JACKSON COUNTY SPLASH PAD BID SF1



FOR: PREPARED



CLIENT/OWNER: Jackson County Parks & Recreatiom 88 Cullhowee Mtn Sylva, NC 28779

(828) 293-3053



BY:

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LANDSCAPE ARCHITECT: Equinox 14 O'Henry Avenue, Suite 206 Asheville, NC 28801 (828) 253-6856 (x202) david@equinoxenvironmental.com



ADDRESS: 42 Community PI. Cashiers, NC 28717 Latitude: 35.112748° N Longitude: -83.107274° W

PROJECT SIZE: Approximately 2.5 Ac Total Disturbance area is 2.5 Ac

All aspects of work shall be performed in accordance with all applicable local, state, and federal regulations pertaining to worker . safety.

OTHER CONTACTS

PROFESSIONAL LAND SURVEYOR: WithersRavenel Marshall Wight 115 MacKenan Drive Cary, NC 27511 (919)469-3340

ELECTRICAL & UTILITY ENGINEER: WithersRavenel Jason Bertoncino 115 MacKenan Drive Cary, NC 27511 (919) 469-3340

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NOTES & GENERAL SPECIFICATIONS

GENERAL:

- 1. CALL 811 TO LOCATE ALL UTILITIES PRIOR TO DIGGING
- 2. SEDIMENTATION OF THE STORMWATER CONTROL MEASURES WILL CAUSE FAILURE, THEREFORE, INSTALL ALL STORMWATER CONTROL MEASURES ONLY AFTER ALL SEDIMENT AND EROSION ON-SITE IS CONTROLLED AND SITE IS STABILIZED AND SEEDED.
- 3. WHERE CONFLICTS OCCUR BETWEEN NOTES, DRAWINGS, OR SPECIFICATIONS, THE CONTRACTOR SHALL NOT PROCEED WITH THE AFFECTED WORK UNTIL THE LANDSCAPE ARCHITECT ISSUES A CLARIFICATION.

<u>APPROVALS</u>

- 4. PRIOR TO POUR, THE CENTER LINE OF SIDEWALKS TO BE FLAGGED AND REVIEWED BY THE CLIENT AND THE PROJECT LANDSCAPE ARCHITECT.
- PRIOR TO FINAL GRADING THE DRAINAGE IN THE PROJECT AREA SHALL BE REVIEWED BY THE CLIENT AND PROJECT LANDSCAPE ARCHITECT.

CONSTRUCTION:

- 6. SEE CONSTRUCTION SEQUENCE ON EROSION CONTROL SHEETS.
- 7. BURNING IS NOT PERMITTED.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL APPLICABLE BUILDING PERMITS, LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO PERFORM THE SPECIFIED WORK.
- 9. ALL ASPECTS OF WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS PERTAINING TO WORKER SAFETY.
- 10. ALL PAVING MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NC DOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES".
- 11. CONTRACTOR SHALL COORDINATE ALL SITE ACTIVITIES WITH OWNER OR DESIGNATED REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DELIVERY, STORAGE, AND HANDLING OF ALL MATERIALS REQUIRED FOR THE PROJECT.
- 12. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 30 WORKING DAYS FOLLOWING THE COMPLETION OF LAND DISTURBING ACTIVITIES. IF THERE ARE MORE STRINGENT SOIL STABILIZATION GUIDELINES PUT IN PLACE BY LOCAL. COUNTY. STATE. OR FEDERAL AGENCIES OR CALLED FOR BASED ON PERMIT REQUIREMENTS THEN THE MORE STRINGENT GUIDELINES SHALL CONTROL AND GOVERN ON THE PROJECT.
- 13. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SPOIL MATERIAL OFF OF THE OWNER'S PROPERTY IN COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS AND REGULATIONS AT THE PRE-DETERMINED LANDFILL SITE. LANDFILL FEES SHALL BE INCLUDED IN THE CONTRACTOR'S PROJECT FEE. THIS INCLUDES ALL SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, ROCK, OBSTRUCTIONS, DEMOLISHED MATERIALS AND WASTE MATERIALS (INCLUDING TRASH AND DEBRIS). ANY BORROW SITE UTILIZED FOR BORROW MATERIAL IS REQUIRED AN APPROVED EROSION AND SEDIMENT CONTROL CERTIFICATE/PERMIT PRIOR TO THE INITIATION OF THE LAND DISTURBING ACTIVITY.
- REMOVE ALL DAMAGED TREES NEAR PLAYGROUND, EXERCISE PATH, AND COURTS THAT POSE A SAFETY HAZARD.
- 6. CONTRACTOR TO FURNISH AND PROVIDE THIRD PARTY MATERIAL TESTING AS PART OF CONSTRUCTION BID.
- 7. CONTRACTOR TO FURNISH AND PROVIDE THIRD PARTY GEOTECHNICAL
- EVALUATION OF SUBGRADE TO ENSURE ADEQUATE BEARING.
- CONTRACTOR TO CONFORM TO OWNER'S SAFETY PROTOCOL AND PROVIDE A SITE SPECIFIC SAFETY PLAN AND OTHER DOCUMENTATION AS NECESSARY.
- 9. FOR PLASTIC SEWER PIPING, STORM AND SANITARY, AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO AND OVER THE FULL LENGTH OF THE PIPING. THE TRACER WIRE SIZE SHALL BE NOT LESS THAN 14 AWG AND THE INSULATION TYPE SHALL BE LISTED FOR DIRECT BURIAL.
- 10. ALL FASTENERS TO BE GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED
- 11. ALL WOOD TO BE PRESSURE TREATED UNLESS OTHERWISE SPECIFIED.
- 12. SEE SPECIFICATIONS FOR COMPOSITE TIMBER.
- <u>GRADING:</u>
- 13. ALL PROPOSED SPOT GRADES AND CONTOURS SHOW FINISH GRADE.
- 14. ALL CUT SLOPES AND FILL SLOPES TO BE 2:1 AND 3:1 RESPECTIVELY UNLESS OTHERWISE INDICATED.
- 15. CROSS SLOPES ON SIDEWALKS SHALL NOT EXCEED 1.9%
- 16. GROUND SURFACE SHALL BE SHAPED TO PROVIDE POSITIVE DRAINAGE. A MIN. OF 2% IN THE DIRECTION OF DESIRED FLOW IS REQUIRED FOR NON PAVED SURFACES AND A MIN. OF 1% FOR PAVED SURFACES.

GEOTECHNICAL:

- 17. IN SOME LOW, WET AREAS ON SITE, UNDERCUTTING OF EXCESSIVELY SOFT MATERIALS MAY BE CONSIDERED INSUFFICIENT. IN SUCH LOW-LYING AREAS, THE USE OF REINFORCED BIAXIAL- GEOGRID MAY BE NECESSARY UNDER THE ADVISEMENT OF THE OWNER AND THE GEOTECHNICAL ENGINEER, AS THESE FIELD CONDITIONS MAY ARISE.
- 18. IF SOFT OR UNSUITABLE SOILS SUCH AS UNDOCUMENTED FILL OR MOISTURE SENSITIVE SOILS ARE OBSERVED, AT FOOTING LOCATIONS OR LOCATIONS REQUIRING COMPACTION. THE UNSUITABLE SOILS SHOULD BE UNDERCUT AND REMOVED. ANY UNDERCUT SHOULD BE BACKFILLED WITH CRUSHED STONE, ENGINEERED FILL, OR LEAN CONCRETE UP TO THE ORIGINAL DESIGN BOTTOM OF THE FOOTING AND/OR SURFACE BASE COURSE.
- 19. PROOF ROLLING UNDER THE OBSERVATION OF A GEOTECHNICAL ENGINEER SHOULD BE CONDUCTED BEFORE THE LAYING OF ANY BASE LAYER OF PAVING.
- 20. CONCRETE: UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL HAVE NATURAL SAND FINE AGGREGATE, EMBEDDED FIBERGLASS, AND NORMAL WEIGHT COARSE AGGREGATES CONFORMING TO ASTM C33, TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150, AND SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (F'C) AT 28 DAYS:
- 20.1. FOOTINGS 3000 PSI W/ (ENTRAINED AIR & FLY ASH OPTIONAL)
- 20.2. SLABS 4000 PSI W/ 5% ENTRAINED AIR AND FLY ASH
- 20.3. EXTERIOR WALKS 4000 PSI W/ 5% ENTRAINED AIR AND FLY ASH 21. SCHEDULE OF CONCRETE FINISHES (UNLESS OTHERWISE SPECIFIED ON PLANS):
- SLABS: NON-SLIP STIFF BROOM FINISH.
- EXTERIOR SIDEWALKS AND PATHS: NON-SLIP STIFF BROOM FINISH.
- ALL UNEXPOSED CONCRETE SURFACES: U.O.N. ROUGH FORM FINISH.
- ALL EXPOSED CONCRETE SURFACES: U.O.N. SMOOTH RUBBED FINISH.
- 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ANCHOR BOLTS, CLIPS, INSERTS, CONNECTION PLATES, SLEEVES, SLOTS, AND OTHER REQUIRED ITEMS IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND IN COOPERATION WITH OTHER TRADES PRIOR TO PLACING THE CONCRETE.
- 23. CONTROL JOINTS TO BE GROOVED WHEN CONCRETE IS STILL WET AND PLIABLE $(\frac{1}{4})^{n} - \frac{1}{4}$ WIDTH BY $\frac{1}{4}$ " DEEP) WITH A MINIMUM OF EVERY 5' AND MAXIMUM OF EVERY 12' OF CONCRETE SURFACE OR PAD. FOUNDATION CONCRETE SHOULD BE PLACED THE SAME DAY AS EXCAVATION FOR FOUNDATION AND FOOTINGS.
- CONCRETE REINFORCEMENT:
- 24. CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCEMENT DESIGNATED AS CONTINUOUS SHALL LAP 36 BAR DIAMETERS AT SPLICES, UNLESS NOTED OTHERWISE.
- 25. ALL CONCRETE REINFORCEMENT BARS SHALL BE ACCURATELY AND SECURELY TIED AND ANCHORED IN PLACE TO PREVENT DISLOCATION DURING THE CONCRETE PLACEMENT OPERATION.
- 26. MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE COMMITTEE 318, SECTION 7.7, UNLESS NOTED OTHERWISE.
- 27. WHERE REINFORCEMENT BARS ARE NOT USED, USE FIBER REINFORCEMENT AS SHOWN IN DETAILS.
- 28. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TESTING AS REQUIRED DURING CONSTRUCTION, TO BE APPROVED BY THE OWNER

STONE & ROCK:

- 29. IF EXISTING STONE AND ROCK MATERIAL ON SITE IS SUITABLE AND EQUIVALENT TO THE MATERIAL SPECIFIED. CONTRACTOR MAY UTILIZE ON SITE MATERIAL INSTEAD OF QUARRY MATERIAL WITH PRIOR APPROVAL REQUIRED BY LANDSCAPE ARCHITECT.
- 30. SAMPLES OF EACH TYPE OF ROCK, INCLUDING RIVER ROCK, COBBLE BOULDERS, AND FIELDSTONE ARE TO BE APPROVED ON SITE BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 31. ALL ROCK TO BE WASHED IMMEDIATELY BEFORE DELIVERY, UNLESS OTHERWISE SPECIFIED.

<u>PLANTING:</u>

- 32. CONTRACTOR SHALL VERIFY ALL QUANTITIES, MEASUREMENTS AND SITE CONDITIONS. NO PLANT SUBSTITUTIONS ALLOWED UNLESS WRITTEN PERMISSION FROM LANDSCAPE ARCHITECT IS GIVEN.
- 33. IF THERE IS A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE PLAN AND THE QUANTITIES IN THE PLANT SCHEDULE USE THE HIGHER NUMBER OF PLANTS. IF THIS OCCURS NOTIFY THE PROJECT LANDSCAPE ARCHITECT, EQUINOX.
- 34. ALL PLANTING BEDS ARE TO BE CLEANED OF ROCKS AND DEBRIS >1", TILLED TO 12" DEPTH AND AMENDED WITH 3"OF NATURES HELPER (OR APPROVED EQUAL), THEN THOROUGHLY TILLED TOGETHER. SEE STONE & ROCK.
- 35. PLANTING SOIL SHALL BE TOPSOIL AMENDED WITH 3" OF NATURES HELPER

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L6.4Structure DetailsC1.0WATER & SEWER PLANC1.1UTILITY DETAILSC1.2PUMP STATION SPECSE1.0ELECTRICAL PLAN
C1.0WATER & SEWER PLANC1.1UTILITY DETAILSC1.2PUMP STATION SPECSE1.0ELECTRICAL PLAN
C1.1UTILITY DETAILSC1.2PUMP STATION SPECSE1.0ELECTRICAL PLAN
C1.2 PUMP STATION SPECS E1.0 ELECTRICAL PLAN
E1.0 ELECTRICAL PLAN
E1.1 ELECTRICAL DETAILS



- (OR APPROVED EQUAL) AND THOROUGHLY TILLED TOGETHER.
- 36. ANY REMAINING DISTURBED, NON-PLANTED AREAS ARE TO BE FINE GRADED AND SEEDED WITH FESCUE BLEND OR MULCHED AS NOTED ON PLAN. 37. ALL PLANTS, MATERIALS, PLANTING AND SEEDING ACTIVITIES SHALL CONFORM
- TO LANDSCAPE INDUSTRY STANDARDS. COMPLY WITH SIZING AND GRADING STANDARDS OF THE LATEST EDITION OF "AMERICAN STANDARD OF NURSERY STOCK". PROVIDE STOCK TRUE TO BOTANICAL NAME AND LEGIBLY TAGGED.
- 38. STOCKPILE LOCATION(S) TO BE APPROVED BY LANDSCAPE ARCHITECT.
- 39. KEEP PLANT SPECIES MOIST AND SHADED UNTIL INSTALLATION. DO NOT LEAVE IN THE SUN OR LET PLANTS DRY OUT. SATURATE PLANTS AFTER INSTALLATION. PLANTS SHALL NOT BE DELIVERED ON-SITE PRIOR TO 5 DAYS BEFORE INSTALLATION.
- 40. DIG, PACK, TRANSPORT AND HANDLE ALL PLANTS WITH CARE TO ENSURE PROTECTION FROM INJURY. STORE PLANTS IN THE MANNER NECESSARY TO ACCOMMODATE THEIR HORTICULTURAL REQUIREMENTS. HEEL-IN PLANTS IF NECESSARY TO PROTECT ROOT BALLS AND KEEP FROM DRYING OUT.
- 41. ALL PLANTS TO BE INSPECTED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. IF ANY PLANTS ARE IN POOR CONDITION. UNHEALTHY LOOKING. DISEASED. OR DYING THE CONTRACTOR WILL REPLACE AS REQUESTED BY LANDSCAPE ARCHITECT OR THE OWNER.
- 42. DURING INSTALLATION, THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY CONDITIONS WHICH MAY BE HARMFUL TO PLANT LIFE. SUCH AS HAZARDOUS MATERIALS, ETC. LANDSCAPE ARCHITECT SHALL MAKE RECOMMENDATIONS TO ADDRESS THE SPECIFIC SITUATION.
- 43. CONTRACTOR TO REMOVE ALL STONES OVER 1" IN DIA. AND ALL CONSTRUCTION DEBRIS INCLUDING GRAVEL, CONCRETE, ROOTS, AND OTHER MATERIAL THAT MAY BE HARMFUL OR PREVENT PROPER ESTABLISHMENT AND OR MAINTENANCE OF PLANTING AREAS.
- 44. IN AREAS WHERE CONSTRUCTION MATERIAL IS EMBEDDED IN THE SOIL, CONTRACTOR SHALL REMOVE CONTAMINATED SOIL TO A DEPTH OF 8" AND ADD FILL WITH CLEAN, WEED-FREE PLANTING SOIL.
- 45. FOR ALL B&B TREES, ROOT BALL SHALL REMAIN MOIST AT ALL TIMES AND SHOULD RETAIN SHAPE WHEN REMOVING TOP 1/2 -2/3 OF WIRE BASKET FOR 72. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING TRANSPLANTING. CONTRACTOR SHALL REMOVE TOP 1/2 OF BURLAP FROM ROOT BALL.
- 46. ALL PLANTINGS TO BE WATERED AFTER PLANTING IMMEDIATELY (SAME DAY) AND TO BE CONTINUED TO BE WATERED REGULARLY (2X A DAY) UNTIL CONSTRUCTION IS COMPLETE
- 47. ALL CONTAINER, B&B TREES AND SHRUBS TO BE GUARANTEED FOR 1 YEAR (MINIMUM).
- 48. ALL MULCH TO BE DOUBLE GROUND HARDWOOD MULCH, UNLESS OTHERWISE SPECIFIED.
- 49. ALL PLANTING BEDS, CONTAINER TREES AND SHRUBS, AND B&B TREES TO BE MULCHED WITH NO MORE THAN 2 1/2 " OF MULCH.
- 50. ALL EXISTING AND PROPOSED TREES WITHIN LIMITS OF DISTURBANCE AND NOT CONTAINED WITHIN A MULCHED BED ARE TO RECEIVE A 5' DIAMETER CIRCLE OF MULCH.
- 51. AREAS UNDER EXISTING TREE DRIPLINES ARE NOT TO BE TILLED.
- 52. ALL PLANT LOCATIONS TO BE APPROVED BY EQUINOX PRIOR TO INSTALLATION.
- 53. PLANTS TO BE PLANTED IN NATURALIZED DRIFTS, IN TRIANGULATED PATTERNS TO BLEND INTO NATURAL SETTINGS. SEE PLANT SCHEDULE FOR SPACING OF PLANTS. PLANTS TO BE PLANTED IN GROUPS OF 1, 3, 5, 7, 9, AND 11, TYPICAL.
- 54. PLANTINGS CAN BE A VARIETY OF TREE AND SHRUB MATERIALS, INCLUDING CONTAINERS AND BALL & BURLAP - SEE PLANTING DETAILS FOR INSTALLATION PROCEDURES.
- 55. MAINTENANCE: PRUNE UP TREES FOR CLEARANCE AT 6'0" TYPICAL. UNIVERSAL ACCESS TRAIL GUIDELINES :
- ADA ACCESS TO RECREATION AREAS CLEAR TREAD WIDTH: 60 INCH MINIMUM CROSS SLOPE: NO MORE THAN 1.9%
- RUNNING SLOPE (TRAIL GRADE) MEETS ONE OR MORE OF THE FOLLOWING: -5% OR LESS FOR ANY DISTANCE.
- -UP TO 8.33% FOR 80' MAX. RESTING INTERVALS NO MORE THAN 50' APART.
- NO MORE THAN 30% OF THE TOTAL TRAIL LENGTH MAY EXCEED A RUNNING SLOPE OF 1:12. SIGNS: SHALL BE PROVIDED INDICATING THE LENGTH OF THE ACCESSIBLE
- TRAIL SEGMENT THE MAXIMUM SLOPE OF A RAMP IS 1:12, THE MAXIMUM RISE FOR ANY RUN
- IS 30 INCHES, AND THE MINIMUM CLEAR WIDTH OF A RAMP IS 36 INCHES. LEVEL LANDINGS ARE ALSO REQUIRED AT TOP AND BOTTOM OF EACH RAMP RUN.

EROSION CONTROL MEASURES: 65. THOROUGHLY REVIEW THE SEDIMENT AND EROSION CONTROL PLAN.

- 66. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
- 67. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
- 68. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
- 69. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION. IF THIS OCCURS, NOTIFY LANDSCAPE ARCHITECT.
- 70. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED CRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
- 73. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS. THESE TEMPORARY BERMS AND DITCHES SHALL BE PROTECTED WITH A ROLLED EROSION AND SEDIMENT CONTROL PRODUCT UNTIL VEGETATION CAN BE ESTABLISHED.
- 74. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
- 75. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
- 76. A COPY OF THE INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
- 77. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H: 1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
- 78. MINIMIZE SOIL COMPACTION AND, UNLESS UNFEASIBLE, PRESERVE TOPSOIL
- 79. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
- 80. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMP'S (SEDIMENT BASIN, FILTER BAG, ETC).
- 81. MAINTAIN ALL BUFFER REQUIREMENTS AS INDICATED ON THE PLAN.
- 82. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
- 82.1. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL:
- 82.2. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS;















MAJOR TOPOGRAPHY MINOR TOPOGRAPHY PROPERTY BOUNDARY EXISTING FENCE - x - - x - - x - EXISTING FENCE EXISTING FENCE UTILITY EASEMENT OVERHEAD UTILITIES UTILITY POLE WELL LOCATION UTILITY POLE DROP INLET STORM SEWER MAPLE TREE OAK TREE PINE TREE

NOTE: NO WETLANDS EXIST IN THE PROJECT AREA. JASON SEICKEL, LANDSCAPE ARCHITECT.





NOTE:

UTILITY REMOVAL TO BE COORDINATED BETWEEN CONTRACTOR AND UTILITY PROVIDER. ENGINEERING SHEETS TO CONTAIN MORE DETAIL IN FUTURE PHASE.

SEE GRADING PLANS FOR GRADING INFORMATION. IF SUITABLE, POTENTIAL FOR DEMOLISHED BASE COURSE AND PAVING TO BE REUSED AS STRUCTURAL FILL / BASE COURSE FOR NEW PAVING. TREE SYMBOLS VARY IN SURVEY. ALL TREES TO BE REMOVED ARE INDICATED WITH X







MAJOR TOPOGRAPHY MINOR TOPOGRAPHY PROPERTY BOUNDARY EXISTING FENCE EXISTING FENCE EXISTING FENCE UTILITY EASEMENT OVERHEAD UTILITIES UTILITY POLE WELL LOCATION UTILITY POLE DROP INLET STORM SEWER MAPLE TREE OAK TREE PINE TREE

MATERIALS LEGEND						
HATCH	MATERIAL	DETAIL	FINISH			
	ASPHALT PAVING - PEDESTRIAN	1, L6.0	-			
	CONCRETE PAVING - VEHICULAR	3, L6.0	MEDIUM BROOM			
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	MEDIUM BROOM			
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	EXPOSED AGGREGATE: AGGREGATE TO BE SMOOTH 3/8" STONE, DARK GREY WITH 1/8" EXPOSURE			
	PLAY SURFACE - POUR IN PLACE	6, L6.0	-			
	PLAY SURFACE - MULCH	7, L6.0	-			
	COMPACTED GRAVEL PAVING	5, L6.0	-			
	DECOMPOSED GRANITE PAVING	4, L6.0	-			
	COURT PAVING	9, L6.0				
	TURF	SEE L5 SERIES				
s la la la la S la la la la	PLANTING AREA	SEE L5 SERIES	-			

EQUINOX 14 O'Henry Ave. Suite 206 Asheville, NC 28801 t 828.253.6856 f 828.253.8256 м^wК C A A DESIGN BY: DRAWN BY: CHECKED BY \bigcirc \triangleleft \bigcirc \Box \checkmark _____ \bigcirc ()Recreation COUN⁻ ઝ unty Parks SON ity PI. \odot ∠ Cou 5 Z Comm Copyright © 2023, Equinox Environmental Consultation & Design, Inc. PHASE BID SET DATE August 21, 2024 DRAWING SCALE AS SHOWN NOTE: If this drawing is not 24x36" it has been revised from its original size and the scales noted on drawings/details are no longer applicable. DRAWING NAME LAYOUT + MATERIALS

40'



* 5'-10"

2'-6"

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MATERIALS LEGEND					
HATCH	MATERIAL	DETAIL	FII		
	ASPHALT PAVING - PEDESTRIAN	1, L6.0			
	CONCRETE PAVING - VEHICULAR	3, L6.0	ME BR		
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	ME BR		
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	EXF AGGF		
	PLAY SURFACE - POUR IN PLACE	6, L6.0			
	PLAY SURFACE - MULCH	7, L6.0			
	COMPACTED GRAVEL PAVING	5, L6.0			
	DECOMPOSED GRANITE PAVING	4, L6.0			
	COURT PAVING	9, L6.0			
	TURF	SEE L5 SERIES			
4 4 4 4 4	PLANTING AREA	SEE L5 SERIES			

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MATCHLINE, REFER TO L2.2



LEGEND

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EDIUM ROOM	— x — :	x — x — x —
EDIUM ROOM		
POSED GREGATE		
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MAJOR TOPOGRAPHY MINOR TOPOGRAPHY PROPERTY BOUNDARY EXISTING FENCE EXISTING FENCE EXISTING FENCE UTILITY EASEMENT OVERHEAD UTILITIES UTILITY POLE WELL LOCATION UTILITY POLE **DROP INLET** STORM SEWER MAPLE TREE OAK TREE PINE TREE

SCALE: 10'-0"





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MAJOR TOPOGRAPHY MINOR TOPOGRAPHY PROPERTY BOUNDARY **EXISTING FENCE EXISTING FENCE EXISTING FENCE** UTILITY EASEMENT **OVERHEAD UTILITIES** UTILITY POLE WELL LOCATION UTILITY POLE DROP INLET STORM SEWER MAPLE TREE OAK TREE PINE TREE

> 0 5' 10' SCALE: 10'-0"

20'

MATERIALS LEGEND							
HATCH	MATERIAL	DETAIL	FINISH				
	ASPHALT PAVING - PEDESTRIAN	1, L6.0	-				
	CONCRETE PAVING - VEHICULAR	3, L6.0	MEDIUM BROOM				
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	MEDIUM BROOM				
	CONCRETE PAVING - PEDESTRIAN	2, L6.0	EXPOSED AGGREGATE				
	PLAY SURFACE - POUR IN PLACE	6, L6.0	-				
	PLAY SURFACE - MULCH	7, L6.0	-				
	COMPACTED GRAVEL PAVING	5, L6.0	-				
	DECOMPOSED GRANITE PAVING	4, L6.0	-				
	COURT PAVING	9, L6.0					
	TURF	SEE L5 SERIES					
s la la la la Sela la la la	PLANTING AREA	SEE L5 SERIES	-				









MAJOR TOPOGRAPHY MINOR TOPOGRAPHY PROPERTY BOUNDARY EXISTING FENCE - x - - x - - x - EXISTING FENCE EXISTING FENCE UTILITY EASEMENT OVERHEAD UTILITIES UTILITY POLE WELL LOCATION UTILITY POLE DROP INLET STORM SEWER MAPLE TREE OAK TREE PINE TREE

NOTE: NO WETLANDS EXIST IN THE PROJECT AREA. JASON SEICKEL, LANDSCAPE ARCHITECT.

40'

EQUINOX

CONVEYANCE ID	TYPE	LENGTH (FT.)	INVERT IN	INVERT OUT	SLOPE	BOTTOM WIDTH (Ft.)	DITCH DEPTH (In.)	SURFACE TREATMENT
А	SWALE	253	3503.5	3497.5	2.4%	1.5	6	REFER TO PLANTIN PLA
В	SWALE	119	3501.3	3498.9	2.0%	1.5	12	REFER TO PLANTIN PLA
С	SWALE	59	3500.5	3498.9	2.7%	1	12	REFER TO PLANTING PLAI
D	SWALE	61	3500.5	3497	5.7%	2	12	REFER TO PLANTIN PLA
E	SWALE	90	3501.3	3499	2.6%	1	12	REFER TO PLANTIN PLA
F	SWALE	42	3497.1	3496	2.6%	1	6	REFER TO PLANTING PLAI
G	SWALE	64	3497.1	3494.8	3.6%	1.5	9	REFER TO PLANTIN PLA
Н	SWALE	63	3497.1	3494.8	3.7%	1.5	9	REFER TO PLANTIN PLA
	SWALE	64	3497.3	3496	2.0%	2	9	REFER TO PLANTING PLAI
J	SWALE	63	3496	3494.5	2.4%	1.5	6	REFER TO PLANTIN
К	SWALE	250	3503.5	3495	3.4%	1	3	REFER TO PLANTING

	INV IN	INV OUT	LENGTH (FT)	SIZE (In.)
ooth)	3494.00	3493.00	67	18
ooth)	3493.00	3492.85	11	15
ooth)	3492.75	3492.45	26	15
ooth)	3497.50	3496.80	71	15
ooth)	3496.75	3495.50	127	18
ooth)	3495.35	3495.10	24	24
ooth)	3491.50	3491.30	20	30
ooth)	3491.20	3490.30	~90	30

PE	TOP TREATMENT	SIDE TREATMENT	RIM ELEV.	DETAIL
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3497.50	1/ L6.2
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3494.80	1/ L6.2
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3495.20	1/ L6.2
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3499.65	1/ L6.2
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3498.90	1/ L6.2
NCRETE BOX	TRASH RACK	WEIR + ORIFICE	3495.25	1/ L6.2
NCRETE BOX	OPEN THROAT, FOUR SIDES	NA	3495.00	1/ L6.2
NCRETE WEIR	WEIR NOTCH	NA	3495.25	5/ L6.2

	TREATMET DEPTH (In.)	outfall Elevation	STORAGE VOLUME (CF) REQUIRED	STORAGE VOLUME (CF) DESIGNED
UCTED WETLAND			1,803	3,710
REBAY	NA	3495.25		
ETLAND CELL	12	3493.50		

NOTE: NO WETLANDS EXIST IN THE PROJECT AREA. JASON SEICKEL, LANDSCAPE ARCHITECT.

40'

EQUINOX

EQUINOX 14 O'Henry Ave. Suite 206 Asheville, NC 28801 t 828.253.6856 f 828.253.8256						
SEAL	F 828.253.8256					
DESIGN BY:	DRAWN BY:	CHECKED BY:				
DATE						
REVISIONS						
Jackson County Parks & Recreation UACKSON COUNTY SPLASH PAD 42 Community Pl. Cashiers, NC 28717						
Copyrignt © 2023, Equinox Environmental Consultation & Design, Inc. PHASE RID SFT						
DATE August 21, 2024						
DRAWING SCALE	August 21, 2024 DRAWING SCALE AS SHOWN NOTE: If this drawing is not 24x36" it has been revised from its original size and the scales noted on drawings/details are no longer applicable.					
	DRAWING NAME PLANTING PLAN					

0 10' 20' SCALE: 20'-0"

40'

SYMBOL	CODE	COMMON NAME
TREES		
		Red Buckeye
•		Neu Buckeye
L		
- Am	<u>ک</u>	
	3 MAVI	Sweetbay Magnolia
۲	<u>ک</u>	
ξ•	3 сни	White Fringetree
	لې	
4 June		
SHRUBS		
{ • }	CAAM	American Beautyberry
در شمر م		Diack Chakahawa
	ARME	Black Chokeberry
	0500	Duttershuch
	X CEOC	Buttonbush
from the second		5
to a	LEFO	ытоорing Leucothoe
	ILDE	Inkberry Holly
(\cdot)	CEAM	New Jersey Tea
	,	
(•)	LIBE	Spicebush
•	CESS	Sugar Shack Buttonbush
	CAFL	Sweetshrub
	••••	
	ILVE	Winterberry
GROUND COVE	RS	
	PYIN	Hoary Mountain Mint
		Lavender Towers Culver's Roc
	PYVI	Mountain Mint
	OELE	Whirling Butterflies Gaura
		PERENNIAL MIX B
	ASTU	Butterfly Milkweed
	STLA	Stokes' Aster
		PERENNIAL MIX C
	MOJA PYVI	Jacob Cline Bee Balm Mountain Mint
	SONI	Indian Steel Indian Grass
	ASTU	INUNDATION MIX Butterfly Milkweed
	CAST	Tussock Sedge
	ECPUM	Coneflower
<u> </u>	STLA	
	EUPU	Baby Joe Dwarf Joe Pye Wee
	MURE	Seep Muhly Fireworks Wrinkleleaf Goldenr
GRASSES & SET	DGES	
	BOGR	Blue Grama
	ERSP	Purple Lovegrass
	ANGE	Red October Bia Bluestem
<u>, , , , , , , , , , , , , , , , , , , </u>		Shenandoah Switch Grass
		Chonandoan Ownon OldSS
SHALLOW WATE		Blue Flag Iris
+ + + + + + + + + + + + + + + + + + +	+_+_+ ELOB	
	SPAM	Bur-reed
	JUEF	Common Rush
	ORAQ	Goldenclub
	DUAR	Threeway Sedge
SOD/SEED		
	TURF	Drought Tolerant Fescue Blend
INUNDATION ZC	DNE	
	CAIT	Bladder Sedge
7677777777777		.

0' 20' 0"

PLANT SCHEDULE					
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	HEIGHT	CONTAINER
TREES	AEPA	1	Aesculus pavia Red Buckeye	6` Ht.	B&B
	CHVI	3	Chionanthus virginicus White Fringetree	6` Ht.	B&B
	MAVI	5	Magnolia virginiana Sweetbay Magnolia	8` Ht.	B&B
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	OXAR	3	Oxydendrum arboreum Sourwood Tree	6` Ht.	B&B
SYMBOL CODE QTY BOTANICAL / COMMON NAME		BOTANICAL / COMMON NAME	SIZE	CONTAINER	
SHRUBS	ARME	8	Aronia melanocarpa Black Chokeberry	5 gal.	Pot
·	СААМ	23	Callicarpa americana American Beautyberry	5 gal.	Pot
•	CAFL	13	Calycanthus floridus Sweetshrub	5 gal.	Pot
$\overline{\bigcirc}$	CEAM	14	Ceanothus americanus New Jersey Tea	3 gal.	Pot
•	CEOC	5	Cephalanthus occidentalis Buttonbush	10 gal.	Pot
$\overbrace{\cdot}$	CESS	8	Cephalanthus occidentalis 'SMCOSS' TM Sugar Shack Buttonbush	5 gal.	Pot
(+,)	FOBL	8	Fothergilla gardenii 'Blue Mist' Blue Mist Dwarf Fothergilla	3 gal.	Pot
	HYQU	24	Hydrangea quercifolia Oakleaf Hydrangea	5 gal.	Pot
	ILGL	24	llex glabra Inkberry Holly	5 gal.	Pot
	ILDE	14	llex glabra `Densa` Densa Inkberry Holly	5 gal.	Pot
$(\cdot)$	ILVE	6	llex verticillata Winterberry	10 gal.	Pot
· ·	ITVI	14	Itea virginica 'Sprich' Little Henry® Sweetspire	3 gal.	Pot
for the second s	LEFO	15	Leucothoe fontanesiana Drooping Leucothoe	5 gal.	Pot
	LIBE	20	Lindera benzoin Spicebush	10 gal.	Pot

OTWIDOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING
GROUND C	OVERS		Amsonia hubrichtii			
	AMHU	46	Arkansas Bluestar	1 gal.	Pot	30" o.c.
	DRMA	67	Dryopteris marginalis Marginal Shield Fern	1 gal.	Pot	24" o.c.
	GEMA	43	Geranium maculatum Spotted Geranium	#1	Pot	18" o.c.
		51	Oenothera lindheimeri 'Whirling Butterflies'	1 gal.	Pot	24" o.c.
			Whirling Butterflies Gaura Osmunda cinnamomea			40"
	OSCI	91	Cinnamon Fern	#1	Pot	18" o.c.
	PYIN	40	Hoary Mountain Mint	1 gal.	Pot	30" o.c.
	PYVI	32	Pycnanthemum virginianum Mountain Mint	#1	Pot	24" o.c.
		0	Veronicastrum virginicum 'Lavender	1 gal	Det	26"
	VELI	9	Lavender Towers Culver's Root	i yai.	Pol	30 O.C.
		310 sf	PERENNIAL MIX A			
	GEMA	43	Geranium maculatum	#1	Pot	30% @ 18" o.c.
	HEBB	71	Heuchera x 'Blackberry Ice'	Quart	Pot	50% @ 18" o c
		/ 1	Dolce® Blackberry Ice Coral Bells Zizia aurea	Quart		
	ZIAU	28	Golden Alexander	Quart	Pot	20% @ 18" o.c.
		794 sf	PERENNIAL MIX B			
	ASTU	61	Asclepias tuberosa Butterfly Milkweed	1 gal.	Pot	30% @ 24" o.c.
	RUFU	81	Rudbeckia fulgida	#1	Pot	40% @ 24" o.c.
	STLA	108	Stokesia laevis	#1	Pot	30% @ 18" o.c
	· ·	710 of				
		11951	Monarda didvma 'Jacob Clipe'			
	MOJA	56	Jacob Cline Bee Balm	#1	Pot	30% @ 24" o.c.
	PYVI	56	Mountain Mint	#1	Pot	30% @ 24" o.c.
	SONI	133	Sorghastrum nutans 'Indian Steel' Indian Steel Indian Grass		Plug	40% @ 18" o.c.
		386 sf	INUNDATION MIX			
	ASTU	20	Asclepias tuberosa	1 gal.	Pot	20% @ 24" o.c.
		100	Carex stricta	5	Dhur	200/ @ 10"
	CAST	120	Tussock Sedge		Plug	30% @ 12 0.c.
	COVEM	30	Moonbeam Tickseed	#1	Pot	30% @ 24" o.c.
	ECPUM	10	Echinacea purpurea Coneflower	#1	Pot	10% @ 24" o.c.
	STLA	18	Stokesia laevis Stokes' Aster	#1	Pot	10% @ 18" o.c.
		981 sf	PERENNIAL MIX D			
	EUDU	63	Eutrochium purpureum `Baby Joe`	#1	Pot	25% @ 24" ი ი
	LOFO	03	Baby Joe Dwarf Joe Pye Weed	#1		2070 @ 24 0.0.
	MURE	225	Seep Muhly		Plug	50% @ 18" o.c.
	SORU	30	Fireworks Wrinkleleaf Goldenrod	#1	Pot	25% @ 36" o.c.
GRASSES	& SEDGES	5				
	ANGE	291	Andropogon gerardii 'Red October'		Plug	24" o.c.
<u> </u>	BOGR	533	Bouteloua gracilis		Plua	12" o c
· / / / / / / / / / / / / / / / / / / /			Blue Grama Carex pensylvanica 'Straw Hat'			12 0.0.
× × × × × × × × × × × × × × × × × × ×	CAPE	152	Straw Hat Pennsylvania Sedge		Plug	12" o.c.
	ERSP	313	Purple Lovegrass		Plug	12" o.c.
	PASH	282	Panicum virgatum 'Shenandoah' Shenandoah Switch Grass		Plug	18" o.c.
<u>////////////////////////////////////</u>	SPHE	81	Sporobolus heterolepis	1 gal.	Pot	18" o.c.
			Frame Dropseed			
SHALLOW	WATER	000	Dulichium arundinaceum			4.5.1
+ + + + + +	DUAR	229	Threeway Sedge		Plug	15" o.c.
+ + + + + + + + + + + + + + + + + + +	ELOB	168	Blunt Spikerush		Plug	18" o.c.
	IRVI	173	Iris virginica Blue Flag Iris		Plug	12" o.c.
	JUEF	234	Juncus effusus		Plug	18" o.c.
	0040	74	Common Rush Orontium aquaticum			0.4"
	UKAQ	/4	Goldenclub Sparagnium americanum		Bare Root	24  0.C.
	SPAM	101	Bur-reed		Plug	24" o.c.
SOD/SEED						
	TURF	18,848 sf	Turf Seed	seed		
	SOD1	1 097 cf	Turf Sod	end		
	5001	1,037 51	Drought Tolerant Fescue Blend	300		
	ON ZONE		Corov intumococo			1
	CAIT	342	Carex mumescens		Plug	12" o.c.
$\overline{)}$			Bladdel Bedge			

EQUINOX 14 O'Henry Ave. Suite 206 Asheville, NC 28801 + 929 253 6956						
SEAL	SEAL					
DESIGN BY	: DRAWN BY:	CHECKED BY:				
DATE						
REVISIONS						
Jackson County Parks & Recreation UACKSON COUNTY SPLASH PAD 42 community PI. Cashiers, NC 28717						
PHASE BID SET						
DATE	DATE August 21, 2024					
AUGUST ZI, ZUZ4 DRAWING SCALE AS SHOWN NOTE: If this drawing is not 24x36" it has been revised from its original size and the scales noted on drawings/details are no longer applicable.						
S	PLANT SCHEDULE					

![](_page_18_Figure_0.jpeg)

- 5. CONNECT SKIMMER (REFER TO DETAIL 1/EC2.1) AND SKIMMER SIZE TABLE ON THIS SHEET.

	LEGEND						
SYMBOL	DESCRIPTION	DETAIL					
~~^	DISTURBANCE BOUNDARY						
	EROSION CONTROL MATTING	4/ EC2.0					
	OUTLET PROTECTION (ENERGY DISSIPATER)	6/ EC2.0					
	INLET PROTECTION	1/ EC2.0					
-00	TREE PROTECTION FENCE						
- <b>oo</b>	REINFORCED SILT FENCE	7/ EC2.0					
TDD	TEMPORARY DIVERSION DITCH	5/ EC2.0					
	TEMPORARY SEED	2/ EC2.1					
	SEDIMENT TRAP WITH SKIMMER	1/ EC2.1					
	PERMANENT PIPE						
	SEDIMENT SOCK	3/ EC2.1					

TOTAL DISTURBANCE: 1.82 AC

#### EROSION CONTROL MEASURE NOTES:

- 1. THOROUGHLY REVIEW THE SEDIMENT AND EROSION CONTROL PLAN, ADDING EXTRA AS NECESSARY TO ELIMINATE SEDIMENTATION OFFSITE.
- 2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
- 3. WHERE STABILIZATION BY THE 7TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
- 4. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION. IF THIS OCCURS, NOTIFY LANDSCAPE ARCHITECT.
- 5. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
- 6. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- 7. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED. OTHER MEASURES TO REDUCE TRACKING MAY INCLUDE WASHING DOWN TRACKS OF HEAVY EQUIPMENT.
- 8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS. THESE TEMPORARY BERMS AND DITCHES SHALL BE PROTECTED WITH A ROLLED EROSION AND SEDIMENT CONTROL PRODUCT UNTIL VEGETATION CAN BE ESTABLISHED.
- 9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICAL'S THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
- 10. A COPY OF THE INSPECTION RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
- 11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
- 12. MINIMIZE SOIL COMPACTION AND, UNLESS UNFEASIBLE, PRESERVE TOPSOIL FOR FUTURE PLANTING.
- 13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
- 14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMP'S (SEDIMENT BASIN, FILTER BAG, ETC).
- 15. MAINTAIN ALL BUFFER REQUIREMENTS AS INDICATED ON THE PLAN.
- 16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:

Know what's **below**.

Call before you dig.

- 16.1. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
- 16.2. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS;
- 16.3. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE: AND
- 16.4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
- 17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS ARE EXPECTED TO BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
- 18. IF THE SAME PERSON CONDUCTS THE LAND-DISTURBING ACTIVITY AND ANY RELATED BORROW OR WASTE ACTIVITY, THE RELATED BORROW OR WASTE ACTIVITY SHALL CONSTITUTE PART OF THE LAND-DISTURBING ACTIVITY UNLESS THE BORROW OR WASTE ACTIVITY IS REGULATED UNDER THE MINING ACT OF 1971, OR IS A LANDFILL REGULATED BY THE DIVISION OF WASTE MANAGEMENT. IF THE LAND-DISTURBING ACTIVITY AND ANY RELATED BORROW OR WASTE ACTIVITY ARE NOT CONDUCTED BY THE SAME PERSON, THEY SHALL BE CONSIDERED SEPARATE LAND-DISTURBING ACTIVITIES AND MUST BE PERMITTED EITHER THROUGH THE SEDIMENTATION POLLUTION CONTROL ACT AS A ONE-USE BORROW SITE OR THROUGH THE MINING ACT.

SCALE: 20'-0'

![](_page_18_Picture_34.jpeg)

![](_page_19_Picture_0.jpeg)

	LEGEND						
SYMBOL	DESCRIPTION	DETAIL					
<b>`</b>	DISTURBANCE BOUNDARY						
*****	EROSION CONTROL MATTING	4/ EC2.0					
	OUTLET PROTECTION (ENERGY DISSIPATER)	6/ EC2.0					
	INLET PROTECTION	1/ EC2.0					
-00	TREE PROTECTION FENCE						
- <b>&gt;&gt;</b>	REINFORCED SILT FENCE	7/ EC2.0					
TDD	TEMPORARY DIVERSION DITCH	5/ EC2.0					
	TEMPORARY SEED	2/ EC2.1					
	SEDIMENT TRAP WITH SKIMMER	1/ EC2.1					
	PERMANENT PIPE						
	SEDIMENT SOCK	3/ EC2.1					

TOTAL DISTURBANCE: 1.82 AC

EROSION CONTROL SEQUENCE PHASE 2 AFTER FOLLOWING THE EROSION CONTROL SEQUENCE OUTLINED FOR THE PREVIOUS PHASE, THEN PROCEED AS FOLLOWS:

- AFTER MASS GRADING, IF ANY PORTION OF THE DISTURBED SITE IS TO NOT BE MANIPULATED WITHIN 7 DAYS, STABILIZE WITH SEED AND STRAW.
- 2. MAINTAIN UTILIZATION OF THE PRIMARY CONSTRUCTION ENTRANCE. MAINTAIN THE CONSTRUCTION ENTRANCE PER DETAIL TO MINIMIZE SEDIMENTATION FROM CONSTRUCTION TRAFFIC OFF SITE.
- 3. INSTALL SWALES, PIPES, AND REMAINING DROP INLETS.
- 4. INSTALL ALL CHECKS, WATTLES, AND INLET PROTECTION.
- 5. FINE GRADE AND INSTALL HARD SURFACES.
- SEED AND STRAW ALL DISTURBED AREAS OUTSIDE OF NEW FEATURES AS INDICATED ON THE PLAN (~0.62AC).
- 7. MAINTAIN EROSION CONTROL MEASURES.
- 8. ADD ADDITIONAL EC MEASURES AS NECESSARY.
- 9. INSTALL ALL REMAINING SITE ELEMENTS.
- 10. PRIOR TO CLOSING OUT OF THE SEDIMENT TRAP AND CONVERTING TO THE PERMANENT SCM, ENSURE THAT THE FULL SITE IS STABLE.
- 11. CONVERT THE SEDIMENT TRAP TO SCM1 PER DETAIL.
- 12. ONCE THE SITE IS FULLY STABLE, REMOVE ALL REMAINING EC DEVICES.
- 13. CONTACT THE AUTHORITY HAVING JURISDICTION FOR CLOSE-OUT OF THE LAND DISTURBING PERMIT.

EQUINOX 14 O'Henry Ave. Suite 206 Asheville, NC 28801 t 828.253.6856 f 828.253.8256 DESIGN BY: DRAWN BY: CHECKED BY:  $\square$  $\triangleleft$  $\bigcap$  $\square$  $\checkmark$ _____  $\bigcirc$  $\bigcirc$  $\succ$ Recreation COUN⁻ શ્વ County Parks KSON munity PI. , NC 28717 Comm Copyright © 2023, Equinox Environmental Consultation & Design, Inc. PHASE BID SET DATE August 21, 2024 DRAWING SCALE AS SHOWN NOTE: If this drawing is not 24x36" it has been revised from its original size and the scales noted on drawings/details are no longer applicable. DRAWING NAME EROSION CONTROL PLAN P2

![](_page_19_Picture_18.jpeg)

![](_page_20_Picture_0.jpeg)

	LEGEND						
SYMBOL	DESCRIPTION	DETAIL					
<b>`</b>	DISTURBANCE BOUNDARY						
******	EROSION CONTROL MATTING	4/ EC2.0					
	OUTLET PROTECTION (ENERGY DISSIPATER)	6/ EC2.0					
	INLET PROTECTION	1/ EC2.0					
-00	TREE PROTECTION FENCE						
- <b></b>	REINFORCED SILT FENCE	7/ EC2.0					
TDD	TEMPORARY DIVERSION DITCH	5/ EC2.0					
	TEMPORARY SEED	2/ EC2.1					
	SEDIMENT TRAP WITH SKIMMER	1/ EC2.1					
	PERMANENT PIPE						
	SEDIMENT SOCK	3/ EC2.1					

# TOTAL DISTURBANCE: 1.82 AC

## DRAINAGE DELINEATION

DRAINAGE TO INLET PROTECTION DRAINAGE TO SEDIMENT TRAP DRAINAGE TO SEDIMENT SOCK AND SILT FENCE

![](_page_20_Picture_6.jpeg)

40'

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

### INSPECTION AND MAINTENANCE

- The key to a functional sediment trap is weekly inspections, routine maintenance and regular sediment removal.
- 2. Attention to sediment accumulations within the trap is extremely important. Accumulated sediment deposition should be continually monitored in the trap and removed when
- . Remove accumulated sediment when it reaches 50% of the designed sediment storage volume as marked by the cleanout stake.
- 4. Removed sediment from the trap shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
- 5. Regular inspections of sediment traps should be conducted once every calendar week and, as recommended and within 24-hours after each rainfall, event that produces ½-inch or more of precipitation.
- Disturbed areas resulting from the removal of the sediment trap should be permanently stabilized and additional BMPs, such as silt fence, should be utilized to handle stormwater runoff from this disturbed area until final stabilization is reached stabilization is reached.

1. Use matting made of 100% coconut fiber (coir) twine woven into high strength matrix with the properties shown in Table 6.65a.

2. Staples should be made of 0.125 inch diameter new steel wire formed into a 'U' shape not less than 12 inches in length with a throat of 1 inch in width. The staples anchor the porous baffles into the sides and bottom of the basin.

3. Ensure that steel posts for porous baffles are of a sufficient height to support baffles at desired height. Posts should be approximately 1-3/8" wide measured parallel to the fence, and have a minimum weight of 1.25 lb/linear ft. The posts must be equipped with an anchor plate having a minimum area of 14.0 square inches and be of the self-fastener angle steel type to have a means of retaining wire and coir fiber mat in the desired position without displacement.

4. Use 9-gauge high tension wire for support wire.

Thickness	0.30 in. minimum		
Tensile Strength (Wet)	900 x 680 lb/ft minimum		
Elongation (Wet)	69% x 34% maximum		
Flow Velocity	10-12 ft/sec		
Weight	20 oz/SY (680 g/m ² ) minimum		
Minimum Width	6.5 feet		
Open Area	50% maximum		

The percent of surface area for each section of the baffle is as follows:

Baffle spacing in future permanent stormwater basins is beyond forebay.

Be sure to construct baffles up the sides of the trap or basin banks so water does not flow around the structures. Most of the sediment will be captured in the inlet zone. Smaller particle size sediments are captured in the latter cells. Be sure to maintain access to the trap for maintenance and sediment removal.

PLAN SYMBOL  $\bigcirc$ 

PLAN SYMBOL

![](_page_22_Picture_28.jpeg)

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PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING	<text><list-item><list-item><list-item><list-item><list-item><list-item><list-item><list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></list-item></text>	Image: Control of the contrel of the contrel of the contre
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![](_page_23_Picture_1.jpeg)

![](_page_24_Figure_0.jpeg)

![](_page_24_Picture_31.jpeg)

![](_page_25_Figure_0.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Figure_1.jpeg)

![](_page_26_Figure_2.jpeg)

![](_page_26_Figure_15.jpeg)

WEIR NOTCH, W/ TRASH RACK; 9"X24" (ALL SIDES) WEIR NOTCH, W/ TRASH RACK; 18"X13" (FRONT)

![](_page_26_Figure_27.jpeg)

![](_page_27_Figure_0.jpeg)

![](_page_27_Figure_1.jpeg)

PLANTINGS

ROOT CROWN LEVEL WITH FINISH GRADE

OPEN PLANTING HOLE LARGE ENOUGH TO ACCOMMODATE ROOTS. COVER ROOTS WITH SOIL AND LIGHTLY TAMP TO ELIMINATE AIR POCKETS IN PLANTING HOLE

PLANT ROOTS TO BE STRAIGHT AND UNDAMAGED BY INSTALLATION

NOTES:

1"=1

1. WATER THOROUGHLY IMMEDIATELY AFTER PLANTING AND WATER WEEKLY UNTIL ESTABLISHED. 2. NO FERTILIZER IS NECESSARY DURING PLANTING.

![](_page_27_Picture_8.jpeg)

![](_page_27_Picture_9.jpeg)

![](_page_27_Figure_10.jpeg)

#### NOTES:

- 1. USE A SPADE AND CUT IN SOIL.
- 2. REMOVE SPADE AND INSERT SEEDLING SO THAT THE ROOT COLLAR IS JUST BELOW GROUND
- SURFACE WITH ROOTS FACING STRAIGHT DOWN IN THE PLANTING HOLE. 3. INSERT SPADE 3 INCHES TO ONE SIDE OF THE SEEDLING/PLUG AND PULL HANDLE TO CLOSE THE BOTTOM OF THE HOLE.
- 4. PUSH HANDLE OF SPADE FORWARD TO CLOSE THE TOP OF THE HOLE. OPEN PLANTING HOLE LARGE
- ENOUGH TO ACCOMMODATE ROOTS. 5. REMOVE SPADE AND CAREFULLY CLOSE THE OPENING BY TAMPING GENTLY WITH A TAMPER OR HEEL BEING CAREFUL NOT TO INJURE THE SEEDLING.

![](_page_27_Picture_17.jpeg)

1"=1

![](_page_27_Picture_18.jpeg)

![](_page_28_Figure_0.jpeg)

![](_page_28_Picture_3.jpeg)

![](_page_29_Figure_0.jpeg)

![](_page_29_Figure_1.jpeg)

![](_page_30_Figure_0.jpeg)

![](_page_30_Figure_3.jpeg)

Α

WASTEWATER COLLECTION SYSTEMS C7033

![](_page_30_Picture_14.jpeg)

**FINAL DRAWING** NOT RELEASED FOR CONSTRUCTION C1.1 2.1. PUMP CONTROL PANEL A. ENCLOSURE

PART 1 GENERAL

1.1. THE REQUIREMENT

A. THIS SECTION SHALL COVER THE FURNISHING AND INSTALLATION OF THE INDIVIDUAL, PACKAGE-TYPE GRINDER PUMPING STATION AND ACCESSORIES, AS REQUIRED TO SERVE THE SITE INDICATED ON THE DRAWINGS.

SECTION 33 27 10

**GRINDER PUMP STATION** 

B. THE INSTALLATION SHALL CONSIST OF FULLY ASSEMBLED GRINDER PUMP PACKAGE, INCLUDING A DUAL (DUPLEX) GRINDER PUMP AND MOTOR, BASIN ASSEMBLY, INTERNAL DISCHARGE PIPING, CHECK VALVE, SHUT OF VALVE, QUICK-DISCONNECT SLIDE RAIL SYSTEM, LIFT CHAIN, HIGH WATER ALARM FLOAT, STAINLESS STEEL LEVEL CONTROL BRACKET, JUNCTION BOX, INLET FITTING AND REMOTE ALARM PANEL.

1.1. SUBMITTALS

A. SUBMIT THE FOLLOWING IN ACCORDANCE WITH SPECIFICATION.

1. SHOP DRAWING OF COMPLETE SYSTEM INCLUDING BASIN, PUMP, CONTROLS, PIPING, ETC.

PART 2 PRODUCTS

2.1. GRINDER PUMP A. DESCRIPTION & OPERATING CONDITIONS:

1. THE GRINDER PUMP SHALL BE CAPABLE OF GRINDING AND PUMPING RAW, UNSCREENED SEWAGE AT THE FOLLOWING OPERATING CONDITIONS:

a. DESIGN OPERATING POINT 13.4 GPM @ 35' TDH

- b. MINIMUM PUMPING RATE 7.8 GPM @ 24' TDH
- B. THE GRINDER UNIT SHALL BE CAPABLE OF SHEARING AND REDUCING TO A FINE SLURRY ALL MATERIAL NORMALLY FOUND IN DOMESTIC AND COMMERCIAL SEWAGE SUCH AS SANITARY NAPKINS, DISPOSABLE DIAPERS, CLOTH DIAPERS, WASH RAGS, WOOD, PLASTIC, ETC. THE SLURRY SHALL BE CAPABLE OF FREELY PASSING THROUGH A 1¼" PIPING SYSTEM INCLUDING CHECK VALVE.
- C. THE PUMP SHALL BE OF THE CENTRIFUGAL TYPE WITH THE ROTATING CUTTER MOUNTED ON THE PUMP SHAFT DIRECTLY AGAINST THE IMPELLER. THE STATIONARY CUTTER SHALL BE MOUNTED IN AN ADJUSTABLE BOTTOM PLATE. THE STATIONARY CUTTER SHALL HAVE SLOTS TO FACILITATE BETTER FLOW. THE BOTTOM PLATE SHALL BE CAST WITH GROOVES THREADING OUTWARD FROM THE CENTER OPENING OF THE PLATE TO THE OUTER DIAMETER. THE IMPELLER SHALL BE A MULTIPLE VANE CENTRIFUGAL TYPE. THE CUTTER MATERIAL SHALL BE SIMILAR TO AN ANSI 440C STAINLESS STEEL WITH THE ADDITION OF COBALT, VANADIUM, AND MOLYBDENUM FOR SUPERIOR ABRASION RESISTANCE AND A HARDNESS OF 58-62 ROCKWELL C. THE CUTTING ELEMENTS AND IMPELLER SHALL BE DESIGNED TO KEEP THE OVERHUNG LOAD DISTANCE TO A MINIMUM. ALL FASTENERS SHALL BE 304 STAINLESS-STEEL.
- D. THE COMMON PUMP AND MOTOR SHAFT SHALL BE 420 STAINLESS-STEEL SUPPORTED ON THE IMPELLER END BY A HEAVY-DUTY SINGLE ROW BALL BEARING ON 1.0-2.5 HP PUMPS, OR A HEAVY-DUTY DOUBLE ROW BALL BEARING ON 3.5-4.0 HP PUMPS. THE OPPOSITE END OF THE SHAFT IS SUPPORTED ON A SEALED SINGLE ROW BALL BEARING. BALL BEARINGS SHALL BE DESIGNED FOR 50.000 HOURS B-10 LIFE.
- E. SHAFT SEALS: EACH PUMP SHALL BE EQUIPPED WITH TWO (2) SEALS. THE LOWER SEAL (PUMP SIDE) SHALL BE OF THE MECHANICAL TYPE WITH SILICON CARBIDE FACES. THE UPPER SEAL SHALL BE A LIP TYPE SEAL. THE SEALS SHALL BE SEPARATED BY AN OIL CHAMBER PROVIDING COOLING AND LUBRICATION OF THE SEALS, AND A BARRIER BETWEEN THE PUMPED FLUID, AND THE DRY MOTOR CHAMBER.
- F. SEAL FAILURE WARNING SYSTEM: AN ELECTRIC PROBE SHALL BE PROVIDED IN THE OIL CHAMBER TO DETECT THE PRESENCE OF WATER IN THE OIL. A SOLID-STATE DEVICE MOUNTED IN THE PUMP CONTROL PANEL OR IN A SEPARATE ENCLOSURE SHALL SEND A LOW VOLTAGE, LOW AMPERAGE SIGNAL TO THE PROBE. IF WATER ENTERS THE OIL CHAMBER IN SUFFICIENT QUANTITY TO WARRANT CONCERN, THE PROBE SHALL ACTIVATE A WARNING LIGHT IN THE CONTROL PANEL.

#### 2.1. MOTOR

- A. THE PUMP MOTOR SHALL BE OF THE SUBMERSIBLE TYPE, RATED 1 HORSEPOWER, AND SHALL OPERATE ON 240 VOLT, 60 HZ, SINGLE-PHASE POWER. MOTOR SPEED SHALL BE 1,725 RPM. THE MOTOR SHALL BE CAPACITOR START; CAPACITOR RUN TYPE FOR HIGH STARTING AND RUNNING TORQUE.
- B. THE ROTOR AND STATOR SHALL BE ENCLOSED IN A CAST IRON OUTER HOUSING. THE STATOR WINDING SHALL BE OF THE OPEN TYPE WITH CLASS B INSULATION, GOOD FOR 130° C (266° F) MAXIMUM OPERATING TEMPERATURE. THE WINDING HOUSING SHALL BE FILLED WITH CLEAN, HIGH DIELECTRIC OIL THAT LUBRICATES BEARINGS AND SEALS AND TRANSFERS HEAT FROM THE WINDINGS AND ROTOR TO THE OUTER SHELL. AIR-FILLED MOTORS, WHICH DO NOT HAVE THE SUPERIOR HEAT DISSIPATING CAPABILITIES OF OIL-FILLED MOTORS, SHALL NOT BE CONSIDERED EQUAL.
- C. STATOR SHALL BE BOLTED TO SEAL PLATE FOR EASY MOTOR REPLACEMENT.
- D. THE MOTOR SHALL HAVE A HEAT SENSOR THERMOSTAT AND OVERLOAD ATTACHED TO THE TOP END OF THE MOTOR WINDINGS TO STOP THE MOTOR IF THE MOTOR WINDING TEMPERATURE REACHES 200° F. THE HIGH TEMPERATURE SHUTOFF WILL CAUSE THE PUMP TO CEASE OPERATION, SHOULD A CONTROL FAILURE CAUSE THE PUMP TO RUN IN A "DRY" CONDITION. THE THERMOSTAT SHALL RESET AUTOMATICALLY WHEN THE MOTOR COOLS TO A SAFE OPERATING TEMPERATURE.
- 2.1. CORROSION PROTECTION

A. ALL IRON CASTINGS SHALL BE PRE-TREATED WITH PHOSPHATE AND CHROMIC RINSE AND SHALL BE PAINTED BEFORE MACHINING, AND ALL MACHINED SURFACES EXPOSED TO THE SEWAGE SHALL BE RE-PAINTED. ALL FASTENERS SHALL BE TYPE 302 STAINLESS STEEL.

#### 2.1. POWER CORD

A. THE MOTOR POWER CORD SHALL BE 14-7 SOOW AND SHALL BE FASTENED BY MEANS OF A CORD GRIP IN THE TOP OF THE PUMP. THE TOP OF THE PUMP SHALL CONTAIN A WATERPROOF JUNCTION BOX, WHICH WILL PROVIDE SPACE TO CONNECT THE POWER CORD TO THE MOTOR LEADS. THE MOTOR LEADS SHALL SEAL BETWEEN THE MOTOR HOUSING AND JUNCTION BOX BY MEANS OF A RUBBER COMPRESSION FITTING AROUND EACH WIRE. THE POWER CORD SHALL HAVE A GREEN CARRIER GROUND CONDUCTOR THAT ATTACHES TO THE MOTOR FRAME.

2.1. PUMP BASIN

A. THE BASIN SHALL BE 36" DIAMETER WITH DEPTH AS SHOWN IN THE DRAWINGS. THE BASIN SHALL BE MOLDED OF FIBERGLASS-REINFORCED POLYESTER RESIN MANUFACTURED BY THE LAY-UP AND SPRAY TECHNIQUE TO ASSURE THAT THE INTERIOR SURFACE IS SMOOTH AND RESIN RICH. THE BASIN SHALL HAVE A MINIMUM WALL THICKNESS OF ¼ INCH. AN ANTI-FLOTATION COLLAR EXTENDING A MINIMUM OR 3" BEYOND THE O.D. OF THE BASIN WALL SHALL BE PROVIDED.

2.1. BASIN COVER

A. A ONE-PIECE, SOLID COVER SHALL BE PROVIDED WITH EACH BASIN ASSEMBLY. THE COVER SHALL BE CONSTRUCTED OF POLYPROPYLENE WITH A MINIMUM THICKNESS OF ¾ INCH. THE COVER SHALL BE GRASS GREEN IN COLOR AND SHALL BE BOLTED TO THE BASIN WITH STAINLESS STEEL CAP SCREWS. STAINLESS-STEEL NUTS SHALL BE EMBEDDED IN THE UPPER FLANGE OF THE FIBERGLASS BASIN FOR CORROSION RESISTANCE AND TO PREVENT TURNING.

2.1. RAIL ASSEMBLY

A. THE LIFT-OUT RAIL SYSTEM ASSEMBLY SHALL PERMIT EASY REMOVAL AND INSTALLATION OF THE PUMP AND LOWER CHECK VALVE WITHOUT REQUIRING MAINTENANCE PERSONNEL TO ENTER THE BASIN. STRUCTURAL GUIDE BRACKETS WITH GUIDE YOKES OF SUFFICIENT BEARING STRENGTH TO PREVENT BINDING SHALL ATTACH TO THE PUMP. THE YOKES SHALL MATE OVER 1" DIAMETER FIBERGLASS PIPE GUIDE RAILS RUNNING BETWEEN AN UPPER RAIL SUPPORT AND THE DISCHARGE CASE. A LOWER DISCHARGE NOZZLE, DOWNSTREAM FROM THE CHECK VALVE, SHALL BE GUIDED INTO A CHAMFERED CAVITY IN THE DISCHARGE CASE. A SHOULDER ON THE NOZZLE SHALL BOTTOM ON THE DISCHARGE CASE TO INSURE ALIGNMENT FOR A LEAK-TIGHT SEAL. DUAL "O" RINGS SHALL EFFECT A HYDRAULIC SEAL AROUND THE NOZZLE WHEN IT IS IN ITS OPERATING POSITION. A BRACE, EASILY REMOVABLE FROM THE TOP OF THE BASIN, SHALL BE PROVIDED TO LOCK THE PARTS TOGETHER AND TO PREVENT LINE SURGES FROM BREAKING THE SEAL AND ALLOWING LEAKAGE. THE DISCHARGE CASE SHALL HAVE A DISCHARGE OPENING WITH PIPING TO A DISCHARGE COUPLING THROUGH THE BASIN WALL.

- 2.1. CHECK VALVE
- A. A HEAVY-DUTY, SPRING LOADED, ALL-RUBBER FLAPPER-TYPE CHECK VALVE WITH CAST IRON BODY SHALL BE AN INTEGRAL PART OF THE DISCHARGE SEAL ASSEMBLY AND LIFT OUT WITH THE PUMP ASSEMBLY. THE VALVE DESIGN SHALL ALLOW FOR OPERATION WHEN NEGATIVE HEADS (UP TO 5 FEET) ARE ENCOUNTERED. THE VALVE SHALL BE DESIGNED TO OPERATE AT ALL PRESSURES IN THE PUMP DISCHARGE SYSTEM.
- B. A FLAT SET STAINLESS STEEL SPRING, INTERNALLY MOLDED INTO THE BUNA N RUBBER FLAPPER, SHALL BE FURNISHED TO PREVENT COLLECTION OF DEBRIS IN THE CHECK VALVE. ALL FASTENERS SHALL BE STAINLESS STEEL. THE VALVE, WHEN OPEN, SHALL PROVIDE A FULL PIPE OPENING.
- 2.1. DISCHARGE PIPING (FORCE MAIN)

A. SCHEDULE 80 PVC DISCHARGE PIPING SHALL CONNECT TO THE STATIONARY DISCHARGE BASE LIFT ASSEMBLY AND TERMINATE AT A DISCHARGE FLANGE MOUNTED ON THE BASING AT THE HEIGHT SHOWN ON THE DRAWINGS. THE DISCHARGE CONNECTION SHALL HAVE A 1¼" PVC SOLVENT WELD SOCKET TYPE HUB FOR ATTACHING TO THE EXTERNAL DISCHARGE PIPE.

- 2.1. SHUT OFF VALVE
- A. A PVC TRUE UNION BALL TYPE SHUT OFF VALVE WITH TEFLON SEATS SHALL BE FURNISHED AS AN INTEGRAL PART OF THE INTERNAL PIPE ASSEMBLY. IF THE DISCHARGE DEPTH IS MORE THAN 2 FEET FROM THE SURFACE AN EXTENSION HANDLE SHALL BE SUPPLIED.
- 2.1. INLET FITTING
- A. A ONE-PIECE FITTING FOR 6" SCHEDULE 40 PVC PIPE SHALL BE SHIPPED LOOSE FOR FIELD INSTALLATION AS REQUIRED.
- 2.1. LEVEL CONTROLS

A. A HEAVY-DUTY FLOAT SWITCH TETHERED TO THE GRINDER PUMP SHALL CONTROL PUMP "ON" AND "OFF" WATER LEVEL. A FLOAT SWITCH SHALL ALSO CONTROL THE ALARM WATER LEVEL. BOTH FLOAT SWITCHES SHALL CONSIST OF SEALED CORROSION-RESISTANT FLOATS WITH SJOW/A OR SOW/A JACKETED CABLE. THE CABLES SHALL BE OF SUFFICIENT LENGTH TO HYDROSTATIC UPLIFT.

OPFRATE.

PART 3 EXECUTION

1. THE CONTROL EQUIPMENT ENCLOSURE SHALL BE A NEMA AND BE OF SUITABLE SIZE TO HOUSE ALL COMPONENTS FOR A TRIPLEX PUMP STATION. A LOCKING HASP SHALL BE PROVIDED IN ADDITION TO SCREW CLAMP TYPE LATCHES. ENCLOSURE SHALL BE FABRICATED FROM 14-GAUGE STEEL. THE TOP OF THE ENCLOSURE SHALL SERVE AS A DRIP SHIELD AND THE SEAM FREE SIDES SHALL PREVENT RAIN AND SLEET FROM ENTERING. INNER PANEL SHALL BE MADE OF 12-GAUGE STEEL AND SHALL BE PAINTED WHITE. THE ENCLOSURE AND INTERIOR PANEL SHALL BE PAINTED WITH HEAT FUSED MODIFIED POLYESTER POWDER, ELECTROSTATICALLY APPLIED OVER A PHOSPHATIZED BASE.

#### **B. HINGED INNER DOOR**

1. AN INNER DOOR SHALL BE FURNISHED. OVERLOAD RESET PUSH BUTTONS, CIRCUIT BREAKERS, SWITCHES, AND PILOT LIGHTS SHALL BE THE ONLY COMPONENTS ACCESSIBLE WITH DOOR CLOSED. DOOR SHALL BE HINGED AND MAY BE OPENED WHEN SERVICE IS REQUIRED.

## C. LINE TERMINAL BLOCK

1. A TERMINAL BLOCK SHALL BE FURNISHED WITH PROPERLY SIZED LINE LUGS TO ACCEPT THE MAIN POWER SOURCE ENTERING THE CONTROL PANEL. LOAD LUGS SHALL BE ADEQUATE TO ACCEPT ALL REQUIRED LOAD SIDE WIRING REQUIREMENTS. ALL LIVE PARTS SHALL BE FULLY SHIELDED.

#### D. MOTOR CIRCUIT BREAKER (440-480 VAC)

1. A PROPERLY SIZED, MOLDED CASE, THERMAL-MAGNETIC CIRCUIT BREAKER SHALL BE PROVIDED FOR EACH PUMP MOTOR. LINE AND LOAD SIDES SHALL BE EQUIPPED WITH LUGS PROPERLY SIZED FOR THE HORSEPOWER AND CURRENT RATING OF THE MOTOR(S). THE MINIMUM INTERRUPTING RATING SHALL BE 18,000 RMS SYMMETRICAL AMPS BUT SHALL BE GREATER THAN THE AVAILABLE FAULT CURRENT.

2. MOTOR CIRCUIT BREAKERS TO HAVE AN INTEGRAL LOCKOUT FEATURE IN COMPLIANCE WITH THE LATEST REVISION OF THE NEC AND OSHA LOCKOUT/TAGOUT REQUIREMENTS.

#### E. TRANSFORMER PRIMARY CIRCUIT BREAKER

1. A PROPERLY SIZED, TWO POLE, MOLDED CASE CIRCUIT BREAKER SHALL BE FURNISHED AHEAD OF THE CONTROL POWER 120-VAC POWER TRANSFORMER FOR SHORT CIRCUIT PROTECTION AND DISCONNECTING POWER TO THE TRANSFORMER. THE CIRCUIT BREAKER SHALL CONFORM TO THE SPECIFICATIONS FOR THE MOTOR CIRCUIT BREAKER(S)

#### F. CONTROL POWER TRANSFORMER

1. AN INDUSTRIAL QUALITY CONTROL TRANSFORMER SHALL BE FURNISHED TO PROVIDE CONTROL VOLTAGE. THE TRANSFORMER SHALL BE FURNISHED TO PROVIDE ADEQUATE KVA RATING TO PROVIDE 120-VAC POWER FOR ALL ITEMS REQUIRED IN THE CONTROL AND ALARM CIRCUITS. TRANSFORMER SHALL BE PROTECTED IN ITS SECONDARY BY PROPERLY SIZED FUSE AND/OR CIRCUIT BREAKER(S).

#### G. MOTOR CONTROLLER

1. THE MOTOR CONTROLLER SHALL BE A, "ACROSS THE LINE" STARTERS.

#### H. ELAPSED TIME METERS

1. SIX-DIGIT, NON-RESETTABLE ELAPSED TIME METERS SHALL BE MOUNTED IN THE CONTROL PANEL ENCLOSURE TO RECORD THE RUNNING TIME OF EACH PUMP.

#### I. CONDENSATION STRIP HEATER WITH THERMOSTAT

1. A STRIP HEATER SHALL BE FURNISHED TO PREVENT CONDENSATION WITHIN THE CONTROL PANEL ENCLOSURE. THE HEATER SHALL BE CONTROLLED BY A PANEL MOUNTED, ADJUSTABLE THERMOSTAT.

#### J. PHASE & VOLTAGE MONITOR

1. A PHASE FAILURE, REVERSAL AND UNDER VOLTAGE MONITOR SHALL BE SUPPLIED TO PREVENT THE MOTORS FROM RUNNING UNDER LOW VOLTAGE, PHASE LOSS, OR PHASE REVERSAL CONDITIONS. THE MONITOR SHALL LOCK OUT THE CONTROL CIRCUIT UNTIL THE PROBLEM IS CORRECTED AND AUTOMATICALLY RESET.

#### K. LIGHTNING ARRESTOR

M.SWITCHES

N. PILOT LIGHTS

1. SUITABLE LIGHTNING ARRESTORS SHALL BE PROVIDED TO PROTECT MOTORS AND CONTROL EQUIPMENT FROM LIGHTNING INDUCED LINE SURGES.

L. THRU - DOOR OVERLOAD RESET PUSH BUTTONS

1. OVERLOAD RESET PUSH BUTTONS SHALL BE PROVIDED FOR EACH OVERLOAD RELAY. PUSH BUTTONS SHALL BE MOUNTED SO THAT WITH INNER DOOR CLOSED, OVERLOAD RELAYS MAY BE RESET WITHOUT ENTERING HIGH VOLTAGE COMPARTMENT.

1. HEAVY-DUTY INDUSTRIAL GRADE OIL-TIGHT SWITCHES SHALL BE PROVIDED FOR EACH PUMP FOR "HAND/OFF/AUTOMATIC" OPERATION SELECTION. ALL SWITCH COMPONENTS SHALL BE MADE OF CORROSION RESISTANT METALS AND POLYESTERS. CONTACT BLOCKS SHALL BE MADE OF SEE-THROUGH POLYCARBONATE FOR SIMPLIFIED INSPECTION OF CONTACTS. CAMS AND STROKERS SHALL BE TEFLON IMPREGNATED FOR ABRASION FREE SERVICE WITHOUT LUBRICATION. THE SWITCHES SHALL BE LABELED "H-O-A" AND HAVE A VOLTAGE RATING OF 120 VAC.

#### 1. FULL VOLTAGE HEAVY-DUTY INDUSTRIAL GRADE OIL-TIGHT PILOT LIGHTS SHALL BE PROVIDED. ALL PILOT LIGHT COMPONENTS SHALL BE MADE OF CORROSION RESISTANT METALS AND POLYESTERS. AN INSULATED SOCKET SHALL BE FURNISHED TO ELIMINATE THE POSSIBILITY OF SHOCK DURING BULB CHANGE. LENS SHALL BE MADE OF LEXAN AND GREEN IN COLOR. EACH PILOT LIGHT SHALL BE LABELED "PUMP 1" AND "PUMP 2"

O. SEAL FAIL ALARM CIRCUIT WITH TEST PUSH BUTTON

1. THE CONTROL PANEL SHALL BE EQUIPPED WITH A CONDUCTANCE ACTUATED CONTROL RELAY THAT SHALL RESPOND TO CURRENT FROM A MOISTURE SENSOR IN THE PUMP SEAL CHAMBER. RELAY CONTACTS SHALL BE RATED AT 16 AMPS MINIMUM. ALL MOLDED STRUCTURAL PARTS SHALL BE OF HIGH MECHANICAL AND DIELECTRIC STRENGTH, STRUCTURAL DIMENSIONALLY STABLE, ARC RESISTANT, THERMOSETTING PLASTIC. BASE PLATE SHALL BE HIGH STRENGTH, DIE CAST ALUMINUM ALLOY. SOLID-STATE TYPE RELAYS SHALL NOT BE CONSIDERED ACCEPTABLE FOR SEAL FAIL MONITORING APPLICATIONS. AN AMBER ALARM PILOT LIGHT SHALL ILLUMINATE UPON ALARM CONDITION. EACH PILOT LIGHT SHALL INCLUDE CONTACTS THAT SHALL ALLOW TESTING OF THE SEAL FAILURE CIRCUIT AND PILOT LIGHT BULB BY PUSHING.

#### P. SEAL FAILURE CIRCUIT TEST PUSH BUTTON (ILLUMINATED)

1. HEAVY-DUTY INDUSTRIAL GRADE OIL-TIGHT PUSH BUTTONS SHALL BE PROVIDED FOR EACH SUBMERSIBLE PUMP MOTOR. ALL PUSH BUTTON COMPONENTS SHALL BE MADE OF CORROSION RESISTANT METALS AND POLYESTERS. CONTACT BLOCKS SHALL BE MADE OF SEE-THROUGH POLYCARBONATE FOR SIMPLIFIED INSPECTION OF CONTACTS. AN INSULATED SOCKET SHALL BE FURNISHED TO ELIMINATE THE POSSIBILITY OF SHOCK DURING BULB CHANGE. LENS SHALL BE MADE OF LEXAN AND AMBER IN COLOR. THE PUSH BUTTONS SHALL BE LABELED "P1 SEAL FAIL" AND "P2 SEAL FAIL", AND HAVE A VOLTAGE RATING OF 120 VAC.

#### Q. PUMP ALTERNATOR CIRCUIT (FOR DUPLEX PUMP OPERATION)

1. THE ELECTRO-MECHANICAL ALTERNATOR RELAY SHALL BE OF INDUSTRIAL DESIGN SPECIFICALLY FOR USE IN PUMP APPLICATIONS. IT SHALL HAVE SINGLE-POLE DOUBLE-THROW HEAVY-DUTY 10-AMP SILVER CADMIUM OXIDE CONTACTS ENCLOSED IN A TRANSPARENT COVER. THE SNAP ACTION CONTACTS SHALL TRANSFER WHEN THE UNIT IS DE-ENERGIZED. THE CIRCUIT SHALL NEVER BE CLOSED OR OPENED WHILE CURRENT IS BEING CONDUCTED. THE ALTERNATOR CIRCUIT SHALL ALTERNATE THE LEAD PUMP POSITION BETWEEN THE THREE PUMPS AND SHALL ALLOW THE LAG PUMPS TO START IN RESPONSE TO A RISING WATER LEVEL IN THE WET WELL.

2. PUMP CONTROL PANEL TO UTILIZE A TIME DELAY ON THE START OF THE LAG PUMPS TO PREVENT ALL PUMPS FROM STARTING SIMULTANEOUSLY.

3. THE ALTERNATOR SHALL HAVE THE CAPABILITY TO ALLOW THE OPERATOR TO MANUALLY SELECT WHICH PUMP(S) TO

4. ALTERNATOR SHALL BE MANUFACTURED BY DIVERSIFIED ELECTRONICS OR APPROVED EQUAL. ALTERNATIVE MANUFACTURERS MUST BE APPROVED BY THE OWNER.

#### R. CONTROL RELAY(S)

1. PLUG-IN CONTROL RELAYS WITH 120-VAC COILS SHALL BE PROVIDED AS REQUIRED. CONTACT RATING SHALL BE 5-AMPS (MINIMUM). SOCKETS SHALL BE OF THE SAME MANUFACTURE AS THE RELAYS AND HOLD-DOWN CLIPS SHALL BE FURNISHED TO PREVENT RELAY FORM SLIDING OUT OF THE SOCKET.

#### 3.1. INSTALLATION OF PACKAGE PUMP STATION

A. PRIOR TO INSTALLING THE PUMP BASIN, THE CONTRACTOR SHALL FIELD AND OBTAIN APPROVAL FROM THE ENGINEER/OWNER. B. THE SITE SHALL BE CAREFULLY EXCAVATED TO THE REQUIRED DEPTH, AND THE BASIN SHALL BE PLACED ON A BED OF NO. 67 WASHED STONE, APPROXIMATELY 8-INCHES THICK. THE BASIN SHALL BE CAREFULLY PLACED TO ENSURE PLUMBNESS AND TO ENSURE THAT THE COVER WILL BE SLIGHTLY ABOVE THE SURROUNDING GRADE. NOT LESS THAN 10 CUBIC FEET OF CONCRETE SHALL THEN BE PLACED AROUND THE BASE OF THE BASIN TO SECURE THE UNIT AND TO PROVIDE THE REQUIRED RESISTANCE TO

C. FINAL CONNECTION TO THE INCOMING 6" SEWER SHALL NOT BE MADE UNTIL SUCH TIME AS ALL COLLECTION FACILITIES ARE COMPLETE AND READY FOR SERVICE.

D. THE CONTRACTOR SHALL COORDINATE THE WORK TO MINIMIZE INCONVENIENCE TO THE OTHER TRADES WORKING ON THE PROJECT. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL DRESS UP AND RE-SEED THE DISTURBED AREA TO THE COMPLETE SATISFACTION OF THE OWNER.

E. THE CONTRACTOR SHALL COMPLETE THE REQUIRED ELECTRICAL CONNECTION IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS AS PRESENTED BELOW.

- A. THE CONTRACTOR SHALL PROVIDE 208 V, THREE-PHASE POWER SERVICE FROM THE FACILITIES' ELECTRICAL PANELS TO THE GRINDER PUMPING UNIT. IT IS ANTICIPATED THAT THE FACILITY WILL HAVE CAPACITY WITHIN THE PANEL(S) TO ENABLE THE INSTALLATION OF THE POWER CIRCUIT TO BE MADE TO THE PUMP.
- B. THE CONTRACTOR SHALL VERIFY THAT SPACE IS PROVIDED IN THE EXISTING ELECTRICAL SERVICE FOR THE GRINDER PUMP PRIOR

WORK TO THE COMPLETE SATISFACTION OF THE OWNER.

C. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER TRADES AND SHALL MAKE EVERY EFFORT TO PERFORM THE

#### D. REGULATIONS AND CODES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL REGULATORY AUTHORITY, THE NORTH CAROLINA BUILDING CODE AND THE NATIONAL ELECTRIC CODE, LATEST EDITION, AS APPLICABLE WORK SHOWN OR SPECIFIED MORE THAN SAID CODES SHALL BE PERFORMED AS INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS. WORK NOT EXPLICITLY DETAILED ON THE DRAWINGS AND IN THE SPECIFICATIONS SHALL BE MADE TO CONFORM TO MINIMUM CODE STANDARDS AT NO ADDITIONAL EXPENSE TO THE OWNER.

#### 3.1. MANUFACTURER

- A. THE DUPLEX GRINDER PUMP PACKAGE SHALL BE MANUFACTURED BY E/ONE, MYERS, ABS, HYDROMATIC, ZOELLER, OR APPROVED EQUAL.
- B. OTHER MANUFACTURERS/VENDORS DESIRING TO FURNISH THE SIMPLEX PACKAGE PUMP STATIONS SHALL SUBMIT COMPLETE DESCRIPTIVE DATA ON THE PROPOSED PUMP TO THE ENGINEER NOT LESS THAN 14 DAYS PRIOR TO THE SCHEDULED BID OPENING TO ALLOW TIME FOR EVALUATION BY THE ENGINEER. THE ENGINEER SHALL THEN ISSUE AN ADDENDUM TO LIST THE MANUFACTURER OF PUMP STATIONS THAT ARE DEEMED ACCEPTABLE. PUMP STATIONS THAT ARE NOT PRE-APPROVED BY THE ENGINEER SHALL NOT BE USED.

#### 3.1. OPERATION & MAINTENANCE MANUAL

A. THE CONTRACTOR SHALL SUPPLY THREE (3) PAPER COPIES AND TWO (2) DIGITAL COPIES OF COMPLETE, WRITTEN INSTRUCTIONS COVERING THE INSTALLATION, OPERATION, PROGRAMMING, AND MAINTENANCE OF THE GRINDER PUMPING STATION EQUIPMENT. THE MANUALS SHALL BE PROVIDED AT THE TIME OF STARTUP.

END OF SECTION

TO BEGINNING THE WORK TO AND DETERMINE IF THE EXISTING ELECTRICAL PANEL CAN ACCOMMODATE THE ADDITIONAL LOAD.

![](_page_31_Picture_115.jpeg)

PUMP STATION

**SPECIFICATIONS** 

**FINAL DRAWING** NOT RELEASED FOR CONSTRUCTION

![](_page_32_Figure_1.jpeg)

![](_page_33_Figure_0.jpeg)

![](_page_33_Figure_1.jpeg)

![](_page_33_Figure_2.jpeg)