RALPH D. BUTLER ELEMENTARY SCHOOL

1 PATRICK CLARK DRIVE
AVON, MASSACHUSETTS

PARKING IMPROVEMENT PLANS

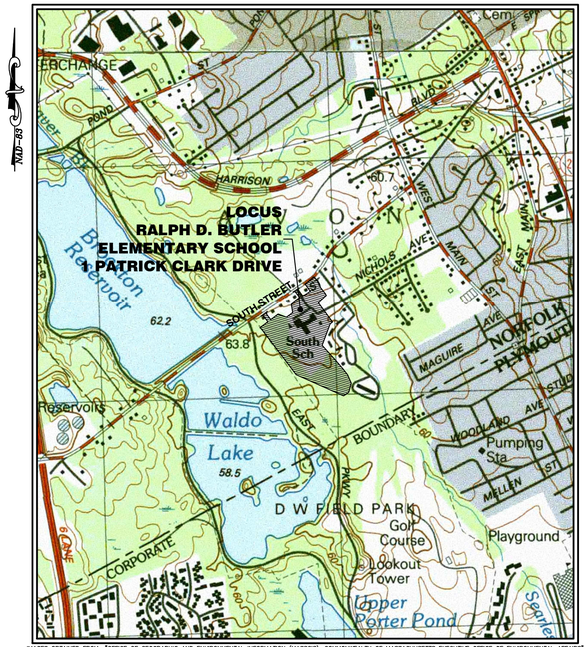
JUNE 18, 2020

OWNER/APPLICANT:

TOWN OF AVON
65 EAST MAIN STREET
AVON, MA 02322
PHONE: (508) 588-0414

PROJECT ADDRESS:

1 PATRICK CLARK DRIVE
AVON, MA 02322



IMAGES OBTAINED FROM: "OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS"

LOCUS PLAN
SCALE : 1"=1000'±

NOTES, LEGEND AND ABBREVIATIONS

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	NOTES
3	EXISTING CONDITIONS PLAN
4	SITE LAYOUT PLAN
5	SITE UTILITY AND GRADING PLAN
6	CONSTRUCTION DETAILS
7	CONSTRUCTION DETAILS
8	CONSTRUCTION DETAILS
9	CONSTRUCTION DETAILS

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 35907
REGISTERED PROFESSIONAL ENGINEER

6/18/2020

GCG ASSOCIATES INC. CONSULTING ENGINEERS WILMINGTON, MASSACHUSETTS

DATE: JUNE 18, 2020

GENERAL NOTES

1. PLANS AND TOPOGRAPHIC INFORMATION ARE PREPARED FROM A GROUND SURVEY AND SUPPLEMENTED WITH A DRONE COMPILED AERIAL PHOTO PERFORMED BY GCG ASSOCIATES, INC. ON DECEMBER 16, 2019.
2. ADDITIONAL UTILITY INFORMATION TAKEN FROM A PLAN SET TITLED "PARKING IMPROVEMENT PLAN FOR THE RALPH D. BUTLER ELEMENTARY SCHOOL, DATED SEPTEMBER 11, 2007 AND LAST REVISED ON AUGUST 22, 2013.
3. ALL LOCATIONS OF SUBSURFACE UTILITIES AND STRUCTURES WERE OBTAINED FROM AVAILABLE TOWN AND UTILITY RECORDS. THE SIZE, TYPE AND LOCATION OF UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL PROPERLY LOCATE THE UTILITIES PRIOR TO THE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN UTILITY INFORMATION BY CONTACTING DIG SAFE (811) A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO VERIFY UTILITY LINE LOCATIONS AS NECESSARY.
4. WATER MAINS ARE ASSUMED TO BE 5 FEET BELOW THE EXISTING GROUND SURFACE. GAS LINES ARE ASSUMED TO BE 3 FEET BELOW THE EXISTING GROUND SURFACE. TELEPHONE LINES AND ELECTRIC CONDUIT ARE ASSUMED TO BE 2 FEET BELOW THE EXISTING GROUND SURFACE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES ON SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING AN INDEPENDENT UTILITY MARKING COMPANY TO LOCATE EXISTING UTILITIES ON SITE. THE COST FOR THIS SHALL BE INCLUDED UNDER THE LUMP SUM BID.
6. EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED AS DIRECTED IN THE FIELD BY THE ENGINEER, UNLESS OTHERWISE INDICATED OR SPECIFIED.
7. DAMAGE TO ANY UTILITY WILL BE REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, IN A TIMELY MANNER SO THAT DISRUPTION OF SERVICE TO ANY UTILITY WILL NOT BE LONGER THAN PRACTICALLY NECESSARY TO REPAIR THE DAMAGE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL STATE OR LOCAL BUILDING PERMITS THAT MAY BE REQUIRED. THE TOWN OF AVON SCHOOL DEPARTMENT SHALL PAY FOR ALL PERMITS.
9. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A CONSTRUCTION SCHEDULE DELINEATING THE SEQUENCE OF WORK, TRAFFIC MANAGEMENT PLAN AND ESTIMATED TIME OF COMPLETION OF EACH SEGMENT OF WORK, PRIOR TO THE COMMENCEMENT OF WORK.
10. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION SATISFACTORY TO THE ENGINEER AND THE METHUEN HOUSING AUTHORITY. ACCESS TO ALL EXISTING RESIDENCES SHALL BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION BY THE CONTRACTOR. ACCESS TO ALL EXISTING RESIDENCES SHALL BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE PARKING LOT DURING CONSTRUCTION FOR ALL RESIDENTS.
11. NO EQUIPMENT SHALL BE ALLOWED TO BE PARKED ON THE ROAD WHEN NOT IN USE. MATERIALS SHALL NOT BE STOCKPILED ON THE ROAD OR IN PARKING AREAS. THE CONTRACTOR SHALL CONSULT THE AVON SCHOOL DEPARTMENT WITH RESPECT TO LOCATION OF STOCKPILED MATERIALS.
12. ALL CONSTRUCTION SIGNAGE SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
13. BUILDING LOCATIONS AS SHOWN ON ADJACENT PROPERTIES, ARE APPROXIMATE AND FOR REFERENCE PURPOSES ONLY.
14. SIDEWALKS, WALKS AND DRIVEWAYS THAT ARE DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF MATERIAL ONCE THE WORK IS COMPLETED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING ANY DEBRIS, SEDIMENT OR SILTY WATER FROM ENTERING ANY DRAINAGE SYSTEM, ETC. DURING ALL PHASES OF CONSTRUCTION. CONTROLS MAY INCLUDE HAY BALES, SILT FENCE, SILT SACKS, CRUSHED STONE.
16. ALL CONSTRUCTION MATERIAL, DEBRIS, ASPHALT, SOIL, ETC. THAT IS REMOVED FROM THE SITE SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
17. DURING CONSTRUCTION THE CONTRACTOR SHALL PROTECT ALL TREES AND ROOTS OF TREES TO REMAIN.
18. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SITE DRAINAGE PATTERNS UNLESS OTHERWISE NOTED. ALL GRADING MODIFICATIONS SHALL DIRECT DRAINAGE AWAY FROM EXISTING BUILDINGS AND TOWARDS THE APPROPRIATE AREAS. ALL GRADING MODIFICATIONS SHALL BE GRADUAL SO AS NOT TO CREATE ANY STEEP SLOPES, UNEVEN AREAS, ETC.
19. DURING THE COURSE OF CONSTRUCTION, ANY DAMAGE TO FENCES, GUARD RAILS, PATHS, STAIRS, AND VEGETATION SHALL BE REPAIRED OR REPLACED AND RESTORED TO THE ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO THE AVON SCHOOL DEPARTMENT.
20. ALL CASTINGS, GATE BOXES, HYDRANTS, LIGHT POLES, ETC. DAMAGED DURING RECONSTRUCTION SHALL BE SUPPLIED AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
21. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES, AND FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH ALL WORK INCLUDED UNDER THIS CONTRACT. THE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL SAFETY BARRIERS, WARNING FLASHERS AND THE LIKE, AS REQUIRED BY THE CONDUCT OF THE WORK FOR THE PROTECTION OF WORKERS AND NON-WORKERS ALIKE. THE CONTRACTORS ATTENTION IS DIRECTED TO OSHA REQUIREMENTS.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RESTORATION AND CLEAN UP UPON COMPLETION OF THE PROJECT.
23. ANY POLICE DETAILS REQUIRED SHALL BE INCLUDED IN THE BASE BID CONTRACT PRICE.
24. ALL DISTURBED AREAS SHALL BE LOAMED (6") AND SEEDED.

ROADWAY AND PARKING AREA RECONSTRUCTION NOTES

1. CONTRACTOR SHALL REMOVE & REPLACE EXISTING BITUMINOUS PAVEMENT AND GRAVEL SUBBASE AS NECESSARY AND SHALL PROVIDE A 12" MINIMUM DEPTH OF COMPACTED GRAVEL SUBBASE AND A 4" MINIMUM DEPTH OF BITUMINOUS CONCRETE.
2. THE 4" MINIMUM DEPTH OF BITUMINOUS CONCRETE SHALL CONSIST OF A 2-1/2" BASE COURSE AND A 1-1/2" WEARING COURSE AS SHOWN ON THE TYPICAL DETAIL.
3. THE CONTRACTOR SHALL COMPACT AND FINE GRADE GRAVEL SUBBASE AS SPECIFIED. ALL SUBBASE MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% OF THE STANDARD PROCTOR DENSITY.
4. THE CONTRACTOR SHALL REMOVE & REPLACE THE ENTIRE EXTENT OF EXISTING PAVEMENT MATERIAL AS SHOWN. THE LIMITS (EDGE OF PAVEMENT) OF THE EXISTING PAVED SURFACE ARE SHOWN IN THESE CONSTRUCTION DRAWINGS.
5. IN AREAS WHERE A PARKING OR PAVEMENT EXPANSION IS PROPOSED, THE EXISTING SOILS SHALL BE EXCAVATED TO THE REQUIRED SUBGRADE DEPTH THEN BACKFILLED AND COMPACTED WITH A SUITABLE 12" THICK SUBBASE LAYER.
6. ALL PROPOSED CUTS AND FILLS REQUIRED TO GRADE THE PAVEMENT MATERIAL TO THE REQUIRED DEPTH SHALL BE INCLUDED FOR PAYMENT UNDER THE LUMP SUM CONTRACT PRICE.
7. THE CONTRACTOR SHALL FINE GRADE THE GRAVEL SUBBASE NO MORE THAN 24 HOURS PRIOR TO THE PLACEMENT OF THE BASE COURSE PAVEMENT. ALL GRADING, COMPACTION AND DUST CONTROL ASSOCIATED WITH THE SUBBASE SHALL BE INCLUDED IN THE CONTRACT PRICE.
8. SHOULDERS OF DRIVEWAY AND PARKING AREAS SHALL BE GRADED FOR A SMOOTH TRANSITION FROM THE PROPOSED EDGE OF PAVEMENT/ CURB TO THE EXISTING GRADE.
9. RECONSTRUCTION OF PARKING AREAS SHALL BE IN ACCORDANCE WITH THE TYPICAL DETAIL. THE CONTRACTOR SHALL MAINTAIN THE EXISTING GRADE ELEVATIONS AND SITE DRAINAGE PATTERNS UNLESS OTHERWISE NOTED. ANY GRADING MODIFICATIONS SHALL DIRECT DRAINAGE TOWARDS THE APPROPRIATE AREAS.
10. CROSS SLOPES AT CATCH BASINS SHALL BE ADJUSTED AS NECESSARY TO ASSURE PROPER DRAINAGE.
11. DRAINAGE STRUCTURES SHALL BE ADJUSTED OR REMODELED AS REQUIRED TO MEET GRADE.
12. THE CONTRACTOR SHALL CONTROL DUST DURING CONSTRUCTION. THE COST ASSOCIATED WITH CONTROLLING DUST SHALL BE INCLUDED IN THE CONTRACT PRICE.
13. THE COSTS ASSOCIATED WITH THE EXCAVATION AND DISPOSAL OF MATERIALS SHALL BE INCLUDED IN THE CONTRACT PRICE. EXCAVATED MATERIALS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
14. THE CONTRACTOR SHALL LOAM AND SEED ALL DISTURBED AREAS AND BEHIND CURB.

UTILITY MARKING AND LOCATION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES ON SITE. THE CONTRACTOR SHALL HIRE A PRIVATE MARKING COMPANY TO LOCATE ONSITE UTILITIES. THE COST TO HIRE THE PRIVATE MARKING COMPANY SHALL BE INCLUDED IN THE CONTRACT PRICE.
2. BEFORE CONSTRUCTION CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATEMUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" - 811, OR CUSTOMER SERVICE - 1 (888) 344-7233 HTTP: //WWW.DIGSAFE.COM
3. SUBSURFACE UTILITY LINES, AS SHOWN HEREON, WERE COMPILED ACCORDING TO AVAILABLE RECORD INFORMATION. THE LOCATIONS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. GCG ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITY SERVICES AS SHOWN ON THE PLAN AND BE RESPONSIBLE FOR LOCATING ANY ADDITIONAL SERVICES NOT SHOWN. THE CONTRACTOR SHALL ACCURATELY LOCATE THE EXISTING WATER PIPES THAT HAVE NOT PREVIOUSLY BEEN MARKED OUT WITHIN THE LIMITS OF WORK PRIOR TO CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE MISCELLANEOUS ITEMS PRICE.
5. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO VERIFY UTILITY LINE LOCATIONS AS NECESSARY OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PLAN AND PERFORM TEST PIT EXCAVATION WELL IN ADVANCE OF COMMENCING CONSTRUCTION IN THE GENERAL AREA TO ALLOW TIME TO REVIEW ACTUAL CONDITIONS ENCOUNTERED. THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE.
6. WATER MAINS ARE ASSUMED TO BE 5 FEET BELOW THE EXISTING GROUND SURFACE. GAS LINES ARE ASSUMED TO BE 3 FEET BELOW THE EXISTING GROUND SURFACE. TELEPHONE LINES AND ELECTRIC CONDUIT ARE ASSUMED TO BE 2 FEET BELOW THE EXISTING GROUND SURFACE.
5. EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED OR BRACED AND SUPPORTED AS DIRECTED IN THE FIELD BY THE ENGINEER, UNLESS OTHERWISE INDICATED OR SPECIFIED. THE CONTRACTOR SHALL BE PAID FOR WORK REQUIRED TO SUPPORT OR REMOVE AND REPLACE EXISTING STRUCTURES AND UTILITY LINES ADJACENT TO OR WITHIN THE LIMITS OF TRENCH EXCAVATION UNDER THE MISCELLANEOUS WORK ITEM.
6. DAMAGE TO ANY UTILITY WILL BE REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, IN A TIMELY MANNER SO THAT DISRUPTION OF SERVICE TO ANY UTILITY WILL NOT BE LONGER THAN PRACTICALLY NECESSARY TO REPAIR THE DAMAGE.

FINE GRADING AND COMPACTING

1. THE CONTRACTOR SHALL FINE GRADE AND COMPACT ALL AREAS IN PREPARATION FOR PAVEMENT, INCLUDING, BUT NOT LIMITED TO THE DRIVEWAY AREAS AND TRANSITION DRIVEWAY AREAS. THE CONTRACTOR SHALL ALSO STRAIGHT CUT ALL EXISTING JOINTS AND EDGES IN PREPARATION FOR FINAL PAVEMENT.
2. PAYMENT FOR GRADING AND COMPACTING THE RECONSTRUCTED SIDEWALK SHALL BE INCLUDED IN THE CONTRACT PRICE.
3. PAYMENT FOR FINE GRADING AND COMPACTING THE RECONSTRUCTED DRIVEWAY AND PARKING AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE.

SITE EROSION & SEDIMENT CONTROL NOTES

1. CONSTRUCTION PERIOD SILT SACKS SHALL BE USED AT ALL CATCH BASINS. SILT SACKS SHALL BE KEPT FREE OF SEDIMENT AND DEBRIS, INSPECTED WEEKLY AND REPAIRED PROMPTLY.
2. SEDIMENT AND EROSION CONTROL MULCH FILTER TUBES SHALL BE PLACED UPSTREAM OF PROPOSED INFILTRATION SYSTEM LOCATION AS SHOWN ON THIS PLAN DURING CONSTRUCTION PERIOD. EROSION CONTROLS SHALL BE INSPECTED DAILY FOR SEDIMENT BUILDUP, DAMAGED FILTER TUBES AND FOR EVIDENCE OF RUNOFF BY-PASS AND CLEANED OR REPAIRED IMMEDIATELY.
3. ALL SLOPES AND EXCAVATIONS SHALL BE STABILIZED DURING CONSTRUCTION USING JUTE NETTING AND EROSION CONTROL BLANKETS. INSPECT FOR PROPER GROUND CONTACT. REPLACE DETERIORATED BLANKETS AND ADD LOAM AND RE-SEED ERODED AREAS AND RE-STABLE OR PIN FABRIC MATERIAL AS NEEDED.

SIDEWALK RECONSTRUCTION NOTES

1. RECONSTRUCTION OF SIDEWALKS SHALL BE IN ACCORDANCE WITH THE TYPICAL CROSS SECTION DETAILS.
2. A MINIMUM SIDEWALK WIDTH OF 4' MUST BE MAINTAINED. MATCH EXISTING SIDEWALK WIDTHS WHERE WIDTH IS GREATER THAN 4'.
3. PAVED SIDEWALKS SHALL HAVE A MINIMUM 3" DEPTH CONSISTING OF A 1-1/2" BASE COURSE AND A 1-1/2" SURFACE COURSE.
4. CONTRACTOR SHALL REMOVE & REPLACE THE ENTIRE WIDTH OF EXISTING PAVEMENT OR TOPSOIL & SUBSOIL AND SHALL PROVIDE, AN 8" MINIMUM DEPTH OF GRAVEL BASE AND 3" MINIMUM DEPTH OF HMA SIDEWALK AS SHOWN ON THE TYPICAL SIDEWALK CROSS SECTIONS AND DETAIL. EXCAVATION AND BACKFILL, SUPPLEMENTAL GRAVEL AS NEEDED, PAVING AND DISPOSAL OF SURPLUS MATERIAL SHALL BE INCLUDED IN THE CONTRACT PRICE.
5. THE CONTRACTOR SHALL COMPACT AND FINE GRADE GRAVEL SUBBASE AS SPECIFIED. ALL SUBBASE MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% OF THE STANDARD PROCTOR DENSITY.
6. ALL PROPOSED CUTS AND FILLS REQUIRED TO GRADE THE PAVEMENT MATERIAL TO THE REQUIRED DEPTH SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT PRICE.
7. THE CONTRACTOR SHALL FINE GRADE THE GRAVEL SUBBASE NO MORE THAN 24 HOURS PRIOR TO THE PLACEMENT OF THE BASE COURSE PAVEMENT.
8. ANY STRUCTURES OR GATE BOXES IN SIDEWALKS SHALL BE RESET TO FINISHED GRADE AS PART OF THE CONTRACT PRICE.

GRANITE CURBING NOTES

1. ALL SUPPLEMENTAL GRANITE CURB SHALL BE AS SPECIFIED BY MASSDOT AND SHALL INCLUDE ALL LENGTHS - STRAIGHT, RADIUS AND TRANSITIONS.
2. NEW AND/OR SALVAGED GRANITE CURBING SHALL BE SET IN ACCORDANCE WITH THE CONSTRUCTION DETAIL PROVIDED IN CONTRACT DRAWINGS.

WHEELCHAIR RAMP NOTES

1. ROADWAY SIDEWALK CROSS SLOPES, FOR BRICK, CEMENT CONCRETE, AND BITUMINOUS CONCRETE, AS INDICATED IN THE STANDARD SPECIFICATIONS, WILL BE 1.5%. A CONSTRUCTION TOLERANCE OF ±0.5% IS ACCEPTABLE ON ROADWAY SIDEWALKS. IN ACCORDANCE WITH 521 CMR THE RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB), AND UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS), THE SIDEWALK CROSS SLOPE CANNOT EXCEED 2.0%.
2. AN UNOBSTRUCTED PATH OF TRAVEL WITH A <u>MINIMUM</u> WIDTH OF 3'-3" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS AND MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.).
3. THE WHEELCHAIR RAMP SLOPES AND SIDE SLOPES (TRANSITIONS) WILL BE 7.5% WITH A CONSTRUCTION TOLERANCE OF ±0.5% HOWEVER, THESE SLOPES MAY BE FLATTER WHEN WARRANTED BY SURROUNDING CONDITIONS.
4. IF THE ROAD PROFILE EXCEEDS 4%, THE HIGH SIDE TRANSITION LENGTH UNDER ANY CONDITIONS NEED NOT EXCEED 15'.
5. IN NO CASE WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED ON THE TRAFFIC APPROACH SIDE OF THAT STOP LINE.
6. FIXED OBJECTS (I.E. UTILITY POLES, HYDRANTS, SIGNS, SIGNAL FOUNDATIONS, ETC.) MUST NOT ENCROACH UPON ANY PART OF THE WHEELCHAIR RAMP INCLUDING TRANSITION SLOPES.
7. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP, EXCLUDING CURB TRANSITIONS, TO BE LOCATED OUTSIDE THE CROSSWALK OR PEDESTRIAN TRAVEL PATH. THE WHEELCHAIR RAMP ENTRANCE IS TO BE CENTERED IN THE CROSSWALK OR PEDESTRIAN TRAVEL PATH WHENEVER POSSIBLE.
8. CATCH BASINS WHICH ARE IN THE VICINITY OF A WHEELCHAIR RAMP SHALL BE LOCATED UPGRADE OF THE RAMP ENTRANCE.
9. THE ENTRANCE OF A WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. TESTING SURFACE: WHEN TESTING WITH A STRAIGHTEDGE PLACED PARALLEL TO THE LINE OF THE SLOPE THERE SHALL BE NO DEVIATION FROM A TRUE SURFACE IN EXCESS OF 1/4".

GENERAL PAVING NOTES: ROADWAY/PARKING/SIDEWALKS

1. THE CONTRACTOR SHALL SAW CUT ALL JOINTS IN THE EXISTING PAVEMENT AREAS WHERE THE PROPOSED PAVEMENT WILL MEET EXISTING PAVEMENT TO REMAIN. ALL JOINTS SHALL PROVIDE A SMOOTH TRANSITION BETWEEN NEW AND OLD PAVEMENTS. IMMEDIATELY AFTER PAVING, ALL JOINTS SHALL BE SANDED AND SEALED. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE.
2. THE CONTRACTOR SHALL RESET ALL WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND DRAINAGE FRAMES AND GRATES AND ANY OTHER STRUCTURES, SIGNS, ETC. NECESSARY TO INSTALL THE PROPOSED PAVEMENT TO THE PROPOSED FINISH GRADE ELEVATION. THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE. ALL WORK REQUIRED TO LOWER, RAISE, AND EXTEND THE EXISTING CASTINGS & VALVE BOXES TO THE PROPOSED FINISH GRADE SHALL BE INCLUDED FOR PAYMENT UNDER THE CONTRACT PRICE.
3. THE CONTRACTOR SHALL BE PAID FOR WORK REQUIRED TO SUPPORT OR REMOVE AND REPLACE EXISTING STRUCTURES AND UTILITY LINES ADJACENT TO OR WITHIN THE LIMITS OF WORK UNDER THE LUMP SUM CONTRACT PRICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY RELOCATION OF DUMPSTERS AS NECESSARY TO COMPLETE THE PROPOSED WORK.
5. ALL NEW PAVEMENT STRIPING SHALL BE 4" WIDE PAINTED LINES TO MATCH EXISTING COLOR ON SITE.
6. THE CONTRACTOR SHALL LOAM & SEED ALL DISTURBED AREAS.

CATCH BASIN CLEANING NOTES

1. ALL CATCH BASINS SHALL BE CLEANED UPON COMPLETION OF WORK. ALL ACCUMULATED SEDIMENT, DEBRIS, ORGANIC MATTER, ETC. SHOULD BE REMOVED FROM CATCH BASINS AND DRAINAGE SYSTEMS.
2. ALL SEDIMENT AND DEBRIS REMOVED FROM THE CATCH BASIN OR PIPE LINE SHALL BE PROPERLY HANDLED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.
3. ANY REQUIRED MAINTENANCE OR REPAIRS NOTED DURING CLEANING SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY.

TREE REMOVAL AND TRIMMING NOTES

1. THE CONTRACTOR SHALL REMOVE TREES AND STUMPS AS IDENTIFIED ON PLANS AND SHALL NOT REMOVE ANY TREES UNTIL APPROVED BY THE ENGINEER.
2. ROOTS ON TREES WHICH ARE IMPACTING THE SAFETY OF THE SITE OR AFFECTING WALKWAYS SHALL BE REMOVED BY THE CONTRACTOR. WHEN THE ARBORIST DETERMINES THAT THE NUMBER OF ROOTS REMOVED MAY IMPACT THE LIFE OF THE TREE, THE TREE AND STUMP SHALL BE REMOVED.
3. THE CONTRACTOR SHALL REMOVE OVERGROWN VEGETATION ALONG SITE PERIMETER AS NEEDED.
4. CLEARING AND GRUBBING WITHIN AREAS IDENTIFIED SHALL INCLUDE TRIMMING OF TREES SO THAT LIMBS SHALL NOT EXTEND OVER ANY BUILDING ROOF AND WITHIN 10' OF ANY UTILITY WIRE. TREE LIMBS SHALL ALSO BE TRIMMED WHEN EXTENDING BELOW A HEIGHT OF 10' FROM GROUND LEVEL.
5. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 35907
REGISTERED PROFESSIONAL ENGINEER
6/18/2020

NOTES	
RALPH D. BUTLER ELEMENTARY SCHOOL AVON, MASSACHUSETTS NORFOLK COUNTY	
GCG ASSOCIATES, INC. WILMINGTON MASSACHUSETTS	
SCALE: AS NOTED	DATE: JUNE 18, 2020
JOB NO.\FILE NAME: 1983-DETAILS-2	DESIGNED BY: J.P.G. DRAWN BY: J.P.G. CHECKED BY: M.J.C.
PLAN NO. 2 OF 9	

ABBREVIATIONS

APPROX	APPROXIMATE
BB	BITUMINOUS BERM CURB
BC	BOTTOM OF CURB
BLDG	BUILDING
BIT	BITUMINOUS CONCRETE
CB	CATCH BASIN
CC	CONCRETE CURB
CCB	CAPE COD BERM
CIP	CAST-IN-PLACE
CLF	CHAIN LINK FENCE
CONC	CONCRETE
D	DRAIN
DI	DUCTILE IRON
DRV	DRIVEWAY
DMH	DRAIN MANHOLE
E	ELECTRIC
EMH	ELECTRIC MANHOLE
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
EX	EXISTING
HCR	HANDICAPPED RAMP
HYD	HYDRANT
INV	INVERT
LF	LINEAR FEET
LP	LIGHT POLE
MH	MANHOLE
N/F	NOW OR FORMERLY
NO	NUMBER
PROP	PROPOSED
R	RIM
SMH	SEWER MANHOLE
SPEC	SPECIFICATION
SW	SIDEWALK
TC	TOP OF CURB
TH	THRESHOLD
TYP	TYPICAL
UP	UTILITY POLE
VGC	VERTICAL GRANITE CURB

EXISTING LEGEND

- EXIST. MAG NAIL BENCHMARK
- EXIST. CATCH BASIN
- EXIST. ROUND CATCH BASIN
- EXIST. DRAIN MANHOLE
- EXIST. SEWER MANHOLE
- EXIST. MANHOLE
- EXIST. ELECTRIC MANHOLE
- EXIST. PULL BOX
- EXIST. HYDRANT
- EXIST. WATER GATE VALVE
- EXIST. GAS GATE VALVE
- EXIST. BOLLARD
- EXIST. LIGHT POST
- EXIST. SIGN
- EXIST. FLAG POLE
- EXIST. SITE BENCH
- EXIST. BLDG. (APPROX.)
- EXIST. DRAIN LINE
- EXIST. SEWER LINE
- EXIST. WATER LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. TELEPHONE LINE
- EXIST. PLUMBING
- EXIST. CURB
- EXIST. CHAIN LINK FENCE
- EXIST. VINYL FENCE
- EXIST. WALL
- EXIST. 5' CONTOURS
- EXIST. 1' CONTOURS
- EXIST. SPOT GRADE
- EXIST. TREE W/ DIAMETER
- EXIST. TREE/VEGETATION LINE
- APPROX. ABUTTER LOT LINE

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

EXISTING CONDITIONS PLAN

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1" = 30' DATE: JUNE 18, 2020

JOB NO.\FILE NAME: 1983-DESIGN-2

DESIGNED BY: J.P.G.
DRAWN BY: W.R.H.
CHECKED BY: M.J.C.

PLAN NO. 3 OF 9

COMMONWEALTH OF MASSACHUSETTS — MICHAEL J. CARTER — No. 39007 — REGISTERED PROFESSIONAL ENGINEER

6/18/2020

SITE IMPROVEMENT LEGEND

- FULL DEPTH PAVEMENT CONSTRUCTION 12" GRAVEL BASE; 2" HMA BINDER; 1-1/2" HMA TOP
- CEMENT CONCRETE WALK 8" GRAVEL; 4" CEMENT CONCRETE
- HMA SIDEWALK 8" GRAVEL BASE; 2" BINDER; 1" TOP (FINISH)
- CROSSWALK
- VGC — VERTICAL GRANITE CURB (NEW OR REUSED)

PARKING SUMMARY

EXISTING PARKING SPACES	=	68 SPACES
PARKING PROVIDED		
STANDARD PARKING SPACES	=	162 SPACES
ACCESSIBLE PARKING SPACES	=	7 SPACES
TOTAL PROVIDED SPACES	=	169 SPACES
2013 PARKING IMPROVEMENT PLAN		
STANDARD PARKING SPACES	=	157 SPACES
ACCESSIBLE PARKING SPACES	=	7 SPACES
TOTAL PROVIDED SPACES	=	164 SPACES

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

SITE LAYOUT PLAN

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1" = 30' DATE: JUNE 18, 2020

JOB NO.\FILE NAME: 1983-DESIGN-2
DESIGNED BY: J.P.G.
DRAWN BY: W.R.H.
CHECKED BY: M.J.C.
PLAN NO. 4 OF 9

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 39071
REGISTERED PROFESSIONAL ENGINEER
6/18/2020

SOUTH STREET

SOUTH STREET SIDELINE

PATRICK CLARK DRIVE

RALPH D. BUTLER ELEMENTARY SCHOOL

N/F
JAMES V., JR. &
CLAIRE A. FICARRA
LCC 72231
210 SOUTH STREET
MAP C3 BLOCK 2 LOT 12

N/F
JOHN & JEANNINE IERARDI
LCC 173634
208 SOUTH STREET
MAP C3 BLOCK 2 LOT 11

N/F
GEORGE J. & JUSTINA A. LEURINI
LCC 123873
186 SOUTH STREET
MAP C3 BLOCK 2 LOT 10

N/F
PAUL E. & LAURA A. MCCARTHY
LCC 191789
160 SOUTH STREET
MAP C3 BLOCK 2 LOT 9

N/F
TOWN OF AVON
BOOK/PAGE 37251/312
144 & 156 SOUTH STREET
MAP C3 BLOCK 2 LOT 14 & 6

N/F
JOHN M. & LYNA
BOOK/PAGE 2
1 LEO'S L
MAP C3 BLOCK

N/F
SHARON A. & PAUL A. KONOWICZ
AND NICHOLAS S. CELIA
BOOK/PAGE 31517/20
3 LEO'S LANE
MAP C3 BLOCK 2 LOT 5

N/F
CHARLES M. & JOYCE ZYMARIS
BOOK/PAGE 7090/76
7 LEO'S LANE
MAP C3 BLOCK 2 LOT 3

PETER M. & ROS
BOOK/PAG
5 LEO
MAP C3 BL

100 FOOT WETLAND BUFFER
WETLAND DELINEATION TRACED FROM PLAN
ENTITLED "PARKING IMPROVEMENT PLAN FOR
THE RALPH D. BUTLER ELEMENTARY SCHOOL"
BY E.T. ENGINEERING ENT., INC.,
DATED 9/11/2007

INFILTRATION BASIN 3

INFILTRATION BASIN 4

LIMIT OF WORK

LIMIT OF WORK (TYP.)

SAWCUT EXISTING PAVEMENT

INSTALL SILT SACK IN CB

TEMPORARY CRUSHED STONE CONSTRUCTION VEHICLE ENTRANCE/EXIT

EROSION CONTROL FILTER TUBE (TYP.)

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

PROPOSED LIGHT (TYP.)

4" MAINTENANCE DRAIN PIPE AND VALVE INV=203.50

EROSION CONTROL FILTER TUBE (TYP.)

RIP–RAP OVERFLOW ELEV.=205.20

DCS
RIM=205.30
INV=203.49

SEDIMENT FOREBAY

FOREBAY 4A
205.80

TC 206.15
BC 205.82
NO CURB

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

EROSION CONTROL FILTER TUBE (TYP.)

EXISTING BUILDINGS TO BE RAZED BY OTHERS

PROPOSED TREE LINE

10' WIDE ACCESS PATH

4:1 SLOPE

3:1 SLOPE

EROSION CONTROL FILTER TUBE (TYP.)

SEDIMENT FOREBAY

FOREBAY 3A
205.45

FOREBAY 3B
205.45

STONE LEVEL SPREADER

8" HDPE
S=0.01 FT/FT

CONVERT TO DMH
RIM=206.8
8" CORE INV=200.35

TC 206.00
BC 205.50

TC 206.00
BC 205.50

RIP–RAP OVERFLOW ELEV.=204.00

DCS
OVERFLOW GRATE=204.5
INV=201.8(OUT)

4" MAINTENANCE DRAIN PIPE AND VALVE INV=202.50

INSTALL SILT SACK IN CB

CB
RIM=204.59
INV=200.44

PROPOPSED LIGHT (TYP.)

TC 207.50
BC 207.00

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

RIDGE LANE

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND. (TYP.)

REM. & RESET HYDRANT

H.P.

EROSION CONTROL FILTER TUBE (TYP.)

REM. LIGHT

204.90
INSTALL SILT SACK IN CB

PROPOSED HANDHOLE (TYP.)

REM. LIGHT

TC=205.00
BC=204.50
205.08

CB–D
RIM=204.03
INV(a)=200.33
INV(b)=199.23
INV(c)=199.13

PROPOSED LIGHT (TYP.)

LIMIT OF WORK (TYP.)

LIMIT OF WORK (TYP.)

REM. & REPLACE FRAME AND GRATE ADJUST RIM TO 204.50

REM. FRAME AND GRATE REPLACE WITH NEW FRAME & SOLID COVER ADJUST RIM TO

INSTALL SILT SACK IN CB

CB–RND
RIM=204.55
INV(a)=200.30
INV(b)=197.75
INV(c)=197.65

12" HDPE
S=0.01 FT/FT

CONVERT CB TO DMH NEW FRAME & COVER
RIM=204.26
INV=199.94

REM. FRAME AND GRATE REPLACE WITH NEW FRAME & SOLID COVER ADJUST RIM TO

INSTALL SILT SACK IN CB

CB–RND
RIM=203.95
INV(a)=199.95
INV(b)=196.85
INV(c)=200.60
INV(d)=200.60
INV(e)=196.75

DMH
RIM=203.70
INV=196.30

WATER QUALITY DEVICE
RIM=204.00
INV=196.25(IN)
INV=196.17(OUT)

EROSION CONTROL FILTER TUBE (TYP.)

50 FOOT BUFFER

100 FOOT BUFFER

25 FOOT BUFFER

EXISTING HEADWALL
INV=195.66

INTERMITTENT STREAM
(DRAINS TO SEARLES BROOK)

PROPOSED HANDHOLE (TYP.)

PROPOPSED LIGHT (TYP.)

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

STONE LEVEL SPREADER

12" HDPE
S=0.01 FT/FT

TC 206.15
BC 205.82

HIGH POINT
BC=108.0
1% FROM 107

HIGH POINT
ELEV=207.3

HIGH POINT
ELEV=207.3

HIGH POINT
RIDGE LINE
ELEV=207.5

PROPOSED LIGHT (TYP.)

MOVED TO ACTUAL TEST LOCATION ON 7/13/2020

NO CURB

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

PROPOSED ELECTRIC METER AND PEDESTAL

EROSION CONTROL FILTER TUBE (TYP.)

PROP. 3" PVC ELECTRIC CONDUIT 2–#4, 1–#4 GND (TYP.)

PROPOSED LIGHT (TYP.)

REM. CB
CB–D
RIM=204.01
INV=199.81
12" CLAY

CB
RIM=204.06
INV=199.86

12" HDPE DRAIN

CB
RIM=203.60
INV=197.60

12" HDPE

SAWCUT EXISTING PAVEMENT

LINE OF EASEMENT

50' WATER & FOOT PATH EASEMENT

PROPERTY LINE

LINE OF

WOODEN FENCE

HEDGE ROW

BLDR (TYP.)

RALPH D. BUTLER ELEMENTARY SCHOOL

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

SITE UTILITY AND GRADING PLAN

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 39907
REGISTERED PROFESSIONAL ENGINEER

6/18/2020

GCG ASSOCIATES, INC.

WILMINGTON MASSACHUSETTS

SCALE: 1" = 30' DATE: JUNE 18, 2020

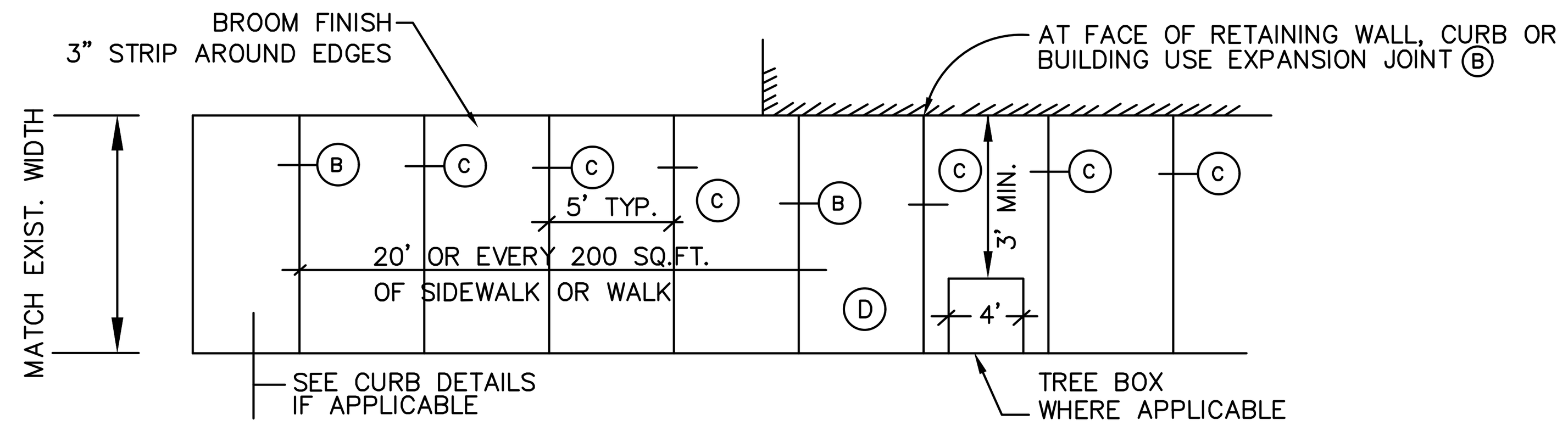
JOB NO.\FILE NAME: 1983–DESIGN–2

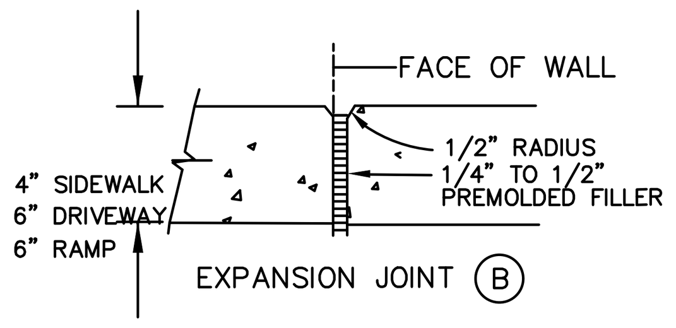
DESIGNED BY: J.P.G.
DRAWN BY: W.R.H.
CHECKED BY: M.J.C.

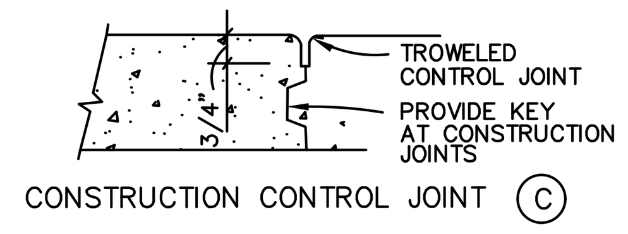
PLAN NO.
5 OF 9

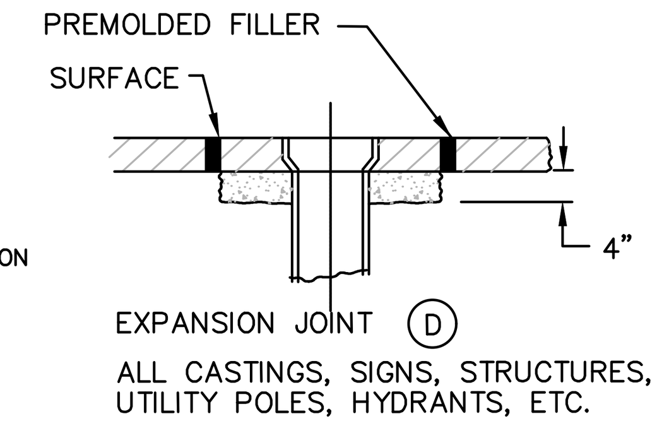
Tab: SHT 05 UTIL Plot Style: GCG-2018-COLOR.ctb Plotted By: John Gothwall

1983-DESIGN-2.dwg Saved: 7/13/2020 5:04 PM Plotted: Jul 13, 2020 5:04 pm







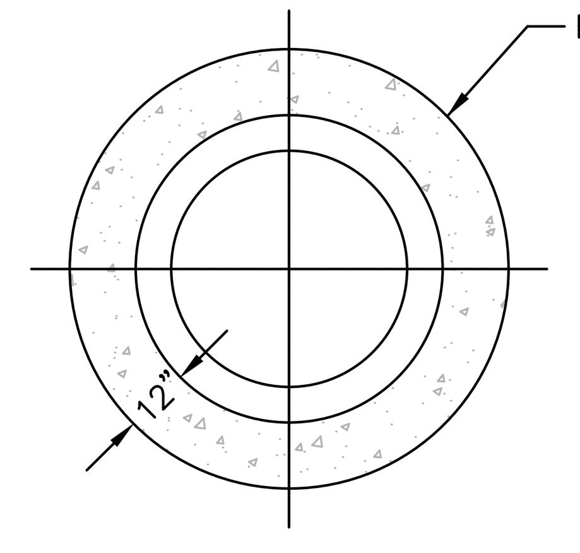


NOTE:

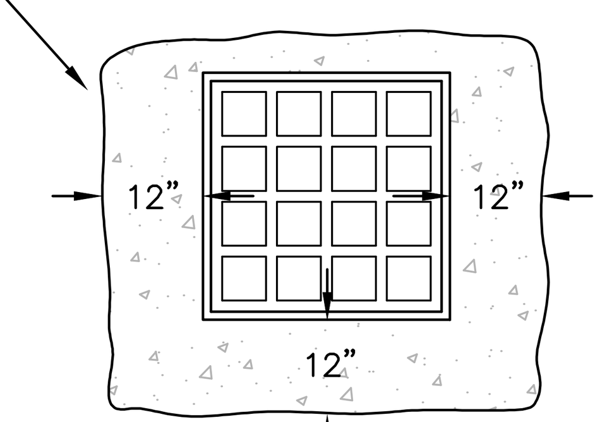
1. EXPANSION JOINT PREMOLDED FILLER SHALL BE 1/4" TO 1/2" THICK AND CUT TO APPROPRIATE HEIGHT SO FIELD CUTTING IS NOT REQUIRED.
2. SELF-LEVELING SILICONE JOINT SEALANT SHALL BE PLACED AT EXPANSION JOINTS OVER PREMOLDED FILLER.

TYPICAL CEMENT CONCRETE SIDEWALK PLAN

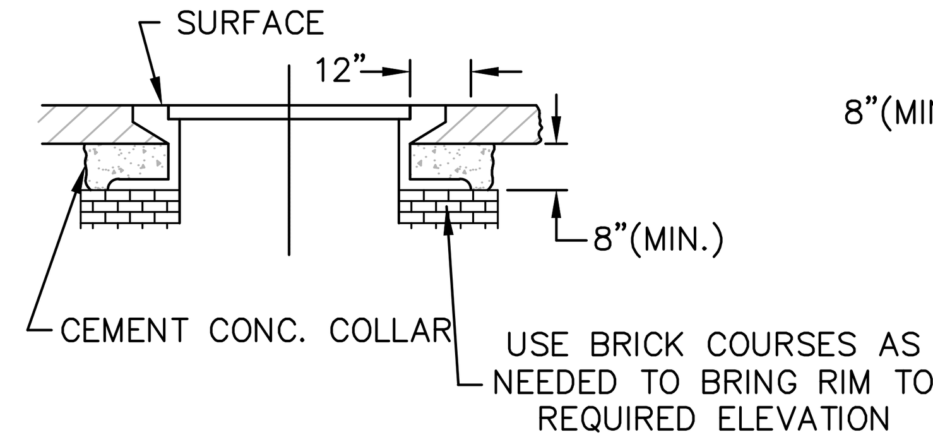
N.T.S.



PLAN

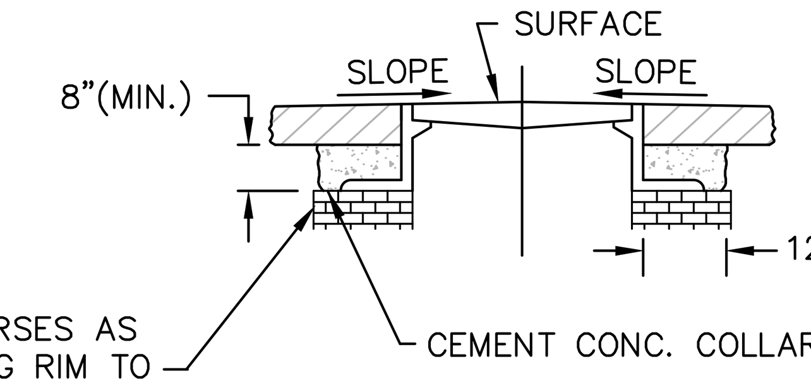


PLAN



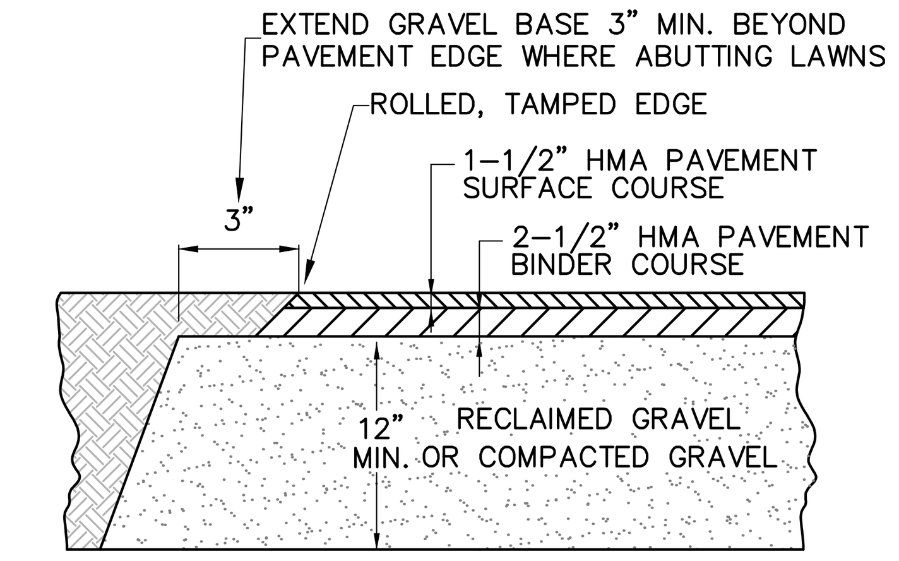
SECTION

MANHOLES



SECTION

CATCH BASINS

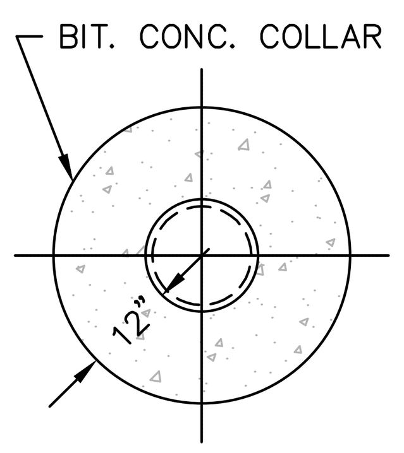


NOTES:

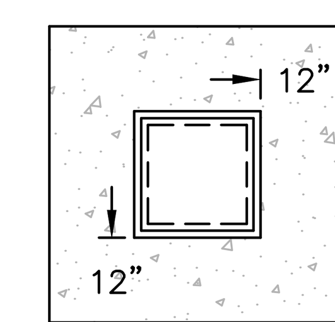
1. PRIOR TO COMPLETING FINAL GRADING OF THE RECLAIMED BASE COURSE THE ENGINEER SHALL REVIEW GRADES TO DETERMINE THAT SUFFICIENT DRAINAGE PATTERNS AND CURB REVEAL ARE MAINTAINED. IF GRADES NEED TO BE ADJUSTED, THE CONTRACTOR SHALL REGRADE AS DIRECTED. THE COST TO PERFORM THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE.
2. PROVIDE JOINT SEALANT WHERE PAVING ABUTS CURBING, WALLS, STEPS, CASTINGS, ETC.

TYPICAL DRIVEWAY PAVEMENT SECTION

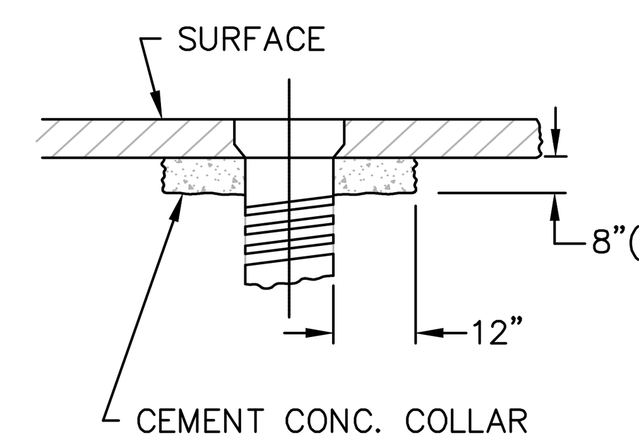
N.T.S.



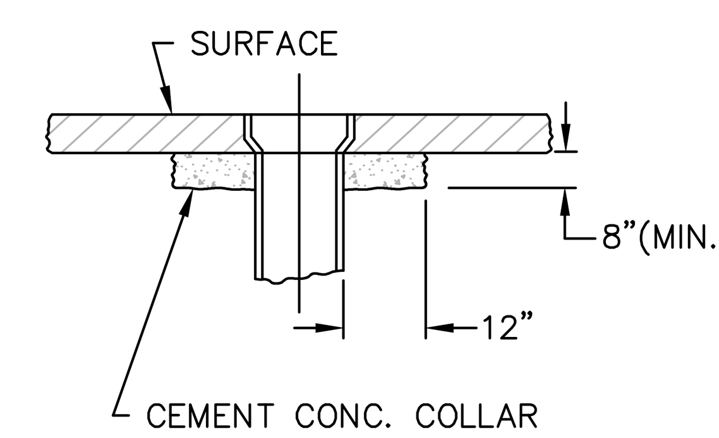
PLAN



PLAN



SECTION

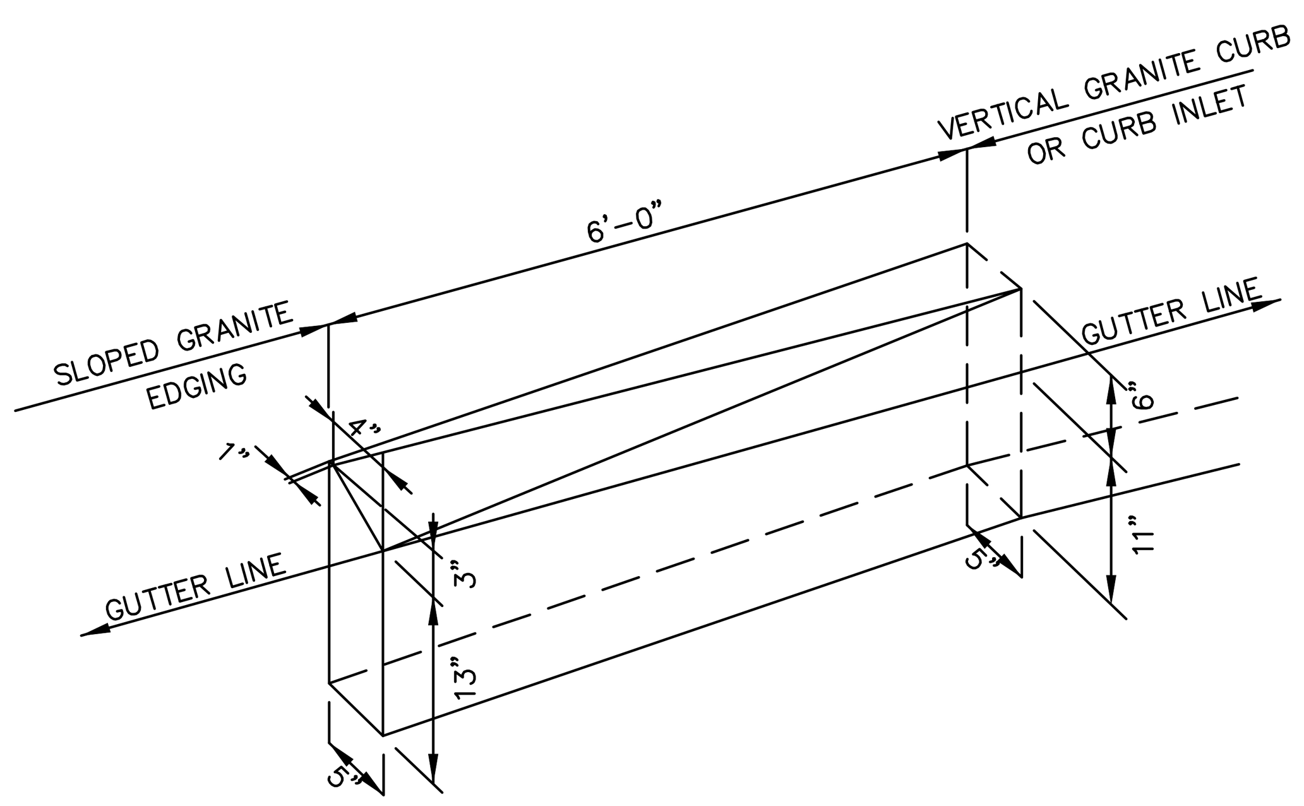


SECTION

WATER SERVICE BOXES

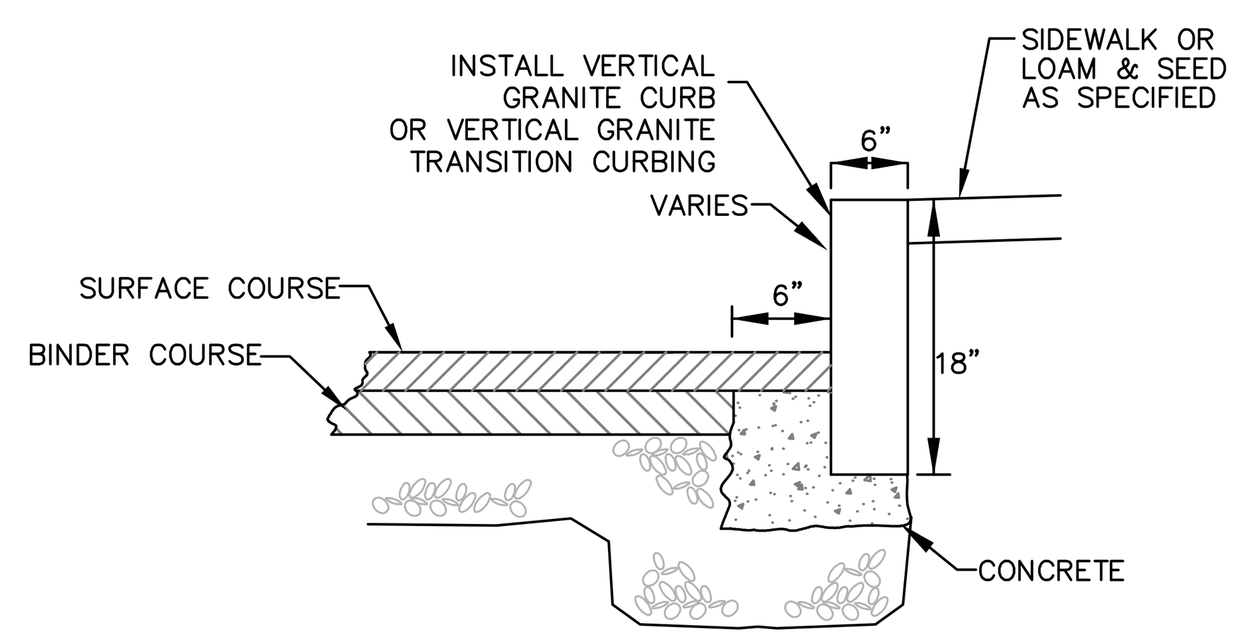
DETAILS FOR RAISING CASTINGS

N.T.S.



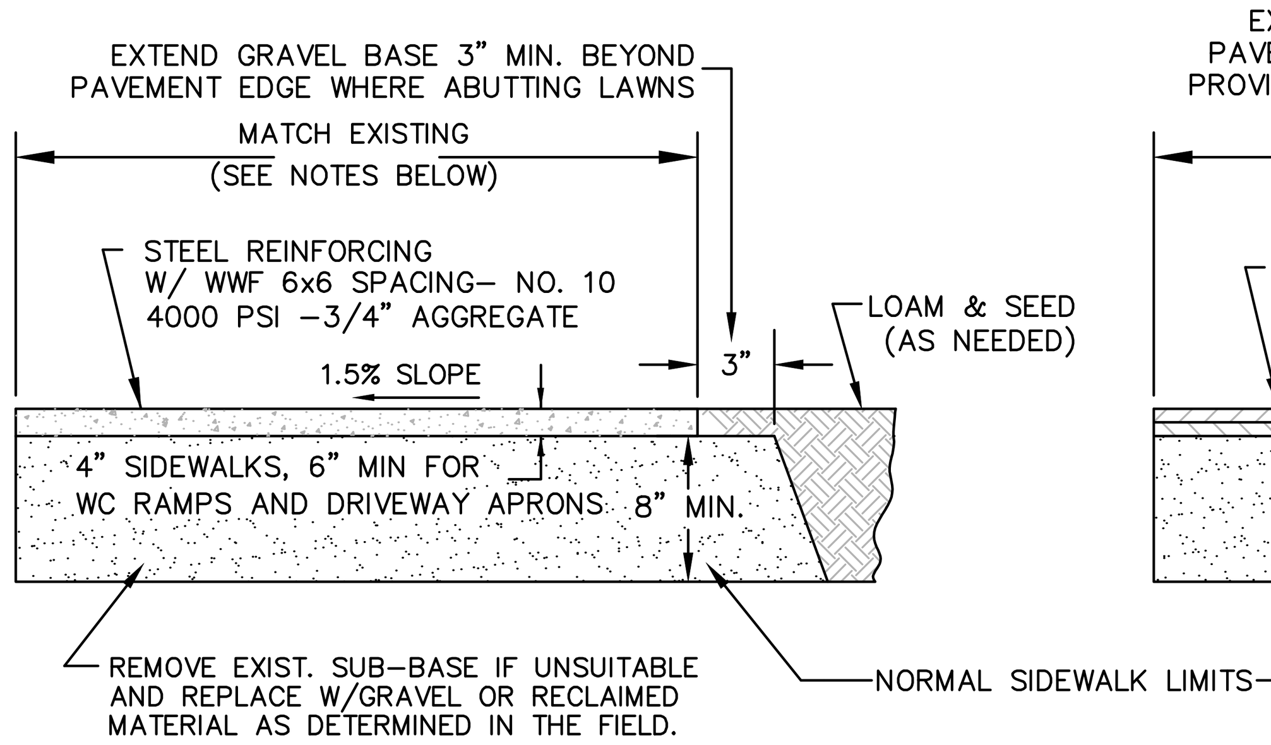
DETAIL FOR GRANITE TRANSITION CURB – SPLAYED END ISOMETRIC VIEW

N.T.S.



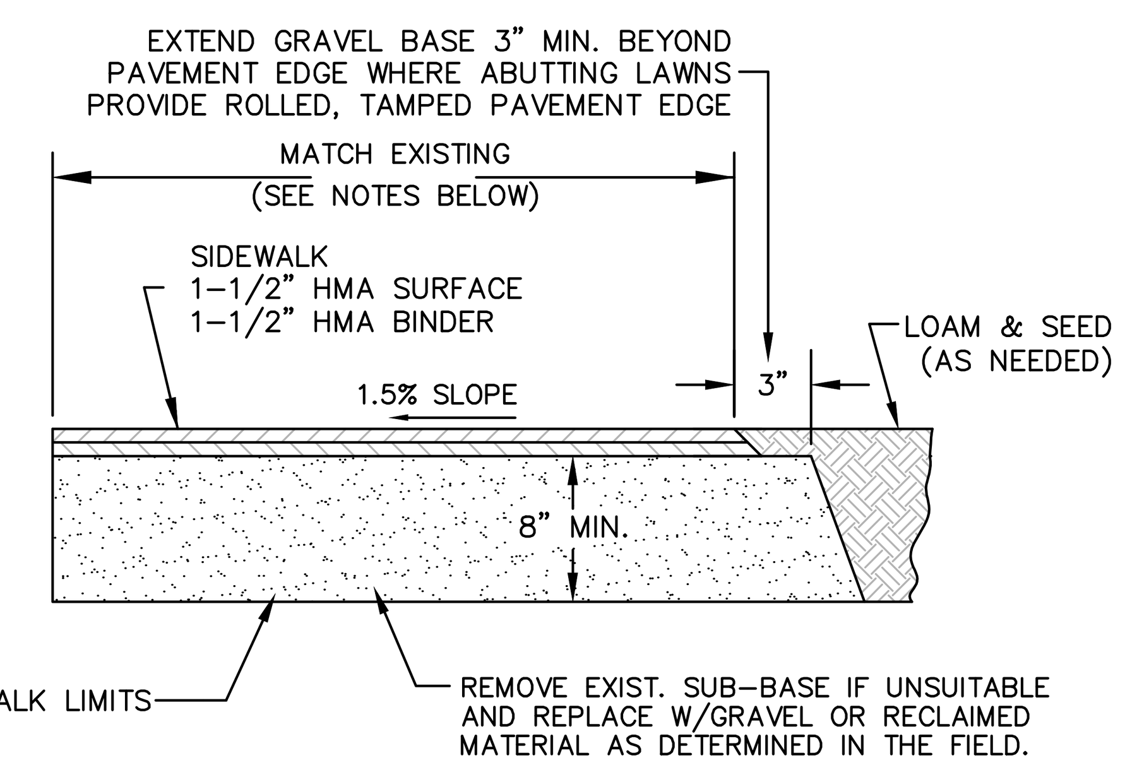
VERTICAL GRANITE CURB

N.T.S.



EXTEND GRAVEL BASE 3" MIN. BEYOND PAVEMENT EDGE WHERE ABUTTING LAWNS
MATCH EXISTING (SEE NOTES BELOW)
STEEL REINFORCING W/ WWF 6x6 SPACING– NO. 10
4000 PSI –3/4" AGGREGATE
1.5% SLOPE
3"
LOAM & SEED (AS NEEDED)
4" SIDEWALKS, 6" MIN FOR WC RAMPS AND DRIVEWAY APRONS
8" MIN.
REMOVE EXIST. SUB-BASE IF UNSUITABLE AND REPLACE W/GRAVEL OR RECLAIMED MATERIAL AS DETERMINED IN THE FIELD.
NORMAL SIDEWALK LIMITS

CEMENT CONCRETE



EXTEND GRAVEL BASE 3" MIN. BEYOND PAVEMENT EDGE WHERE ABUTTING LAWNS PROVIDE ROLLED, TAMPED PAVEMENT EDGE
MATCH EXISTING (SEE NOTES BELOW)
SIDEWALK
1-1/2" HMA SURFACE
1-1/2" HMA BINDER
1.5% SLOPE
3"
LOAM & SEED (AS NEEDED)
8" MIN.
REMOVE EXIST. SUB-BASE IF UNSUITABLE AND REPLACE W/GRAVEL OR RECLAIMED MATERIAL AS DETERMINED IN THE FIELD.

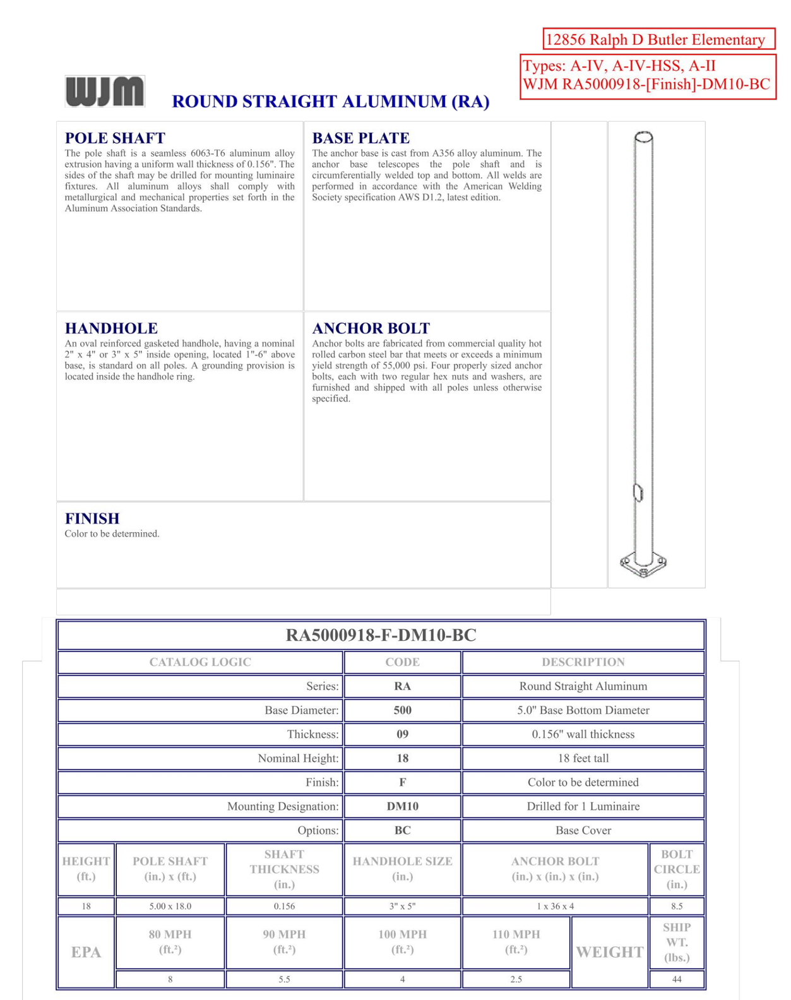
HMA PAVEMENT

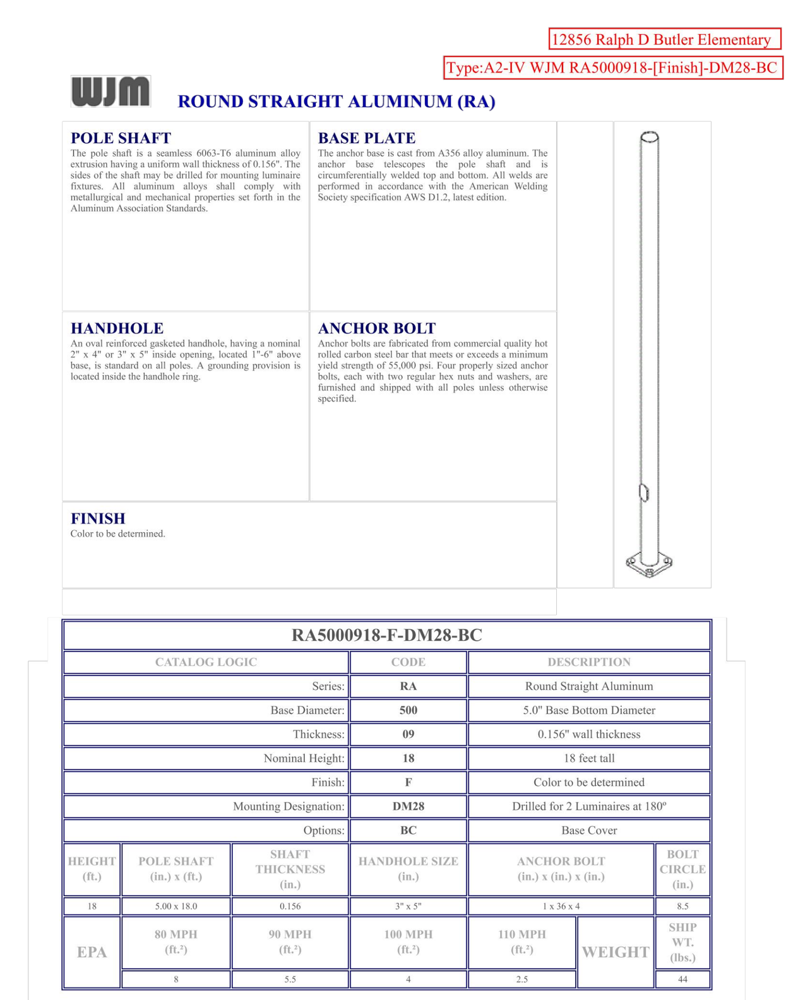
NOTES:

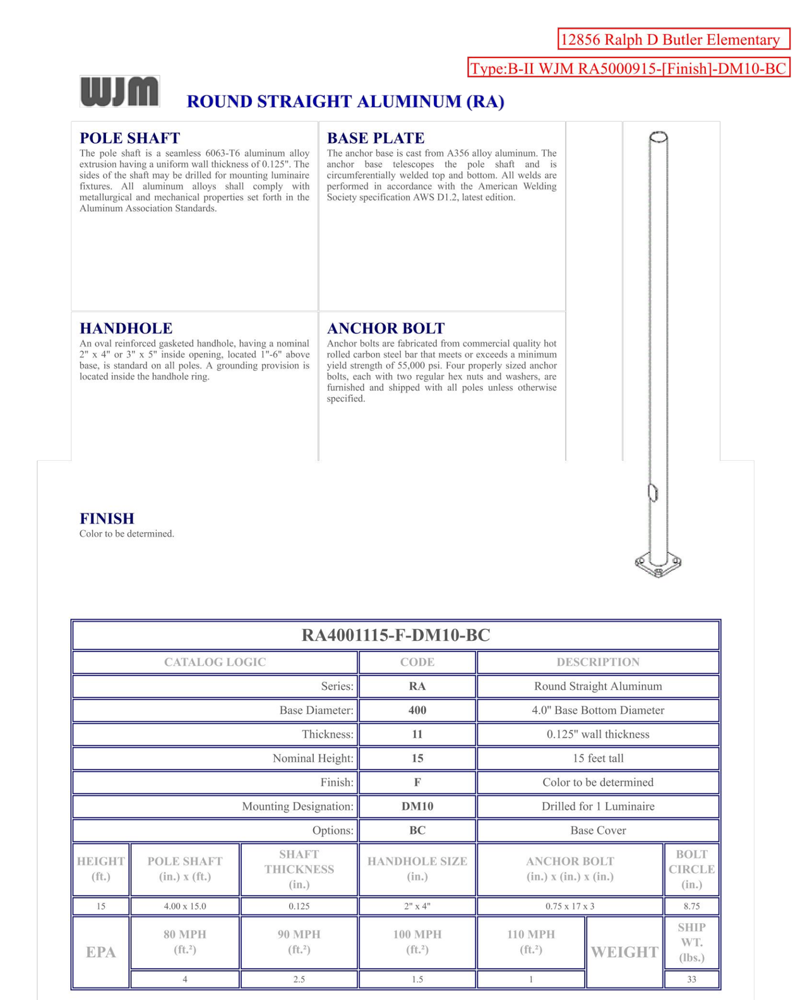
1. GRAVEL IN AREAS OF EXISTING SIDEWALKS WHICH ARE BEING REMOVED OR REPLACED IN THE SAME LOCATION SHALL BE REGRADED AND SUPPLEMENTAL GRAVEL REGRADED ADDED. ADDITIONAL GRAVEL REGRADED SHALL BE INCLUDED IN THE CONTRACT PRICE.
2. EXCAVATION AND PLACEMENT OF GRAVEL REQUIRED FOR NEW SIDEWALKS, WIDENING SIDEWALKS AND PAVED AREA SHALL BE INCLUDED IN THE CONTRACT PRICE. DISPOSAL OF THE EXCAVATED MATERIAL SHALL ALSO BE INCLUDED IN THE CONTRACT PRICE.
3. REMOVAL OF STUMPS AND CUTTING AND DISPOSAL OF ROOTS SHALL BE INCLUDED IN THE CONTRACT COST TO CONSTRUCT WALKWAYS.
4. PROVIDE JOINT SEALANT WHERE PAVING ABUTS CURBING, WALLS, STEPS, CASTINGS, ETC.

SIDEWALK DETAIL

N.T.S.







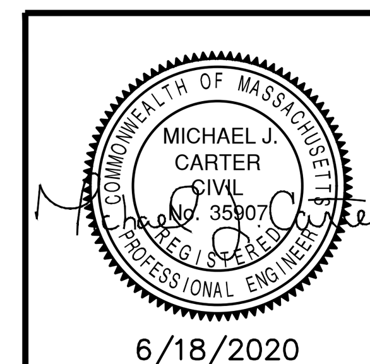
LIGHT POLES

N.T.S.

12856 Ralph D Butler Elementary
PEMCO Est. 1882
LIGHTING PRODUCTS
A QSSI COMPANY
ENTERPRISE 30
STREET & AREA LIGHTING
Type A-IV Pemco ENT30-D-1X100-[Driver]-4K-C-[Color]
Type A-IV-HSS Pemco ENT30-D-1X100-[Driver]-4K-C-[Color]-HSS
Type A-II Pemco ENT30-B-1X100-[Driver]-4K-C-[Color]
Type B-II Pemco ENT30-B-1X37-[Driver]-4K-C-[Color]
Type A2-IV Pemco ENT30-D-1X100-[Driver]-4K-C-[Color] (2@180°)
ORDERING FORMAT Example: ENT30F1X140U5KCBSP
ENT30

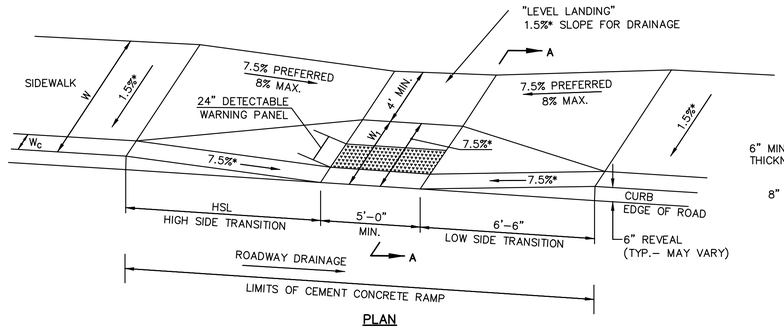
LIGHT FIXTURE

N.T.S.

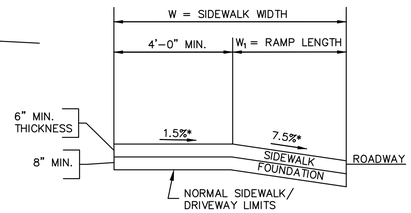


6/18/2020

CONSTRUCTION DETAILS	
RALPH D. BUTLER ELEMENTARY SCHOOL AVON, MASSACHUSETTS NORFOLK COUNTY	
GCG ASSOCIATES, INC. WILMINGTON MASSACHUSETTS	
SCALE: AS NOTED	DATE: JUNE 18, 2020
JOB NO.\FILE NAME: 1983-DETAILS-2	DESIGNED BY: J.P.G. DRAWN BY: J.P.G. CHECKED BY: M.J.C.
PLAN NO.	6 OF 9

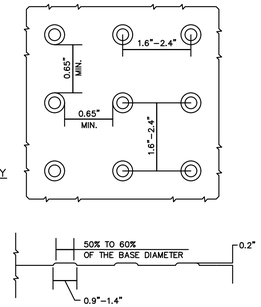


PLAN



* = TOLERANCE FOR CONSTRUCTION ±0.5%
USEABLE SIDEWALK WIDTH PER ABB = W–Wc
RAMP LENGTH, W1 = W – (4'–0") MIN.

SECTION A–A



STAMPED CONCRETE
DETECTABLE WARNING PANEL

N.T.S.

DETAIL NOTES:

1. ALL HANDICAP RAMPS SHALL BE PORTLAND CEMENT CONCRETE 6" THICK.
2. CURBING FOR ALL CONCRETE RAMPS SHALL BE VERTICAL GRANITE CURB.
3. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
4. RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK; e.g DEPTH OF SURFACES.
5. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
6. THESE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE.

ROADWAY PROFILE GRADE %	*HIGH SIDE TRANSITION LENGTH
0	6'–6"
> 0 – 1	7'–8"
> 1 – 2	9'–0"
> 2 – 3	11'–0"
> 3 – 4	14'–0"
> 4	15'–0" MAX.

* BASED ON DESIGN SLOPE = 7.5% AND A CURB REVEAL OF 6".

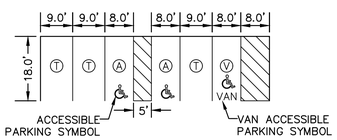
CURB TRANSITION LENGTH
FOR WHEELCHAIR RAMPS

WHEELCHAIR RAMP NOTES

1. ROADWAY SIDEWALK CROSS SLOPES, FOR BRICK, CEMENT CONCRETE, AND HMA, AS INDICATED IN THE STANDARD SPECIFICATIONS, WILL BE 1.5%. A CONSTRUCTION TOLERANCE OF ±0.5% IS ACCEPTABLE ON ROADWAY SIDEWALKS. IN ACCORDANCE WITH 521 CMR THE RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB), THE SIDEWALK CROSS SLOPE CANNOT EXCEED 2.0%.
2. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'–3" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS AND MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.).
3. THE WHEELCHAIR RAMP SLOPES AND SIDE SLOPES (TRANSITIONS) WILL BE 7.5% WITH A CONSTRUCTION TOLERANCE OF ±0.5%. HOWEVER, THESE SLOPES MAY BE FLATTER WHEN WARRANTED BY SURROUNDING CONDITIONS.
4. IF THE ROAD PROFILE EXCEEDS 4%, THE HIGH SIDE TRANSITION LENGTH UNDER ANY CONDITIONS NEED NOT EXCEED 15'.
5. IN NO CASE WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED ON THE TRAFFIC APPROACH SIDE OF THAT STOP LINE.
6. FIXED OBJECTS (I.E. UTILITY POLES, HYDRANTS, SIGNS, SIGNAL FOUNDATIONS, ETC.) MUST NOT ENCROACH UPON ANY PART OF THE WHEELCHAIR RAMP INCLUDING TRANSITION SLOPES.
7. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP, EXCLUDING CURB TRANSITIONS, TO BE LOCATED OUTSIDE THE CROSSWALK OR PEDESTRIAN TRAVEL PATH. THE WHEELCHAIR RAMP ENTRANCE IS TO BE CENTERED IN THE CROSSWALK OR PEDESTRIAN TRAVEL PATH WHENEVER POSSIBLE.
8. CATCH BASINS WHICH ARE IN THE VICINITY OF A WHEELCHAIR RAMP SHALL BE LOCATED UPGRADE OF THE RAMP ENTRANCE.
9. THE ENTRANCE OF A WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. TESTING SURFACE: WHEN TESTING WITH A STRAIGHTEDGE PLACED PARALLEL TO THE LINE OF THE SLOPE THERE SHALL BE NO DEVIATION FROM A TRUE SURFACE IN EXCESS OF 1/4".
11. SIDEWALK CONSTRUCTION SHALL BE IN CONFORMANCE WITH MASS HIGHWAY CONSTRUCTION STANDARDS FOR WHEELCHAIR RAMPS.

TYPICAL WHEELCHAIR RAMP CONDITION

N.T.S.

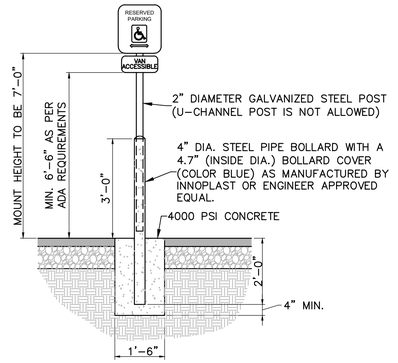


90° PARKING

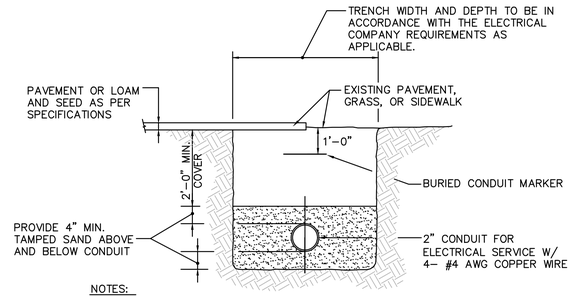
A – ACCESSIBLE PARKING SPACE
T – TYPICAL PARKING SPACE
V – VAN ACCESSIBLE PARKING SPACE

NOTES:
1. TYPICAL PARKING SPACE DIMENSIONS TO CORRESPOND WITH TOWN OF AVON, MASSACHUSETTS, PARKING DESIGN STANDARDS.
1. VAN ACCESSIBLE SPACES MUST HAVE AN 8' WIDE ACCESS AISLE.
2. ALL OTHER ACCESS AISLES SHALL BE 5' WIDE, MINIMUM.
3. TYPICAL PARKING STALLS SHALL BE 9' WIDE UNLESS NOTED ON THE PLANS.
4. ACCESSIBLE SPACES AND AISLES 2% MAX SLOPE IN ANY DIRECTION

TYPICAL LINE STRIPING DETAIL
NOT TO SCALE

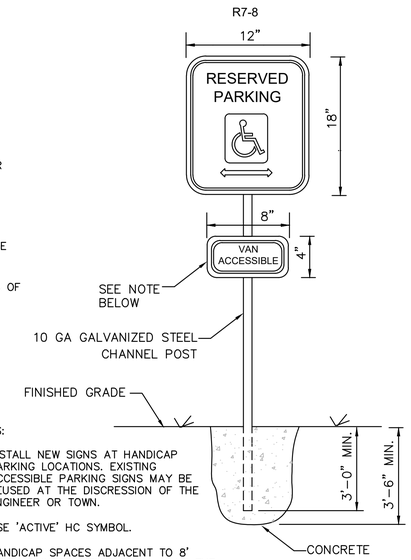


BOLLARD MOUNTED HANDICAP SIGN
AND FOOTING DETAIL
N.T.S.



NOTES:
1. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THE REQUIREMENTS OF THE TOWN ELECTRICAL INSPECTOR AND PAY ALL PERMIT AND INSPECTION FEES.

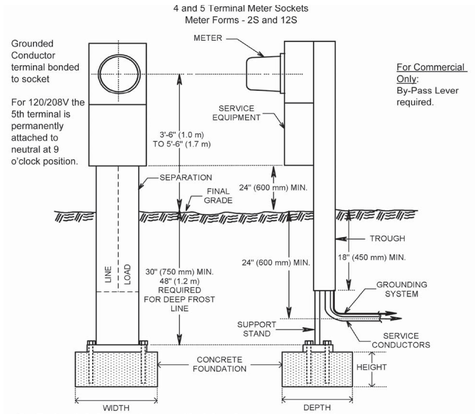
TYPICAL ELECTRICAL CONDUIT DETAIL
N.T.S.



NOTES:
1. INSTALL NEW SIGNS AT HANDICAP PARKING LOCATIONS. EXISTING ACCESSIBLE PARKING SIGNS MAY BE REUSED AT THE DISCRESSION OF THE ENGINEER OR TOWN.
2. USE 'ACTIVE' HC SYMBOL.
3. HANDICAP SPACES ADJACENT TO 8' WIDTH PAINTED AISLES SHALL HAVE THE ADDITIONAL VAN ACCESSIBLE SIGN, R7–8A.
4. SIGNAGE SHALL COMPLY WITH 521 CMR 23.6. SUCH SIGN SHALL BE NO LESS THAN FIVE FEET NOR MORE THAN EIGHT FEET TO THE TOP OF THE SIGN.

HANDICAP SIGN AND FOOTING DETAIL
N.T.S.

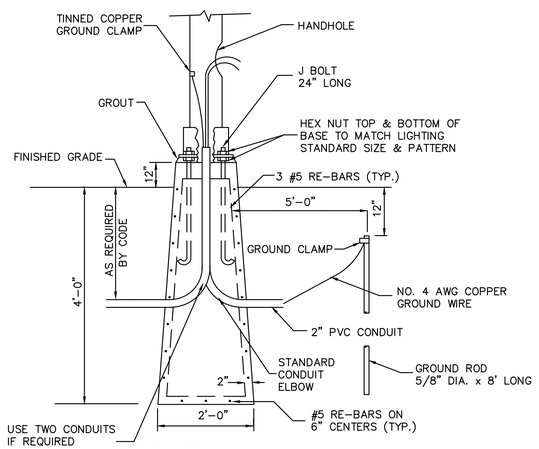
Figure 7.3-8 Typical Residential or Commercial Service Pedestal Single Phase Service 120/240 Volt 200 Amp and 120/208 Volt 100 Amp, 3 Wire Figure



✓Applications include mobile homes, residential, and small commercial service.
✓Grounding system installed as required by NEC.
✓Underground service conductors to handhole or transformer by Customer for residential may be installed direct-buried or in a complete cable-in-conduit system according to the NEC. Conduit is required for commercial. Metered and unmetered conductors shall not occupy same raceway. Six inch (150mm) minimum cable separation between line and load cables in common trench.
✓Concrete footing minimum dimensions shown for a single pedestal [28" (710mm) wide, 18" (450mm) deep, 12" (300mm) high] greater size footing required for multiple or larger pedestal units.
✓Service pedestal to be furnished, installed and maintained by Customer. Pedestal shall meet Table 7.2.-2 for meter socket section. Pedestal location shall be accepted by the Company.
✓Other service supports may be considered. Prior approval is required from the Company.

See Tables 7.2-1 through 7.2-3 for further details on application, requirements, and responsibilities.

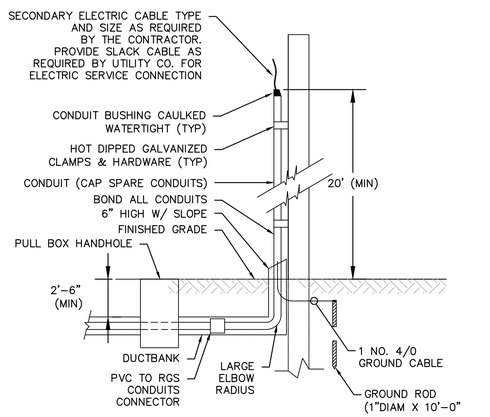
ELECTRIC METER AND PEDESTAL
N.T.S.



ELEVATION A – A

NOTES:
1. THE LIGHTING FOUNDATION SHOWN IS FOR REFERENCE PURPOSES. THE ACTUAL LIGHT FOUNDATION DESIGN IS SUBJECT TO CHANGE BASED ON FINAL POLE AND FIXTURE SELECTION AND GEOTECHNICAL SITE INVESTIGATION.
2. IF LEDGE IS ENCOUNTERED THE BASE SHALL BE ADJUSTED AND ANCHORED TO THE LEDGE.
3. THE CONTRACTOR MAY SUBSTITUTE A CAST IN PLACE BASE.

PRECAST LIGHTING FOUNDATION
N.T.S.



NOTE:
1. PULL BOXES AND COVER SHALL BE H2424–36 OR EQUAL AS MANUFACTURED BY OLD CASTLE.

ELECTRIC POWER/CTV
SERVICES UTILITY POLE DETAIL
SCALE: N.T.S.

CONSTRUCTION DETAILS

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 39907
REGISTERED PROFESSIONAL ENGINEER
6/18/2020

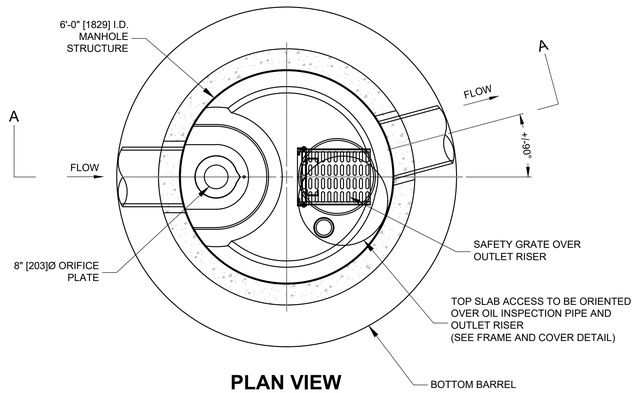
GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: AS NOTED DATE: JUNE 18, 2020

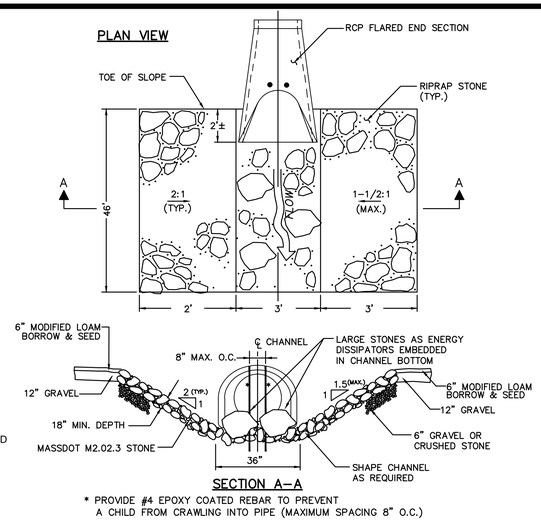
JOB NO.\FILE NAME: 1983–DETAILS–2
DESIGNED BY: J.P.G.
DRAWN BY: J.P.G.
CHECKED BY: M.J.C.
PLAN NO. 7 OF 9

Tab: SHT 7.DETAILS Plot Style: GCG-2016.ctb Plotted By: John Gelinas

1983-DETAILS-2.dwg Saved: 7/13/2020 5:05 PM Plotted: Jul 13, 2020 5:06 pm

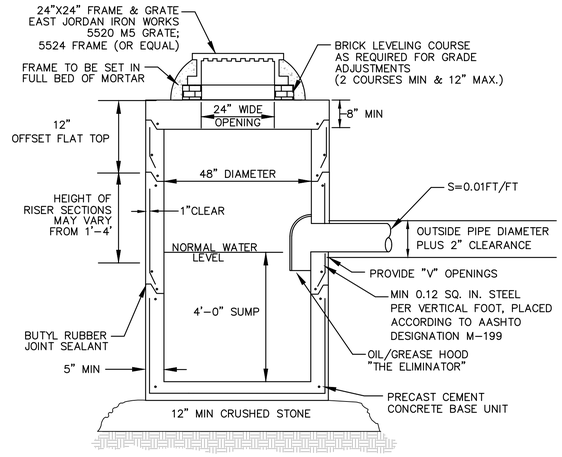


PLAN VIEW
TOP SLAB NOT SHOWN

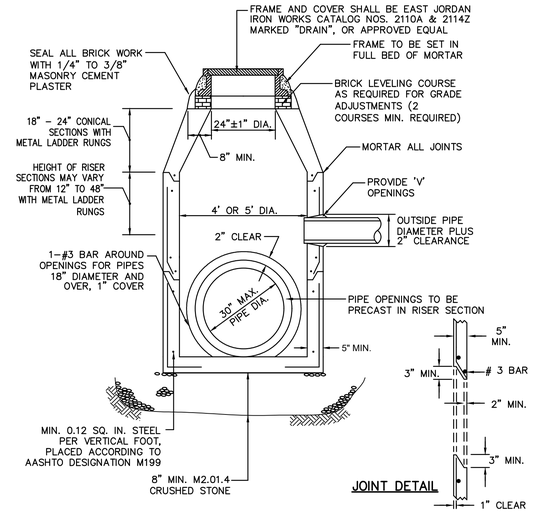


* PROVIDE #4 EPOXY COATED REBAR TO PREVENT
A CHILD FROM CRAWLING INTO PIPE (MAXIMUM SPACING 8" O.C.)

RIP-RAP VELOCITY DISSIPATOR
N.T.S.



PRECAST CONCRETE CATCH BASIN W/4' SUMP
N.T.S.



PRECAST CONCRETE DRAIN MANHOLE
N.T.S.

SECTION A-A

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STORMCEPTOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

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

STORMCEPTOR MODEL STC2400
STANDARD DETAIL
N.T.S.

FRAME AND COVER
(MAY VARY)
NOT TO SCALE

TYPICAL DRAIN TRENCH DETAIL
N.T.S.

SEWER MANHOLE FRAME AND COVER SHALL
BE EAST JORDAN IRON WORKS CATALOG
NOS. 2110A & 2114Z MARKED "SEWER", OR
APPROVED EQUAL

SEWER MANHOLE FRAME AND COVER
N.T.S.

CONCRETE UTILITY SUPPORT
NTS

CONSTRUCTION DETAILS

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

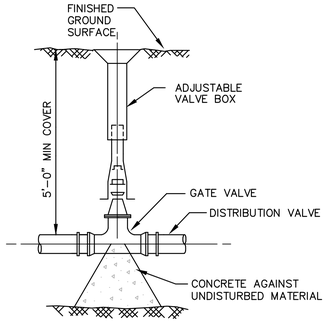
SCALE: AS NOTED DATE: JUNE 18, 2020

JOB NO.\FILE NAME: 1983-DETAILS-2
DESIGNED BY: J.P.G.
DRAWN BY: J.P.G.
CHECKED BY: M.J.C.
PLAN NO. 8 OF 9

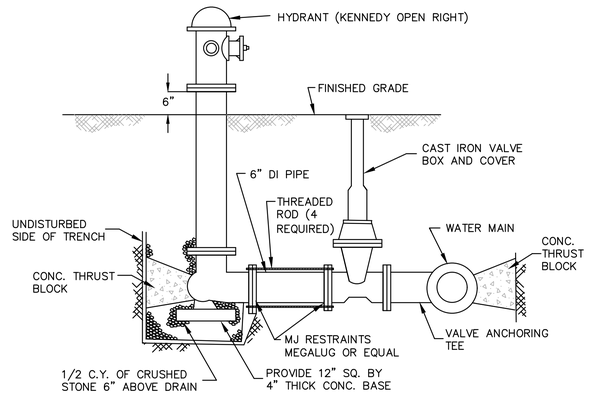
COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. CARTER
CIVIL
No. 39077
REGISTERED PROFESSIONAL ENGINEER
6/18/2020

Tab: Sht# ASTAILS Pot Style: GCG-2018.ctb Plotted By: John Gerhardt

1983-DETAILS-2.dwg Saved: 7/13/2020 5:05 PM Plotted: Jul 13, 2020 5:06 pm

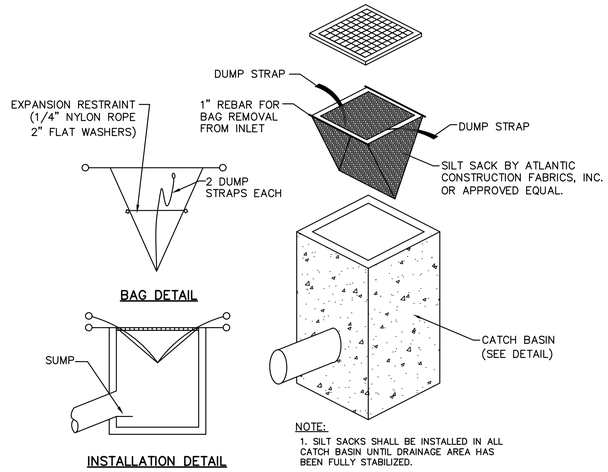


WATER VALVE DETAIL
N.T.S.



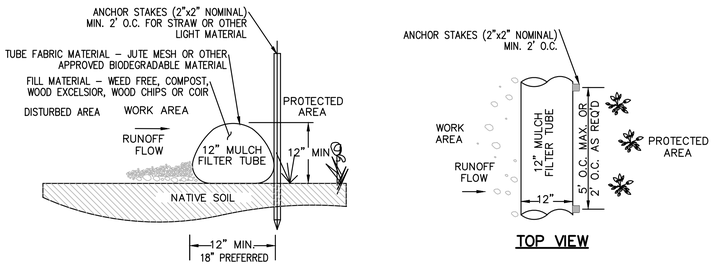
NOTE: HYDRANT, VALVE & TEE TO BE RUDDED TOGETHER

HYDRANT DETAIL
N.T.S.



NOTE:
1. SILT SACKS SHALL BE INSTALLED IN ALL CATCH BASIN UNTIL DRAINAGE AREA HAS BEEN FULLY STABILIZED.

SILT SACK DETAIL
N.T.S.

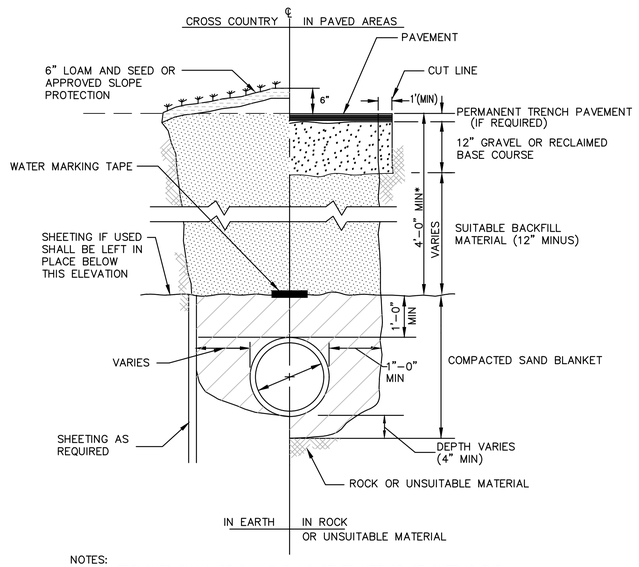


END VIEW

TOP VIEW

NOTES:
1. TUBES MAY BE FILLED ON SITE OR SHIPPED.
2. ENSURE PROPER LOCATION AT SITE FOR EFFECTIVENESS.
3. TUBES SHALL BE PLACED AND STAKED IN PLACE AS REQUIRED TO ENSURE STABILITY AGAINST WATER FLOWS.
4. TUBES FILLED WITH LIGHT MATERIAL SHALL BE STAKED AT A MAXIMUM OF 2 FEET ON CENTER. FOR HEAVIER MATERIAL, 5 FEET ON CENTER.
5. TUBES SHALL BE TAMPED TO ENSURE GOOD CONTACT WITH SOIL.
6. INSPECT AFTER EACH RAINFALL OR DAILY DURING RAINFALL EVENTS. CORRECT ALL DEFICIENCIES IMMEDIATELY.
7. FAILURE INCLUDES BUT IS NOT LIMITED TO WASHOUT, OVERTOPPING, CLOGGING, AND EROSION. IF OVERTOPPING OR WASHOUT OCCURS, NEW FILTER TUBES WITH ADDITIONAL STAKING OR MULCH MATERIAL SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.
8. FILTER TUBES SHALL BE REMOVED ONCE SITE WORK IS COMPLETE, SITE IS STABLE, ADEQUATE GROWTH HAS BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER. TUBE FABRIC SHALL BE CUT, REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR AT NO ADDITIONAL COST. AS DIRECTED BY ENGINEER, REMAINING MULCH MATERIAL MAY BE RAKED OUT SO NO MATERIAL IS GREATER THAN 2" IN DEPTH.
9. REFER TO EROSION CONTROL NOTES FOR ADDITIONAL INSTRUCTION.

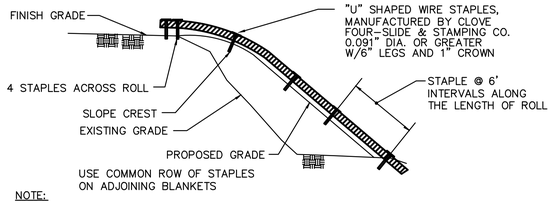
MULCH FILTER TUBE DETAIL
N.T.S.



NOTES:
1. ALL TRENCHES SHALL BE SAW CUT. NO OTHER METHOD OF CUTTING THE EXISTING PAVEMENT SHALL BE ACCEPTABLE. THIS WORK SHALL BE PAID FOR UNDER THE ASSOCIATED PIPE ITEM. NO SEPARATE PAYMENTS SHALL BE MADE FOR THIS ITEM.
2. WATER MARKING TAPE SHALL BE PLACED A MINIMUM OF 1' ABOVE INSTALLED WATER PIPE.

TYPICAL WATER TRENCH DETAIL
N.T.S.

GENERAL WATER NOTES
1. ALL MATERIALS FOR WATER SYSTEM SHALL CONFORM TO THE CITY OF WALTHAM WATER DEPARTMENT REQUIREMENTS.
2. ALL NEW CORPORATION COCKS, CURB STOPS AND COPPER TUBING FOR EACH NEW SERVICE SHALL BE 1-INCH IN SIZE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.



NOTE:
1. EROSION CONTROL BLANKETS SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1 AND WHERE NECESSARY TO PREVENT SLOPE EROSION.

EROSION CONTROL BLANKET DETAIL
N.T.S.

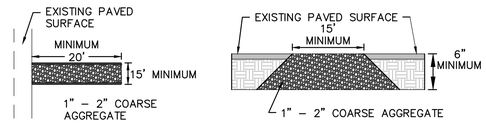
THRUST BLOCK BEARING AREAS FOR WATER PIPE

TABLE OF BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS*			
SIZE OF MAIN (IN.)	90° BEND	TEES AND PLUGS	45° BEND
6	4	2.5	2
8	6	4	3
12	12	9	7
16	21	16	12

* TYPE OF SOIL IS MEDIUM CLAYEY, 6 OR MORE BLOWS PER FOOT, OR LOOSE GRANULAR, 9 OR MORE BLOWS PER FOOT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.

NOTES:
1. FOR FITTINGS WITH LESS THAN 45° DEFLECTION, USE BEARING AREAS FOR 45° BEND.
2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 P.S.F. AND INTERNAL WATER PRESSURE OF 150 P.S.I.G. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
3. ALL FITTINGS AND VALVES SHALL BE DUCTILE IRON MECHANICAL JOINT AND RESTRAINED WITH MJ RESTRAINTS. (MEGALUG OR EQUAL)
4. WATER MAINS SHALL BE C.L.D.I. CLASS 52 – DOUBLE CEMENT LINED.
5. ALL WORK RELATED TO THRUST BLOCKS SHALL BE PAID FOR UNDER THE CONCRETE ITEM.

EROSION & SEDIMENT CONTROL NOTES:
1. CONSTRUCTION PERIOD SILT SACKS SHALL BE USED AT ALL INSTALLED CATCH BASINS. SILT SACKS SHALL BE KEPT FREE OF SEDIMENT AND DEBRIS, INSPECTED WEEKLY AND REPAIRED PROMPTLY.
2. SEDIMENT AND EROSION CONTROL MULCH FILTER TUBES SHALL BE PLACED UPSTREAM OF PROPOSED INFILTRATION SYSTEM LOCATION AS SHOWN ON THIS PLAN DURING CONSTRUCTION PERIOD. EROSION CONTROLS SHALL BE INSPECTED DAILY FOR SEDIMENT BUILDUP, DAMAGED FILTER TUBES AND FOR EVIDENCE OF RUNOFF BY-PASS AND CLEANED OR REPAIRED IMMEDIATELY.
3. ALL SLOPES AND EXCAVATIONS SHALL BE STABILIZED DURING CONSTRUCTION USING JUTE NETTING AND EROSION CONTROL BLANKETS. INSPECT FOR PROPER GROUND CONTACT. REPLACE DETERIORATED BLANKETS AND ADD LOAM AND RE-SEED ERODED AREAS AND RE-STABLE OR PIN FABRIC MATERIAL AS NEEDED.



NOTES:
1. THE STONE USED FOR CONSTRUCTION ENTRANCE SHALL BE 1-2 INCH SIZED COARSE AGGREGATE.
2. THE AGGREGATE SHALL BE AT MINIMUM 6 INCHES THICK.
3. OCCASIONAL REMOVAL AND REINSTALLATION OF STONE WILL BE REQUIRED TO PREVENT TRACKING OF SEDIMENT ONTO PAVED ROADS.

CRUSHED STONE CONSTRUCTION VEHICLE ENTRANCE
N.T.S.

CONSTRUCTION DETAILS

RALPH D. BUTLER ELEMENTARY SCHOOL
AVON, MASSACHUSETTS
NORFOLK COUNTY

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS — MICHAEL J. CARTER — CIVIL — 35907 — REGISTERED PROFESSIONAL ENGINEER
6/18/2020

SCALE: AS NOTED DATE: JUNE 18, 2020

JOB NO.\FILE NAME: 1983-DETAILS-2
DESIGNED BY: J.P.G.
DRAWN BY: J.P.G.
CHECKED BY: M.J.C.
PLAN NO. 9 OF 9

Tab: Sht# &DETAILS Plot Style: GCG 2018.ctb Plotted By: John Gerhardt

1983-DETAILS-2.dwg Saved: 7/13/2020 5:05 PM Plotted: Jul 13, 2020 5:06 pm