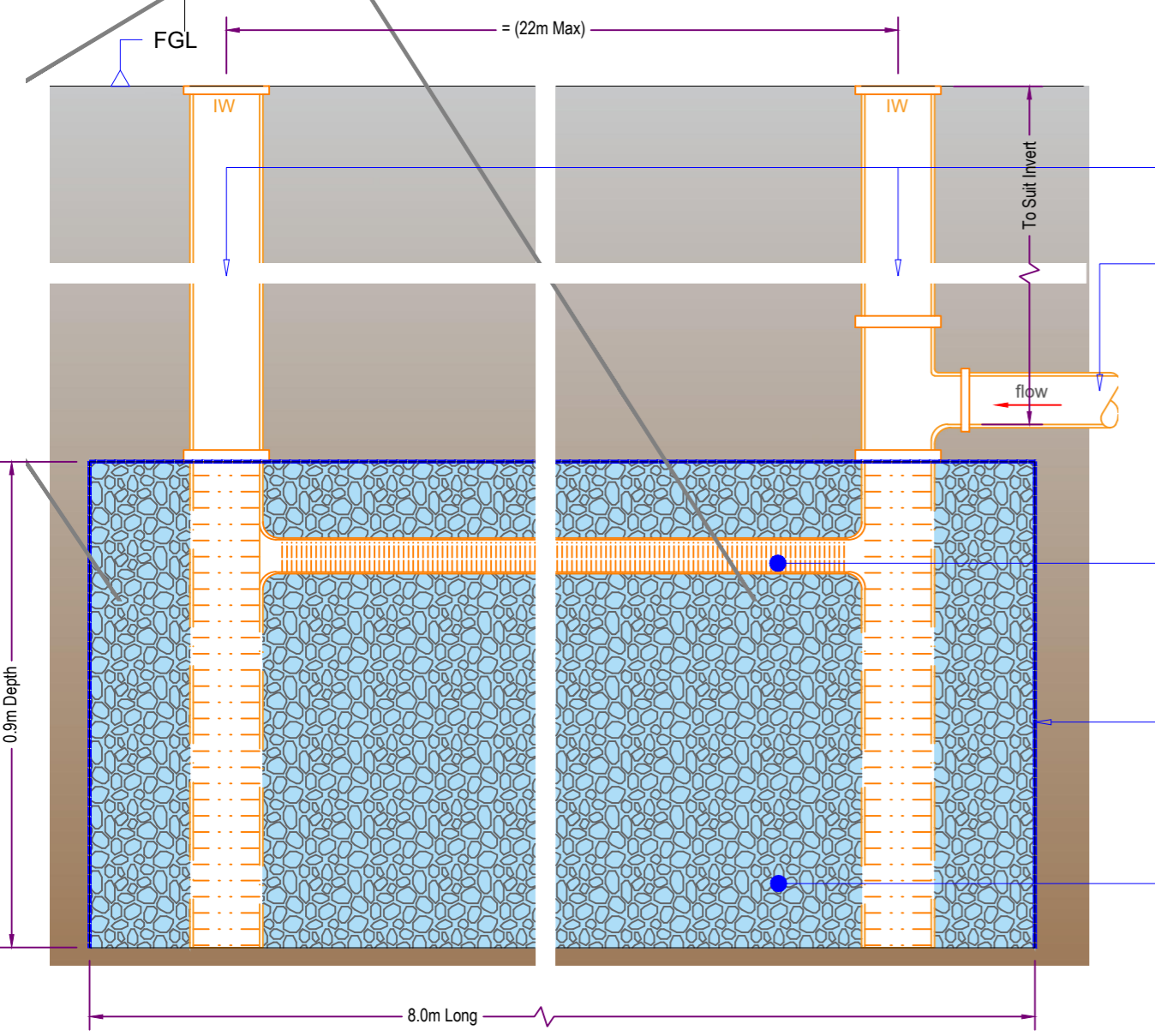


2 SURFACE SOAKAWAY DETAIL

Scale: NTS



225mm Ø UPVC inspection well positioned equidistantly at 22m maximum centres c/w access cover
 Inlet pipe from surface water drainage system
 Porous distributor pipe (slots downwards)

Width	Length	Depth
2.0m	8.0m	0.9m
VP = 14		

Geotextile to BS EN13252:2014 (around top, sides & ends Not on the base)

Suitable fill materials:
 • Type B filter material
 • 10mm pea gravel
 • 4 - 40mm aggregate in accordance with BS7533-13

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	1. Litter and Debris Removal	Monthly
	2. Inspect filter drain surface, inlet/outlet pipework and control system for blockages, clogging, standing water and structural damage	Monthly
Occasional Maintenance Required	3. Inspect pre-treatment system, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Half yearly
	4. Remove sediment from pre-treatment devices	Half Yearly (or as required)
Occasional Maintenance Required	1. Remove or control tree roots where they are encroaching the sides of the filter drain, in accordance with the methods prescribed in BS3998:2010	As required
	2. At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly (or as required)
	3. Clear perforated pipework of blockages	As required

3.5 Existing Drains

Existing drains are not envisaged to be encountered on the site, however should they be encountered then the drain must remain active and be protected and maintained during works or alternatively re-routed. Any drains passing under the building which are to remain live are essentially protected by the concrete floor slab.

3.6 Surface water drainage

UPVC gutter complete with 110mm Ø downpipes discharging to soakaway. All drainage to be to the satisfaction of Local Authority Department. Any drainage to vehicular areas to be laid with 900mm cover. All underground drainage to be 110mm Ø unless noted otherwise.

All drainage runs to full roadable. All drainage to be set in full granular surround and bedded as per details. Drainage to have a min gradient of 1:100.
 Drainage to the satisfaction of the local authority department. Drainage to be tested in accordance with BS EN 1610:1998. Non entry inspection chambers to comply with BS EN 752 Part 3. All gutters rainwater pipework is to comply with BS EN 12056-3:2000. All underground drainage to comply with BS EN 12056-1:2000, BS EN 752:2008, & BS EN 1610:1998. All Surface Water discharge to be compliant with GBR's 10 & 11 of SEPA's Controlled Activities Regulations. All surface water drainage to discharge to a surface water soakaway. Soakaway design in accordance with CIRIA C753, 'The SUDS Manual'. Soakaway must be located a minimum of 5m from any building and/or boundary. It is the clients responsibility to ensure that all necessary permits have been obtained in respect of connections and discharge where necessary and if required.

GENERAL BINDING RULES

GBR10:

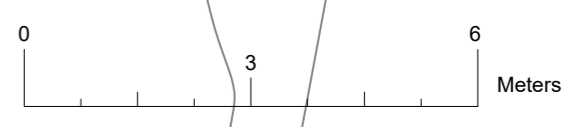
- Discharge of surface water run-off from a surface water drainage system to the water environment from:
 - up to 60 hectares of land used for residential premises;
 - land used for non-residential premises or yards, except where the buildings or yards are in an industrial estate;
 - land used as a motorised vehicle parking area with up to 1,000 parking spaces;
 - metalled roads other than motorways and A roads;
 - waterbound roads; or
- Discharge of water run-off from a construction site to the water environment where the site, including any constructed access tracks does not:
 - exceed 4 hectares;
 - contain a road or track length in excess of 5km; or
 - include any area of more than 1 hectare or any length of more than 500 metres on ground with a slope in excess of 25°.

Rules:

- All reasonable steps must be taken to ensure that the discharge does not result in pollution of the water environment;
- the discharge must not;
- result in visible discoloration, indescence, foaming or sewage fungus in the water environment;
- the discharge must not result in the destabilisation of the banks or bed of the receiving surface water; the discharge must not contain any water run-off from any built developments, the construction of which is completed on or after 1st April 2007, or from construction sites operated on or after 1st April 2007, unless:
 - during construction those developments are drained by a SUD system or equivalent systems equipped to avoid pollution of the water environment;

1 SITE DRAINAGE LAYOUT PLAN

Scale: 1:100



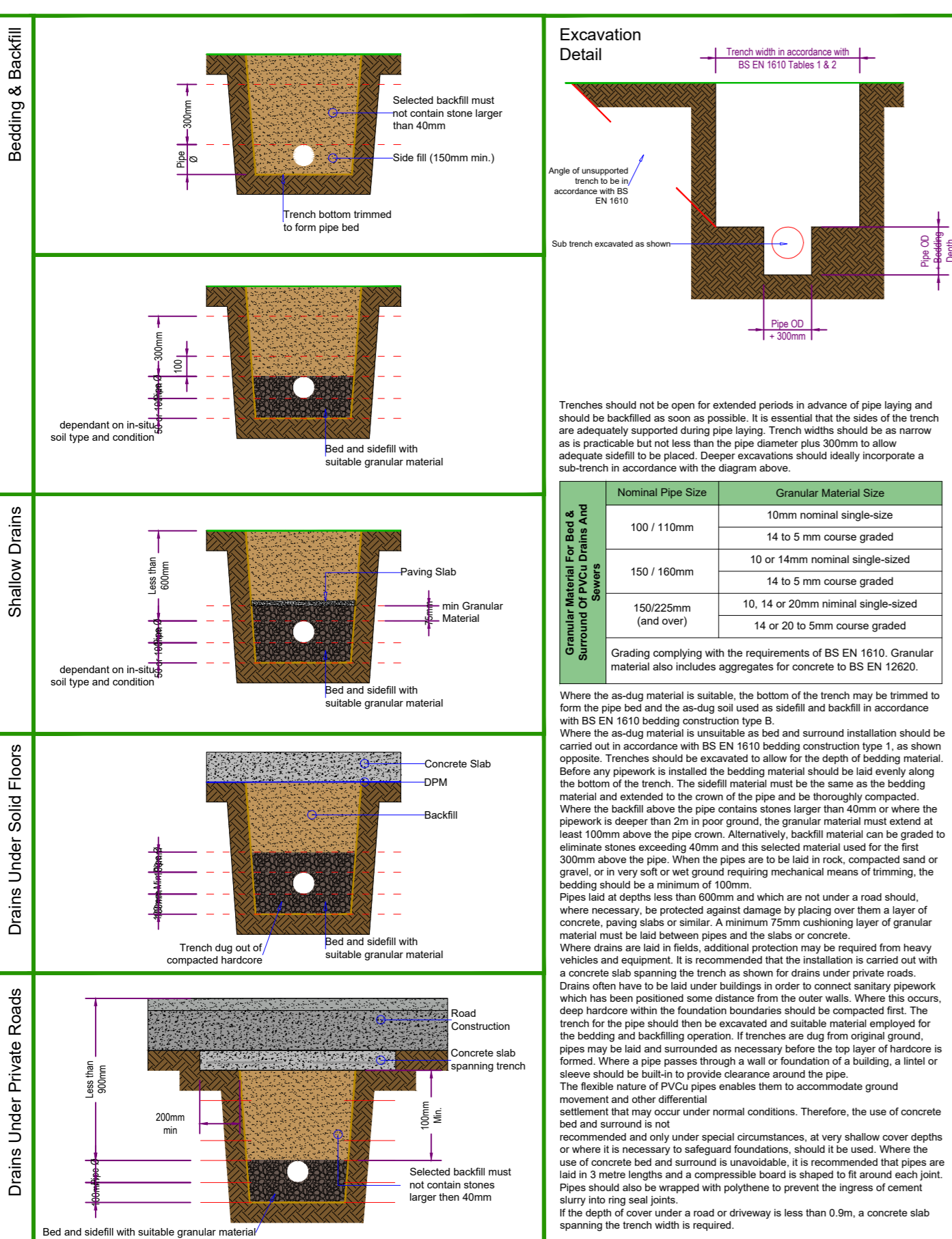
- following construction those developments are drained by a SUD system equipped to avoid pollution of the water environment;
 - the run-off is from a development that is a single dwelling and its curtilage; or
 - the discharge is to coastal water;
- iv. the discharge must not contain any water run-off from:
- any fuel delivery areas constructed on or after 1st April 2007, or any areas where vehicles, plant and equipment are refuelled constructed on or after 1st April 2007;
 - vehicle loading or unloading bays constructed on or after the 1st April 2007 where potentially polluting matter is handled; or
 - oil and chemical storage handling and delivery areas constructed on or after 1st April 2007;
- f. in relation only to activity 10(b), all parts of a construction site on which –
- operations first commenced on or after 1st June 2018; and
 - any works are to be undertaken, or any vehicles are to be operated or parked, must be drained by a surface water drainage system with capacity to accommodate the maximum volume of run-off that would reasonably be expected to occur from that land during the period of construction;
- g) all facilities with which the surface water drainage system is equipped to avoid pollution, including oil interceptors silt traps and SUD system attenuation, settlement and treatment facilities, must be maintained in good order and repair; and
- h) all reasonable steps must be taken to ensure that any matter liable to block, obstruct, or otherwise impair the ability of the surface water drainage system to avoid pollution of the water environment is prevented from entering the drainage system.

GBR11:

Discharge into a surface water drainage system.

Rules:

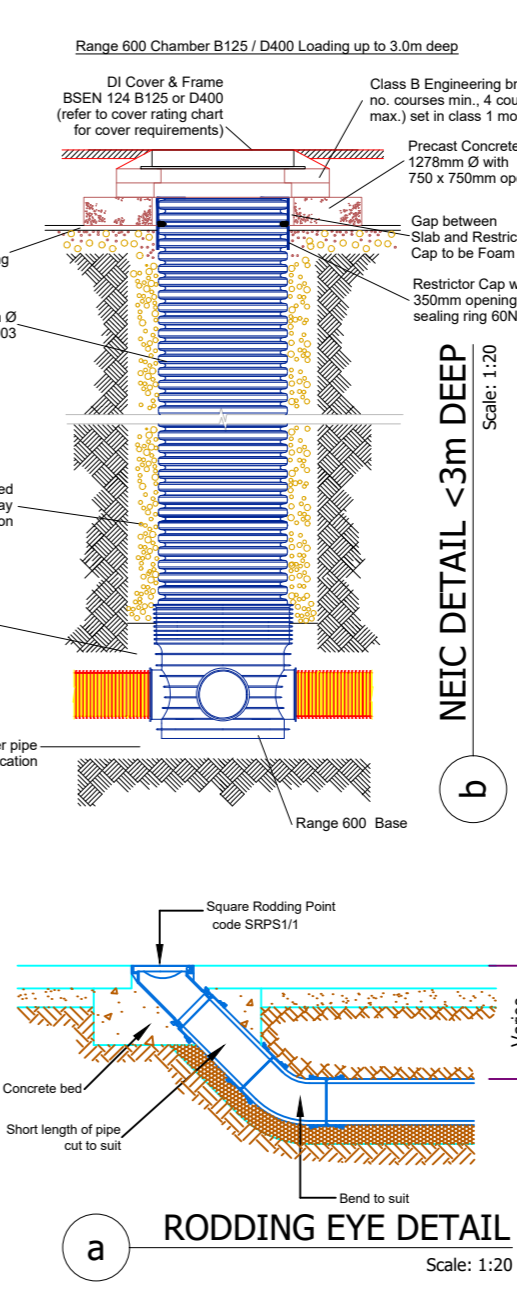
- Oil, paint thinners, pesticides, detergents, disinfectants or other pollutants must not be disposed of into a surface water drainage system or onto any surface that drains into a surface water drainage system;
- any matter liable to block, obstruct or otherwise impair the ability of the surface water drainage system to avoid pollution of the water environment must not be disposed of into a surface water drainage system or onto a surface that drains into a surface water drainage system;
- sewage or trade effluent must not be discharged into any surface water drainage system; and
- on construction sites, any area of exposed soil from which the discharge of water runoff to the water environment is authorised under activity 10, and the period of time during which such soil is exposed, must be the minimum required to facilitate the construction works being undertaken at that site.



Cover Rating	Max. Loading	Access covers and gratings capable of withstanding a 15kN test load. For use in areas where only pedestrians have access.
A15	15kN	Access covers and gratings capable of withstanding a 15kN test load. For use in areas where only pedestrians have access.
B125	125kN	Access covers and gratings capable of withstanding a 125kN test load. For use in car parks and pedestrian areas where only occasional vehicular access is likely.
C250	250kN	Access covers and gratings capable of withstanding a 250kN test load. For use in car parks, forecourts, industrial sites and areas with slow moving traffic also in highway locations up to 500mm from the kerb and up to 200mm into the verge, excluding motorways.
D400	400kN	Access covers and gratings capable of withstanding a 400kN test load. For use in areas where cars and lorries have access, including carparkways, hard shoulders and pedestrian areas.
E600	600kN	Access covers and gratings capable of withstanding a 600kN test load. For use in areas where high wheel loads are imposed such as loading areas, docks or aircraft pavements.
F900	900kN	Access covers and gratings capable of withstanding a 900kN test load. For use in areas where particularly high wheel loads are imposed such as aircraft pavements.

Distance From	To Access Fitting		To Junction or Branch	To Inspection Chamber - shallow	To Manhole & Inspection Chamber - Deep
	Type 1	Type 2			
Start of External Drain	12	12	22	22	45
Flooding Eye	22	22	22	45	45
Access Fitting Type 1 Min 150mm x 100mm			12	22	22
Access Fitting Type 2 Min 225mm x 150mm			22	45	45
Inspection Chamber (S) - Shallow	22	45	22	45	45
Manhole & Inspection Chamber - Deep					90

Type of Access	Depth to invert from cover level m	Minimum internal dimensions (a)		Clear Opening Size		Remarks
		Rectangular Length & Width mm	Circle Ø mm	Rectangular length and width mm	Circle Ø mm	
Flooding Eye				Same size as access fitting (b)	Same size as pipework (b)	
Access fitting (c)	> 0.6, except where situated in chamber	150x100	150	Same size as access fitting (b)	Same size as access fitting (b)	The depth restriction is imposed because of the limited access afforded and is based on the ability to manoeuvre a stopper at arms length from the surface.
Access fitting (c)	≤ 0.6	225x100	100 to 125 to D110	Min. 190	Min. 190	
Inspection Chamber (S) - Shallow	≤ 1.0	450x450	450	Min. 430x430	Min. 430	Restricted to inspection and remotely operated equipment – no personnel entry.
Inspection Chamber (S) - Deep	> 1.0	450x450 (w)	450 (w)	Max. 300x300	Max. 350 (f)	Restricted to inspection and remotely operated equipment – no personnel entry. Max. size imposed to prevent personnel entry.



REVISION: _____ DATE: _____

Campbell of Doune Ltd
 Consulting Civil and Structural Engineers
 78 King Street, Crieff, Perthshire, PH7 3HB

Job No. **7735-21** | Drawing No. **PLANNING**

Proposed New Storage Building

AT **Overton Farm, Berefold, Ellon, AB41 8EL**
 FOR **Mr and Dr Smith**
Drainage Layout Plans & Details

DRAWN **MW** | SCALE **As Noted** | DATE **15.06.21** | DRAWING No. **301** | PAPER SIZE **A1**

BUILDING DESIGN CLASSIFICATION
 BS5502 Class II Agricultural
 BS5950 Industrial
 Domestic
 Other

DESIGN CHECK LEVEL
 DCL1 - Self Check
 DCL2 - Simple Check
 DCL3 - Intermediate Check
 DCL4 - Extended Check

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