TOWN OF MOULTONBOROUGH, NEW HAMPSHIRE

2010 ROAD PROGRAM - PARADISE DRIVE

INDEX

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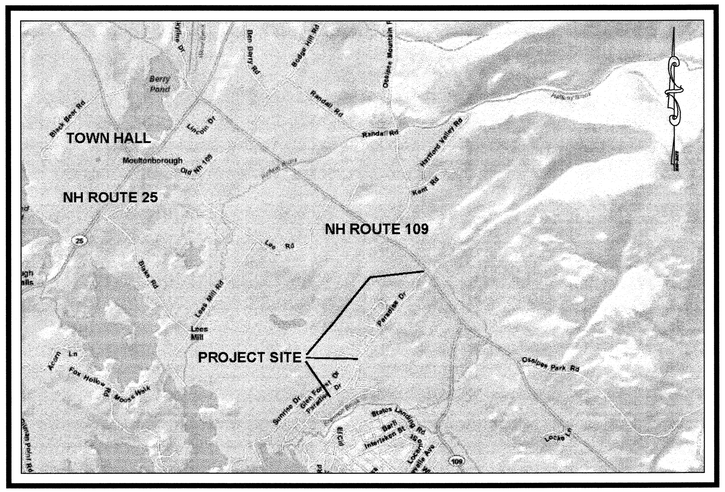

Locus Map
Not to Scale

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GENERAL NOTES

1. BASE MAP INFORMATION IS PROVIDED BY PROMISED LAND SURVEY, LONDONDERRY, NEW HAMPSHIRE. SURVEY COMPLETED IN NOVEMBER 2009.
2. NORTH BASIS IS NEW HAMPSHIRE STATE PLANE COORDINATES (NAD83). THE VERTICAL DATUM IS REFERENCED TO NGVD29.
3. FOR BORING/PROBE LOGS REFER TO SPECIFICATIONS. BORING/PROBE LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE.
4. THE CONTRACTOR SHALL VERIFY ALL RELEVANT ANGLES, LENGTHS, ELEVATIONS, AND INVERTS PRIOR TO CONSTRUCTION.
5. THE LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE UTILITY AUTHORITY OF ANY DISCREPANCY WITH THE DRAWINGS. NEITHER THE ENGINEER NOR THE OWNER WARRANTS OR GUARANTEES THE CONDITIONS SHOWN ON THE DRAWINGS.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SUBSURFACE STRUCTURES AND UTILITIES THROUGH THE APPROPRIATE AGENCY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL CALL THE DIG-SAFE CENTER (1-888-344-7233) AT LEAST 72 BUSINESS HOURS PRIOR TO ANY EXCAVATION.
7. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITY WITH THE VARIOUS AFFECTED UTILITY AUTHORITIES TO PREVENT UNNECESSARY DELAY OF WORK OR INTERRUPTION OF SERVICES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND SUPPORTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING SUCH ACTIVITY WITH THE APPROPRIATE UTILITY AUTHORITY. UTILITIES DESTROYED OR DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE UTILITY AUTHORITY AT NO ADDITIONAL COST TO THE OWNER.
9. THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
10. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY FACILITIES AS NEEDED TO AVOID SERVICE DISRUPTIONS. THE CONTRACTOR SHALL SUBMIT A PLAN TO BE REVIEWED BY THE ENGINEER FOR MAINTAINING SERVICE TO BUILDINGS AFFECTED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CUSTOMERS OF SERVICE DISRUPTIONS. NO DISRUPTION OF SERVICE SHALL BE BEFORE 9:00 AM OR AFTER 3:00 PM.
11. THE CONTRACTOR SHALL CONFINE ALL OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE EXISTING RIGHT-OF-WAY, TEMPORARY EASEMENTS OR IN STAGING/STOCKPILE AREAS APPROVED BY THE OWNER. THE CONTRACTOR SHALL LOCATE STAGING AREAS THROUGH AGREEMENTS WITH AFFECTED PROPERTY OWNERS, OR PROVIDE ALTERNATE MEANS TO STORE MATERIAL AT THE WORK AREA AS REQUIRED.
12. DURING NON-WORKING HOURS, THE CONTRACTOR SHALL SECURE ALL EQUIPMENT AND MATERIALS WITHIN THE LIMITS OF WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAYS, SIGNS, CURBS, SIDEWALKS, DRIVEWAYS, MAILBOXES, FENCES, PLANTINGS OR OTHER PHYSICAL FEATURES CAUSED BY THE CONTRACTOR'S ACTIVITIES AND SHALL REPAIR THEM AT NO ADDITIONAL COST TO THE OWNER. ALL AREAS BEYOND THE LIMITS OF CONSTRUCTION WHICH ARE DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
14. THE CONTRACTOR SHALL TAKE PRECAUTIONS DURING CONSTRUCTION TO MINIMIZE THE AMOUNT OF DEBRIS THAT COLLECTS IN CATCH BASINS, CULVERTS AND MANHOLES. THE CONTRACTOR SHALL CLEAN ALL CATCH BASINS, CULVERTS AND MANHOLES AFFECTED BY CONSTRUCTION IN ORDER TO MAINTAIN AN OPERATING SYSTEM.
15. ALL DRAINAGE STRUCTURES REMOVED BY THE CONTRACTOR SHALL BE SALVAGED AND STOCKPILED AS DIRECTED BY THE ENGINEER. ALL MATERIALS SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS OTHERWISE DIRECTED BY THE ENGINEER FOR DISPOSAL. REMOVAL AND DISPOSAL SHALL BE AT NO ADDITIONAL COST TO THE OWNER
16. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FROM APPLICABLE GOVERNMENTAL AGENCIES, INCLUDING THE OWNER, PRIOR TO THE START OF ANY CONSTRUCTION.
17. THE CONTRACTOR IS REQUIRED TO PROVIDE ADEQUATE SHORING FOR THE SOIL CONDITIONS AND DEPTHS ENCOUNTERED DURING CONSTRUCTION.
18. IN THE EVENT THE CONTRACTOR ENCOUNTERS EXISTING MATERIAL REASONABLY BELIEVED TO BE HAZARDOUS WHICH HAS NOT BEEN RENDERED HARMLESS, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND REPORT THE CONDITION TO THE OWNER AND ENGINEER. WORK IN THE AFFECTED AREA SHALL NOT RESUME UNTIL WRITTEN VERIFICATION BY THE OWNER THAT THE MATERIAL HAS BEEN REMOVED OR OTHERWISE BEEN RENDERED HARMLESS.
19. THE CONTRACTOR AND ALL SUB-CONSULTANTS SHALL FAMILIARIZE THEMSELVES WITH THE CONTRACT DOCUMENTS. ALL DRAWINGS OF ANY PARTICULAR TRADE SHALL BE USED IN CONJUNCTION WITH DRAWINGS OF ALL OTHER TRADES TO COORDINATE THE CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY PROPOSED CHANGES, VARIATIONS, OR SUBSTITUTIONS MUST BE REVIEWED AND ACCEPTED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

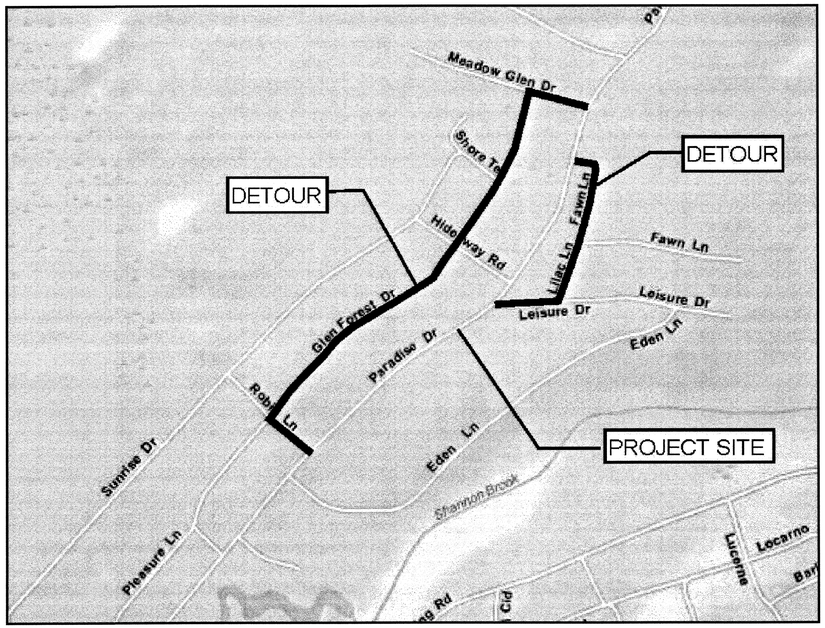
LEGEND

EXISTING

- ELECTRIC METER
- TEMPORARY BENCH MARK
- FLAG POLE
- MAIL BOX
- TV ANTENNA
- CATCH BASIN
- DROP INLET
- D — DRAIN LINE
- FIRE HYDRANT
- LP GAS TANK
- UNDERGROUND LP GAS TANK
- SEWER MANHOLE
- SEWER LINE
- TELEPHONE MANHOLE
- WATER GATE
- WATER SHUTOFF
- WATER VALVE BOX
- WELL
- WATER LINE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- E/T/C — OVERHEAD UTILITY LINES (ELECTRIC, TELEPHONE, CABLE)
- STONE RETAINING WALL
- CONCRETE RETAINING WALL
- GRANITE RETAINING WALL
- BRICK WALKWAY
- CONCRETE WALKWAY
- STONE WALKWAY
- LEDGE OUTCROP
- WOOD FENCE
- TREE/SHRUB LINE
- CONIFEROUS TREES
- DECIDUOUS TREES
- RIGHT-OF-WAY
- B-1 BORING LOCATION AND DESIGNATION

PROPOSED

- EDGE OF PAVEMENT
- LIMIT OF REGRADING
- CURB LINE
- DRAIN LINE
- CATCH BASIN
- SEDIMINATION BARRIER



DETOUR PLAN
NOT TO SCALE

NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE — RAYMOND H. WORDEN — 7639 — LICENSED PROFESSIONAL ENGINEER

KV Partners
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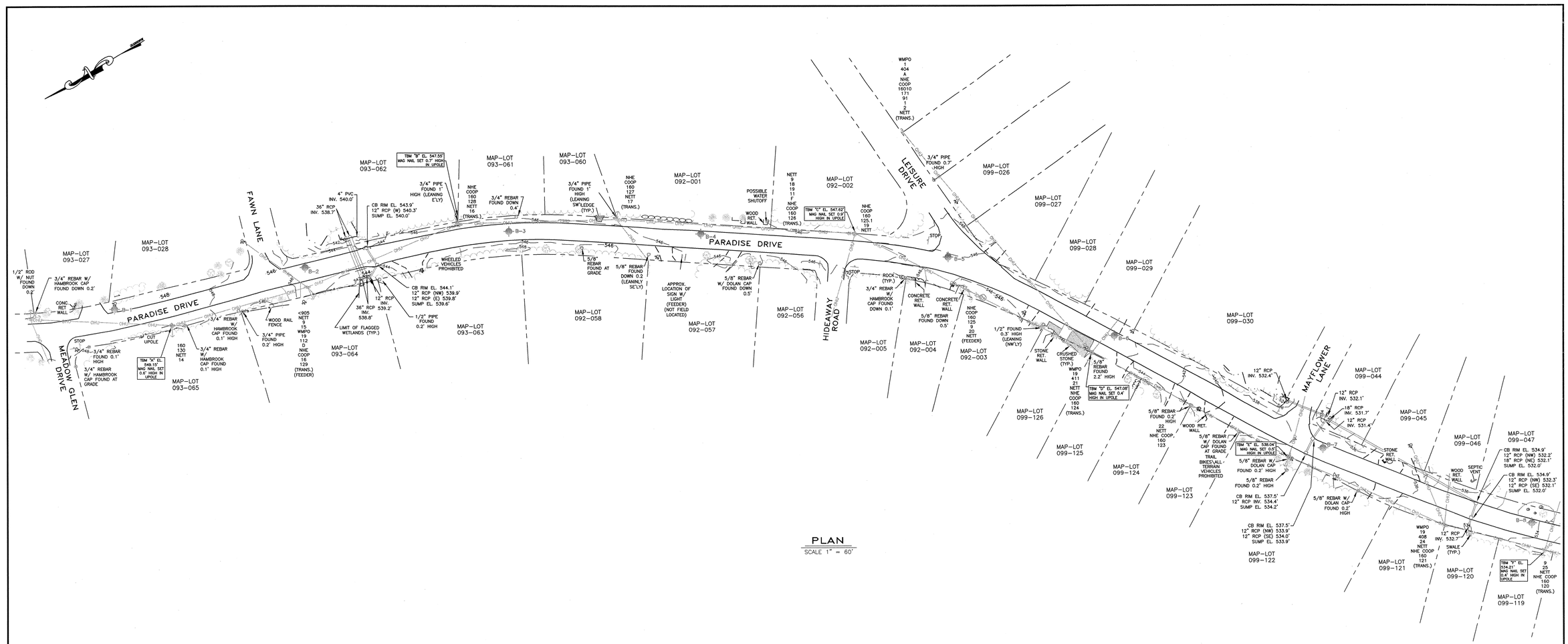
DRAWN BY:	NMT
CHECKED BY:	RHK
APPROVED BY:	RHK

2010 ROAD PROGRAM
PARADISE DRIVE
MOULTONBOROUGH, NEW HAMPSHIRE

GENERAL NOTES AND LEGEND

SHEET NO. 1

SHEET 1 OF 10



PLAN
SCALE 1" = 60'

GRAPHIC SCALE
60 0 60 120 180
SCALE IN FEET

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION
1	07/21/10	RHK	REVISED RIGHT–OF–WAY

STATE OF NEW HAMPSHIRE – RAYMOND H. KORBER – 7639 – LICENSED PROFESSIONAL ENGINEER

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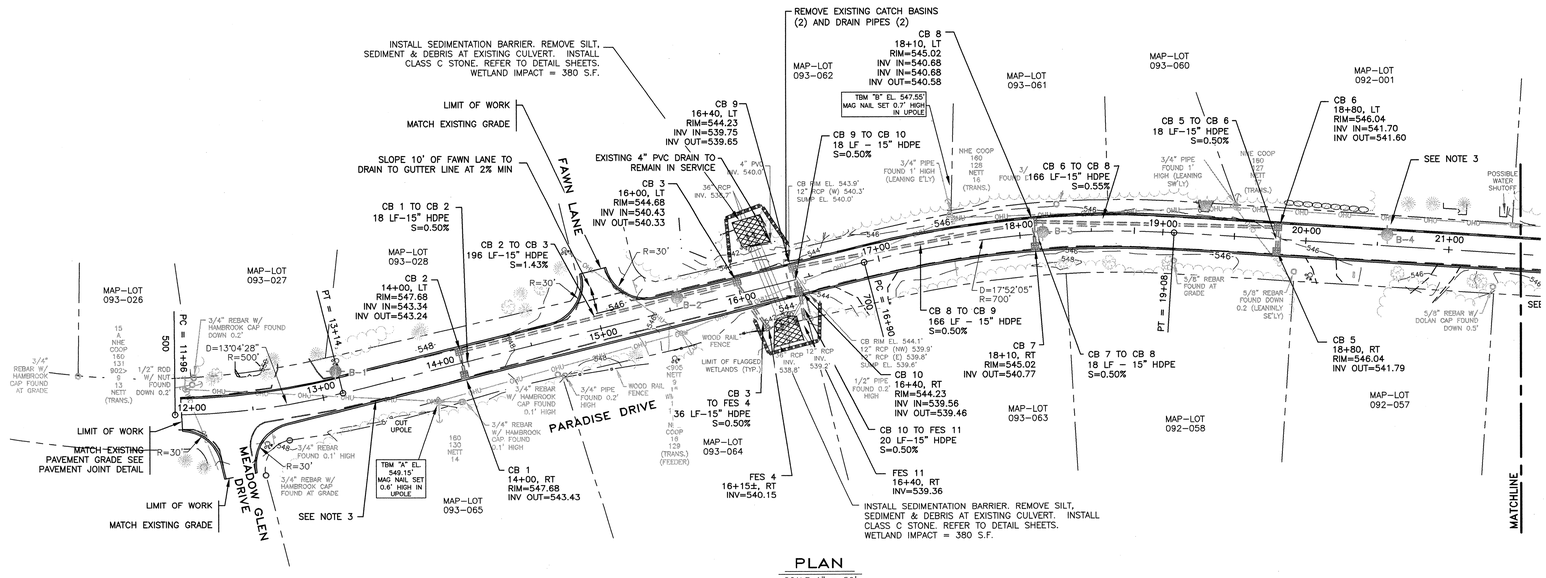
2010 ROAD PROGRAM
PARADISE DRIVE
MOULTONBOROUGH, NEW HAMPSHIRE

PARADISE DRIVE – EXISTING CONDITIONS PLAN

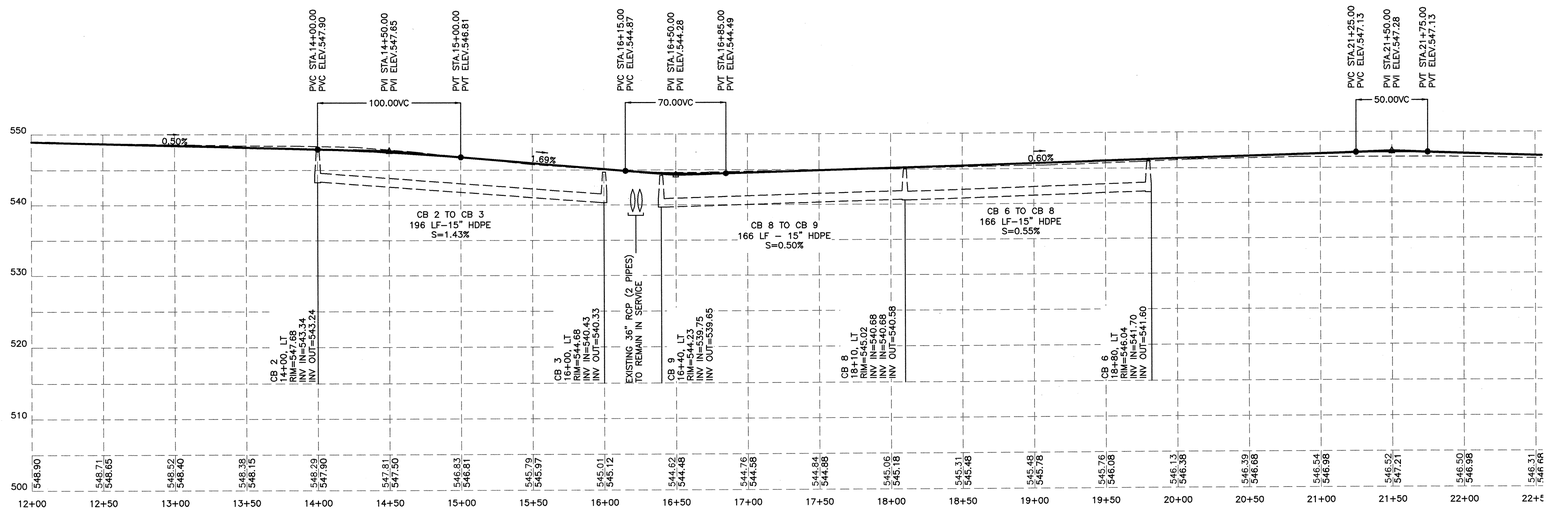
SHEET NO. **2**

SHEET 2 OF 10



PLAN

SCALE 1" = 50'



PROFILE

SCALE 1"=50' HORZ; 1"=10' VERT

NOTES:

1. REFER TO EXISTING CONDITIONS PLAN.
2. REFER TO TYPICAL ROADWAY SECTION AND CROSS SECTIONS.
3. EXTEND BITUMINOUS CURB TO LIMITS OF WORK. RESTORE ALL AREAS BEYOND LIMITS OF BITUMINOUS CURB TO EXISTING CONDITIONS. REFER TO BITUMINOUS CURB DETAIL.
4. CONTRACTOR SHALL INSTALL DRIVEWAY APRONS AS DIRECTED BY ENGINEER. REFER TO DRIVEWAY APRON DETAIL.

GRAPHIC SCALE

50 0 50 100 150 HORZ

10 0 10 20 30 VERT

SCALE IN FEET

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NUMBER	DATE	BY	DESCRIPTION
1	07/21/10	RHK	REVISED RIGHT–OF–WAY

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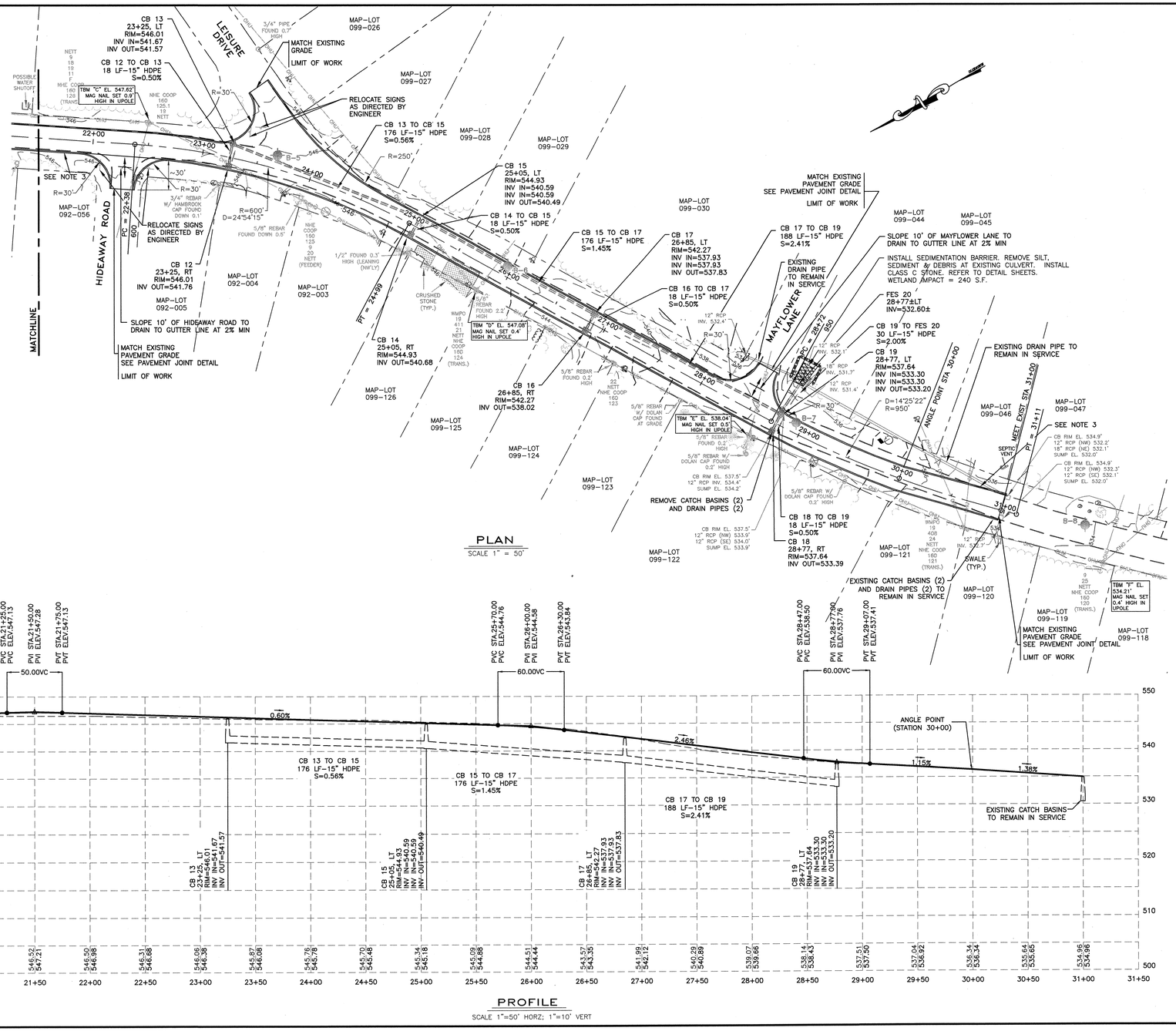
2010 ROAD PROGRAM
PARADISE DRIVE
MOULTONBOROUGH, NEW HAMPSHIRE

PARADISE DRIVE – PLAN AND PROFILE
STA 12+00 TO STA 21+50

SHEET NO. 3

SHEET 3 OF 10



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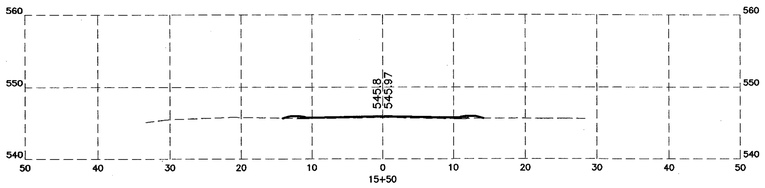
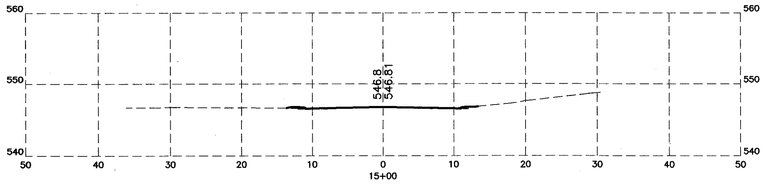
MOULTONBOROUGH, NEW HAMPSHIRE

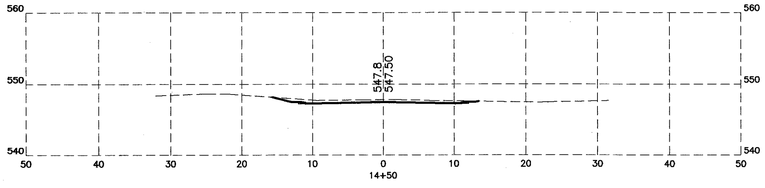
PARADISE DRIVE – PLAN AND PROFILE
STA 21+50 TO STA 31+00

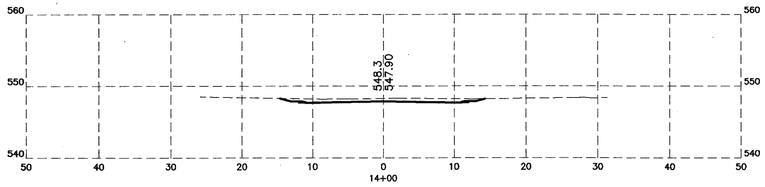
SHEET NO. 4

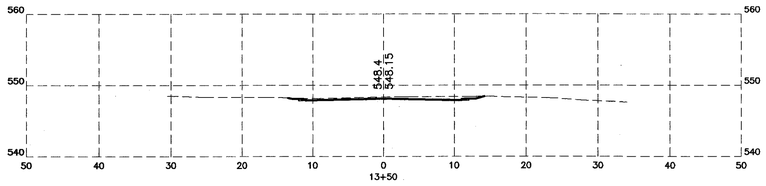
SHEET 4 OF 10

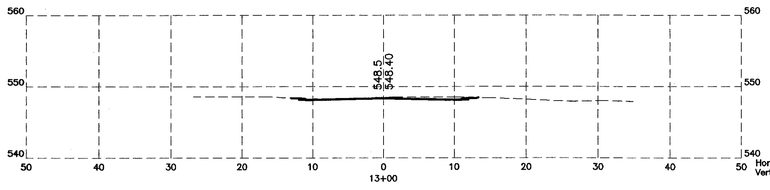


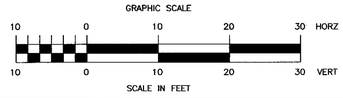


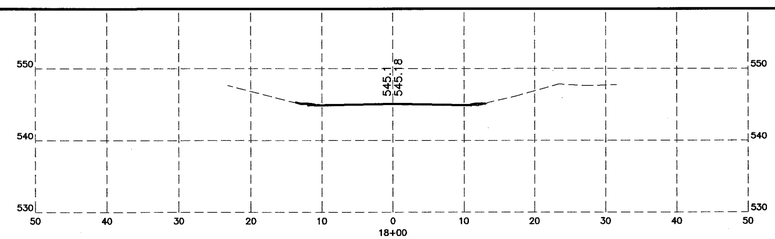


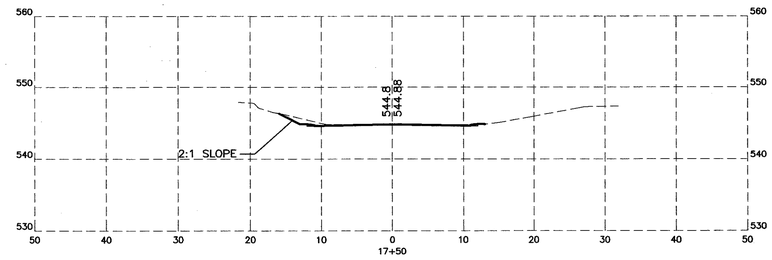


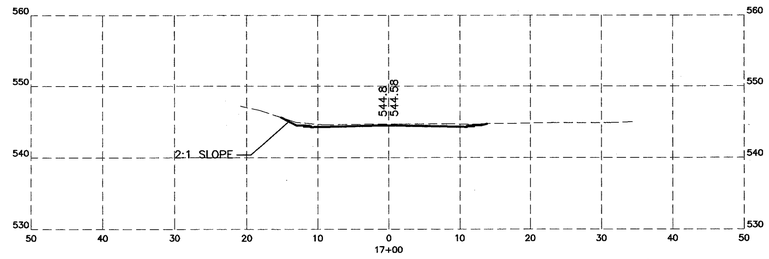


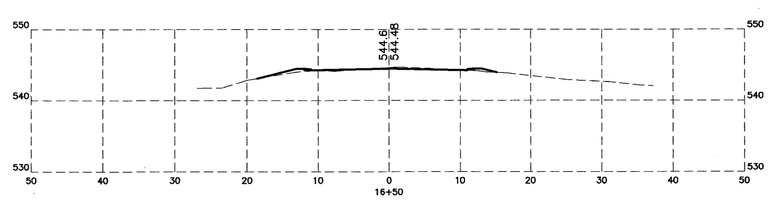


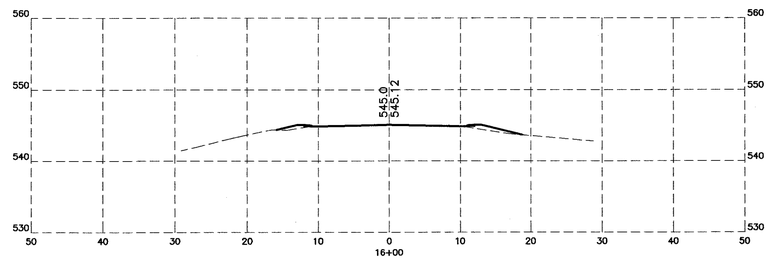












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NUMBER	DATE	BY	DESCRIPTION

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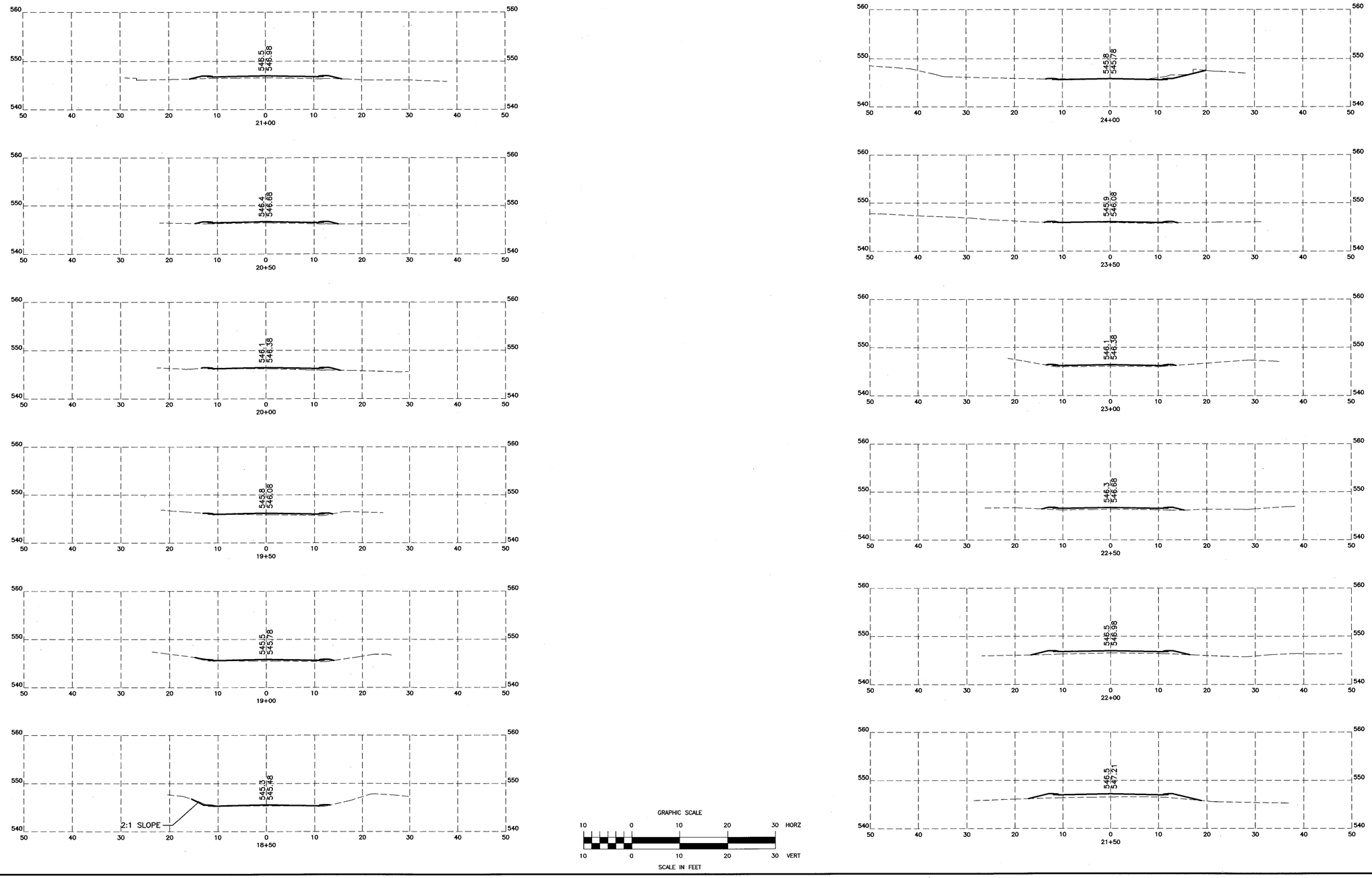
2010 ROAD PROGRAM
PARADISE DRIVE

MOULTONBOROUGH, NEW HAMPSHIRE

PARADISE DRIVE – CROSS SECTION

SHEET NO.
5

SHEET 5 OF 10



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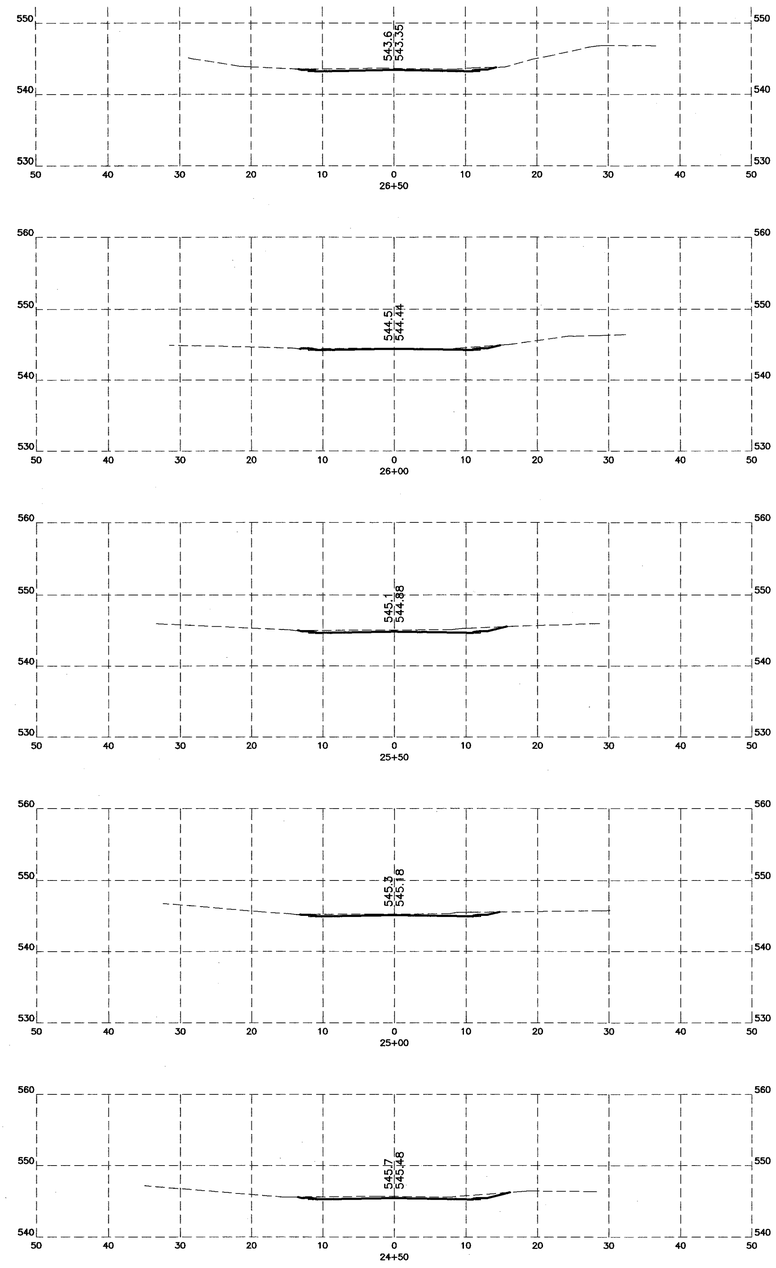
2010 ROAD PROGRAM
PARADISE DRIVE

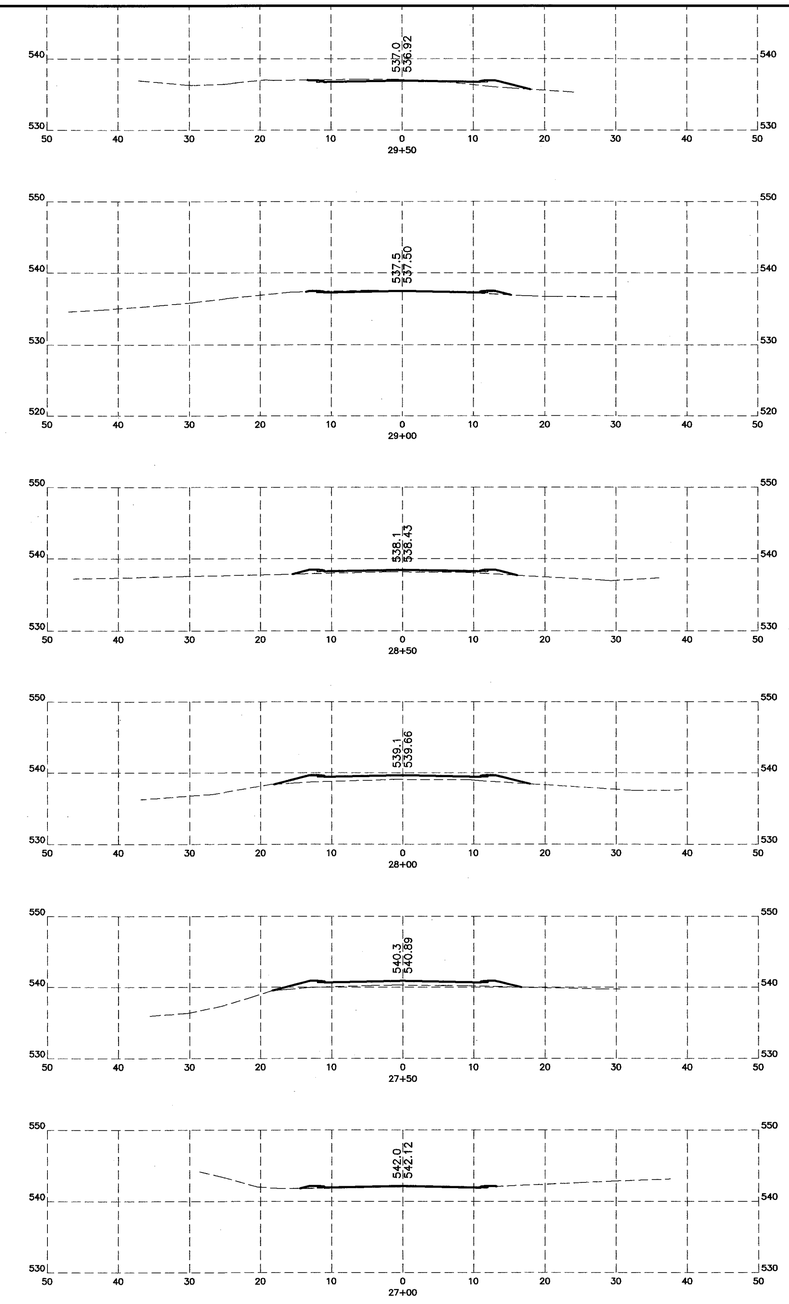
MOULTONBOROUGH, NEW HAMPSHIRE

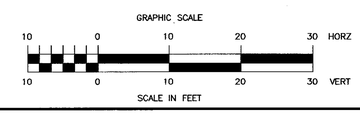
PARADISE DRIVE – CROSS SECTION

SHEET NO.
6

SHEET 6 OF 10







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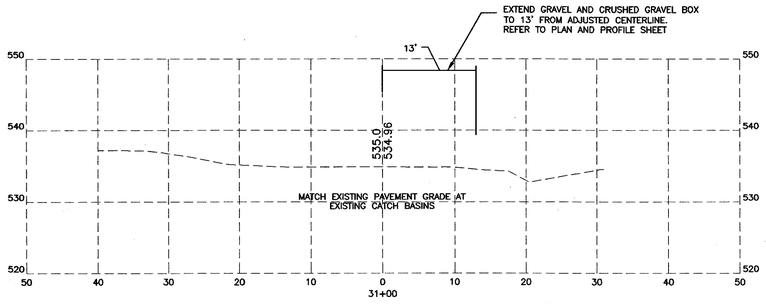
2010 ROAD PROGRAM
PARADISE DRIVE

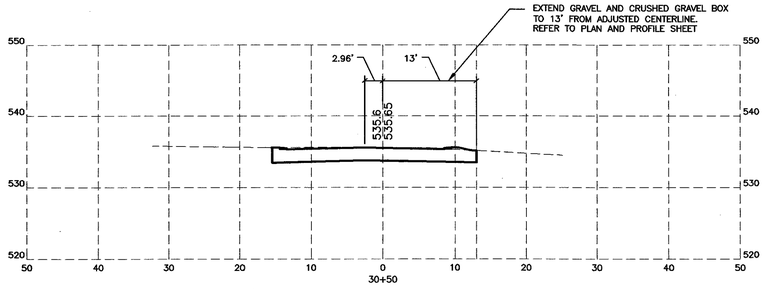
MOULTONBOROUGH, NEW HAMPSHIRE

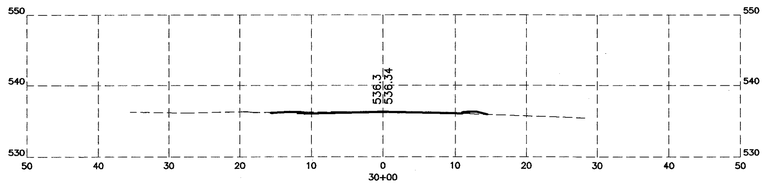
PARADISE DRIVE – CROSS SECTION

SHEET NO.
7

SHEET 7 OF 10







NOTE: AT STA 30+00 BEGIN HORIZONTAL AND VERTICAL TAPER TO CATCH BASINS AT STA 31+00 (REFER TO PLAN AND PROFILE SHEET)

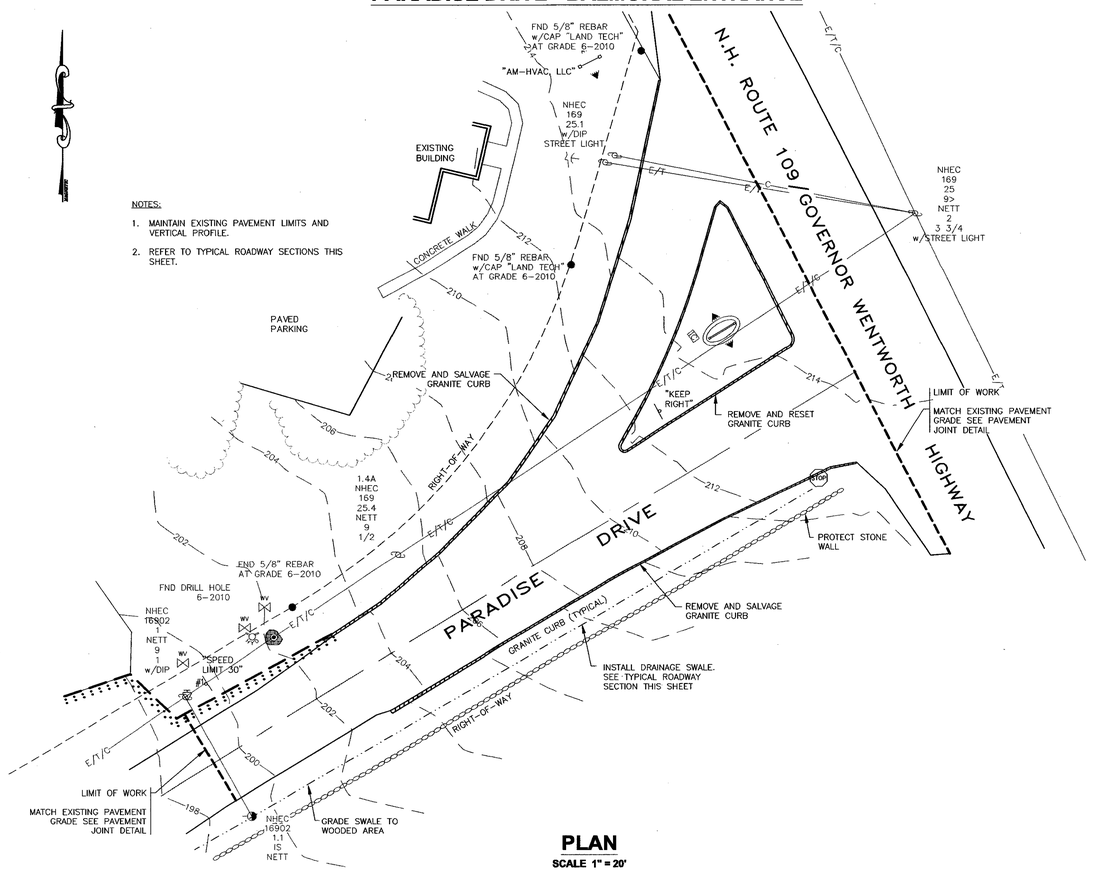
GRAPHIC SCALE

10 0 10 20 30 HORZ

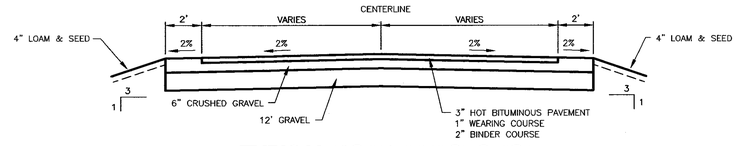
10 0 10 20 30 VERT

SCALE IN FEET

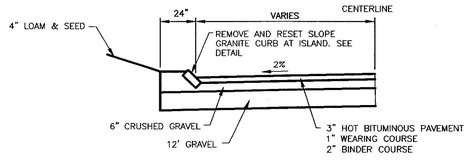
BID ALTERNATE NO. 1
PARADISE DRIVE - BALMORAL ENTRANCE



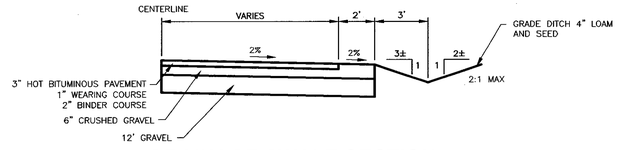
PLAN
SCALE 1" = 20'



TYPICAL ROADWAY SECTION
PARADISE DRIVE - BALMORAL ENTRANCE
NOT TO SCALE



CURB SECTION
NOT TO SCALE



DRAINAGE SWALE SECTION
NOT TO SCALE

REVISIONS			
NUMBER	DATE	BY	DESCRIPTION

STATE OF NEW HAMPSHIRE · RAYMOND H. KORBER No. 7699 · LICENSED PROFESSIONAL ENGINEER

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DATE:	06/24/10
SCALE:	AS NOTED
DESIGNED BY:	RGR
DRAWN BY:	NMT
CHECKED BY:	RHK
APPROVED BY:	RHK

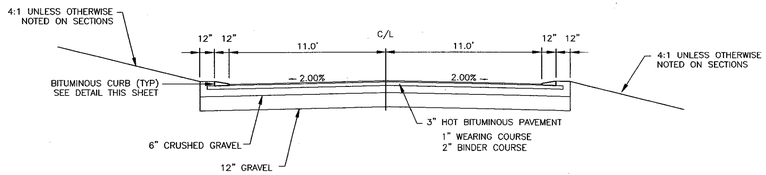
2010 ROAD PROGRAM
PARADISE DRIVE

MOULTONBOROUGH, NEW HAMPSHIRE

PARADISE DRIVE – CROSS SECTION
PARADISE DRIVE – BID ALTERNATE NO. 1

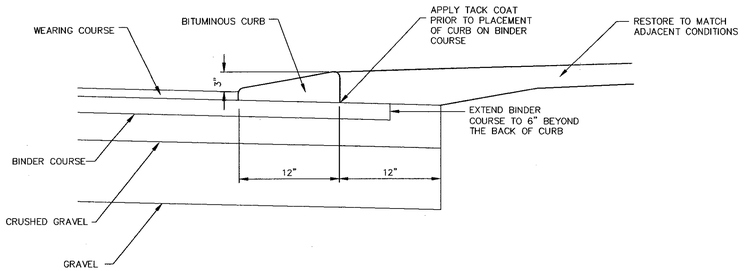
SHEET NO. 8

SHEET 8 OF 10



TYPICAL ROADWAY SECTION

NOT TO SCALE

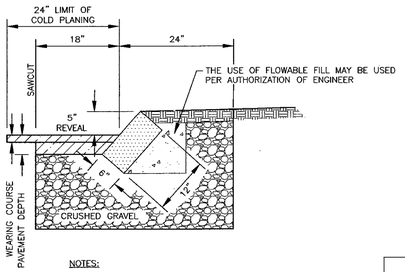


NOTES:

1. REFER TO TYPICAL ROADWAY SECTIONS FOR DEPTHS OF PAVEMENT, GRAVEL AND CRUSHED GRAVEL MATERIALS.
2. REFER TO PLANS FOR LOCATIONS OF BITUMINOUS CURB.

BITUMINOUS CURB DETAIL

NOT TO SCALE



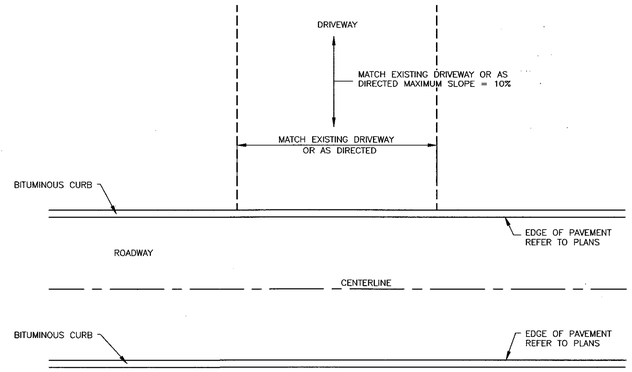
NOTES:

1. MIN LENGTH OF STRAIGHT CURB STONES 18".
2. MAX LENGTH OF STRAIGHT CURB STONES 8'.
3. MAX LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
4. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATE LENGTH.
5. COMPACT TO A MINIMUM OF 95% HAND COMPACTION IS NOT ALLOWED.
6. REFER TO TYPICAL ROADWAY SECTIONS FOR DEPTHS OF PAVEMENT AND CRUSHED GRAVEL.

RADIUS	MAX LENGTH CURVED CURB RADIAL JOINTS
≤ 2'	18"
>2' – 15'	2'
16' – 28'	3'
29' – 41'	4'
42' – 55'	5'
56' – 68'	6'
69' – 82'	7'
83' – 96'	8'
97' – 110'	
OVER 110'	

SLOPED GRANITE CURB DETAIL

NOT TO SCALE

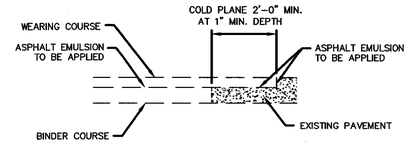


NOTES:

1. REFER TO TYPICAL ROADWAY SECTION FOR ROADWAY WIDTH AND TYPE AND DEPTH OF MATERIALS.
2. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, MATCH EXISTING DRIVEWAY MATERIALS (PAVED OR GRAVEL) IN TYPE AND DEPTH TO LIMIT OF DISTURBED AREA. AT A MINIMUM, PLACE 6 INCHES (COMPACTED DEPTH) OF CRUSHED GRAVEL.

DRIVEWAY APRON DETAIL

NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ENGINEER PRIOR TO COMMENCEMENT OF WORK REGARDING JOINT LOCATION.

PAVEMENT JOINT DETAIL

NOT TO SCALE

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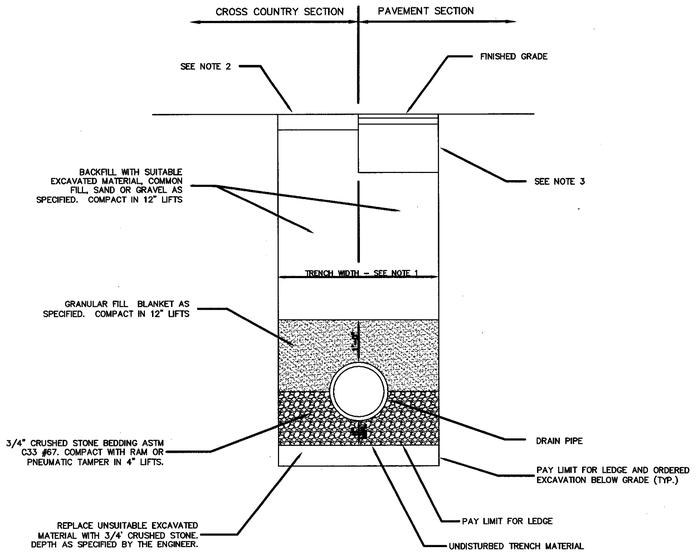
2010 ROAD PROGRAM
PARADISE DRIVE
MOULTONBOROUGH, NEW HAMPSHIRE

TYPICAL ROADWAY SECTIONS AND DETAILS

SHEET NO. 9

SHEET 9 OF 10

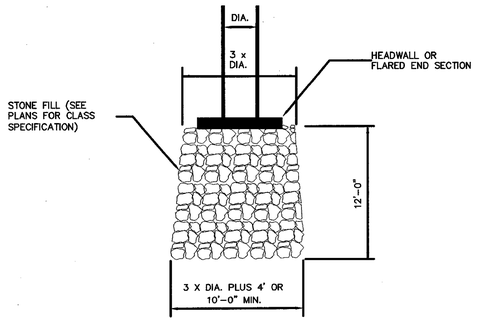


NOTES:

1. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE GREATER OF 36" OR 2X THE NOMINAL PIPE DIAMETER. MINIMUM TRENCH WIDTH SHALL BE 36".
2. WHERE GRASS OCCURS, LOAM AND SEED ALL DISTURBED AREAS TO A MINIMUM DEPTH OF 4 INCHES UNLESS OTHERWISE NOTED. WHERE NO GRASS OCCURS, MATCH EXISTING MATERIALS AND DEPTHS OR PLACE A MINIMUM OF 6 INCHES OF GRAVEL, WHICHEVER IS GREATER.
3. REFER TO TYPICAL ROADWAY SECTIONS.

TYPICAL DRAIN TRENCH DETAIL

NOT TO SCALE

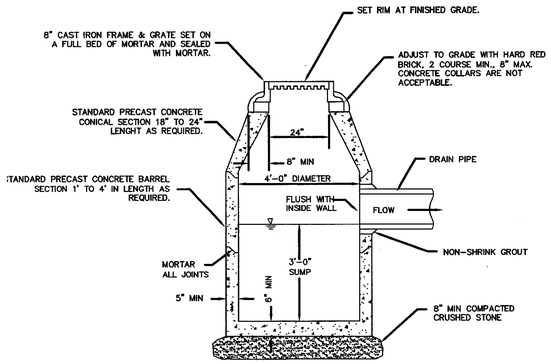


NOTES:

1. NON WOVEN FILTER FABRIC SHALL BE PLACED ON A PREPARED SUBBASE AND ROLLS SHALL BE OVERLAPPED A MINIMUM OF 12 INCHES. CARE SHALL BE TAKEN NOT TO PUNCTURE THE FABRIC DURING INSTALLATION AND ANY DAMAGED AREAS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
2. STONE FILL SHALL CONFORM TO NHDOT STONE SIZE CLASSIFICATIONS AND SHALL BE PLACED WITH A MINIMUM THICKNESS AS FOLLOWS:
   A. CLASS C STONE FILL – MINIMUM THICKNESS 12 INCHES
   B. CLASS B STONE FILL – MINIMUM THICKNESS 18 INCHES

TYPICAL STONE APRON DETAIL

NOT TO SCALE

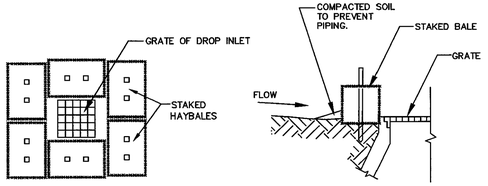


NOTES:

1. PRECAST CONCRETE SECTION ASSEMBLIES SHALL WITHSTAND H-20 LOADING AND SHALL CONFORM TO ASTM C478.
2. ECCENTRIC CONE SECTIONS MAY BE USED. STATION AND OFFSET SHOWN ON PLANS REFERENCE THE LOCATIONS OF THE CENTER OF THE GRATE. THE CENTER OF THE STRUCTURE SHALL BE LOCATED TO PROVIDE A 5 FOOT MINIMUM HORIZONTAL CLEARANCE BETWEEN DRAIN PIPE AND WATER AND SEWER PIPES AS MEASURED FROM THE OUTSIDE OF THE RESPECTIVE PIPES.

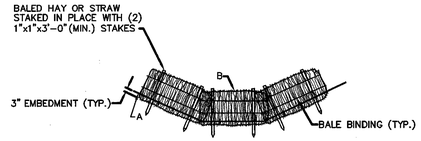
TYPICAL CATCH BASIN DETAIL

NOT TO SCALE

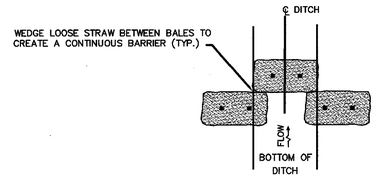


HAY BALE SILT TRAP DETAIL

NOT TO SCALE



SECTION



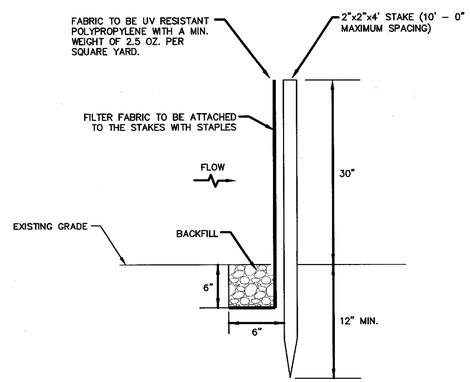
PLAN

NOTES:

1. THE BALES ARE TO BE EMBEDDED A MINIMUM OF 3" INTO THE EXISTING GROUND, ROADWAY SLOPE OR DITCH SECTION.
2. POINT "A" SHOULD BE AT A HIGHER ELEVATION THAN POINT "B."
3. BARRIERS SHALL BE INSTALLED AT 50 FOOT INTERVALS ALONG THE CENTERLINE OF THE PROPOSED DRAINAGE DITCHES, OR AS DIRECTED BY THE ENGINEER, UNTIL PERMANENT SURFACE TREATMENTS ARE INSTALLED AND FULLY STABILIZED.

EROSION CHECK DAM DETAIL

NOT TO SCALE



NOTES:

1. INSTALL HAY BALES AS DIRECTED BY THE ENGINEER.

SEDIMENTATION BARRIER DETAIL

NOT TO SCALE

NUMBER	DATE	BY	DESCRIPTION

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2010 ROAD PROGRAM
PARADISE DRIVE
MOULTONBOROUGH, NEW HAMPSHIRE

DRAINAGE AND MISCELLANEOUS DETAILS

SHEET NO. 10

SHEET 10 OF 10