LOW POINT ELEVATION
- TS + TOP OF STAIR / BOTTOM OF STAIR
- BS +
- 116.70 + SPOT GRADE
- 1% SLOPE PERCENTAGE

3
L7.02
1-7
L7.02
6
L7.01
7
L7.02
6
L7.02

Project:  
**NEWTON HIGHLANDS  
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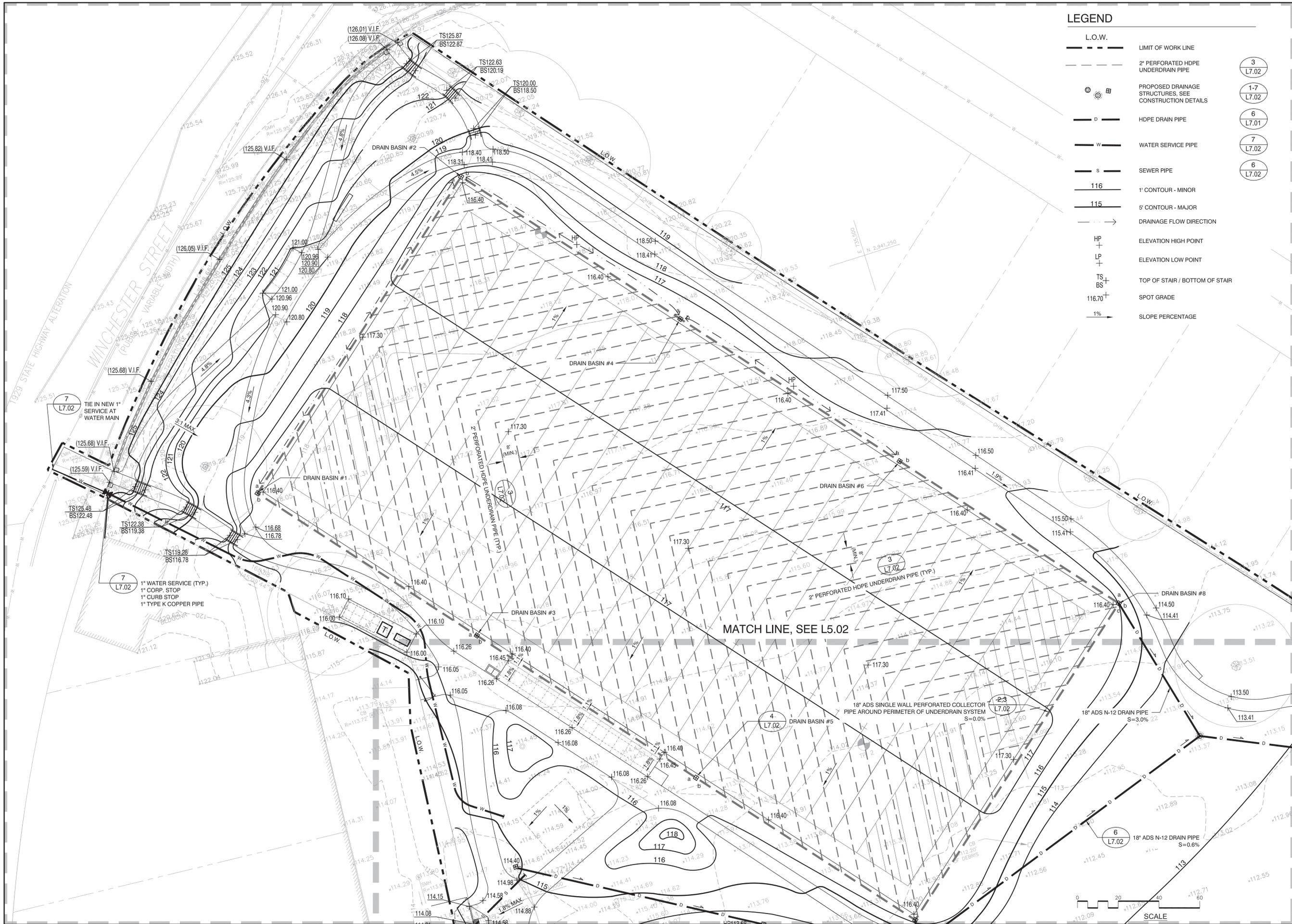
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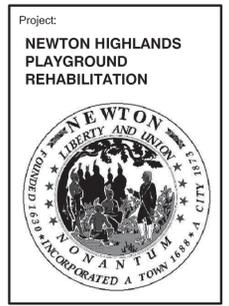
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**OVERALL SITE UTILITIES  
 PLAN**

Sheet Number:  
**L5.00**

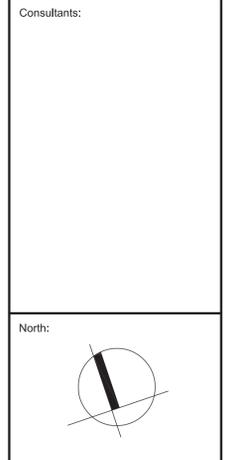


**LEGEND**

---	L.O.W.	LIMIT OF WORK LINE	
- - -		2" PERFORATED HDPE UNDERDRAIN PIPE	3 L7.02
⊙ ⊙		PROPOSED DRAINAGE STRUCTURES. SEE CONSTRUCTION DETAILS	1-7 L7.02
- D -		HOPE DRAIN PIPE	6 L7.01
- W -		WATER SERVICE PIPE	7 L7.02
- S -		SEWER PIPE	6 L7.02
116		1' CONTOUR - MINOR	
115		5' CONTOUR - MAJOR	
→		DRAINAGE FLOW DIRECTION	
HP		ELEVATION HIGH POINT	
LP		ELEVATION LOW POINT	
TS		TOP OF STAIR / BOTTOM OF STAIR	
BS		SPOT GRADE	
116.70			
1%		SLOPE PERCENTAGE	



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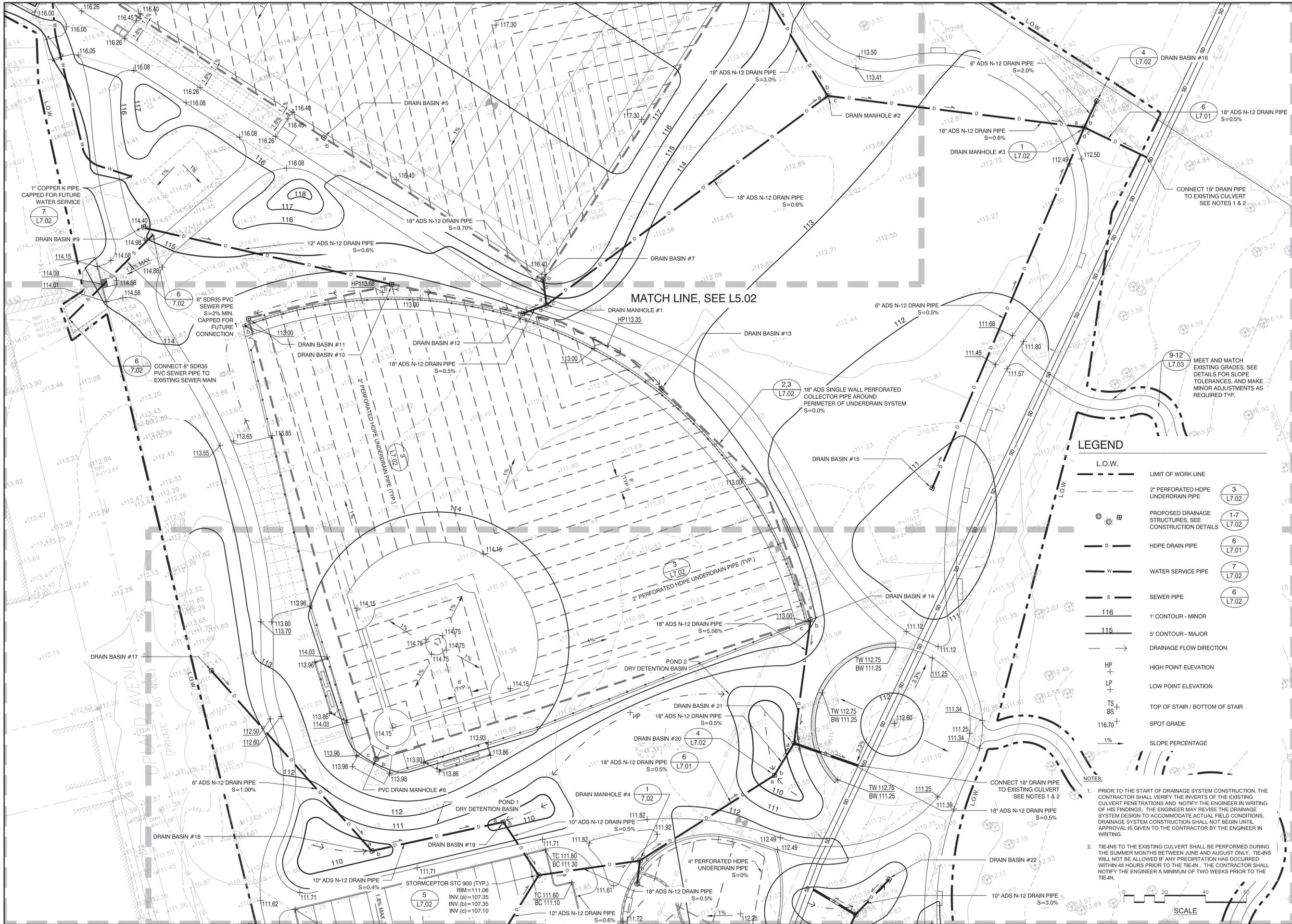
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Drawing Title:  
**GRADING, DRAINAGE, AND UTILITIES PLAN**

Sheet Number:  
**L5.01**



Project:  
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Revisions:

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Seal:

**CONSTRUCTION DOCUMENTS**

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Drawn By: NE

Reviewed By: JP

Checked By: BK/EB

Approved By: EB

Drawing Title:  
**GRADING, DRAINAGE,  
 AND UTILITIES PLAN**

Sheet Number:  
**L5.02**

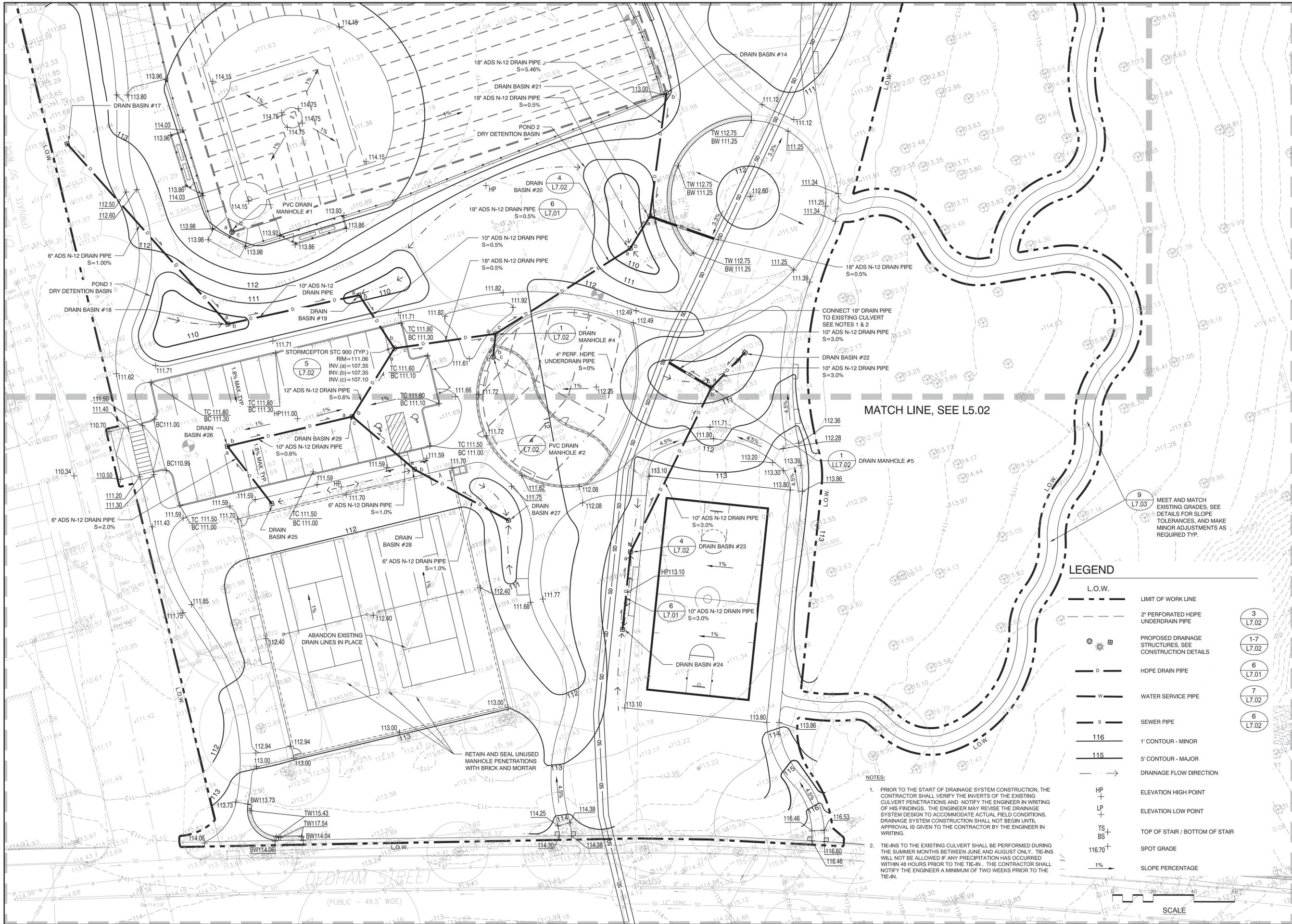
**LEGEND**

	L.O.W.	LIMIT OF WORK LINE
	3	2" PERFORATED HDPE UNDERDRAIN PIPE
	1-7	PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS
	6	HDPE DRAIN PIPE
	7	WATER SERVICE PIPE
	6	SEWER PIPE
	116	1" CONTOUR - MINOR
	115	5" CONTOUR - MAJOR
		DRAINAGE FLOW DIRECTION
		HIGH POINT ELEVATION
		LOW POINT ELEVATION
		TOP OF STAIR / BOTTOM OF STAIR
		SPOT GRADE
		SLOPE PERCENTAGE

NOTES:

- PRIOR TO THE START OF DRAINAGE SYSTEM CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE INVERTS OF THE EXISTING CULVERT PENETRATIONS AND NOTIFY THE ENGINEER IN WRITING OF HIS FINDINGS. THE ENGINEER MAY REVISE THE DRAINAGE SYSTEM DESIGN TO ACCOMMODATE ACTUAL FIELD CONDITIONS. DRAINAGE SYSTEM CONSTRUCTION SHALL NOT BEGIN UNTIL APPROVAL IS GIVEN TO THE CONTRACTOR BY THE ENGINEER IN WRITING.
- TIE-INS TO THE EXISTING CULVERT SHALL BE PERFORMED DURING THE SUMMER MONTHS BETWEEN JUNE AND AUGUST ONLY. TIE-INS WILL NOT BE ALLOWED IF ANY PRECIPITATION HAS OCCURRED WITHIN 48 HOURS PRIOR TO THE TIE-IN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO THE TIE-IN.





MATCH LINE, SEE L5.02

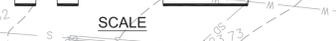
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	L.O.W.	LIMIT OF WORK LINE
		2" PERFORATED HDPE UNDERDRAIN PIPE
		PROPOSED DRAINAGE STRUCTURES, SEE CONSTRUCTION DETAILS
		HDPE DRAIN PIPE
		WATER SERVICE PIPE
		SEWER PIPE
		1' CONTOUR - MINOR
		5' CONTOUR - MAJOR
		DRAINAGE FLOW DIRECTION
		ELEVATION HIGH POINT
		ELEVATION LOW POINT
		TOP OF STAIR / BOTTOM OF STAIR
		SPOT GRADE
		SLOPE PERCENTAGE

- NOTES:**
- PRIOR TO THE START OF DRAINAGE SYSTEM CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE INVERTS OF THE EXISTING CULVERT PENETRATIONS AND NOTIFY THE ENGINEER IN WRITING OF HIS FINDINGS. THE ENGINEER MAY REVISE THE DRAINAGE SYSTEM DESIGN TO ACCOMMODATE ACTUAL FIELD CONDITIONS. DRAINAGE SYSTEM CONSTRUCTION SHALL NOT BEGIN UNTIL APPROVAL IS GIVEN TO THE CONTRACTOR BY THE ENGINEER IN WRITING.
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MEET AND MATCH EXISTING GRADES. SEE DETAILS FOR SLOPE TOLERANCES, AND MAKE MINOR ADJUSTMENTS AS REQUIRED TYP.

- 3 L7.02
- 1-7 L7.02
- 6 L7.01
- 7 L7.02
- 6 L7.02





**LEGEND**

- LIMIT OF WORK
- [Hatched Box] ROOT ZONE MIX AND ATHLETIC FIELD SEED MIX ALTERNATE #1: ROOT ZONE MIX AND SOD
  - 8 L7.08
  - 6 L7.08
- L&S LOAM AND LAWN SEED MIX
  - 4 L7.03
- PROPOSED DECIDUOUS TREE
  - X L7.07
- ☀ PROPOSED EVERGREEN TREE
  - X L7.07
- EXISTING TREES TO REMAIN

**PLANT SCHEDULE**

**DECIDUOUS TREES**

ABRV.	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AR	15	ACER RUBRUM 'SUN VALLEY'	RED MAPLE	2.5'-3" CAL.B&B
AS	8	ACER SACCHARUM 'BONFIRE'	SUGAR MAPLE	2.5'-3" CAL.B&B
BP	13	BETULA POPULIFOLIA	GRAY BIRCH	2.5'-3" CAL.B&B
QR	9	QUERCUS RUBRA	RED OAK	2.5'-3" CAL.B&B
QP	6	QUERCUS PALUSTRIS	PIN OAK	2.5'-3" CAL.B&B
TA	3	TILIA AMERICANA	BASSWOOD	2.5'-3" CAL.B&B
LT	3	LIRIODENDRON TULIPIFERA	TULIP TREE	2.5'-3" CAL.B&B
LS	3	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	2.5'-3" CAL.B&B

**EVERGREEN TREES**

ABRV.	QTY	BOTANICAL NAME	COMMON NAME	SIZE
PG	8	PICEA GLAUCA	WHITE SPRUCE	8' HT, B&B
PS	2	PINUS STROBUS	WHITE PINE	8' HT, B&B

**SMALL TREES/ SHRUBS**

ABRV.	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AA	8	AMELANCHIER ARBOREA	DOWNY SERVICEBERRY	8' HT, B&B
BN	7	BETULA NIGRA 'LITTLE KING'	LITTLE KING RIVER BIRCH	8' HT, B&B MULTISTEM

\* FINAL TREE LOCATION TO BE LAID OUT AND APPROVED BY OWNER'S REPRESENTATIVE.

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Revisions:

Rev	Date	Description

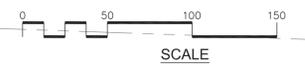
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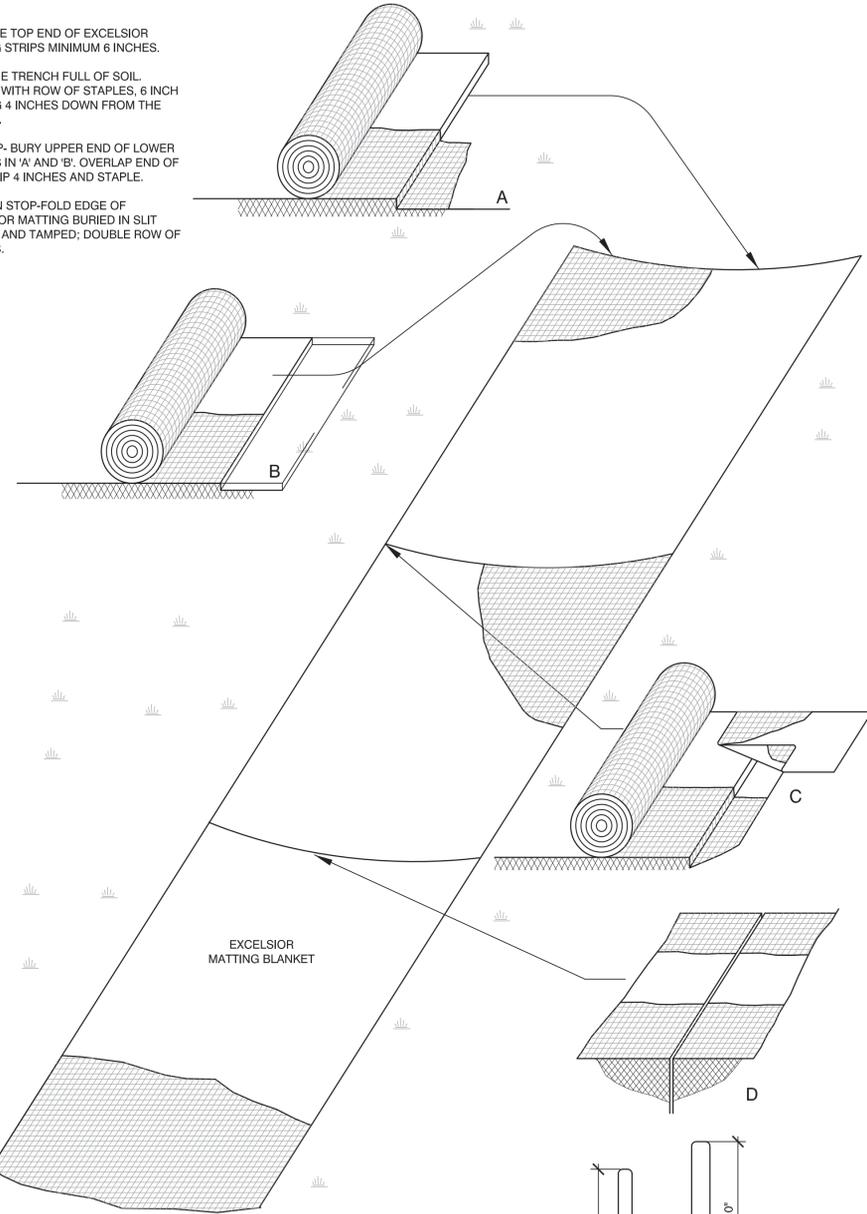
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 Drawn By: CB  
 Reviewed By: EB/CR  
 Checked By: BR/BK  
 Approved By: EB

Drawing Title:  
**PLANTING PLAN**

Sheet Number:  
**L6.00**



- A. BURY THE TOP END OF EXCELSIOR MATTING STRIPS MINIMUM 6 INCHES.
- B. TAMP THE TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES, 6 INCH SPACING 4 INCHES DOWN FROM THE TRENCH.
- C. OVERLAP- BURY UPPER END OF LOWER STRIP AS IN 'A' AND 'B'. OVERLAP END OF TOP STRIP 4 INCHES AND STAPLE.
- D. EROSION STOP-FOLD EDGE OF EXCELSIOR MATTING BURIED IN SLIT TRENCH AND TAMPED; DOUBLE ROW OF STAPLES.



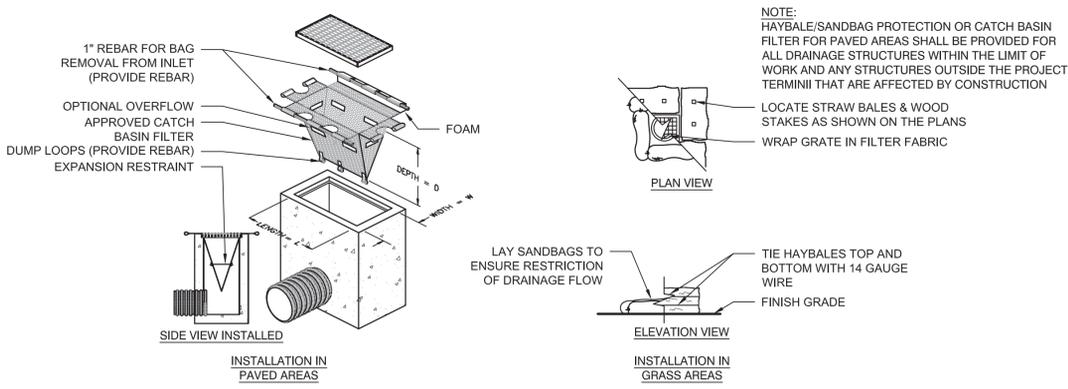
NOTE:  
1. JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS

4 INCH OVERLAP OF EXCELSIOR MATTING STRIPS WHERE TWO OR MORE STRIPS WIDTH ARE REQUIRED. STAPLES ON 1'-6" CENTERS.

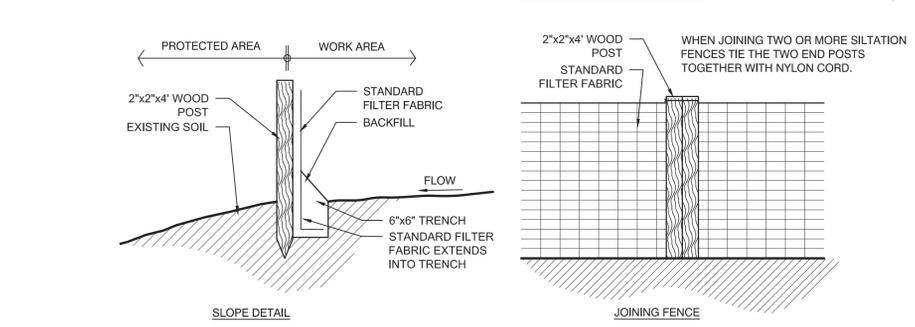
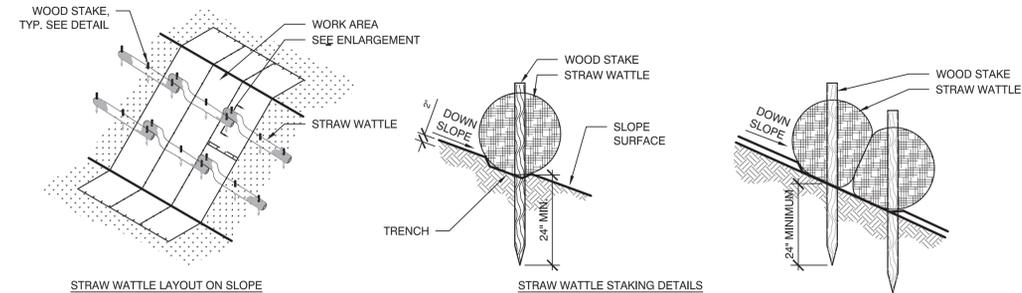
STAPLE OUTSIDE EDGE ON 2'-0" CENTERS.

1 1/2" TYPICAL STAPLES #8 GAUGE WIRE

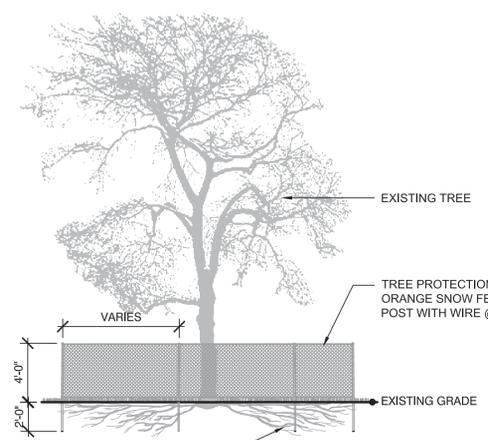
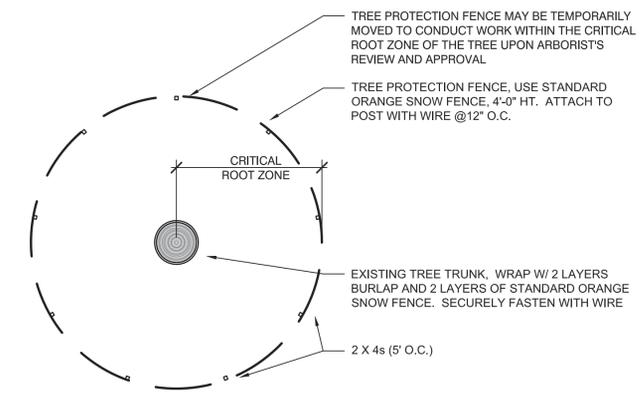
**1** EROSION CONTROL BLANKET  
NOT TO SCALE



**2** INLET SEDIMENT CONTROL  
NOT TO SCALE



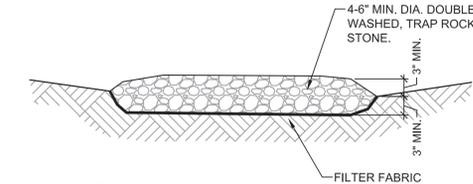
**3** EROSION CONTROLS - SILT FENCE AND STRAW WATTLES  
NOT TO SCALE



CRITICAL ROOT ZONE TO BE PROTECTED. ALL WORK NECESSARY WITHIN THE CRITICAL ROOT ZONE SHALL BE PERFORMED BY HAND.

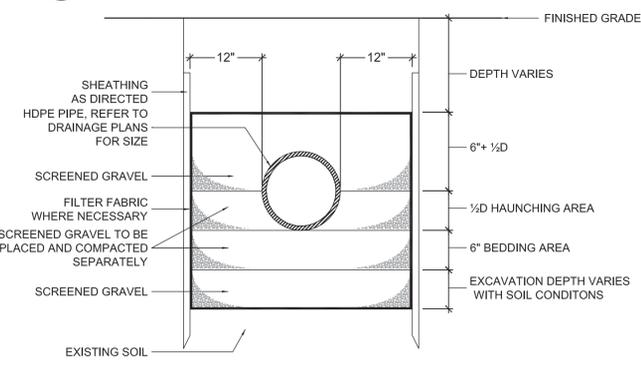
NOTE:  
1. WHERE SPACE IS AVAILABLE, TREE PROTECTION FENCE TO BE PLACED A MINIMUM OF 10' FROM BASE OF TREE PLUS AN ADDITIONAL 1' FOR EACH ADDITIONAL DBH FOR TREES GREATER THAN 10\"/>

**4** TREE PROTECTION  
NOT TO SCALE

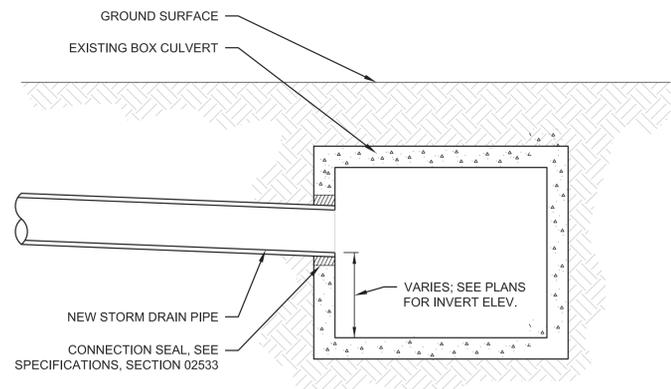


- NOTE:
1. PROVIDE DRAINAGE AWAY FROM STABILIZED CONSTRUCTION ENTRANCE TO ACCEPTABLE SEDIMENT TRAPPING DEVICE.
  2. CONTRACTOR TO PROVIDE A WATER SOURCE FOR A WASH STATION FOR ALL VEHICLES LEAVING THE SITE.
  3. PROVIDE 20' WIDE BY 50' LONG ENTRANCE PAD, SEE PLANS FOR LOCATION.

**5** STABILIZED STONE CONSTRUCTION ENTRANCE PAD  
NOT TO SCALE



**6** HDPE PIPE AND DRAINAGE TRENCH  
NOT TO SCALE



**7** CONNECTION PROFILE FOR STORM DRAIN AT THE BOX CULVERT  
NOT TO SCALE

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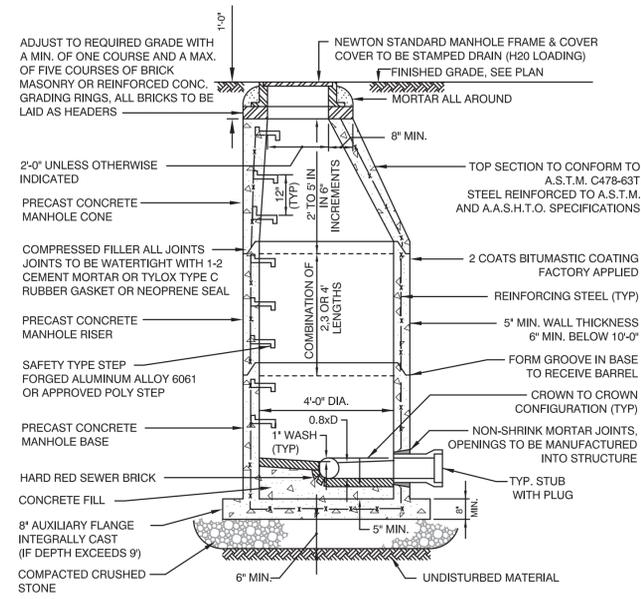
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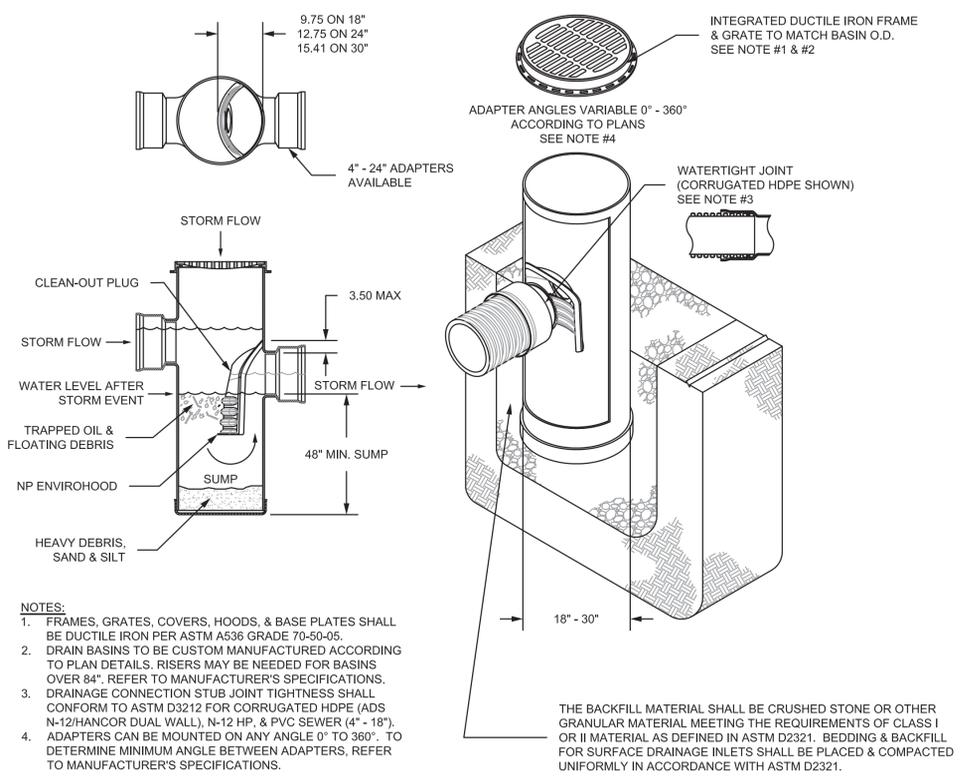
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Approved By: EB

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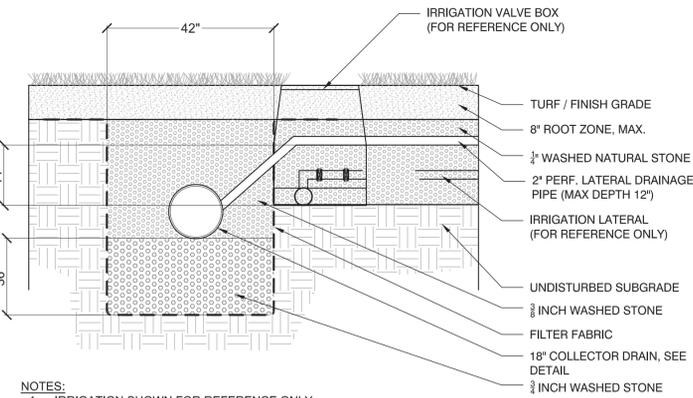
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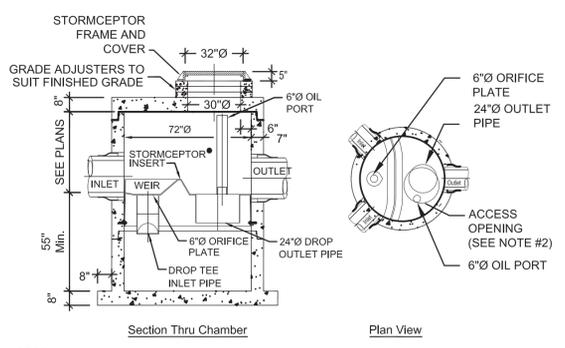
**1 DRAIN MANHOLE**  
NOT TO SCALE



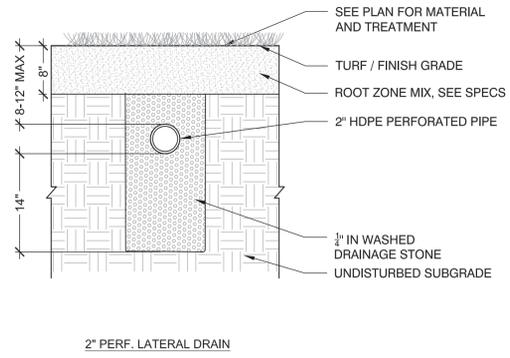
**4 DEEP SUMP DRAIN BASIN WITH HOODED OUTLET**  
NOT TO SCALE



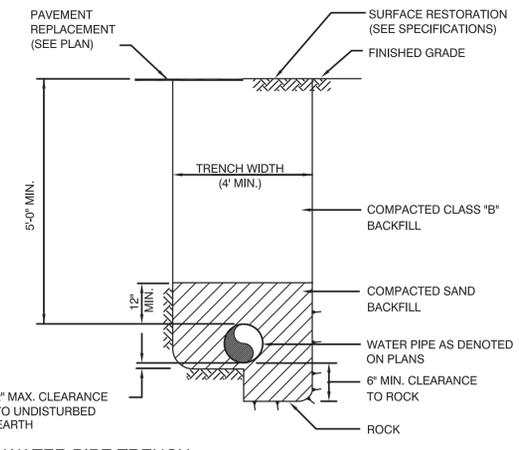
**2 COLLECTOR DRAIN/LATERAL CONNECTION DETAIL**  
NOT TO SCALE



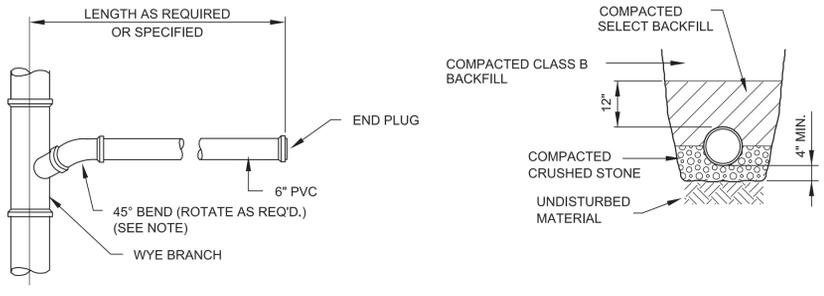
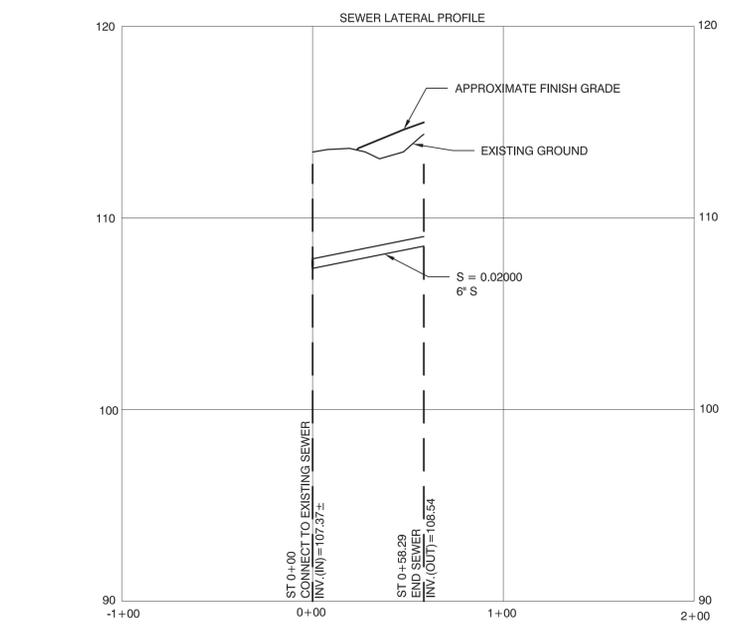
**5 STORMCEPTOR STC 900**  
NOT TO SCALE



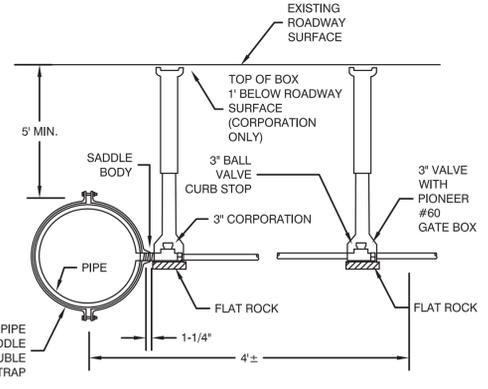
**3 FIELD DRAINAGE DETAILS**  
NOT TO SCALE



**7 WATER PIPE TRENCH**  
NOT TO SCALE



**6 TYPICAL PVC SEWER CONNECTION AND TRENCH**  
NOT TO SCALE



**8 WATER SERVICE CONNECTION**  
NOT TO SCALE

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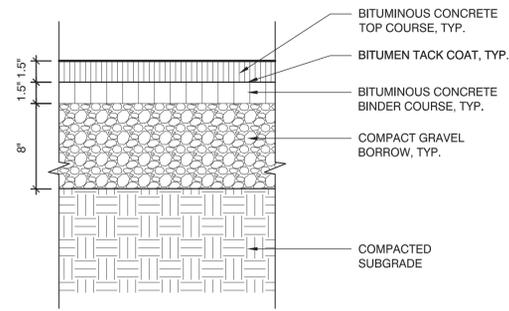
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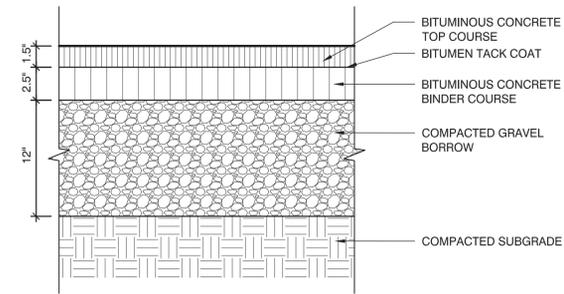
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DETAILS**

Sheet Number:  
**L7.02**



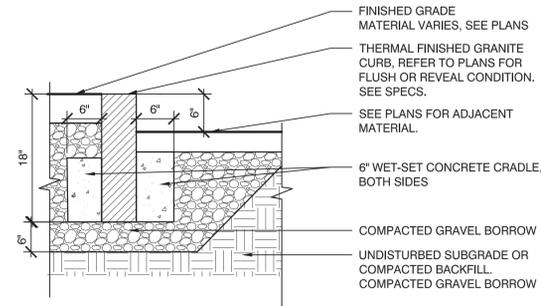
NOTE:  
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.

**1 BITUMINOUS CONCRETE PAVEMENT WALKWAY/ COURTS**  
NOT TO SCALE

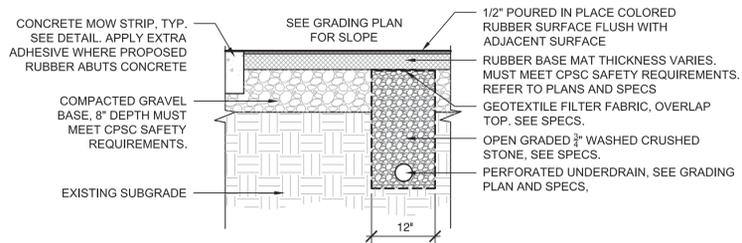


NOTE:  
CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.

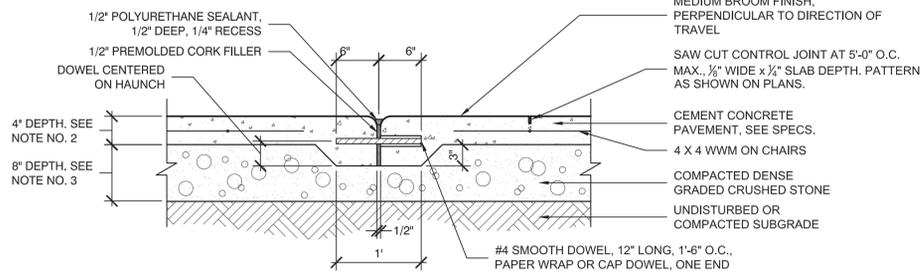
**2 VEHICULAR BITUMINOUS CONCRETE PAVEMENT**  
NOT TO SCALE



**3 VERTICAL GRANITE CURB**  
NOT TO SCALE

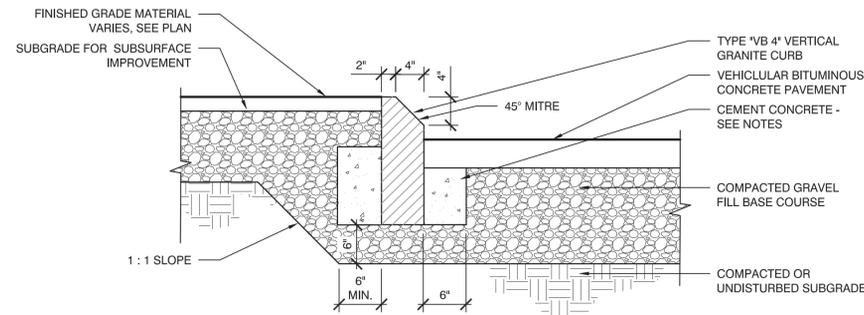


**4 POURED-IN-PLACE RUBBER SAFETY SURFACING**  
NOT TO SCALE



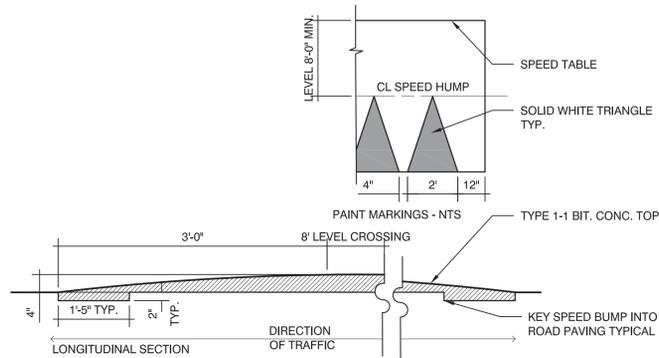
NOTE:  
1. EXPANSION JOINT SPACING SHALL BE 25'-0" MAX. UNLESS OTHERWISE SHOWN ON PLANS.  
2. NO REINF. @ 4" DEPTH PVMT: 6x6-W2.9xW2.9 WELDED WIRE FABRIC W/12" LAP @ 6" DEPTH PVMT.  
3. USE 8" GRAVEL BORROW UNDER 4" CEM. CONC. WALK PVMT. USE 12" GRAVEL BORROW UNDER 6" CEM. CONC. PADS/SLABS.  
4. DOWELS SHALL BE USED AT EXPANSION JOINTS, WHERE NEW CONCRETE PAVEMENT ABUTS EXISTING CONCRETE PAVING TO REMAIN, AND ANY PROPOSED CONCRETE RAMPS AND STAIRS.  
5. FOR SIDEWALK PAVEMENT, USE BROOM FINISH PERPENDICULAR TO ROUTE OF TRAVEL.

**5 CAST-IN-PLACE CONCRETE PAVEMENT AND EXPANSION JOINT**  
NOT TO SCALE

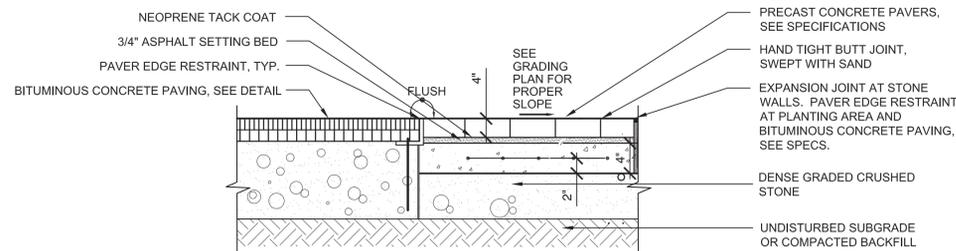


NOTES:  
1. CEMENT CONCRETE SHALL EXTEND TO THE BOTTOM OF THE BITUMINOUS CONCRETE TOP COURSE.  
2. ANY CLASS OF CEMENT CONCRETE ACCEPTABLE UNDER SECTION M4 OF THE MASS. "SSHB" MAY BE USED.

**6 MOUNTABLE GRANITE CURB**  
NOT TO SCALE

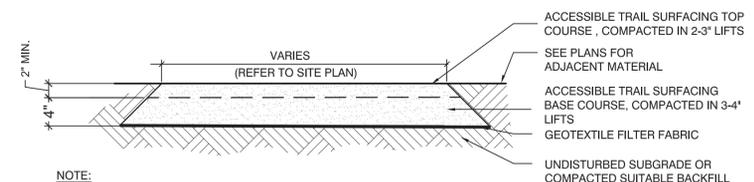


**7 SPEED TABLE**  
NOT TO SCALE



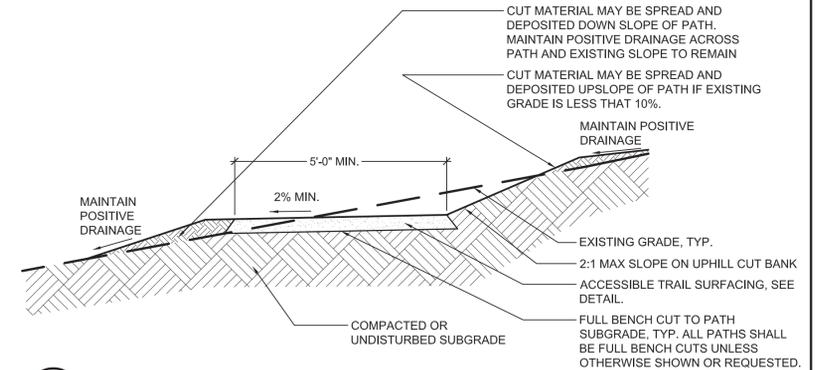
NOTES:  
1. SEE SPECIFICATIONS.

**8 CONCRETE UNIT PAVERS - ALTERNATE #4**  
NOT TO SCALE

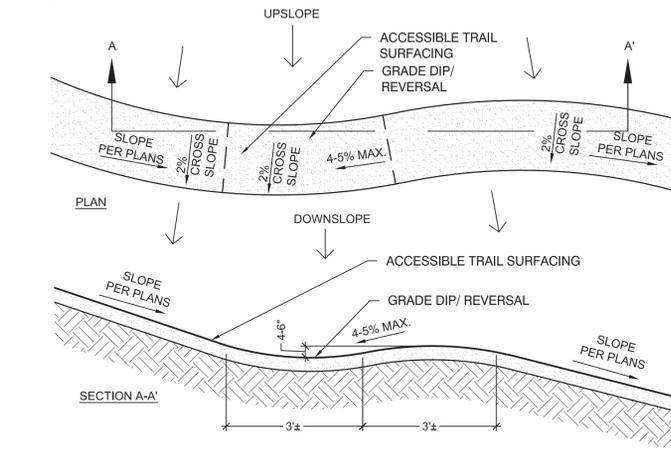


NOTE:  
1. PITCH OF PATH VARIES, SEE PLANS.  
2. REFER TO SPECIFICATIONS FOR MATERIAL AND GRADATION REQUIREMENTS.

**9 ACCESSIBLE TRAIL SURFACING**  
NOT TO SCALE

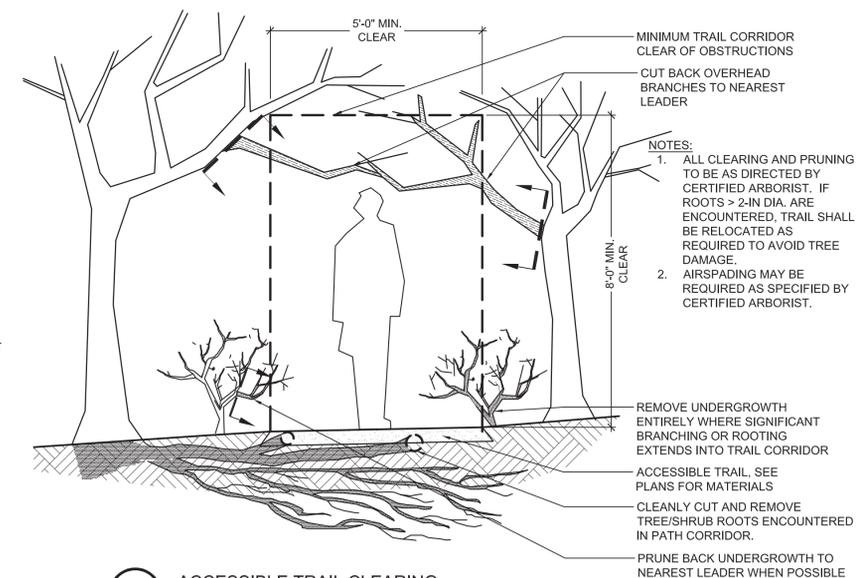


**10 ACCESSIBLE TRAIL BENCH CUT**  
NOT TO SCALE



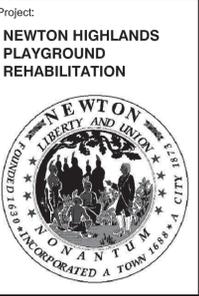
NOTE:  
1. PROPOSED TRAIL SURFACE GRADES SHALL ADHERE TO U.S. ACCESS BOARD STANDARDS FOR TRAILS.

**11 ACCESSIBLE TRAIL GRADE DIP/ REVERSAL**  
NOT TO SCALE



NOTES:  
1. ALL CLEARING AND PRUNING TO BE AS DIRECTED BY CERTIFIED ARBORIST. IF ROOTS > 2-IN DIA. ARE ENCOUNTERED, TRAIL SHALL BE RELOCATED AS REQUIRED TO AVOID TREE DAMAGE.  
2. AIRSPADING MAY BE REQUIRED AS SPECIFIED BY CERTIFIED ARBORIST.

**12 ACCESSIBLE TRAIL CLEARING**  
NOT TO SCALE



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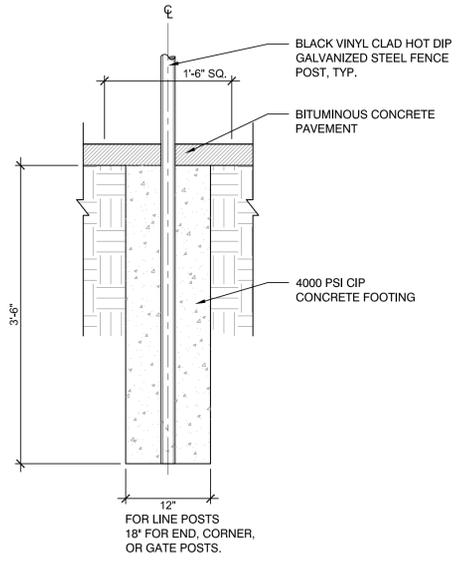
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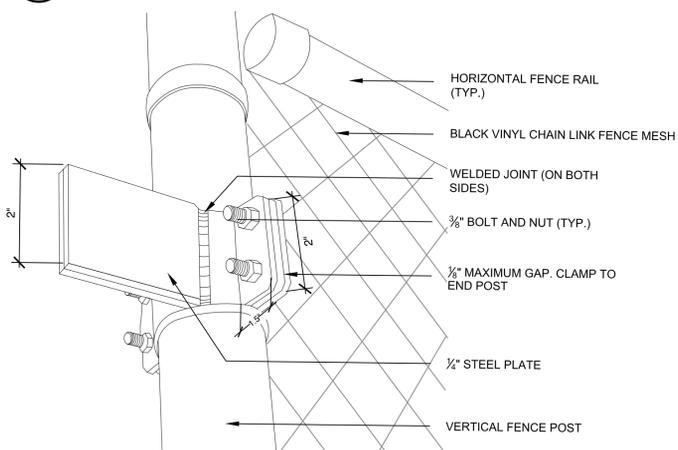
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Sheet Number:  
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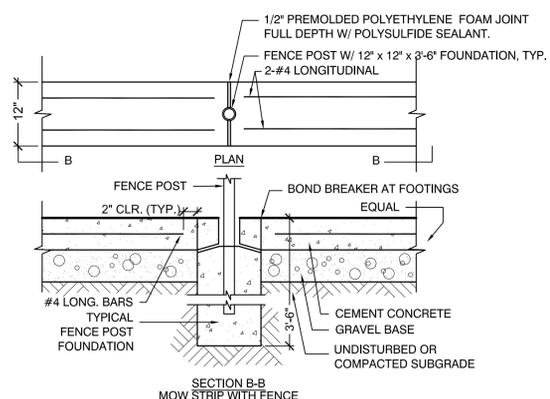




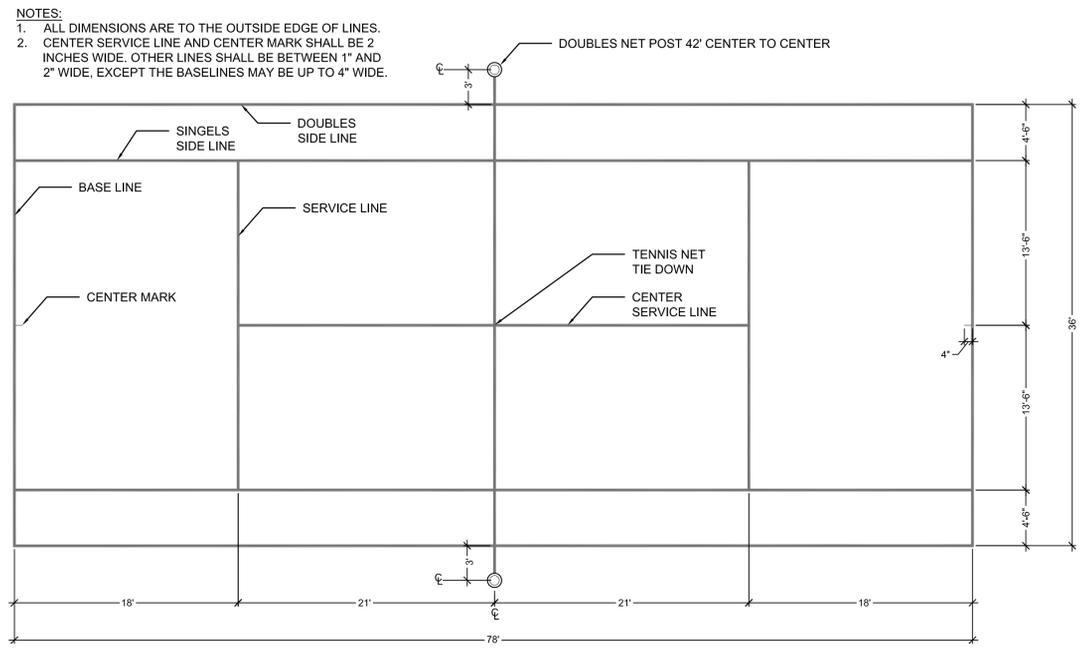
**1 FENCE POST FOOTING**  
NOT TO SCALE



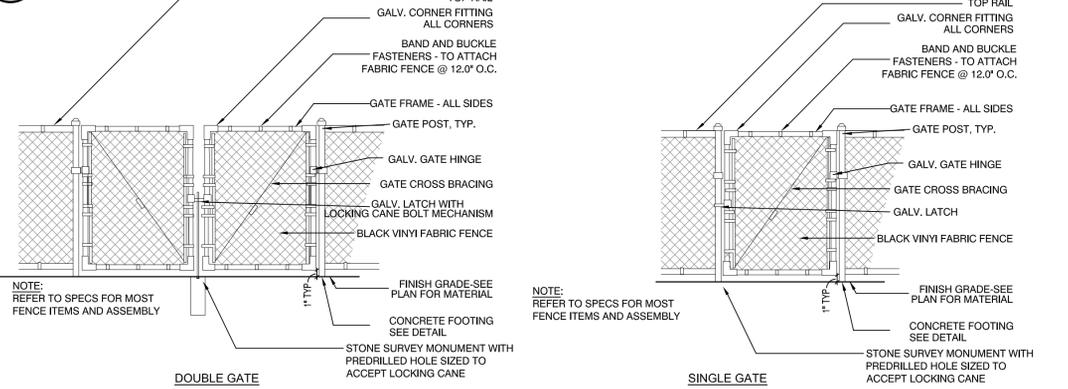
**2 GATE STOP**  
NOT TO SCALE



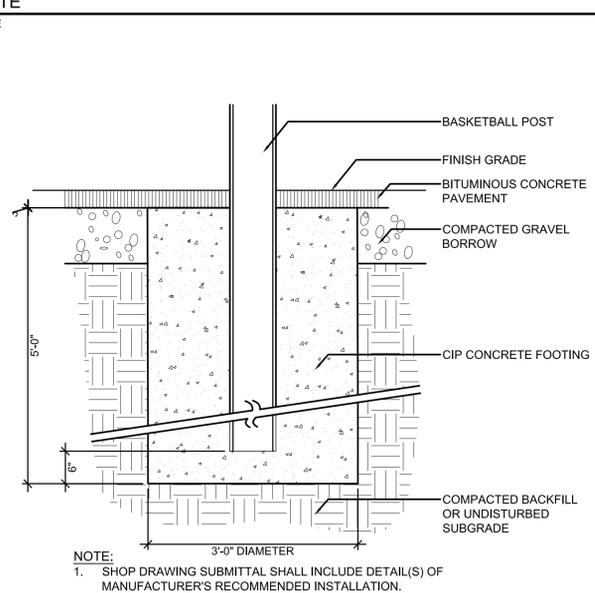
**3 CONCRETE MOW STRIP**  
NOT TO SCALE



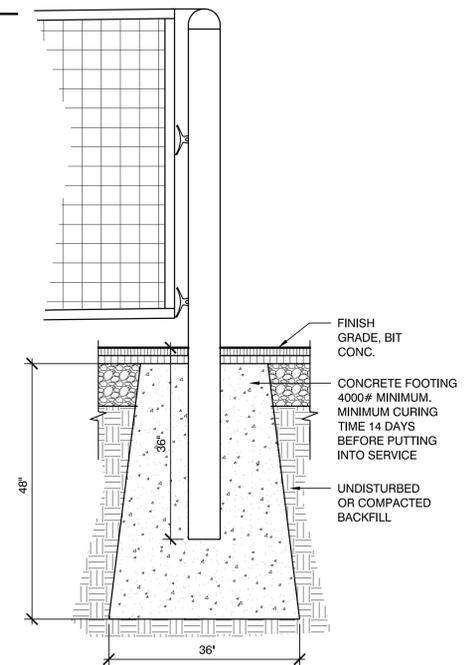
**4 TENNIS COURT LAYOUT**  
NOT TO SCALE



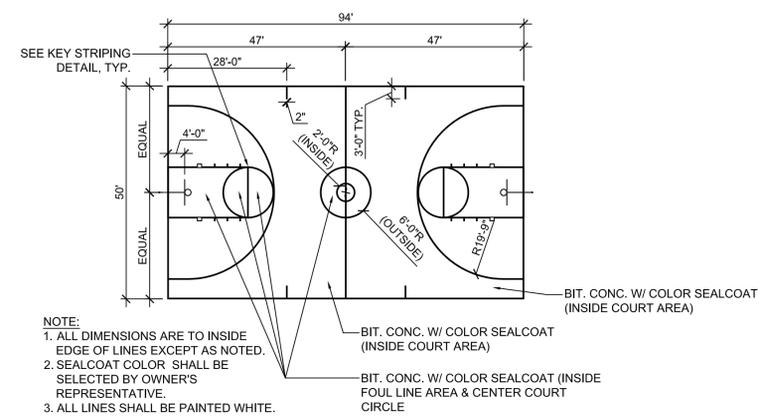
**5 BVCL GATE**  
NOT TO SCALE



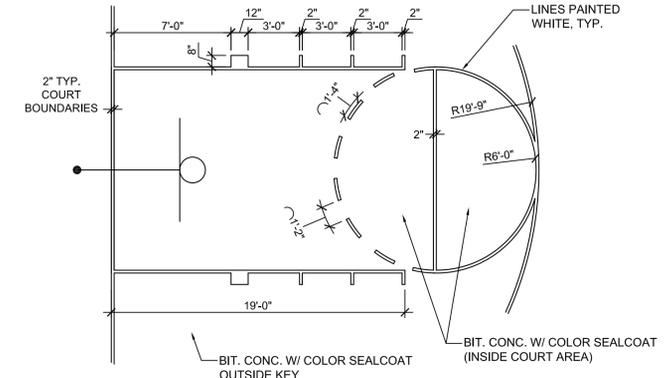
**6 BASKETBALL POST FOOTING**  
NOT TO SCALE



**8 TENNIS NET POST**  
NOT TO SCALE

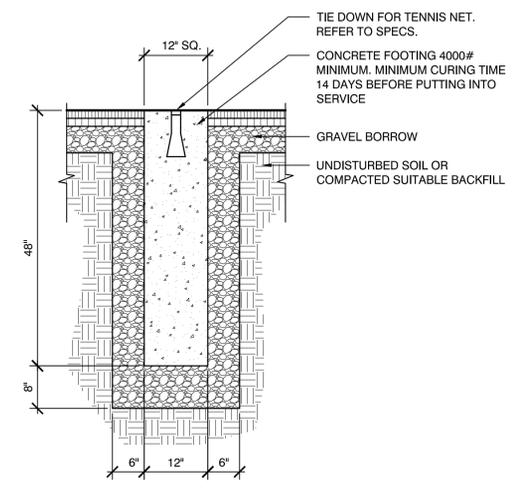


**BASKETBALL COURT STRIPING**



**BASKETBALL KEY STRIPING**

**7 BASKETBALL COURT LAYOUT**  
NOT TO SCALE



**9 TENNIS NET TIE DOWN**  
NOT TO SCALE

NOTES:  
1. ALL DIMENSIONS ARE TO THE OUTSIDE EDGE OF LINES.  
2. CENTER SERVICE LINE AND CENTER MARK SHALL BE 2 INCHES WIDE. OTHER LINES SHALL BE BETWEEN 1" AND 2" WIDE, EXCEPT THE BASELINES MAY BE UP TO 4" WIDE.

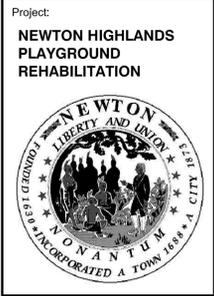
NOTE:  
1. ALL DIMENSIONS ARE TO INSIDE EDGE OF LINES EXCEPT AS NOTED.  
2. SEALCOAT COLOR SHALL BE SELECTED BY OWNER'S REPRESENTATIVE.  
3. ALL LINES SHALL BE PAINTED WHITE.

NOTE: REFER TO SPECS FOR MOST FENCE ITEMS AND ASSEMBLY

NOTE: REFER TO SPECS FOR MOST FENCE ITEMS AND ASSEMBLY

NOTE:  
1. SHOP DRAWING SUBMITTAL SHALL INCLUDE DETAIL(S) OF MANUFACTURER'S RECOMMENDED INSTALLATION.

NOTE:  
MOW STRIP CORNERS ADJACENT TO RESILIENT SURFACING SHALL BE SQUARE TO ENSURE SMOOTH INTERFACE BETWEEN MATERIALS. MOW STRIP CORNERS ADJACENT TO PLANTING BED OR LAWN AREAS WILL HAVE 1/4 CHAMFER



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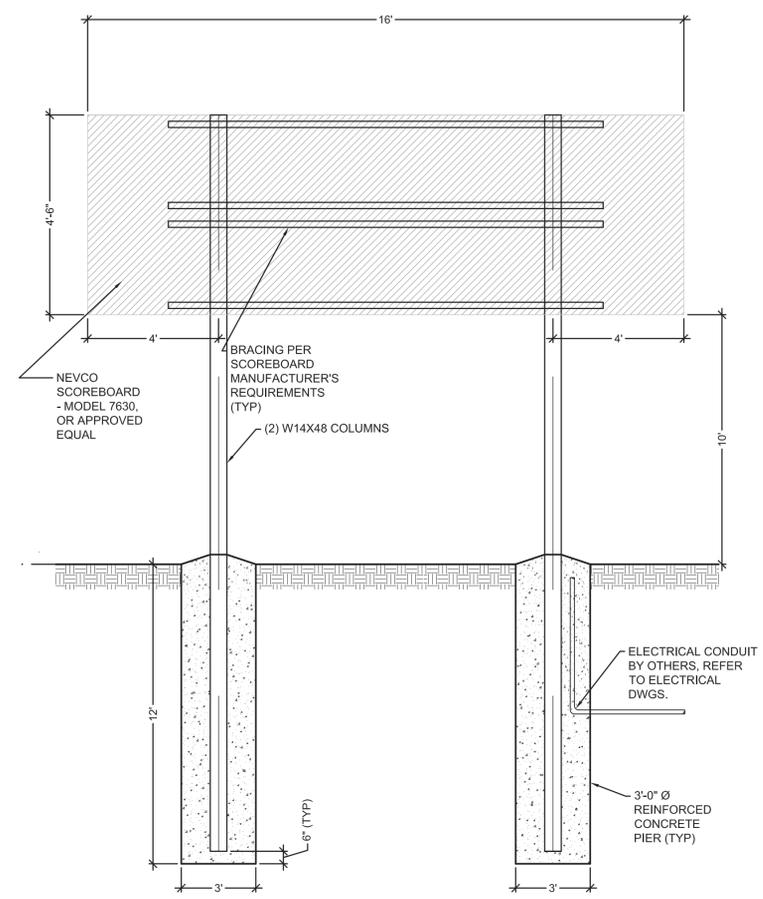
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Rev	Date	Description

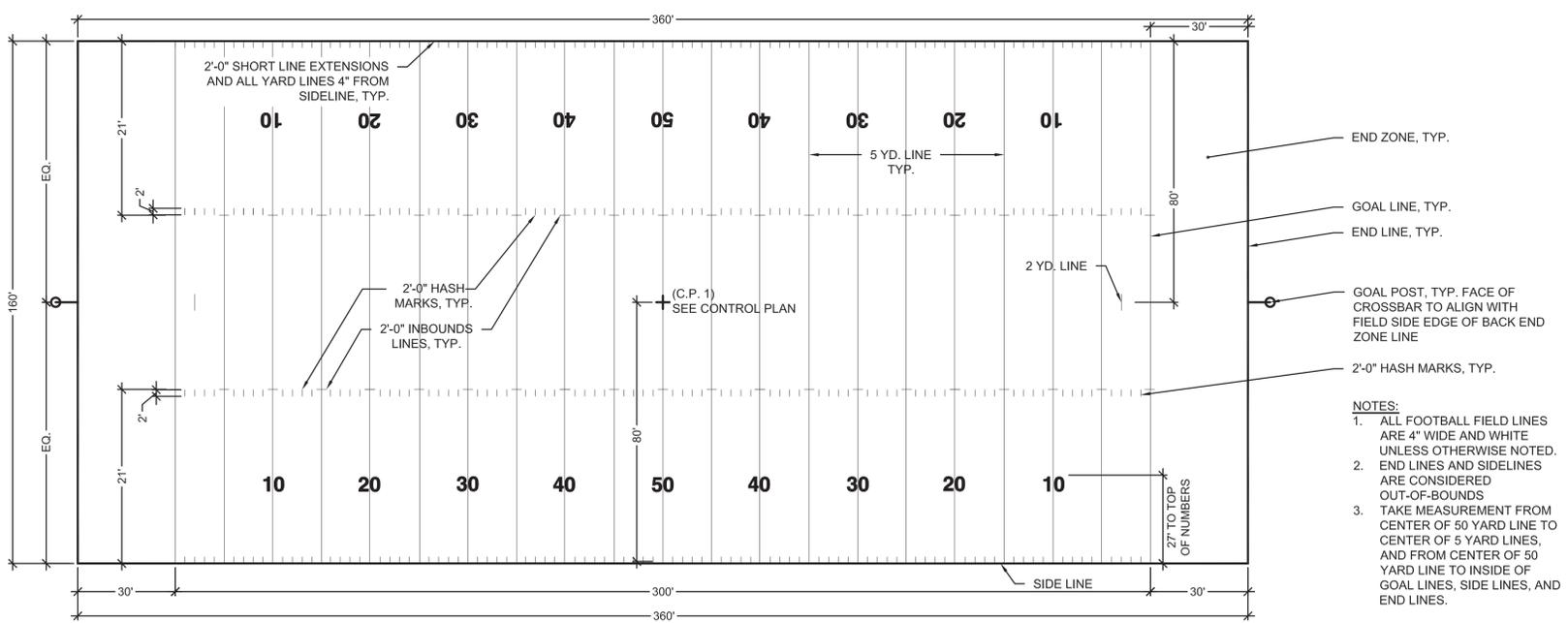


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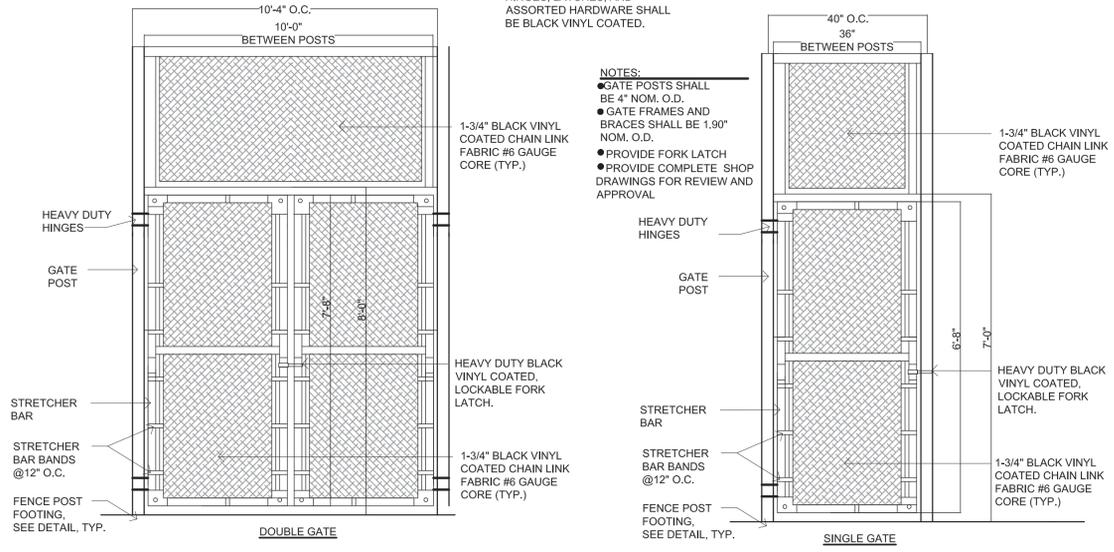
**3** SCOREBOARD  
 NOT TO SCALE



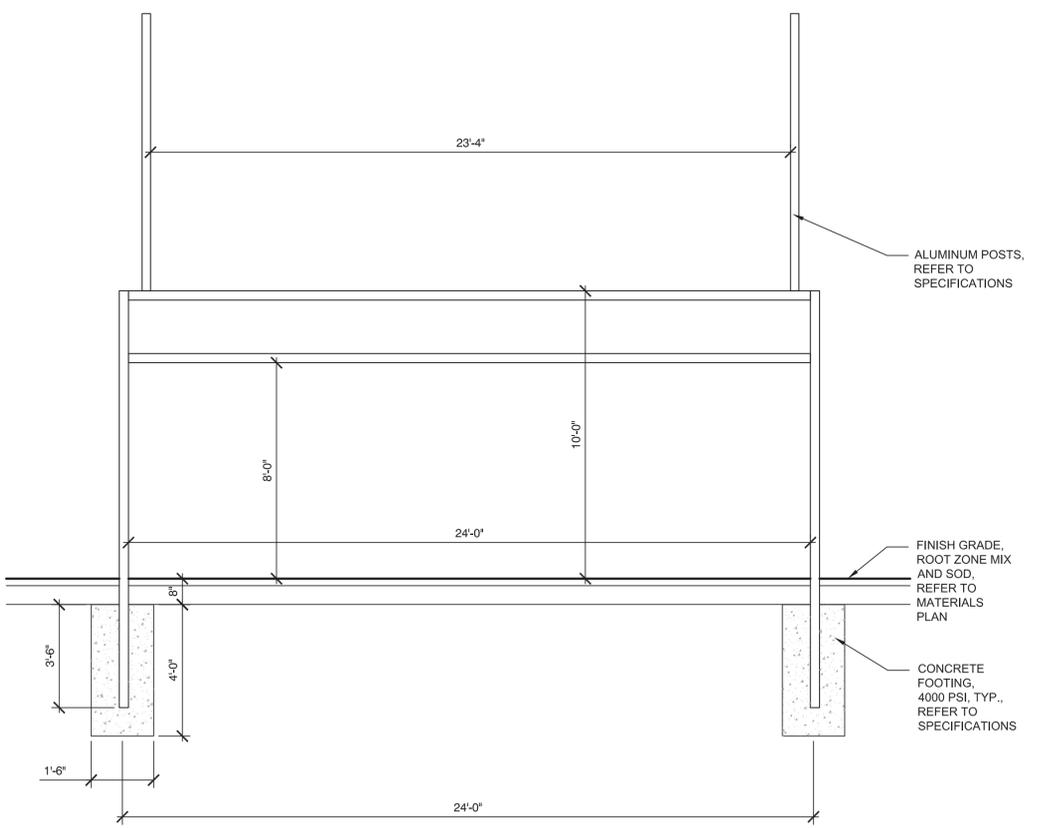
**4** FOOTBALL FIELD LAYOUT  
 NOT TO SCALE

NOTE:  
 ALL GATE POSTS, FRAMES,  
 HINGES, LATCHES, AND  
 ASSORTED HARDWARE SHALL  
 BE BLACK VINYL COATED.

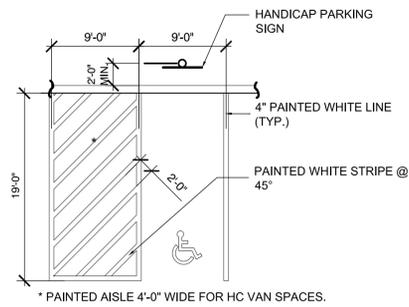
NOTES:  
 ● GATE POSTS SHALL  
 BE 4\"/>



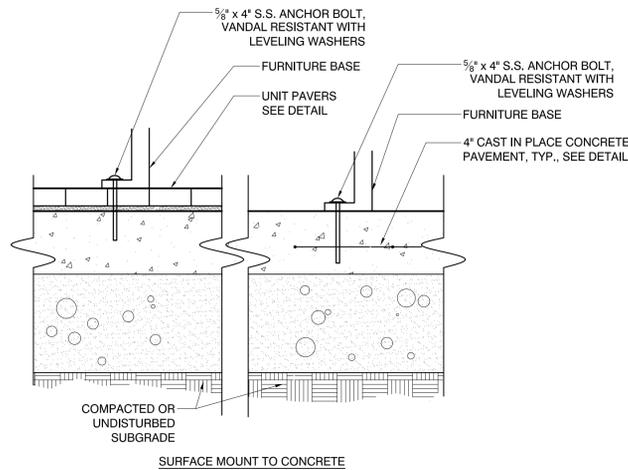
**1** CHAINLINK FENCE GATE WITH TRANSOM  
 NOT TO SCALE



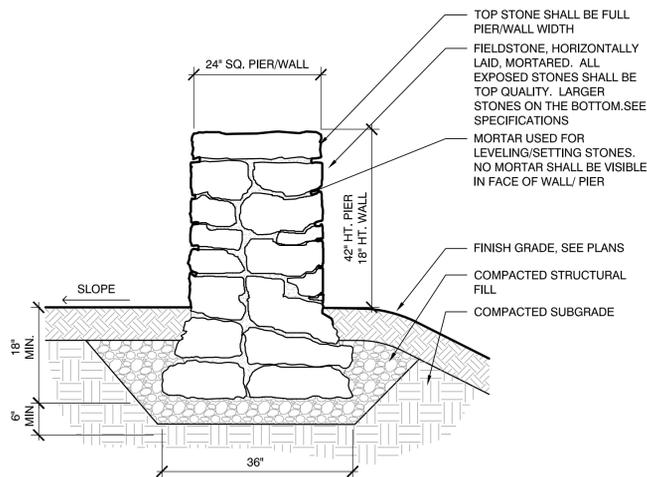
**2** COMBINATION SOCCER GOAL AND FOOTBALL FIELD GOAL  
 NOT TO SCALE



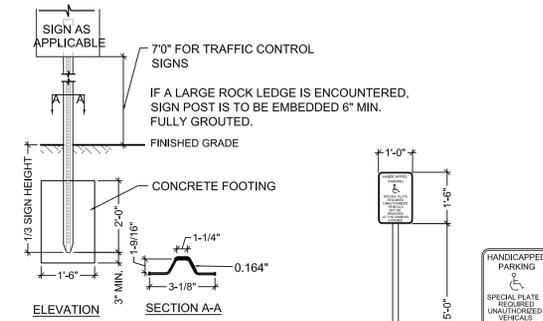
**1 ACCESSIBLE PARKING STRIPES**  
NOT TO SCALE



**2 FURNITURE SURFACE MOUNT**  
NOT TO SCALE

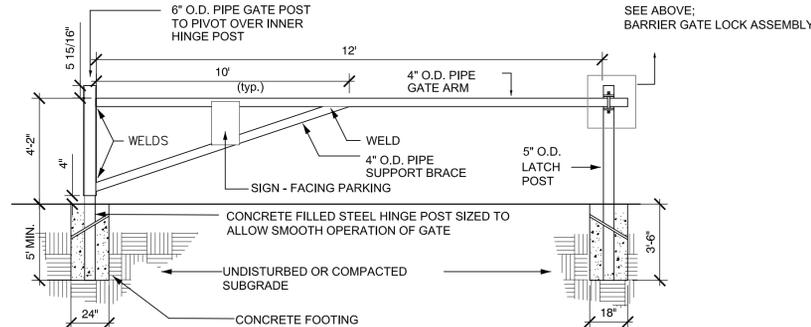
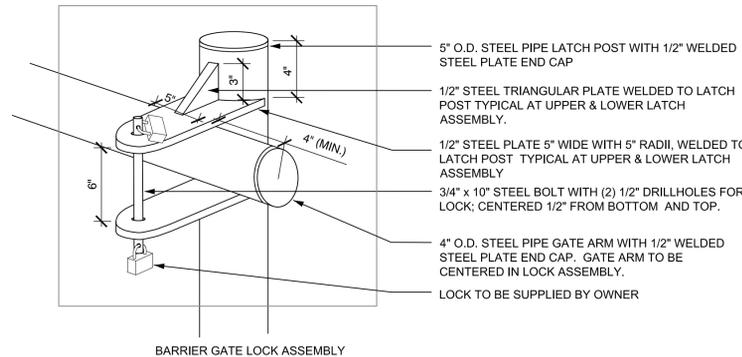


**3 STONE MASONRY PIER / STONE MASONRY SEAT WALL**  
NOT TO SCALE



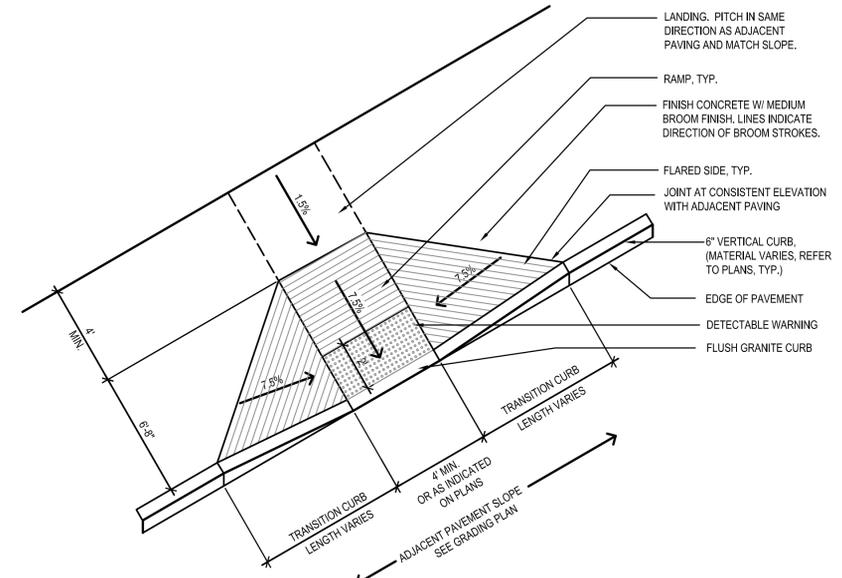
NOTE: ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.  
LENGTH: AS REQUIRED  
STRENGTH: 10 GAUGE  
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH  
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)  
FINISH: GALVANIZED STEEL.

**4 ACCESSIBLE PARKING SIGNS**  
NOT TO SCALE

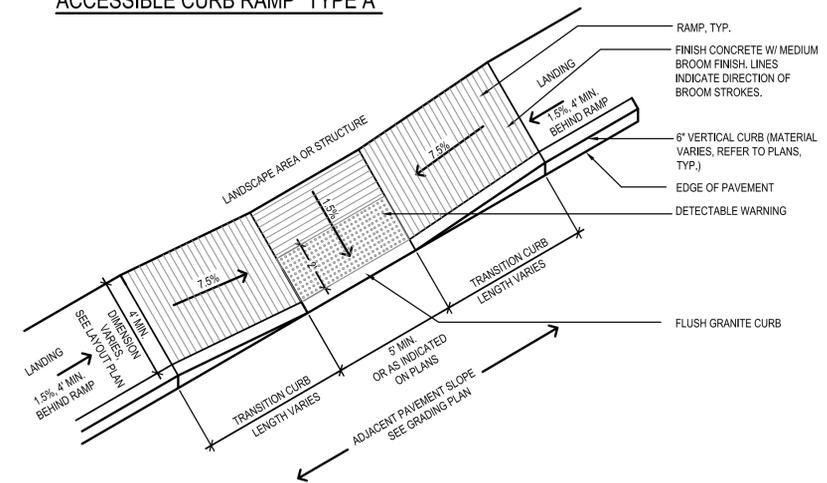


NOTES:  
1. SEE SPECIFICATIONS. CONTRACTOR TO PROVIDE COMPLETE SHOP DRAWINGS PRIOR TO FABRICATION.  
2. ALL STEEL PIPE SHALL BE SCHEDULE 40.  
3. ALL STEEL SHALL BE FABRICATED WITH WELDS GROUND SMOOTH, AND EACH COMPONENT HOT-DIPPED GALVANIZED.  
4. ATTACH ALUMINUM SIGN AT TOP AND BOTTOM WITH STAINLESS-STEEL VANDAL-PROOF MACHINE SCREWS. SIGN TO READ, "AUTHORIZED VEHICLES ONLY". REFLECTORIZED ALUMINUM SIGN, BLACK LETTERS ON WHITE BACKGROUND.  
5. PROVIDE TWO LATCH POST, ONE IN OPEN POSITION, AND ONE IN CLOSED POSITION.

**5 VEHICULAR GATE**  
NOT TO SCALE



**ACCESSIBLE CURB RAMP "TYPE A"**



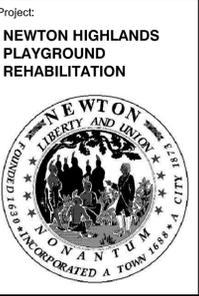
**ACCESSIBLE CURB RAMP "TYPE B"**

NOTES:  
1. CURBS AND WALKS ALONG ACCESSIBLE CURB RAMPS SHALL CONFORM TO THE APPLICABLE REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE AMERICANS WITH DISABILITIES ACT. NON-CONFORMING WORK SHALL BE REMOVED AND REINSTALLED AT THE CONTRACTORS EXPENSE.  
2. MAXIMUM SLOPE ON RAMP NOT TO EXCEED 8.0%. MAXIMUM CROSS SLOPE PERPENDICULAR TO RAMP NOT TO EXCEED 1.8%.  
3. MAXIMUM SLOPE ON LANDING NOT TO EXCEED 1.8%. MINIMUM SLOPE ON LANDING NOT TO BE LESS THAN 1%.  
4. MAXIMUM TRANSITION CURB AND FLARED SIDE SLOPES NOT TO EXCEED 8.0%. MINIMUM TRANSITION CURB AND FLARED SIDE SLOPE NOT TO BE LESS THAN 7%.  
5. SOME ACCESSIBLE CURB CUT CONFIGURATIONS INDICATED MAY REQUIRE RADIAL TRANSITION CURBS. SEE LAYOUT DRAWING FOR RADIAL DIMENSIONS. ADDITIONALLY, SEE PLAN FOR SOME RAMPS NOTED AS SIMILAR.  
6. DETECTABLE WARNING SURFACE COLOR TO CONTRAST ADJACENT PAVING MATERIAL: DARK WITH LIGHT OR LIGHT WITH DARK AS DEFINED IN THE AMERICANS WITH DISABILITIES ACT, SEE SPECIFICATIONS.  
7. CURB CUTS SHALL BE PERPENDICULAR TO THE CURB, UNLESS OTHERWISE SHOWN.  
8. REFER TO TRANSITION CURB LENGTH CHART FOR TRANSITION CURB LENGTHS.  
9. PROVIDE POSITIVE DRAINAGE AWAY FROM BOTTOM OF CURB RAMPS TO PREVENT PONDING.

**TRANSITION CURB LENGTH CHART ON 7.5% SLOPE RAMP**

ADJACENT PAVEMENT SLOPE	TRANSITION CURB LENGTH UPHILL SIDE	TRANSITION CURB LENGTH DOWNHILL SIDE
0%	6.5'	6.5'
1%	7.5'	6.0'
2%	9.0'	5.5'
3%	11.0'	5.0'
4%	14.5'	4.5'
5%	20.0'	4.0'

**6 ACCESSIBLE CURB RAMP**  
NOT TO SCALE



Project:  
**NEWTON HIGHLANDS PLAYGROUND REHABILITATION**

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Consultants:

North:

Revisions:

Rev	Date	Description

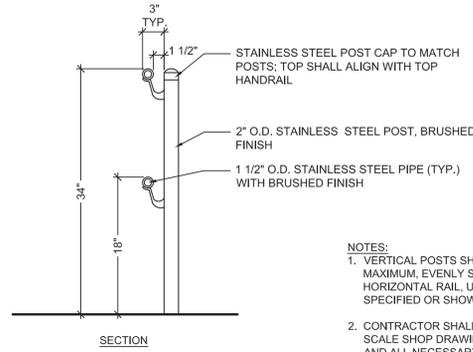
Seal:

**CONSTRUCTION DOCUMENTS**

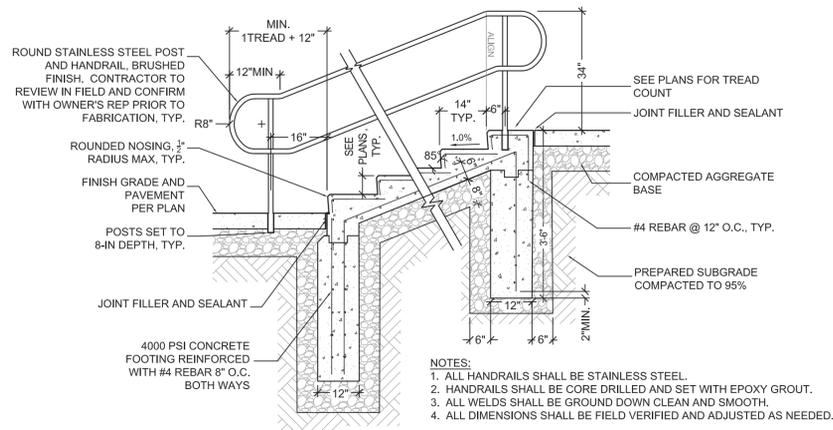
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Scale: AS SHOWN  
Drawn By: CB/CC  
Reviewed By: EB/CR  
Checked By: BR/BK  
Approved By: EB

Drawing Title:  
**CONSTRUCTION DETAILS**

Sheet Number:  
**L7.07**

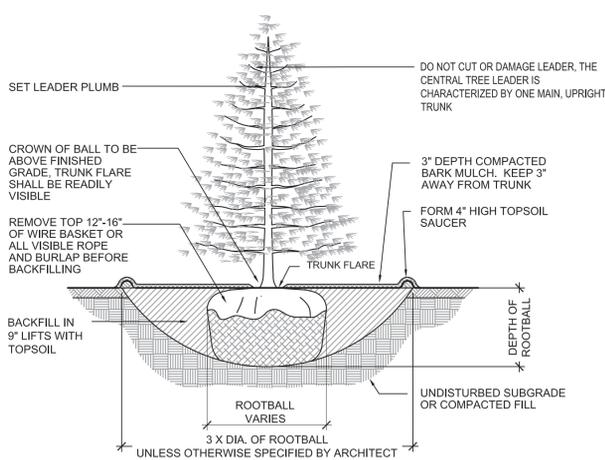


- NOTES:
1. VERTICAL POSTS SHALL BE SET @ 6' MAXIMUM, EVENLY SPACED ALONG THE HORIZONTAL RAIL, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.
  2. CONTRACTOR SHALL SUBMIT LARGE SCALE SHOP DRAWINGS OF HANDRAILS AND ALL NECESSARY HARDWARE PER SPECIFICATIONS



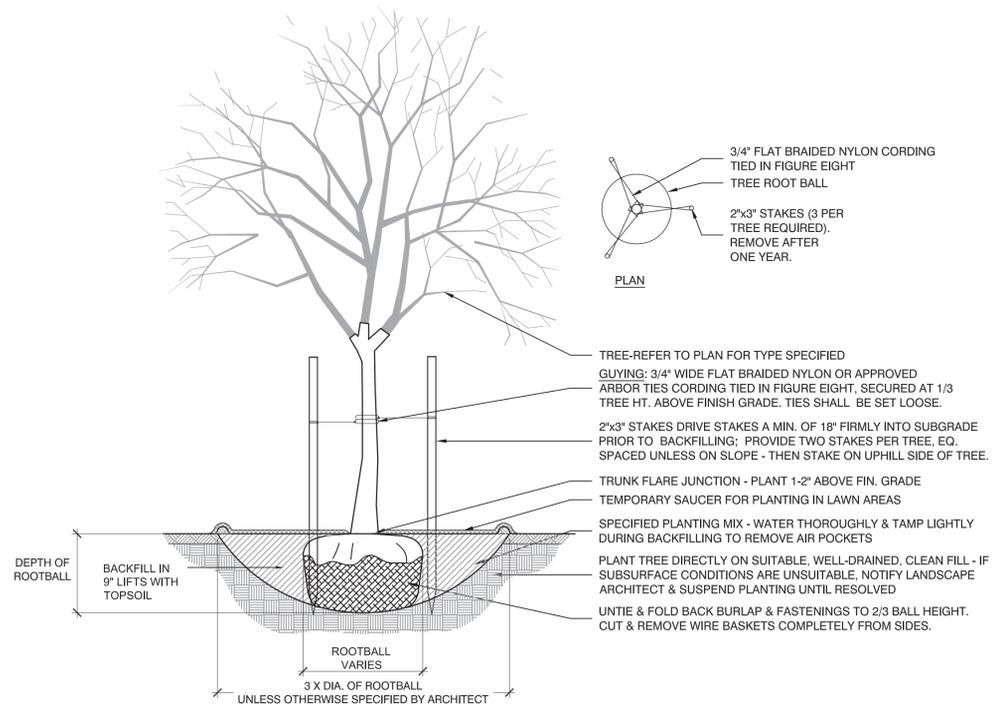
- NOTES:
1. ALL HANDRAILS SHALL BE STAINLESS STEEL.
  2. HANDRAILS SHALL BE CORE DRILLED AND SET WITH EPOXY GROUT.
  3. ALL WELDS SHALL BE GROUND DOWN CLEAN AND SMOOTH.
  4. ALL DIMENSIONS SHALL BE FIELD VERIFIED AND ADJUSTED AS NEEDED.

**1** CAST-IN-PLACE CONCRETE STAIR WITH STAINLESS STEEL HANDRAIL  
NOT TO SCALE



- NOTES:
1. REMOVE AND SEPARATE TOPSOIL AND SUBSOIL FROM PLANTING HOLE FOR USE AS BACKFILL AS NOTED ABOVE.
  2. IF ROOTBALL IS PACKAGED IN "PLASTIC BURLAP" OR TREATED BURLAP, REMOVE BURLAP COMPLETELY.
  3. WATER THOROUGHLY AFTER INSTALLATION AT RATE OF 3-5 GALLONS/INCH CALIPER.

**4** EVERGREEN TREE PLANTING  
NOT TO SCALE

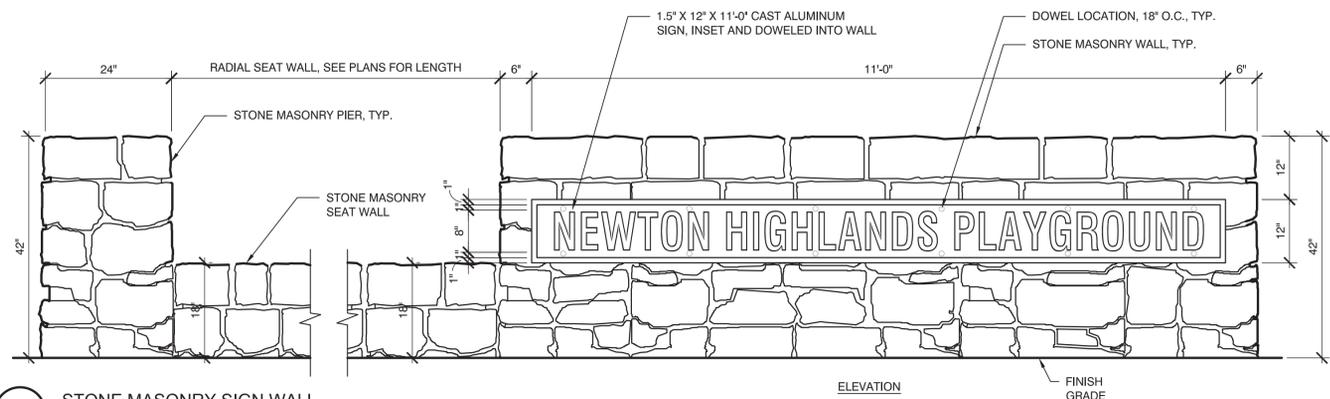


- 3/4" FLAT BRAIDED NYLON CORDING TIED IN FIGURE EIGHT TREE ROOT BALL
- 2"x3" STAKES (3 PER TREE REQUIRED). REMOVE AFTER ONE YEAR.

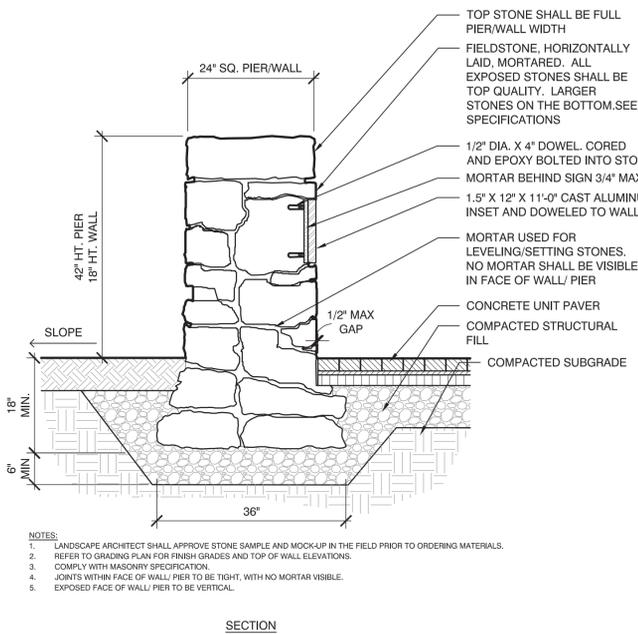
PLAN

- TREE-REFER TO PLAN FOR TYPE SPECIFIED
- GUYING: 3/4" WIDE FLAT BRAIDED NYLON OR APPROVED ARBOR TIES CORDING TIED IN FIGURE EIGHT, SECURED AT 1/3 TREE HT. ABOVE FINISH GRADE. TIES SHALL BE SET LOOSE.
- 2"x3" STAKES DRIVE STAKES A MIN. OF 18" FIRMLY INTO SUBGRADE PRIOR TO BACKFILLING; PROVIDE TWO STAKES PER TREE, EQ. SPACED UNLESS ON SLOPE - THEN STAKE ON UPHILL SIDE OF TREE.
- TRUNK FLARE JUNCTION - PLANT 1-2" ABOVE FIN. GRADE
- TEMPORARY SAUCER FOR PLANTING IN LAWN AREAS
- SPECIFIED PLANTING MIX - WATER THOROUGHLY & TAMP LIGHTLY DURING BACKFILLING TO REMOVE AIR POCKETS
- PLANT TREE DIRECTLY ON SUITABLE, WELL-DRAINED, CLEAN FILL - IF SUBSURFACE CONDITIONS ARE UNSUITABLE, NOTIFY LANDSCAPE ARCHITECT & SUSPEND PLANTING UNTIL RESOLVED
- UNTIE & FOLD BACK BURLAP & FASTENINGS TO 2/3 BALL HEIGHT. CUT & REMOVE WIRE BASKETS COMPLETELY FROM SIDES.

**5** DECIDUOUS TREE PLANTING  
NOT TO SCALE



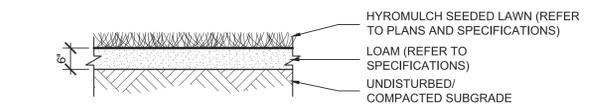
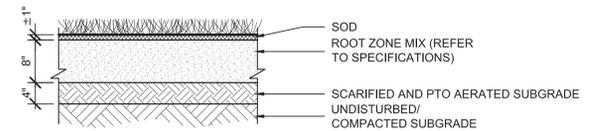
**2** STONE MASONRY SIGN WALL  
NOT TO SCALE



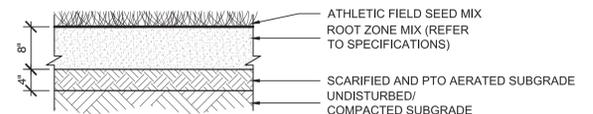
- NOTES:
1. LANDSCAPE ARCHITECT SHALL APPROVE STONE SAMPLE AND MOCK-UP IN THE FIELD PRIOR TO ORDERING MATERIALS.
  2. REFER TO GRADING PLAN FOR FINISH GRADES AND TOP OF WALL ELEVATIONS.
  3. COMPLY WITH MASONRY SPECIFICATION.
  4. JOINTS WITHIN FACE OF WALL/PIER TO BE TIGHT, WITH NO MORTAR VISIBLE.
  5. EXPOSED FACE OF WALL/PIER TO BE VERTICAL.

SECTION

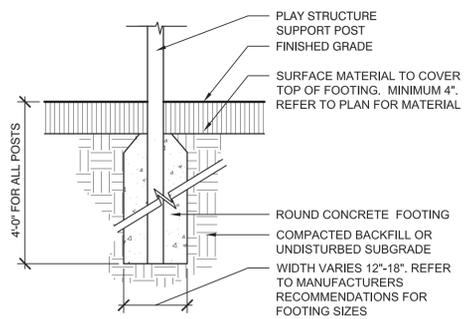
**6** SOD & ROOT ZONE MIX - ADD ALTERNATE #1  
NOT TO SCALE



**7** LOAM & LAWN SEED  
NOT TO SCALE



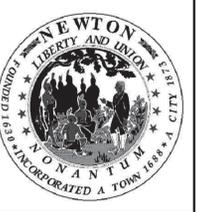
**8** ATHLETIC FIELD SEED AND ROOT ZONE MIX - BASE BID  
NOT TO SCALE



- NOTE: FOOTINGS SHALL BE REQUIRED FOR ALL POSTS AND GROUND CONNECTIONS, SEE PLANS.

**3** PLAY STRUCTURE FOOTING  
NOT TO SCALE

Project:  
**NEWTON HIGHLANDS  
PLAYGROUND  
REHABILITATION**



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Revisions:

Rev	Date	Description

Seal:



**CONSTRUCTION  
DOCUMENTS**

Date: 08.18.2016

Scale: AS SHOWN

Drawn By: CB/CC

Reviewed By: EB/CR

Checked By: BR/BK

Approved By: EB

Drawing Title:

**CONSTRUCTION  
DETAILS**

Sheet Number:

**L7.08**

**GENERAL ELECTRICAL NOTES :**

- DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHTS, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
- WORK SHALL CONFORM TO THE MASSACHUSETTS ELECTRICAL CODE AND MASSACHUSETTS BUILDING CODE AND REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.
- THE WORD "CONTRACTOR" AS USED IN THE "ELECTRICAL WORK" SHALL MEAN THE ELECTRICAL SUBCONTRACTOR.
- CONTRACTOR SHALL PAY FOR ALL PERMITS, INSURANCE AND TESTS, AND SHALL PROVIDE LABOR AND MATERIAL TO COMPLETE THE ELECTRICAL WORK SHOWN.
- CONTRACTOR SHALL PAY ELECTRIC UTILITY COMPANY BACKCHARGES AND PROVIDE COORDINATION WITH SAME.
- FOR COORDINATION PURPOSES THE OPEN EVERSOURCE WORK ORDER NUMBER FOR THIS PROJECT IS #2096682.
- EXCEPT AS OTHERWISE NOTED, THE ELECTRICAL WORK SHALL INCLUDE PANELBOARDS, CIRCUIT BREAKERS, FEEDERS, WIRING, RACEWAYS, LIGHTING FIXTURES, DEVICES, SAFETY SWITCHES, MOUNTING AND WIRING, TRANSFORMERS AND CONNECTIONS NECESSARY TO OPERATE ALL EQUIPMENT.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY LIGHTING AND POWER AND PAY ALL ENERGY CHARGES.
- DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL KEEP HIS PORTION OF THE WORK NEAT, CLEAN AND ORDERLY.
- ALL SYSTEMS SHALL BE TESTED FOR SHORT CIRCUIT AND GROUNDS PRIOR TO ENERGIZING AND ANY DEFECTS SHALL BE CORRECTED.
- ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL WORK SHALL BE INCLUDED AS PART OF THIS SECTION.
- COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED FOR ELECTRICAL EQUIPMENT. WHERE SPECIFIED, ELECTRICAL EQUIPMENT IS SUBSTITUTED. THE ELECTRICAL CONTRACTOR SHALL SUBMIT COMPLETE SPECIFICATIONS ON THE SUBSTITUTE AS WELL AS THE ITEM ORIGINALLY SPECIFIED.
- MATERIALS SHALL BE SPECIFICATION GRADE AND UL LISTED.
- WHERE MATERIAL IS CALLED OUT IN THE LEGEND BY MANUFACTURER, TYPE OR CATALOG NUMBER, SUCH DESIGNATIONS ARE TO ESTABLISH STANDARDS OR DESIRED QUALITY. ACCEPTANCE OR REJECTIONS OF PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.
- WORK SHALL BE COORDINATED WITH THAT OF OTHER TRADES TO ELIMINATE INTERFERENCES.
- ELECTRICAL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF WHICH SYSTEM IS PUT INTO SERVICE.
- WORK SHALL BE GROUNDED IN ACCORDANCE WITH CODE REQUIREMENTS. COMPLETE EQUIPMENT (INSULATED GREEN WIRE) GROUNDING SYSTEM SHALL BE INSTALLED.
- WIRING METHODS:
  - A. BELOW GRADE WIRING SHALL BE SCHEDULE 80 PVC.
- PANELBOARDS SHALL BE DEAD FRONT, THERMAL MAGNETIC BOLT-ON CIRCUIT BREAKER TYPE, DESIGNED FOR SURFACE MOUNTING AS INDICATED ON PLAN, AND HAVING CONNECTIONS TO 120/240 VOLT, 3 PHASE, 4 WIRE SERVICE. ALL BUS BARS SHALL BE COPPER. CABINETS SHALL BE MADE OF CODE GAUGE GALVANIZED SHEET STEEL, WITH A MINIMUM OF 4 INCH GUTTERS, DOOR IN DOOR CONSTRUCTION, LOCKED DOOR, AND FLUSH HINGES. TYPEWRITTEN INDEX SHALL BE MOUNTED ON DOOR INSIDE TRANSPARENT COVER INDICATING LOAD SERVED. PANELS SHALL INCLUDE SEPARATE EQUIPMENT GROUND BUS.
- CONDUIT RUNS AS SHOWN ON THE PLANS ARE DIAGRAMMATIC ONLY; EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD.
- CONTRACTOR SHALL CHECK EXISTING CONDITIONS TO DETERMINE EXACT EXTENT OF WORK TO BE PERFORMED PRIOR TO BIDDING. DIMENSIONS RELEVANT TO EXISTING WORK SHALL BE VERIFIED IN THE FIELD.
- PROVIDE AS-BUILT "CADD" DRAWINGS AT THE COMPLETION OF THE PROJECT.

**ABBREVIATIONS**

A	AMPERE	NTS	NOT TO SCALE
AF	AMPERE FRAME	PNL	PANELBOARD
AC	ALTERNATING CURRENT	PH	PHASE
AT	AMPERE TRIP	FL	FLOOR
ATS	AUTOMATIC TRANSFER SWITCH	FLA	FULL LOAD AMPERE
BKR	BREAKER	GC	GENERAL CONTRACTOR
C	CONDUIT	GFI	GROUND FAULT INTERRUPTER
CKT	CIRCUIT	GND	GROUND
CB	CIRCUIT BREAKER	IG	ISOLATED GROUND
EC	ELECTRICAL CONTRACTOR	JB	JUNCTION BOX
EMT	ELECTRIC METALLIC TUBING	KVA	KILOVOLT AMPERES
KW	KILOWATT	PVC	POLYVINYL CHLORIDE CONDUIT
MCB	MAIN CIRCUIT BREAKER	RSC	RIGID GALVANIZED STEEL CONDUIT
MLO	MAIN LUGS ONLY	XFMR	TRANSFORMER
MC	MECHANICAL CONTRACTOR	V	VOLTS
MTD	MOUNTED	W	WATTS OR WIRE
MTG	MOUNTING	WP	WEATHERPROOF
NMC	NON-METALLIC CONDUIT		
NA	NOT APPLICABLE		
NIC	NOT IN CONTRACT		

**ELECTRICAL SYMBOL LIST**

**RECEPTACLES**

- DUPLEX CONVENIENCE OUTLET RATED 20A, 125V, U-SLOT GROUNDED TYPE. ALL OTHER MOUNTING HEIGHTS SHALL BE AS NOTED ADJACENT TO THE SYMBOL. REFER TO RECEPTACLE ABBREVIATIONS FOR SPECIAL PURPOSE RECEPTACLES
- DUPLEX RECEPTACLE WITH INTERGRAL GROUND FAULT INTERRUPTER

**RACEWAY AND WIRING**

- PP-1,3
- NEW UNDERGROUND ELECTRIC LINE
- HOMERUN TO PANELBOARD, NUMBER OF SLASH MARKS INDICATES NUMBER OF #12 AWG CONDUCTORS IN MINIMUM 3/4" CONDUIT. NO SLASH MARKS INDICATE 2#12 & 1#12G, 3/4" UNLESS OTHERWISE NOTED
- GREEN GROUND CONDUCTOR IS NOT INDICATED BUT SHALL BE INCLUDED IN EACH RACEWAY. SIZE SHALL BE #12 UNLESS INDICATED OTHERWISE.
- HOMERUNS TO PANELBOARDS SHALL HAVE A MAXIMUM OF THREE PHASE CONDUCTORS (ONE PER PHASE) PLUS NEUTRAL AND GROUND CONDUCTOR IN EACH CONDUIT.

**MISCELLANEOUS**

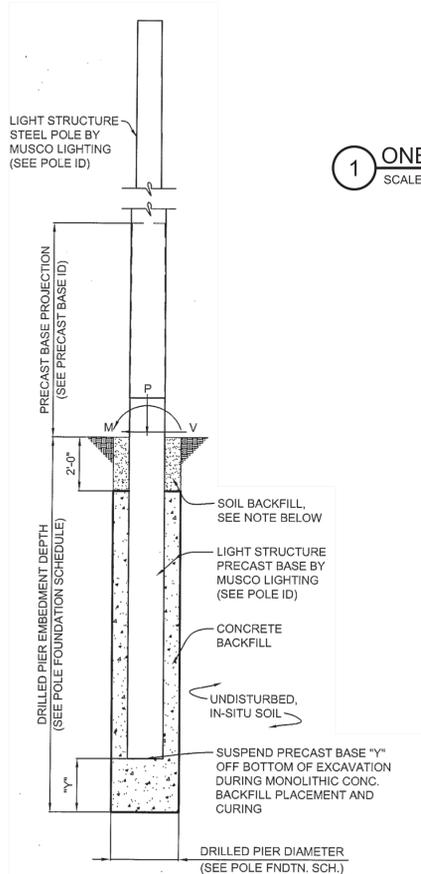
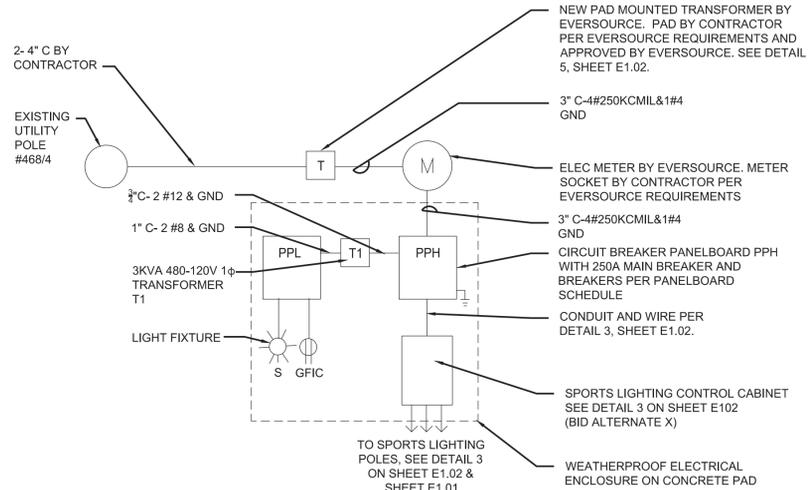
- SINGLE POLE SWITCH
- ELECTRIC UTILITY BILLING METER
- 5/8"x10" COPPER GROUND ROD

**POWER DISTRIBUTION EQUIPMENT**

- HAND HOLE. SEE DETAIL 1, SHEET E1.02
- CIRCUIT BREAKER 250AMP-3 POLE

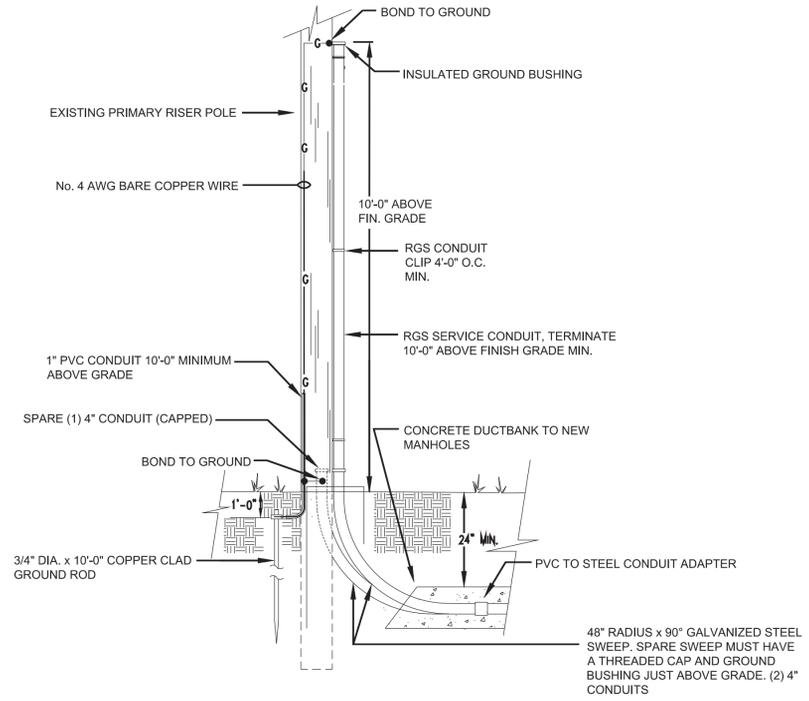
**LIGHTING**

- SPORTS LIGHT POLE - 'S1' INDICATES POLE NUMBER 'C1' INDICATES CONTACTOR OR CONTRACTORS CONTROLLING POLE MOUNTED FIXTURES

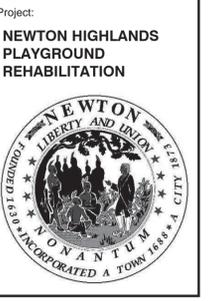


**2 LIGHT POLE FOUNDATIONS (BID ALTERNATES 2 AND 3)**  
SCALE: N.T.S.

SOIL BACKFILL NOTE:  
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).



**3 TYPICAL RISER POLE DETAIL (BASE BID)**  
SCALE: N.T.S.



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Revisions:

Rev	Date	Description

Seal:  
  
**CONSTRUCTION DOCUMENTS**

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Scale: N.T.S.  
Drawn By: MS  
Reviewed By: RM  
Checked By: RM  
Approved By: RM

Drawing Title:  
**ELECTRICAL LEGEND, GENERAL NOTES AND DETAILS**

Sheet Number:  
**E1.00**



(2) 4" PVC SCHEDULE 80 CONCRETE ENCASED CONDUITS:  
 (1) 4" - PRIMARY POWER  
 (1) 4" - SPARE

NEW UTILITY PAD MOUNT TRANSFORMER, CONCRETE PAD BY CONTRACTOR, TRANSFORMER BY UTILITY COMPANY

DIRECT BURIED:  
 (1) 3" - SECONDARY POWER

NEW ELECTRICAL CABINET, REFER TO DETAILS ON DRAWING E1.02

SEE NOTE #7

SEE NOTE #7

CONCESSION BUILDING

POWER FOR SCOREBOARD

**NOTES:**

- REFER TO DRAWING E1.00 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- BASE BID SHALL INCLUDE THE NEW INCOMING ELECTRICAL SERVICE, ELECTRICAL CABINET WITH ALL ASSOCIATED EQUIPMENT WITHIN THE CABINET AS SHOWN ON ELECTRICAL DRAWINGS E100 AND E102 EXCEPT FOR THE MUSCO LIGHTING CONTROL CABINET (PART OF BID ALTERNATE X) AND ALL HANDHOLES AND EMPTY CONDUITS WITH PULL STRINGS AT EACH LIGHT LOCATION AND BUILDING LOCATION FOR FUTURE SPORTS LIGHTING, SCOREBOARDS AND CONCESSION BUILDING.
- BID ALTERNATE 2 SHALL INCLUDE MUSCO LIGHTING CONTROL CABINET MOUNTED WITHIN THE ELECTRICAL ENCLOSURE AND ALL WIRING FOR THE BASEBALL FIELD LIGHTING AND SCOREBOARD.
- BID ALTERNATE 3 SHALL INCLUDE ALL WIRING FOR THE FOOTBALL FIELD LIGHTING AND SCOREBOARD PLUS ALL TERMINATIONS WITHIN THE ELECTRICAL ENCLOSURE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DOWNSIZING FEEDERS AT ELECTRICAL DEVICES FOR CONNECTION IN THE FIELD. FEEDERS HAVE BEEN OVERSIZED FOR VOLTAGE DROP.
- THE CONTRACTOR SHALL FURNISH & INSTALL A HANDHOLE AT EACH LIGHT POLE BASE FOR TRANSITIONING TO LIGHT POLE RISER CONDUIT. ADDITIONAL HANDHOLES SHALL BE INSTALLED AS REQUIRED TO FACILITATE THE INSTALLATION OF WIRING. HANDHOLES SHALL NOT BE INSTALLED ON FIELD OR IN WALKWAYS.
- THE CONTRACTOR SHALL TERMINATE CONDUIT IN HANDHOLE WITHIN 6'-0" OF FUTURE BUILDING PAD. UPON INSTALLATION OF PRE-FAB BUILDING INCLUDING CONDUIT FROM BUILDING PANEL TO HANDHOLE BY THE BUILDING INSTALLER, ELECTRICAL CONTRACTOR SHALL INSTALL WIRING & MAKE FINAL CONNECTIONS TO BUILDING SERVICE ENTRANCE RATED PANELBOARD.



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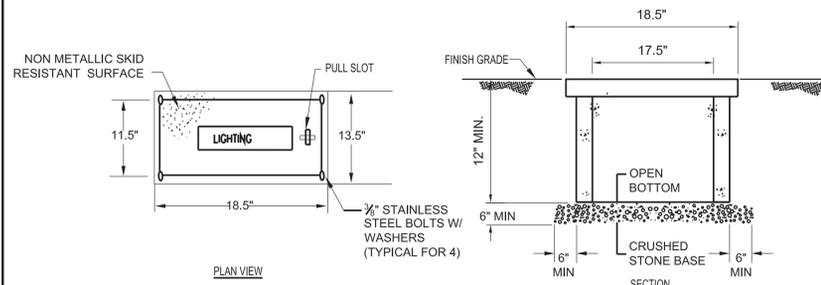
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**CONSTRUCTION DOCUMENTS**

Date: 08.18.2016  
 Scale: 1" = 50'-0"  
 Drawn By: DM  
 Reviewed By: RM  
 Checked By: RM  
 Approved By: RM

Drawing Title:  
**ELECTRICAL SITE PLAN**

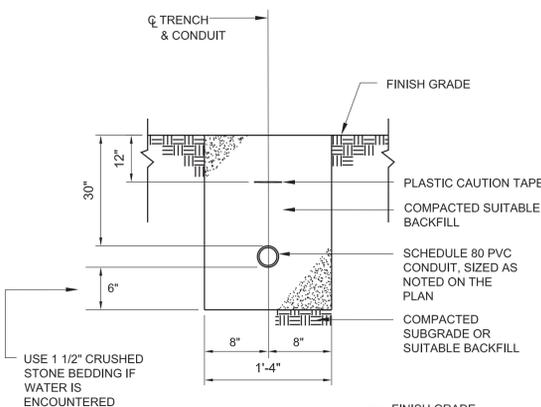
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**E1.01**



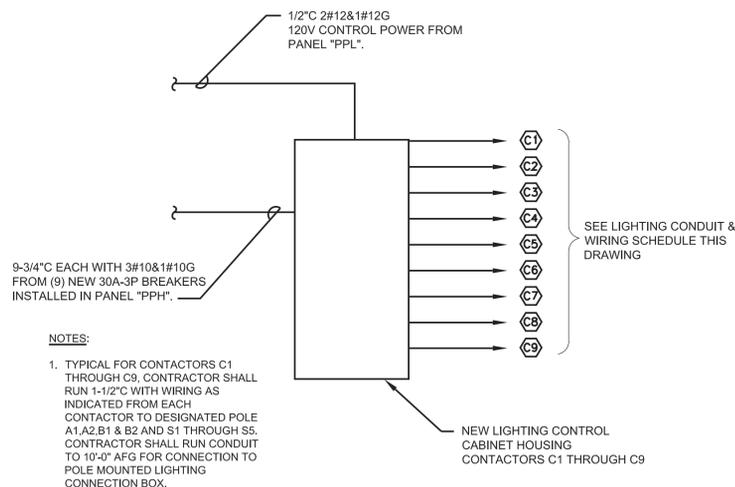
NOTES:

- THIS HANDHOLE IS INTENDED FOR NON-DELIBERATE VEHICULAR TRAFFIC ONLY.
- HANDHOLE SHALL BE PREFABRICATED POLYMER CONCRETE AGGREGATE EQUAL TO QUAZITE OR EQUAL PRE CAST CONCRETE CONSTRUCTION.

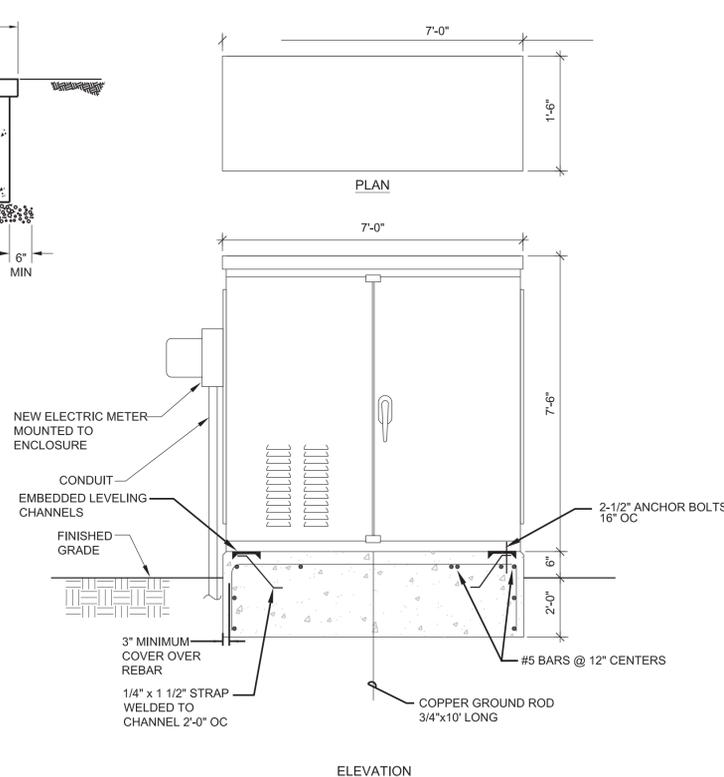
**1 TYPICAL PREFABRICATED HANDHOLE DETAIL**  
SCALE: N.T.S.



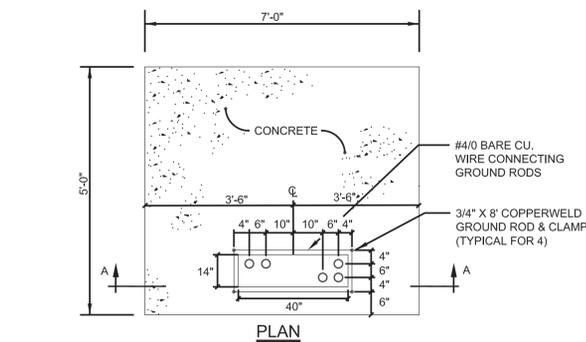
**2 TYPICAL ELECTRIC CONDUIT TRENCH**  
SCALE: N.T.S.



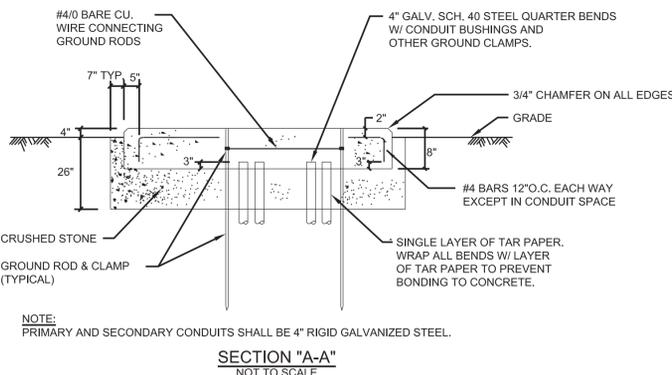
**3 SPORTS LIGHTING CONTROL DIAGRAM (BID ALTERNATE 2)**  
SCALE: N.T.S.



**4 PAD MOUNTED ELECTRICAL ENCLOSURE (BASE BID)**  
SCALE: N.T.S.



NOTE:  
CONTRACTOR SHALL COORDINATE ALL TRANSFORMER PAD DIMENSIONS AND REQUIREMENTS WITH EVERSOURCE ELECTRIC PRIOR TO INSTALLATION.



**5 TRANSFORMER PAD DETAIL (BASE BID)**  
SCALE: N.T.S.

CONDUIT & WIRING SCHEDULE							
CONDUIT	FEEDER	FROM	TO	FIXTURES	LOAD	CONTACTOR SIZE	REMARKS
P1	1-1/2"C., 3#6 & 1#10G	LIGHTING CONTROL PANEL CONTACTOR C1	FIXTURE A1	4 @ 1500W	11.1A	30A	DIRECT BURIED
P2	1-1/2"C., 3#6 & 1#10G	LIGHTING CONTROL PANEL CONTACTOR C2	FIXTURE A2	4 @ 1500W	11.1A	30A	DIRECT BURIED
P3	1-1/2"C., 3#6 & 1#10G	LIGHTING CONTROL PANEL CONTACTOR C3	FIXTURE B1	5 @ 1500W	14.8A	30A	DIRECT BURIED
P4	1-1/2"C., 3#4 & 1#8G	LIGHTING CONTROL PANEL CONTACTOR C4	FIXTURE B2	5 @ 1500W	14.8A	30A	DIRECT BURIED
P5	1-1/2"C., 3#4 & 1#8G	LIGHTING CONTROL PANEL CONTACTOR C5	FIXTURE S1	4 @ 1500W	11.1A	30A	DIRECT BURIED
P6	1-1/2"C., 3#4 & 1#8G	LIGHTING CONTROL PANEL CONTACTOR C6	FIXTURE S2	4 @ 1500W	11.1A	30A	DIRECT BURIED
P7	1-1/2"C., 3#10 & 1#10G	LIGHTING CONTROL PANEL CONTACTOR C7	FIXTURE S3	6 @ 1500W	14.8A	30A	DIRECT BURIED
P8	1-1/2"C., 3#6 & 1#10G	LIGHTING CONTROL PANEL CONTACTOR C8	FIXTURE S4	6 @ 1500W	14.8A	30A	DIRECT BURIED
P9	1-1/2"C., 2#10 & 1#10G	PANEL PPL-4	FOOTBALL FIELD SCOREBOARD	1 @ 300W	3.0A	-	DIRECT BURIED
P10	1-1/2"C., 2#10 & 1#10G	PANEL PPL-5	BASEBALL FIELD SCOREBOARD	1 @ 300W	3.0A	-	DIRECT BURIED
P11	2"C., 3#1 & 1#8G	PANEL PPH	CONCESSIONS BUILDING	15KW	18A	-	DIRECT BURIED
P12	1-1/2"C., 3#4 & 1#8G	LIGHTING CONTROL PANEL CONTACTOR C9	FIXTURE S5	4 @ 1500W	11.1A	30A	DIRECT BURIED
P13	1-1/2" EMPTY CONDUIT	XXX	CONTROLS TO FOOTBALL FIELD SCOREBOARD	-	-	-	DIRECT BURIED
P14	1-1/2" EMPTY CONDUIT	XXX	CONTROLS TO BASEBALL FIELD SCOREBOARD	-	-	-	DIRECT BURIED

CONDUIT AND WIRE SCHEDULE NOTES:

- ALL CONDUIT SHALL BE PART OF BASE BID. ALL WIRING SHALL BE PART OF BID ALTERNATES. FOR BID ALTERNATES REFER TO ELECTRICAL DRAWING E101.

PANELBOARD SCHEDULE (BASE BID)

PANELBOARD NO.: PPH SERVICE: 277/480V, 3#, 4#/250A MCB  
 LOCATION: ELECTRICAL ENCLOSURE SERVICE ENTRANCE RATED BUS BARS: 250A  
 MOUNTING: SURFACE AIC: 42,000 TOTAL NO. OF POLES: 42

CKT. No.	DESCRIPTION OF LOAD	CIRCUIT BREAKERS			DESCRIPTION OF LOAD	CKT. No.
		TRIP	POLES	TRIP		
1	SITE LIGHTING A1/C1	30	3	3	SITE LIGHTING A2/C2	2
3	SITE LIGHTING B1/C3	30	3	3	SITE LIGHTING B2/C4	4
5	SITE LIGHTING S1/C5	30	3	3	SITE LIGHTING S2/C6	6
7	SITE LIGHTING S3/C7	30	3	3	SITE LIGHTING S4/C8	8
9	TRANSFORMER T1	15	2	2	TRANSFORMER - CONCESSIONS BUILDING	10
11	SITE LIGHTING S5/C9	30	3	1	SPARE	12
13	SPACE			1	SPARE	14
15	SPACE			1	SPARE	16

\* PROVIDE PANELBOARD WITH A GROUND BUS

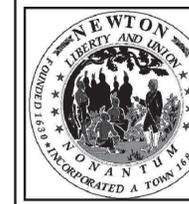
PANELBOARD SCHEDULE (BASE BID)

PANELBOARD NO.: PPL SERVICE: 120V, 1#, 40A MCB  
 LOCATION: ELECTRICAL ENCLOSURE SERVICE ENTRANCE RATED BUS BARS: 100A  
 MOUNTING: SURFACE AIC: 14,000 TOTAL NO. OF POLES: 12

CKT. No.	DESCRIPTION OF LOAD	CIRCUIT BREAKERS			DESCRIPTION OF LOAD	CKT. No.
		TRIP	POLES	TRIP		
1	ENCLOSURE RECEPTACLE	20	1	1	ENCLOSURE LIGHT	2
3	SPORTS LIGHTING CONTROL	20	1	1	FOOTBALL FIELD SCOREBOARD	4
5	BASEBALL FIELD SCOREBOARD	20	1	1	SPARE	6
7	SPACE	20	1	1	SPARE	8
9	SPACE				SPACE	10
11	SPACE				SPACE	12

\* PROVIDE PANELBOARD WITH A GROUND BUS

Project:  
NEWTON HIGHLANDS  
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REHABILITATION



Weston & Sampson

85 Devonshire Street, 3rd Floor  
Boston, MA 02109  
(617) 412-4480 (800) Sampson  
www.westonandsampson.com

Consultants:

North:



Revisions:

Rev	Date	Description

Seal:

CONSTRUCTION DOCUMENTS

Date: 08.18.2016

Scale: N.T.S.

Drawn By: MS

Reviewed By: RM

Checked By: RM

Approved By: RM

Drawing Title:

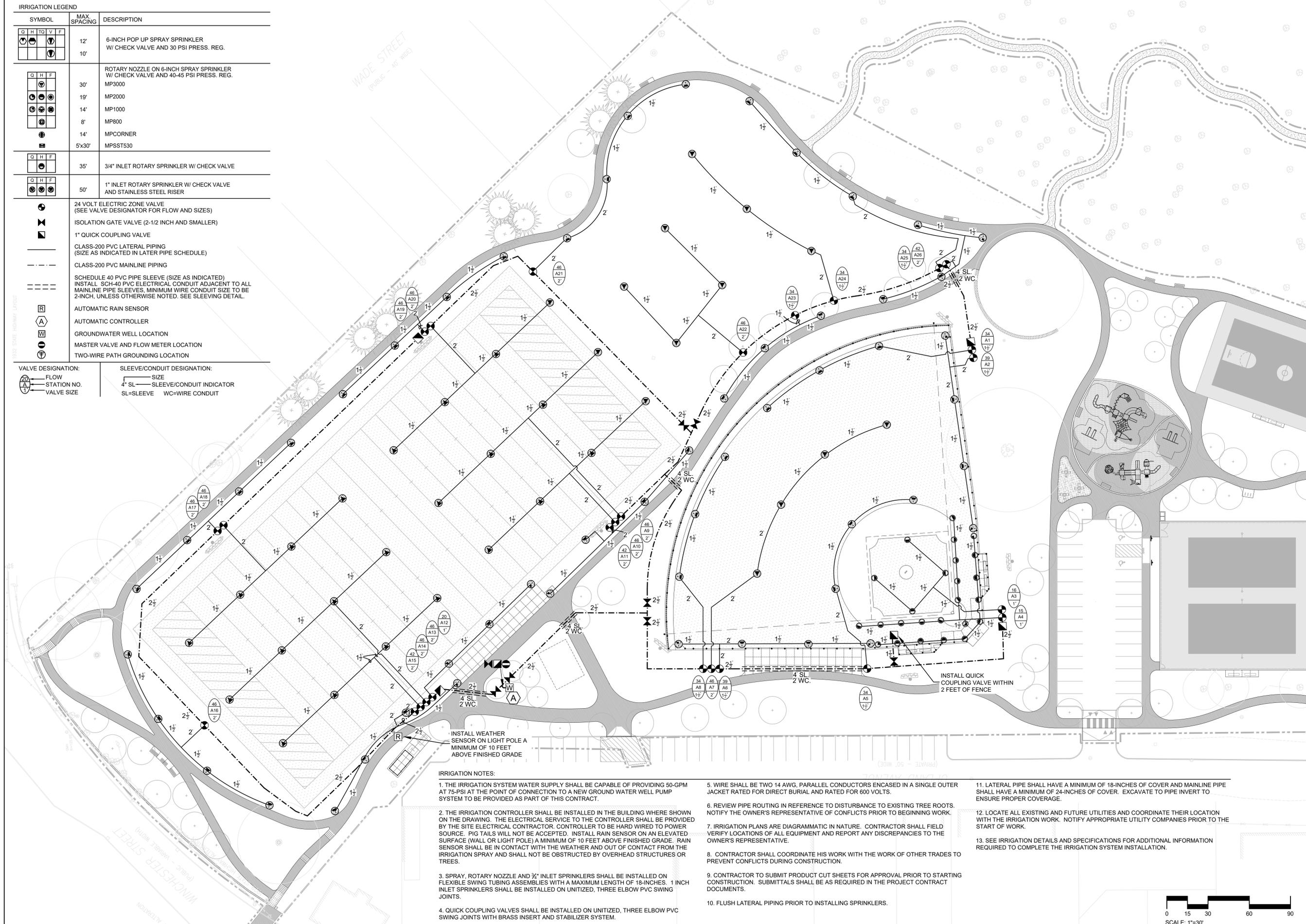
ELECTRICAL  
SCHEDULES AND  
DETAILS

Sheet Number:

E1.02

IRRIGATION LEGEND		SYMBOL	MAX. SPACING	DESCRIPTION	
	12'		12'	6-INCH POP UP SPRAY SPRINKLER W/ CHECK VALVE AND 30 PSI PRESS. REG.	
	10'				
	30'		30'	ROTARY NOZZLE ON 6-INCH SPRAY SPRINKLER W/ CHECK VALVE AND 40-45 PSI PRESS. REG.	
	19'		19'		MP3000
	14'		14'		MP1000
	8'		8'		MP800
	14'		14'		MPCORNER
	5'x30'		5'x30'	MPSST530	
	35'		35'	3/4" INLET ROTARY SPRINKLER W/ CHECK VALVE	
	50'		50'	1" INLET ROTARY SPRINKLER W/ CHECK VALVE AND STAINLESS STEEL RISER	
	24 VOLT ELECTRIC ZONE VALVE (SEE VALVE DESIGNATOR FOR FLOW AND SIZES)				
	ISOLATION GATE VALVE (2-1/2 INCH AND SMALLER)				
	1" QUICK COUPLING VALVE				
	CLASS-200 PVC LATERAL PIPING (SIZE AS INDICATED IN LATER PIPE SCHEDULE)				
	CLASS-200 PVC MAINLINE PIPING				
	SCHEDULE 40 PVC PIPE SLEEVE (SIZE AS INDICATED) INSTALL SCH-40 PVC ELECTRICAL CONDUIT ADJACENT TO ALL MAINLINE PIPE SLEEVES, MINIMUM WIRE CONDUIT SIZE TO BE 2-INCH, UNLESS OTHERWISE NOTED. SEE SLEEVING DETAIL.				
	AUTOMATIC RAIN SENSOR				
	AUTOMATIC CONTROLLER				
	GROUNDWATER WELL LOCATION				
	MASTER VALVE AND FLOW METER LOCATION				
	TWO-WIRE PATH GROUNDING LOCATION				
VALVE DESIGNATION:		SLEEVE/CONDUIT DESIGNATION:			
	FLOW		SIZE		
	STATION NO.		SLEEVE/CONDUIT INDICATOR		
	VALVE SIZE		SLEEVE		WC= WIRE CONDUIT

FIELD SURVEY (PROVISIONAL LAYOUT)



**IRRIGATION NOTES:**

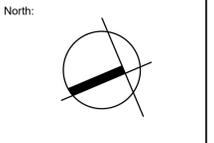
1. THE IRRIGATION SYSTEM WATER SUPPLY SHALL BE CAPABLE OF PROVIDING 50-GPM AT 75-PSI AT THE POINT OF CONNECTION TO A NEW GROUND WATER WELL PUMP SYSTEM TO BE PROVIDED AS PART OF THIS CONTRACT.
2. THE IRRIGATION CONTROLLER SHALL BE INSTALLED IN THE BUILDING WHERE SHOWN ON THE DRAWING. THE ELECTRICAL SERVICE TO THE CONTROLLER SHALL BE PROVIDED BY THE SITE ELECTRICAL CONTRACTOR. CONTROLLER TO BE HARD WIRED TO POWER SOURCE. PIG TAILS WILL NOT BE ACCEPTED. INSTALL RAIN SENSOR ON AN ELEVATED SURFACE (WALL OR LIGHT POLE) A MINIMUM OF 10 FEET ABOVE FINISHED GRADE. RAIN SENSOR SHALL BE IN CONTACT WITH THE WEATHER AND OUT OF CONTACT FROM THE IRRIGATION SPRAY AND SHALL NOT BE OBSTRUCTED BY OVERHEAD STRUCTURES OR TREES.
3. SPRAY, ROTARY NOZZLE AND 3/4" INLET SPRINKLERS SHALL BE INSTALLED ON FLEXIBLE SWING TUBING ASSEMBLIES WITH A MAXIMUM LENGTH OF 18-INCHES. 1 INCH INLET SPRINKLERS SHALL BE INSTALLED ON UNITIZED, THREE ELBOW PVC SWING JOINTS.
4. QUICK COUPLING VALVES SHALL BE INSTALLED ON UNITIZED, THREE ELBOW PVC SWING JOINTS WITH BRASS INSERT AND STABILIZER SYSTEM.
5. WIRE SHALL BE TWO 14 AWG, PARALLEL CONDUCTORS ENCASED IN A SINGLE OUTER JACKET RATED FOR DIRECT BURIAL AND RATED FOR 600 VOLTS.
6. REVIEW PIPE ROUTING IN REFERENCE TO DISTURBANCE TO EXISTING TREE ROOTS. NOTIFY THE OWNER'S REPRESENTATIVE OF CONFLICTS PRIOR TO BEGINNING WORK.
7. IRRIGATION PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EQUIPMENT AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.
8. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES TO PREVENT CONFLICTS DURING CONSTRUCTION.
9. CONTRACTOR TO SUBMIT PRODUCT CUT SHEETS FOR APPROVAL PRIOR TO STARTING CONSTRUCTION. SUBMITTALS SHALL BE AS REQUIRED IN THE PROJECT CONTRACT DOCUMENTS.
10. FLUSH LATERAL PIPING PRIOR TO INSTALLING SPRINKLERS.
11. LATERAL PIPE SHALL HAVE A MINIMUM OF 18-INCHES OF COVER AND MAINLINE PIPE SHALL HAVE A MINIMUM OF 24-INCHES OF COVER. EXCAVATE TO PIPE INVERT TO ENSURE PROPER COVERAGE.
12. LOCATE ALL EXISTING AND FUTURE UTILITIES AND COORDINATE THEIR LOCATION WITH THE IRRIGATION WORK. NOTIFY APPROPRIATE UTILITY COMPANIES PRIOR TO THE START OF WORK.
13. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION REQUIRED TO COMPLETE THE IRRIGATION SYSTEM INSTALLATION.



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www.westonandsampson.com

Consultants:  
**IRRIGATION  
INNOVATIONS, LLC**  
4218 CAHNNAS WAY  
WAXHAW, NC 28173  
P) 704.256.4873  
E) INFO@IRRIGINNOV.COM



Revisions:

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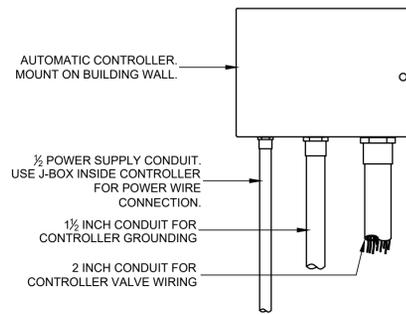
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DOCUMENTS**

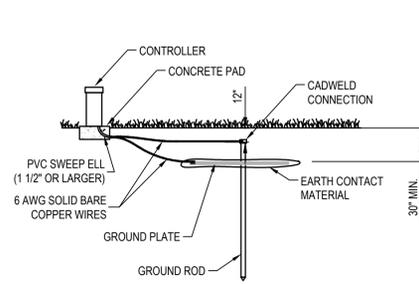
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Reviewed By: MT  
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Approved By: MT

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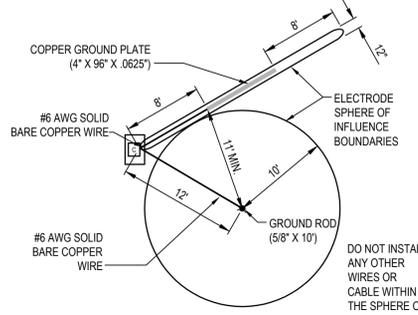
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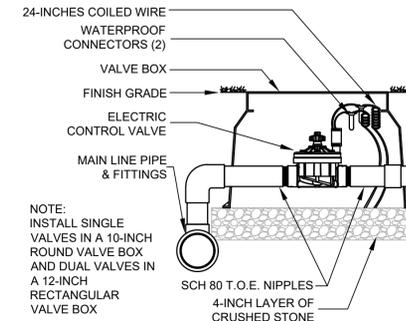
**1 AUTOMATIC CONTROLLER**  
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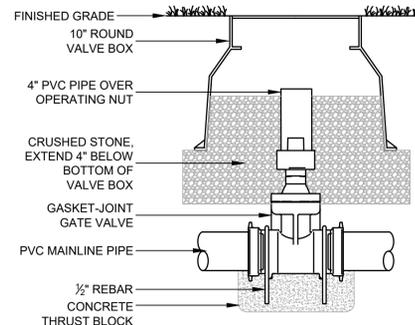
**2 CONTROLLER GROUNDING**  
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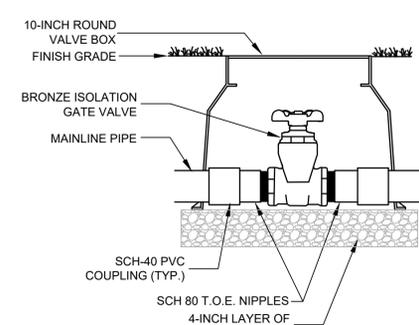
**3 CONTROLLER GROUNDING**  
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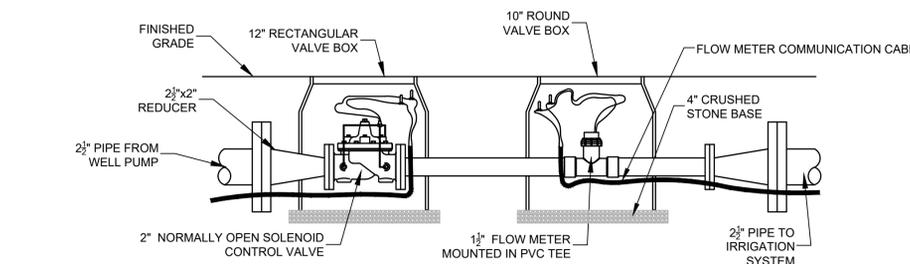
**4 ELECTRIC CONTROL VALVE**  
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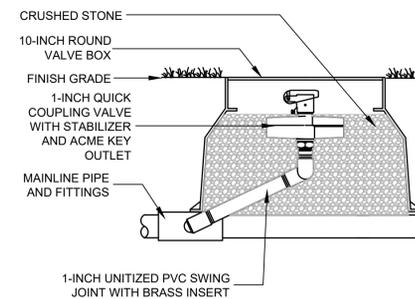
**5 ISOLATION VALVE**  
NOT TO SCALE 3\"/>



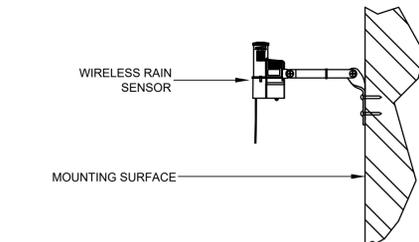
**6 ISOLATION VALVE**  
NOT TO SCALE 2-1/2\"/>



**7 MASTER VALVE AND FLOW METER**  
NOT TO SCALE

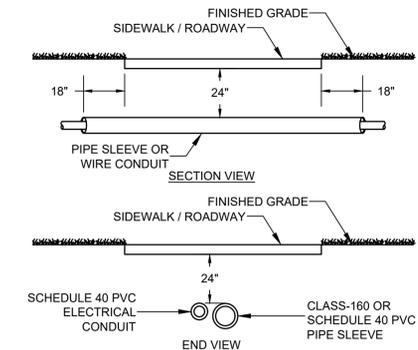


**8 QUICK COUPLING VALVE**  
NOT TO SCALE

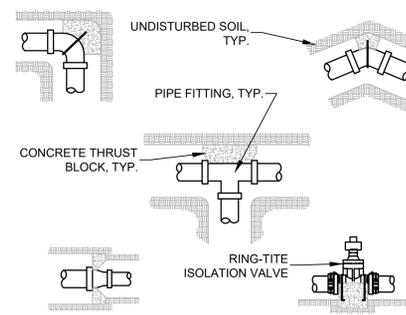


NOTE: MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY, NO MORE THAN 1000' FROM RECEIVER UNIT. MOUNT RECEIVER UNIT ON CONTROLLER ENCLOSURE.

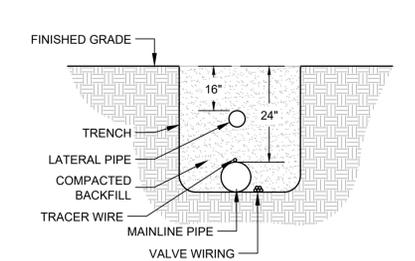
**9 RAIN SENSOR**  
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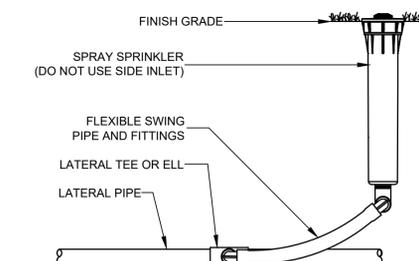
**10 PIPE AND WIRE SLEEVE**  
NOT TO SCALE



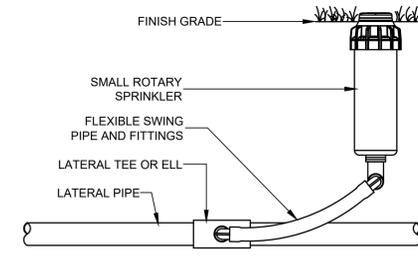
**12 THRUST BLOCKING**  
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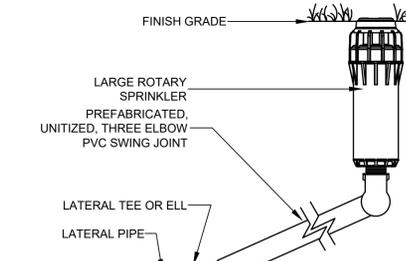
**13 PIPE AND WIRE TRENCH**  
NOT TO SCALE



**1 SPRAY SPRINKLER**  
NOT TO SCALE



**10 SMALL ROTARY SPRINKLER**  
NOT TO SCALE



**11 LARGE ROTARY SPRINKLER**  
NOT TO SCALE

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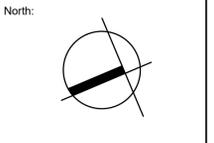
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Revisions:

Rev	Date	Description

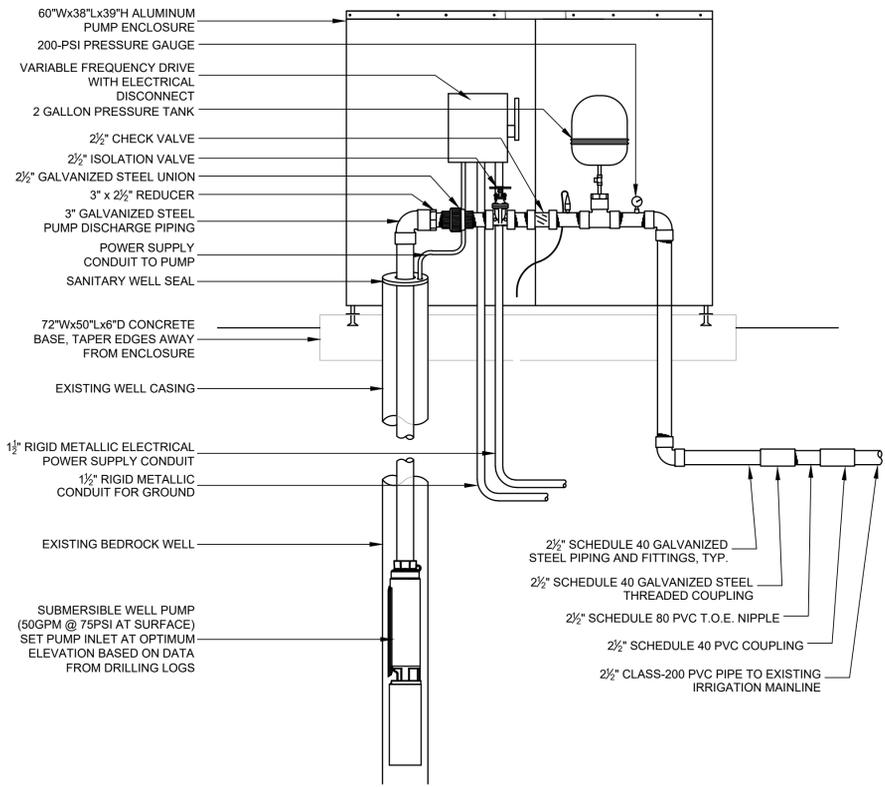


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**12** WELL #1 PUMP DETAIL  
 NOT TO SCALE